

A large, abstract graphic of a network or molecular structure. It consists of numerous circles of varying sizes and shades of blue and white, connected by thin white lines. The circles are scattered across the upper and middle portions of the page, creating a sense of interconnectedness and complexity.

2017 ANNUAL MEETING

POSTER SESSIONS

Mon-Wed, March 20-22, 2017 • San Diego Convention Center • San Diego, California

ORS SUPPORTERS

OUR THANKS to the following supporters for contributions.

LEVEL 1

Zimmer Biomet*

LEVEL 2

DePuy Synthes*
Smith&Nephew*

LEVEL 3

Open at press time

LEVEL 4

Bioventus*
Exactech Inc*
Histogenics*
Medtronic Restorative
Therapy Groups
Orthofix*
Shriners Hospital for
Children

LEVEL 5

Micro Photonics, Inc.
Novartis*
Upwelling Foundation
Vericel Corporation*
Virginia Tech
Wiley-Blackwell

Thank you to our 2017 New Investigator Recognition Awards (NIRA) Supporters

Brown University
Duke University
Medical Center
Hospital for Special Surgery
Hospital of the University
of Pennsylvania
International Chinese
Musculoskeletal
Research Society (ICMRS)
University of California,
San Francisco
University of Minnesota
Medical Center
University of Pittsburgh
Medical Center
University of Rochester
Medical Center
Washington University in
St. Louis

* Support received for Annual Meeting educational activities

2017 POSTER SESSIONS—SAILS PAVILION

MONDAY–WEDNESDAY

ORS WILL HAVE TWO POSTER SESSIONS

Poster Session 1 (PS1):

Posters will be displayed Monday and Tuesday morning

Poster Session 2 (PS2):

Posters will be displayed Tuesday afternoon and Wednesday

MONDAY, MARCH 20 10:00 AM – 5:30 PM

10:15 AM – 11:15 AM Poster viewing
12:15 PM – 2:15 PM Lunch and Poster Session 1 viewing

Authors at posters to answer questions

EVEN-number poster presenters 1:15 PM – 1:45 PM
ODD-number poster presenters 1:45 PM – 2:15 PM

TUESDAY, MARCH 21

9:00 AM – 11:30 AM; 2:00 PM – 5:00 PM

9:30 AM – 10:30 AM Poster viewing
11:30 AM – 12:00 PM Poster Session 1 Dismantle
1:00 PM – 1:30 PM Poster Session 2 Set-Up
3:45 PM – 4:45 PM Poster viewing

WEDNESDAY, MARCH 22 10:00 AM – 4:00 PM

10:15 AM – 11:15 AM Poster viewing
12:15 PM – 2:15 PM Lunch and Poster Session 2
3:15 PM – 3:45 PM Poster viewing

Authors at posters to answer questions

EVEN-number poster presenters 1:15 PM – 1:45 PM
ODD-number poster presenters 1:45 PM – 2:15 PM

POSTER CATEGORIES	POSTER SESSION 1 #'S	POSTER SESSION 2 #'S
American Academy of Orthopaedic Surgeons (AAOS) Best Posters	AAOS1–AAOS7	AAOS1–AAOS7
Biomaterial	353–420	1310–1379
Board of Specialty Society (BOS) Best Posters	BOS1–BOS10	BOS1–BOS10
Bone	666–780	1627–1744
Cartilage and Synovium	421–514	1380–1473
Diagnostic Imaging	1272–1299	2231–2246
Foot and Ankle	1175–1200	2136–2160
German Society for Orthopaedics and Trauma (DGOU)	Germany	Germany
Guest Nation - China	CHINA1–CHINA3	CHINA1–CHINA3
Hand and Wrist	1156–1174	2117–2135
Hip	966–998	1933–1961
Hip and Knee Arthroplasty	999–1101	1962–2061
Infection and Inflammation	1201–1226	2161–2187
International Combined Orthopaedic Research Society (ICORS) Best Posters	ICORS1–ICORS12	ICORS1–ICORS12
Knee	898–965	1866–1932
Late Breaking Poster Session	2275–2355	2356–2436
Meniscus	515–533	1474–1490
Muscle	642–665	1602–1626
NIRA Finalists	25–33, 43–51, 70–77, 102–109	25–33, 43–51, 70–77, 102–109
Osteoarthritis and forms of Arthropathy	534–585	1491–1540
Poster Teasers	116–160	287–331
Shoulder and Elbow	1102–1155	2062–2116
Spine	781–897	1745–1865
Tendon/Ligament	586–641	1541–1601
Trauma and Fracture	1227–1271	2188–2230
Tumors	1290–1309	2247–2265
Women's Health Issues Board (WHIAB) Best Poster	WHIAB	WHIAB

POSTERS

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS (AAOS) BEST POSTERS

- AAOS1** *AAOS Best Hip Poster*
The Role of Toll-like Receptor 4 in the Cobalt-mediated Immune Response in Endothelial Cells
Donald Hanson, Dominic Meek, Jon Clarke
- AAOS2** *AAOS Best Knee Poster*
Early Outcomes with a New Primary Total Knee Arthroplasty (TKA) System vs. Contemporary TKA: Interim Results of Two Worldwide, Multi-center Prospective Studies
William Hamilton, Ivan Benkel, Mark Clathworthy, Kimberly Dwyer, Sam Himden, Stephen Kanter
- AAOS3** *AAOS Best Foot and Ankle Poster*
Evaluation of Mobility at the Articulation Between the Medial and Middle Cuneiform Using a 3D Analysis System and Weightbearing CT in Normal Versus Hallux Valgus Patients: Is Arthrodesis of this Articulation Necessary for the Lapidus Procedure?
Todashi Kimura, Makoto Kubota, Tetsuya Taguchi, Noaki Suzuki, Hattari Asaki, Keishi Marumo
- AAOS4** *AAOS Best Hand and Wrist Poster*
A Radiographic Analysis of Closed Reduced Distal Radius Fractures at the Time of Union
Neil Mulchandari, Ari Trouw, Ahmed Eldib, George Banning, Diap Chatterjee, Bharcen Kapadia, Emmanuel Illical, William Urban
- AAOS5** *AAOS Best Shoulder and Elbow Poster*
No Difference in Long-term Development of Rotator Cuff Rupture and Muscle Volumes in Impingement Patients with or without Decompression: A Randomized MRI Study of 140 Patients
Saara Ketola, Janne Lentinen, Ikka Arnalla
- AAOS6** *AAOS Best Spine Poster*
Using Hounsfield Units to Quantify Optimal Fixation Techniques in Spine Surgery: A Biomechanical Study Correlating AP DXA, Lateral DXA, and CT to Pullout Strength
Qosim Zaidi, Olumide Danisa, Serkan Inceoglu, Wayne Cheng
- AAOS7** *AAOS Best Tumor Poster*
Validation of a Rat Model for Analyzing microRNA in Chondrosarcoma
Nicholas Eastley, Timothy Evans, Christopher Dobson, Yun Wang, Albert Levin, Gary Gibson, Michael Mott, Theodore Parsons

BOARD OF SPECIALITY SOCIETY (BOS) BEST POSTER

- BOS1** *American Association for Hand Surgery (AAHS)*
Fixation of Unstable Metacarpal Neck Fractures: Comparison of Crossed K-Wires and Intramedullary Headless Screw Fixation
Eitan Melamed, MD, Omri Ayalon, MD, Matin Lendhey, Msc, Oran Kennedy, PhD, John T. Capo, MD
- BOS2** *American Association of Hip and Knee Surgeons (AAHKS)*
Case Order Has an Effect On Periprosthetic Joint Infection Risk
Michael Kheir, Antonia F. Chen, Josh M. Greenbaum, Camilo Restrepo, Mitchell G. Malrenfort, Jarad Parvizi
- BOS3** *American Orthopaedic Foot and Ankle Society (AOFAS)*
Comparison of Weil Osteotomy and Cheilectomy for Second Metatarsophalangeal Joint Osteoarthritis
Ji-Beom Kim, MD, Young Yi, MD, Jae Young Kim, MD, Woo-Chun Lee
- BOS4** *American Orthopaedic Society for Sports Medicine (AOSSM)*
Perivascular Stem Cells Diminish Muscle Atrophy and Retain Viability in a Rotator Cuff Tear Model
Clarie D. Eliasberg, MD, Ayelet Dar, PhD, Andrew R. Jensen, MD, MBE, Iain R. Murray, MD, PhD, Winter R. Hardy, PhD, Tomasz J. Kowalksi, MD, PhD, Cameron A. Garagozlo, BA, Kyle M. Natsuhara, MD, Adam Z. Khan, MD, Owen J. McBride, BS, Peter I. Cha, BA, Benjamin V. Kelly, BA, Gina Mosich, MD, Denis Evseenko, MD, PhD, Brian T. Feeley, MD, David R. McAllister, MD, Bruno Péault, PhD, Frank A. Petrigliano, MD
- BOS5** *James Robert Gladden Orthopaedic Society (JRGOS)*
Oxidative Metabolism in Bone Marrow Stromal/Stem Cells and the Outcome of Spinal Fusion
Addisu Mesfin, MD, Laura Shum, Brianna Shares, Paul Rubery, MD, Roman Eliseev, MD, PhD
- BOS6** *North American Spine Society (NASS)*
T1 Tilt and Clavicle Angle Are the Best Predictors of Postoperative Shoulder Balance
Vishal Sarwahi, MD, Stephen Wendowski, BS, Rachel Gecelter, BS, Terry Amoral, MD, Beverly Thornhill, MS
- BOS7** *Orthopaedic Trauma Association (OTA)*
Selective Serotonin Reuptake Inhibitors Impair Fracture Healing
Philipp Leucht, MD, Vivian Bradaschia Correa, DDS, Devan Mehta, BS, Anna Josephson, BS, Jason Huo, BS, Matthew Mizrahi, BS, Kenneth Egol, MD
- BOS8** *Pediatric Orthopaedic Society of North America (POSNA)*
The Effects of Tendon Transfer to Cartilage: Insights into Tibialis Anterior Tendons in the Young Child
Sam Abrams, MD, Thomas Crenshaw, MS, PhD, Rachel Lenhart, Ellen Leiferman, DVM, Teresa Kaiser, Emily Pierce, Rachel Rebekah Franklin, DVM, Dayton Opel, MD, Ken Noonan, MD, Matthew A. Halankski, MD

POSTERS

BOS9 *Ruth Jackson Orthopaedic Society (RJOS)*
A Biomechanical Study Comparing Minimally Invasive Anterior Pelvic Ring Fixation Techniques to External Fixation
Lauren M. McCormick, Jeff Gilbertson, Sikander E. Khan, Frank Chen, Lisa K. Schroder, Joan E. Bechtold, Peter A. Cole

BOS10 *Scoliosis Research Society (SRS)*
Medical Complications in 3,519 Surgically Treated Elderly Patients with Adult Spinal Deformity: Comparison of Multicenter Surgeon Maintained vs. Medicare Claims Database
Amit Jain, MD, Hamid Hassanzadeh, MD, Varun Puvanesarajah, Eric O. Klineberg, MD, Michael P. Kelly, MD, MS, D. Kojo Hamilton, MD, Virginie Lafage, PhD, Aaron James Buckland, MBBS, FRACS, Peter G. Passias, MD, Themistocles S. Protopsaltis, MD, Renaud Lafage, MS, Justin S. Smith, MD, PhD, Christopher I. Shaffrey, MD, Khaled M. Kebaish, MD, FRCSC

CHINA GUEST NATION POSTERS

CHINA1 **Implant-Derived Magnesium Induces Local Neuronal Production of CGRP to Improve Bone — Fracture Healing in Rats**
Yifeng Zhang, Jiankun XU, Ye Chun Ruan, Mei Kuen Yu, Micheal O' Laughlin, Helen Wise, Di Chen, Li Tian, Dufang Shi, Jiali Wang, Sihui Chen, Jian Q Feng, Dick Ho Kiu Chow, Xinhui Xie, Lizhen Zheng, Le Huang, Shuo Huang, Kwoksui Leung, Na Lu, Lan Zhao, Huafang Li, Dewei Zhao, Xia Guo, Kaiming Chan, Frank Witte, Hsiao Chang Chan, Yufeng Zheng, Ling Qin

CHINA2 **Eicosapentaenoic Acid Attenuates Dexamethasone-Induced Apoptosis by Inducing Adaptive Autophagy Via GPR120 in Murine Bone Marrow-Derived Mesenchymal Stem Cells**
Bo Gao, Yue-Hu Han, Long Wang, Wei-Guang Lu, Ya-Qian Hu, Xi-Sheng Lin, Qiang Jie, Liu Yang, Zhuo-Jing Luo

CHINA3 **Prevention of Cartilage Degeneration by Targeting Smad2/3-MMP13 Signaling Pathway**
Sien Lin, Wayne Y.W. Lee, Jinfang Zhang, Liao Cui, Gang Li

GERMANY SOCIETY FOR ORTHOPAEDICS AND TRAUMA (DGOU) BEST POSTER

First Results of a Porcine Long-Term Model of Combined Trauma
Klemens Horst, T.P. Simon, R. Pfeifer, M. Teuben, K. Almahmoud, Q. Zhi, S. Aguiar Santos, C. Castelar Wemmers, S. Leonhardt, N. Heussen, P. Störmann, B. Auner, B. Relja, I. Marzi, A.T. Haug, M. van Griensven, M. Kalbitz, M. Huber-Lang, R. Tolba, L.K. Reiss, S. Uhlig, G. Marx, H.C. Pape, F. Hildebrand

INTERNATIONAL COMBINED ORTHOPAEDIC RESEARCH SOCIETY (ICORS) BEST POSTERS

ICORS1 *AO Foundation*
The Efficacy of Local Bisphosphonate and BMP-2 delivery in Improving Bone Mass and Mechanical Implant Stability
L. Freitag, C. Günther, L. Kyllönen, U. Eberli, K. Thompson, D. Arens, S. Zeiter, D. Eglin, V.A. Stadelmann

ICORS2 *Asian Pacific Orthopaedic Research Society*
The Complex Changes in the Musculoskeletal System as the Result of Exercise and Aging: A Study in Rat Model
Kamarul T, Naveen SV, Tan KT, Randhawa SS, Noor Sa'adah, Balaji Ragavendhran H, Murali MR

ICORS3 *Australian and New Zealand Orthopedic Research Society*
The Efficient Method for Studying the Influence of Surgical Variability in Implant Positioning on the Primary Stability of THA Using FEA
Rami Al-Dirini, Dan Huff, Dermot O'Rourke, Mark Taylor

ICORS4 *British Orthopaedic Research Society*
Surface Mobility and High Efficiency Presentation of BMP-2 to Promote Bone Growth
Fatma M. Bathawah, Marco Contini, Matthew J. Dolby, Manuel Salmeron-Sanchez

ICORS5 *Canadian Orthopaedic Research Society*
Photodynamic Therapy (PDT) to Enhance Healing of Femur Fractures with a Critically Sized Defect
Margarete K. Akens, Michael R. Hardisty, Ahmad Golaraei, Diane Nam, Albert Yee, Brian C. Wilson, Cari M. Whyne

ICORS6 *European Orthopaedic Research Society*
Nutritional Glucose Affects Tendon Healing in a Rat Model
S. Kortner, C. Lehner, N. Kunkel, A. Traweger, H. Tempfer

ICORS7 *International Chinese Musculoskeletal Research Society*
Abnormal Ultrastructure of the Osteocyte-Lacuno-Canalicular System in Adolescent Idiopathic Scoliosis—A New Novel Finding
Huanxiong Chen, Wayne Y.W. Lee, Jiajun Zhang, Zhiwei Wang, Bobby K.W. Ng, Kwong Man Lee, Tsz Ping Lam, Jian Q. Feng, Jack C.Y. Cheng

ICORS8 *International Chinese Musculoskeletal Research Society*
Subchondral Bone Plate Sclerosis During Late Osteoarthritis Is Mediated by Loading-induced Decrease in Sclerostin Amount
Xiaoyuan Ma, Haoruo Jia, Wei Tong, Zhaochun Yang, Zeyang Sun, Abhishek Chandra, Lin Han, Kairui Zhang, James H-C Wang, Motomi Enomoto-Iwamoto, Ling Qin

POSTERS

ICORS9 *Japanese Orthopaedic Association*
Elucidation of Molecular Mechanism of Adolescent Idiopathic Scoliosis

Yoji Ogura, Ikuyo Kou, Kazuki Takeda, Yohei Takahashi, Katsuki Kono, Noriaki Kawakami, Koki Uno, Manabu Ito, Shohei Minami, Ikuho Yonezawa, Haruhisa Yanagida, Hiroshi Taneichi, Taichi Tsuji, Teppei Suzuki, Hideki Sudo, Toshiaki Kotani, Naobumi Hosogane, Eijiro Okada, Kazuhiro Chiba, Yoshiaki Toyama, Masaya Nakamura, Morio Matsumoto, Kota Watanabe, Shiro Ikegawa

ICORS10 *Korean Orthopaedic Research Society*
Adipose Derived Mesenchymal Stem Cells Co-administration with Matrilin-3 Promotes Cartilage Tissue Regeneration

Manjunatha S. Muttigi, Byoung Ju Kim, Bogyu Choi, Inbo Han, Hansoo Park, Soo-Hong Lee

ICORS11 *Taiwan Orthopaedic Research Society*
3D-Printing Bioceramic Bone Scaffold for Large Bone Defect Therapy

Chih-Hao Chang, Chih-Yang Lin, Mark Hung-Chih Chen, Fwu-Hsing Liu, Yunn-Shiuan Liao, Rong-Sen Yang

ICORS12 *Taiwan Orthopaedic Research Society*
Biomechanical Characteristics of Oversized Spinal Pedicle Screw After Fatigue Loading

Yu-Tang Shih, Yi-Hsing Chen, Dar-Ming Lai, Jaw-Lin Wang

AAOS WOMEN'S HEALTH ISSUES ADVISORY BOARD (WHIAB) BEST POSTER

WHIAB **Comparison of Male and Female Knee Kinematics at the Time of Non-Contact Anterior Cruciate Ligament Injury Determined via Bone Bruises**

Kwadwo A. Owusu-Akyaw, Sophia Y. Kim, Charles E. Spritzer, Amber T. Collins, Gangadhar M. Utturkar, William E. Garrett, Louis E. DeFrate

ORTHOPAEDIC RESEARCH SOCIETY

BEST POSTERS

The following posters have been chosen as the "Best" of the ORS and were displayed at the American of Academy of Orthopaedic Surgeons (AAOS) meeting, March 14 – March 18.

Poster No. 0146

ORS Best Hip Poster

Adipose Tissue Derived Mesenchymal Stem Cell Therapy for the Treatment of Chondral Lesions in the Hip: A 2-year Follow-up Comparison Study with Microfractures

Andrea Fontana

Poster No. 0313

ORS Best Knee Poster

Investigation of the Impact of the Concomitant Meniscus Injury on the Rotational Laxity in the Anterior Cruciate Ligament Injured Knees Using the Quantitative Measurement of the Pivot-shift Test

Yuichi Hoshino, Nobuaki Miyaji, Toshikazu Tanaka, Kazuyuki Ibaragi, Kyohei Nishida, Yuichiro Nishizawa, Daisuke Araki, Noriyuki Kanzaki, Takehiko Matsushita, Ryosuke Kuroda

Poster No. 0326

ORS Best Foot and Ankle Poster

Surface Characterization of Total Ankle Replacement: Retrieved vs. In Vitro Simulation

Ashley A. Stratton-Powell, Alexandra Smyth, Sophie Williams, Anthony C. Redmond, Joanne L. Tipper, John Fisher, Claire L. Brockett

Poster No. 0154

ORS Best Hand and Wrist Poster

Scaphoid and Lunate Kinematics Following Sequential Sectioning of the Scapholunate Ligament and Secondary Stabilizers

Helen Stoesser, Clare Padmore, G. Daniel G. Langohr, Nina Suh, James Johnson, Graham King

Poster No. 2116

ORS Best Shoulder and Elbow Poster

Perfusion of the Rotator Cuff Tendon According to Repair Configuration Using Indocyanine Green Fluorescence Arthroscopy

Sae Hoon Kim, Ho Yun Joung, Min Woong Jung, Young Eun Choi

Poster No. 0877

ORS Best Spine Poster

Factors Aggravating the Trunk Anterior Inclination During Walking in Spinal Kyphosis Patients

Kumi Kamata, Hiroshi Ozawa, Yusuke Sekiguchi, Toshimi Aizawa, Shinichi Izumi, Eiji Itoi

Poster No. 0331

ORS Best Tumor Poster

Diagnostic and Prognostic Significance of Circulating Cell-free MicroRNAs in Osteosarcoma

Tomohiro Fujiwara, Koji Uotani, Aki Yoshida, Takuya Morita, Masahiro Kiyono, Yusuke Mochizuki, Tadashi Komatsubara, Kazuhisa Sugiu, Joe Hasei, Toshiyuki Kunisada, Yutaka Nezu, Eisuke Kobayashi, Akira Kawai, Takahiro Ochiya, Toshifumi Ozaki

POSTERS

NEW INVESTIGATOR RECOGNITION AWARD POSTERS (NIRA) POSTERS

NIRA 6—BONE

The following posters will also be presented in the NIRA Presentations session on Sunday, March 19 from 1:15 PM–2:15 PM.

Poster No. 25

Subchondral Bone Plate Sclerosis During Late Osteoarthritis Is Mediated by Loading-Induced Decrease in Sclerostin Amount
Xiaoyuan Ma

Poster No. 26

Non Viral miR-133a Inhibition Using Collagen-Nanohydroxyapatite Scaffolds Rapidly Enhances Stem Cell Osteogenesis and In Vivo Bone Repair
Irene Mencía Castaño, Caroline M. Curtin, Rosanne M. Raftery, Gang Chen, Brenton Cavanagh, Brian Quinn, Garry P. Duffy, Fergal J. O'Brien

Poster No. 27

Novel Bone-Growth Factors from the Blood: Cxcl16 and Others Benchmarked to Bmp2
Ling He, Yufeng Shen, Juan Zhong, Qimei Gong, Jinxuan Zheng, Francis Lee, Scott Rodeo, Lusai Xiang, Paulo G. Coelho, Junqi Ling, Jeremy J. Mao

Poster No. 28

Translating the Fundamental Role of Osteogenic-Angiogenic Coupling in Bone Formation: Highly Efficient Combinatorial Gene-Activated Scaffolds Accelerate Bone Regeneration in Critical-sized Defects
Rosanne M. Raftery, Irene Mencía Castaño, Gang Chen, Brian Quinn, Brenton Kavanagh, Caroline Curtin, Sally-Ann Cryan, Fergal J. O'Brien

Poster No. 29

Notch Signaling Regulates Mesenchymal-Osteoblast Differentiation
Daniel W. Youngstrom, Kurt D. Hankenson

Poster No. 30

Exploring the Link Between Fetal Movements and Hip Dysplasia in Singleton and Twin Pregnancies
Stefaan W. Verbruggen, Bernhard Kainz, Joseph V. Hajnal, Mary A. Rutherford, Andrew T.M. Phillips, Niamh C. Nowlan

Poster No. 31

Potential of Bone Morphogenetic Protein-6 as a Pharmacological Agent for Increasing Bone Formation in Patients with Type 1 Diabetes
Jesse F. Wang, Tsung-Lin Tsai, Ming-Song Lee, Ellen Leiferman, Darrin Trask, Wan-Ju Li

Poster No. 32

Novel Role of TGF β in Osteocytes: Regulation of Perilacunar Remodeling and Bone Quality
Neha S. Dole, Courtney A. Mazur, Claire Acevedo, Tristan W. Fowler, Justin Lopez, David A. Monteiro, Jonathan J. Woo, Khalid S. Mohammad, Tamara Alliston

Poster No. 33

Detecting Chronic Post-Traumatic Osteomyelitis in Mouse Tibia via an IL-13R α 2 Targeted Metallofullerene Magnetic Resonance Imaging Probe
Li Xiao, Tinghui Li, Mengmeng Ding, Jiezuan Yang, David B. Weiss, Li Jin, Harry C. Dorn, Xudong Li

NIRA 9—JOINT ARTHROPLASTY AND SPINE

The following posters will also be presented in the NIRA Presentations session on Sunday, March 19 from 1:15 PM – 2:15 PM.

Poster No. 43

NF- κ B Decoy Oligodeoxynucleotide Mitigates Polyethylene Wear Particle-Induced Bone Loss but Has No Effects on Exogenous Macrophage Infiltration in a Murine Continuous Femoral Particle Infusion Model
Tzu-hua Lin, Akira Nabeshima, Jukka Pajarinen, Luis Cordova, Florence Loi, Emmanuel Gibon, Laura Lu, Karthik Nathan, Zhenyu Yao, Stuart B. Goodman

Poster No. 44

Mutant CCL2 Protein Mitigated Wear Particle-Induced Systemic Macrophage Trafficking in the Murine Continuous Polyethylene Infusion Model
Akira Nabeshima, Jukka Pajarinen, Tzu-hua Lin, Xinyi Jiang, Emmanuel Gibon, Luis A. Cordova, Laura Lu, Karthik Nathan, Fan Yang, Zhenyu Yao, Stuart B. Goodman

Poster No. 45

How Well Does Kinematically Aligned Total Knee Arthroplasty Limit Imbalances Between the Medial and Lateral Contact Forces?
Joshua D. Roth, Stephen M. Howell, Maury L. Hull

Poster No. 46

Elucidating the Mechanism of Anti-IsdB-mediated S. Aureus Sepsis and Death Following Surgical Site Infection in a MRSA Implant-Associated Osteomyelitis Model
Masahiro Ishikawa, Kohei Nishitani, Karen L. de Mesy Bentley, Noriaki Yokogawa, Benjamin L. Smith, Hiromu Ito, Stephen L. Kates, John L. Daiss, Edward M. Schwarz

Poster No. 47

Q-space Imaging Is a Novel Technique to Evaluate Intervertebral Disc Degeneration
Daisuke Nakashima, Nobuyuki Fujita, Junichi Hata, Takeo Nagura, Kanehiro Fujiyoshi, Hideyuki Okano, Masahiro Jinzaki, Morio Matsumoto, Masaya Nakamura

POSTERS

Poster No. 48

Hypoxia Differentially Regulates the Metabolism of Human Nucleus Pulposus Cells Under Basal and $11\text{-}\beta$ -stimulated Conditions Through Hif-2 α

Yu Song, Cao Yang

Poster No. 49

High Mobility Group Box-1 Promotes Pro-Inflammatory Signaling in Human Nucleus Pulposus Cells via Toll-Like Receptor 4

Bhranti S. Shah

Poster No. 50

Engineered Endplates Enhance the In Vivo Performance of a Replacement Disc-Like Angle Ply Structure (DAPS)

Sarah E. Gullbrand, John T. Martin, Beth G. Ashinsky, Dong Hwa Kim, Lachlan J. Smith, Dawn Elliott, Harvey Smith, Robert Mauck

Poster No. 51

Human Ipsc-Derived Notochordal Cells Survive and Retain Their Phenotype in Degenerated Porcine IVD

Dmitriy Sheyn, Shiran Ben-David, Sandra De Mel, Virginia Chan, Joseph Giaconi, Dan Gazit, Zulma Gazit

NIRA 13—CARTILAGE MENISCUS AND OSTEOARTHRITIS

The following posters will also be presented in the NIRA Presentations session on Monday, March 20 from 9:15 AM–10:15 AM.

Poster No. 70

Meniscal Tissue Engineering by Simultaneously Electrospaying Cells and Electrospinning Nanofibers

Jihye Baek, Shawn Grogan, Martin Lotz, Darryl D. D'Lima

Poster No. 71

Development of a Continuous Dual-Gradient Peptide Scaffold for Directed Osteochondral Spatial Differentiation

Jennifer L. Puetzer, Lesley W. Chow, Hélène Autefage, Anu K. Solanki, Molly M. Stevens

Poster No. 72

Novel Roles of NOTCH and HES1 Signaling in Cartilage Maintenance and Osteoarthritis

Yinshi Ren, Jianquan Chen, Zhaoyang Liu, Anthony Mirando, Matthew Hilton

Poster No. 73

Forkhead Box O Transcription Factors Control Postnatal Articular Cartilage Growth, Maturation and Homeostasis and Expression of Proteoglycan 4

Tokio Matsuzaki, Oscar Alvarez-Garcia, Sho Mokuda, Kohei Miyata, Merissa Olmer, Hiroshi Asahara, Martin K. Lotz

Poster No. 74

Therapeutic Targeting of the SIRT1-Autophagy Pathway Protects Against Injury Induced and Aged-Related Osteoarthritis

Pradeep K. Sacitharan, Tonia Vincent, James Edwards

Poster No. 75

SHP2 Regulates Endochondral Ossification by Modulating Osteogenic Differentiation of Hypertrophic Chondrocytes

Lijun Wang

Poster No. 76

Chondrocyte Death, Mitochondrial Dysfunction, and Apoptosis Are Mediated by Friction and Local Shear Strain

Edward D. Bonnevie, Michelle L. Delco, Lena R. Bartell, Naveen Jasty, Itai Cohen, Lisa A. Fortier, Lawrence J. Bonassar

Poster No. 77

Voxel-Based Relaxometry Reveals Local Patterns in T1 ρ , T2 and R2 - R1 ρ Longitudinal Progression 12 Months After ACL Reconstruction in Both Injured and Contralateral Knees: A Multicenter Pilot Study

Valentina Pedoia, Colin Russell, Xiaojuan Li, Benjamin C. Ma, Matthew Koff, Hollis Potter, Kimberly K. Amrami, Aaron J. Krych, Scott Rodeo, Sharmila Majumdar

NIRA 19—TENDON, LIGAMENT, MUSCLE AND TRAUMA

The following posters will also be presented in the NIRA Presentations session on Monday, March 20 from 11:15 AM–12:15 PM.

Poster No. 102

Human Subacromial Bursa Cells Display Superior Engraftment vs. Bone Marrow Stromal Cells in Murine Tendon Repair

Felix Dyrna, Leo Pauzenberger, Philip Zakko, Mary Beth McCarthy, David W. Rowe, Augustus Mazzocca, Nathaniel Dymant

Poster No. 103

Differentiated Tenocytes Revert to a Progenitor-Like State in Mice with Targeted Disruption of TGF-Beta Type II Receptor

Guak-Kim Tan, Anna G. Stabio, Doug R. Keene, Brian A. Pryce, Ronen Schweitzer

Poster No. 104

The Role of NF- κ B Signaling in Rotator Cuff Tendinopathy

Shivam A. Shah, Yousef Abu-Amer, Stavros Thomopoulos

Poster No. 105

Genetic Inhibition of NF- κ B to Improve Mdx Skeletal Muscle Function

Xi Yin, Ying Tang, Jian Li, Anna Dzuricky, Chuanqiang Pu, Freddie Fu, Bing Wang

Poster No. 106

IL17 A & B and Their Respective Receptors are Regulated by Runx3 During Fracture Healing

David N. Paglia, Satoko Matsumura, Joseph Lorenzo, Mark F. Hansen, Hicham Drissi

Poster No. 107

Local Application of Microvascular Fragments by Thermoresponsive Hydrogel Impairs Fracture Healing

Marcel Orth, Maximilian Altmeyer, Benedikt Braun, Nils Veith, Jörg Holstein, Tim Pohlemann, Matthias Laschke, Michael Menger

POSTERS

Poster No. 108

Three-Times-Weekly Administration of Parathyroid Hormone (1-34) Accelerates Bone Healing in a Rat Refractory Fracture Model

Yohei Kumabe, Sang Yang Lee, Takahiro Waki, Takahiro Niikura, Takashi Iwakura, Shunsuke Takahara, Michio Arakura, Yu Kuroiwa, Ryosuke Kuroda

Poster No. 109

Delivery of β -Catenin Agonists via Targeted Nanoparticles to Enhance Fracture Healing

Yuchen Wang, Michael P. Baranello, Maureen Newman, Tzong-Jen Sheu, J. Edward Puzas, Danielle S.W. Benoit

POSTER TEASER 1

The following posters will also be presented in Session 21—Poster Teaser 1 on Monday, March 20 from 11:15 AM–12:15 PM.

Poster No. 116

Differential Effects of Hydrogels on In Vitro Meniscus Regeneration

Gokhan Bahcecioglu, Nesrin Hasirci, Vasif Hasirci, Bahar Bilgen

Poster No. 117

Notch1-Antagonistic Aptamer for Chondrogenic Differentiation of Bone Marrow Derived Stromal Cells

Mi-Lan Kang, Ji-Eun Kim, Se-Young Jeong, Gun-Il Im

Poster No. 118

PEO-PP0-PEO Micelles as rAAV Carriers for Effective Transduction of Human Articular Chondrocytes In Vitro and in a Human Osteochondral Defect Model

Ana Rey Rico, Janina Frisch, Jagadeesh Venkatesan, Gertrud Schmitt, Isabel Rial-Hermida, Pablo Taboada, Angel Concheiro, Henning Madry, Carmen Alvarez-Lorenzo, Magali Cucchiari

Poster No. 119

Enhancer Network for Ihh Transcription in Chondrocytes

Akira Yamakawa, Hironori Hojo, Ung-il Chung, Shinsuke Ohba

Poster No. 120

Lgr5-Dependent Wnt Signaling Is Essential for Late Stages of Chondrogenic Differentiation

Piera Smeriglio, Catherynn Vuong, Nidhi Bhutani

Poster No. 121

Sprifermin Maintains the Local Mechanical Properties of Articular Cartilage During Extended In Vitro Culture

Gregory R. Meloni, Alexandra J.E. Farran, Emilie Rabbut, Anne Gigout, Robert L. Mauck, George R. Dodge

Poster No. 122

Non-Destructive Spectroscopic Assessment of Articular Cartilage Correlates with Mechanical Properties

James P. Karchner, Farzad Yousefi, Kurosh Darvish, Nancy Pleshko

Poster No. 123

Nbqx, an Ampa-Kainate Glutamate Receptor Antagonist, Alleviates Inflammation, Degeneration and Pain Related Behaviour in Two Models of Osteoarthritis

Cleo Bonnet, Sophie Gilbert, Anwen Williams, Emma Blain, David Walsh, Deborah Mason

Poster No. 124

MicroRNA-146a Is Necessary and Sufficient to Prevent Osteoarthritis Through Targeting Notch1 In Vivo

Yingjie Guan, Qian Chen

Poster No. 125

Longitudinal Changes in T1Rho and T2 Signal of Meniscus in ACL-Injured Patients Post ACL Reconstruction

Joseph Knox, Valentina Pedoia, Amy Wang, Xiaojuan Li, Benjamin Ma

Poster No. 126

A New Factor Promotes Matrix Organization in Tendon Tissue

Yang Liu, Jinfang Zhang, Gang Li

Poster No. 127

Molecular Damage to Collagen is a Critical Feature of Mechanical Damage in Tendon

Jared L. Zitnay, Yang Li, Zhao Qin, Markus J. Buehler, S. Michael Yu, Jeffrey A. Weiss

Poster No. 128

Achilles Tendon Mechanical and Compositional Properties Differ Drastically in Early Healing Between Repaired and Non-Repaired Tendons

Benjamin R. Freedman, Tyler R. Morris, George W. Fryhofer, Pankti R. Bhatt, Nabeel S. Salka, Daniel C. Farber, Louis Soslowky

Poster No. 129

The Consumption of Plasminogen Following Severe Burn and Its Implications in Muscle Calcification

Breanne H.Y. Gibson, Stephanie N. Moore-Lotridge, Gregory D. Hawley, Nicholas A. Mignemi, William K. Oelsner, Jonathan G. Schoenecker

Poster No. 130

Fluid Shear Induces TRPV4 Mediated Calcium Influx Contributing to Osteogenic Responses in MSCs

Michele A. Corrigan, Marie-Noelle Labour, Mathieu Riffault, David A. Hoey

Poster No. 131

Bone Quality Across Different Phases of Pediatric Skeletal Growth

Elizabeth A. Zimmermann, Christoph Riedel, Yuriy Chushkin, Eric Schaible, Felix N. Schmidt, Bernd Gludovatz, Eik Vettorazzi, Federico Zontone, Klaus Püschel, Michael Amling, Robert O. Ritchie, Björn Busse

Poster No. 132

Enhanced Bone Formation In Vivo by Pharmacologically Targeted Primary Cilia-Mediated Mechanotransduction

Milos Spasic, Michael P. Duffy, Christopher R. Jacobs

POSTERS

Poster No. 133

Glutaminase Acts in Osteoblasts to Regulate Bone Formation

Yilin Yu, Everett Knudson, Risigan Logendran, Fanxin Long, Courtney M. Karner

Poster No. 134

Collagen Pathobiochemistry of Ehlers Danlos Syndrome Type VI Phenocopied in P3h3 and Sc65 Null Mice

David M. Hudson, MaryAnn Weis, Jyoti Rai, Kyu Sang Joeng, Brendan Lee, Roy Morello, David Eyre

Poster No. 135

Foxo Transcription Factors Are Essential for Intervertebral Disc Maturation

Oscar Alvarez-Garcia, Tokio Matsuzaki, Merissa Olmer, Martin K. Lotz

Poster No. 136

Residual Circumferential Strain in the Intervertebral Disc Annulus Fibrosus Varies with Anatomical Region

Sarah E. Duclos, Arthur J. Michalek

Poster No. 137

Pretreatment with a Gamma-Secretase Inhibitor Prevents Tumor-Like Overgrowth in Human iPSC-Derived Transplants for Spinal Cord Injury

Toshiki Okubo, Narihito Nagoshi, Jun Kohyama, Go Itakura, Morio Matsumoto, Hideyuki Okano, Masaya Nakamura

Poster No. 138

Scale Up of Disc-Like Angle Ply Structures (DAPS) for Total Disc Replacement in Preclinical Animal Models

Sarah E. Gullbrand, Beth G. Ashinsky, Dong Hwa Kim, John T. Martin, Dawn Elliott, Lachlan Smith, Robert Mauck, Harvey Smith

Poster No. 139

Measures of Behavior and Pain-Related Sensitivities at Acute and Chronic Timepoints in a Rodent Model of Intervertebral Disc Degeneration

Elizabeth M. Leimer, Matthew G. Gayoso, Liufang Jing, Adam I. Elkhayat, Munish C. Gupta, Lori A. Setton

Poster No. 140

Biomechanical and Histologic Comparison of a Novel 3D Printed Titanium Interbody Cage to Standard PEEK Cages

Kirk McGilvray, Howard Seim, Sigurd Berven, Wellington Hsu, Thomas Mroz, John Rhee, Christian Puttlitz, Jeremiah Easley

Poster No. 141

The Effects of Anterior Cruciate Ligament Reconstruction on Tibiofemoral Subchondral Bone Congruency During Dynamic Functional Movement

Tom Gale, Kanto Nagai, James Irrgang, Freddie Fu, Scott Tashman, William Anderst

Poster No. 142

Effects of Sex and Injury Mechanism on Anterior-Posterior Knee Laxity in Mice

Carina Blaker, Nathan Doran, Christopher Little, Elizabeth Clarke

Poster No. 143

Knee Kinematics in Bi-Cruciate Stabilized Total Knee Arthroplasty During Weight-Bearing Activities

Koji Murakami, Satoshi Hamai, Ken Okazaki, Yefeng Wang, Hidehiko Higaki, Hideki Mizu-uchi, Yukio Akasaki, Umuto Kuwashima, Yasuharu Nakashima, Yasuharu Nakashima

Poster No. 144

Risk Factors for Residual Anterolateral Rotational Instability After Anterior Cruciate Ligament Reconstruction: Evaluation by Quantitative Assessment of the Pivot Shift Phenomenon Using Triaxial Accelerometer

Mai Katakura, Hideyuki Koga, Kaori Nakamura, Ichiro Sekiya, Toshifumi Watanabe, Masafumi Horie, Tomomasa Nakamura, Koji Otabe, Toshiyuki Ohara, Takeshi Muneta

Poster No. 145

Evaluation of the Sclerotic Subchondral Bone Boundary as a Surgical Resection Guide in the Treatment of Cam-Type Femoroacetabular Impingement

Penny Atkins, Stephen Aoki, Shireen Elhabian, Praful Agrawal, Ross Whitaker, Jeffrey Weiss, Christopher Peters, Andrew Anderson

Poster No. 146

Adipose Tissue Derived Mesenchymal Stem Cell Therapy for the Treatment of Chondral Lesions in the Hip: A 2 Year Follow-Up Comparison Study with Microfractures

Andrea Fontana

Poster No. 147

Similarities Between Reported Inflammatory Cell Induced Corrosion Features and Electrocautery Damage

Patrick Aldinger, Chenxi Li, Vivek Pawar

Poster No. 148

Neurotoxic Effect of CoCr Wear Particles Generated from Hip Simulator Using Induced Pluripotent Stem Cells (iPSC) Derived Neurons: Initial Outcomes

Divya R Bijukumar, Poojitha Vellore Jaysukumar, Chong Chong Xu, Xue-Jun Li, Ramaswamy Kalyanasundaram, Mathew Thoppil Mathew

Poster No. 149

Recipient of William H. Harris, MD Award

Differential Proteomic Analysis of Hip Synovial Fluid from Patients with a Pseudotumor vs. Periprosthetic Osteolysis

Isabelle Catelas, Eric A. Lehoux, Zhibin Ning, Daniel Figeys, Stephen J. Baskey, Paul E. Beaulé

Poster No. 150

Phospholipid Polymer Grafted and Vitamin E Blended Cross-linked Polyethylene Brought High Resistance for Wear and Oxidation Under Controlled Load Bearing Conditions

Masayuki Kyomoto, Toru Moro, Shihori Yamane, Kenichi Saiga, Kenichi Watanabe, Sakae Tanaka, Kazuhiko Ishihara

POSTERS

Poster No. 151

IL-1 β Production in Response to Wear Particles Depends on Lysosome Destabilization but Not on Extracellular ATP

Brian Fort, Givenchy Manzano, Matthew Hoffa, George Dubyak, Edward Greenfield

Poster No. 152

Inhibition of PDGFR Signaling Prevents Muscular Fatty Infiltration After Rotator Cuff Tear in Mice

Hideyuki Shirasawa

Poster No. 153

Regional Variation in Bone Density and Volume Fraction in the Proximal Humerus

Jacob M. Reeves, George S. Athwal, James A. Johnson

Poster No. 154

Scaphoid and Lunate Kinematics Following Sequential Sectioning of the Scapholunate Ligament and Secondary Stabilizers

Helen Stoesser, Clare Padmore, G. Daniel G. Langohr, Nina Suh, James Johnson, Graham King

Poster No. 155

Transplantation of Achilles Allograft in Rats: With or Without Incorporation of Autologous Mesenchymal Stem Cells

Zijun Zhang, Michael Aynardi, Talal Zahoor, Reed Mitchell, Lew Schon

Poster No. 156

Quantifying Staphylococcus Aureus Motility Through Submicron Pores via an In Vitro Nanoporous Transwell System That Mimics Canaliculi Colonization

Karen de Mesy Bentley, Mark Ninomiya, Kohei Nishitani, John Daiss, Stephen L. Kates, Hung Li Chung, James L. McGrath, Edward M. Schwarz

Poster No. 157

Chyluria as an Early Predictor for Fat Embolism in Fracture Patients

Yun Che Wu, Chih Hui Chen

Poster No. 158

Effect of Mental Health Conditions on Complications, Revision and Readmission Rates Following Tibial Shaft Fracture

Brock Foster, Zorica Buser, Anthony D'Oro, Jeffrey C. Wang, Geoffrey S. Marecek

Poster No. 159

Shear Wave Velocity Measurement of Upper Trapezius Muscle by Color Doppler Shear Wave Imaging

Atsushi Yamamoto, Yoshiki Yamakoshi, Takashi Ohsawa, Hitoshi Shitara, Tsuyoshi Ichinose, Hiroyuki Shiozawa, Tsuyoshi Sasaki, Noritaka Hamano, Yasushi Yuminaka, Haku Iizuka, Kenji Takagishi

Poster No. 160

Clinicopathologic Features and Outcomes of CIC- and BCOR-Rearranged Sarcomas

Makoto Endo, Masato Sugawara, Akihiko Yoshida, Eisuke Kobayashi, Shuichi Toki, Takeshi Hirose, Takenori Uehara, Tomoaki Mori, Koki Shimizu, Yoshikazu Tanzawa, Fumihiko Nakatani, Hirokazu Chuman, Akira Kawai

POSTER TEASER 2

The following posters will also be presented in Session 46—Poster Teaser 2 on Wednesday, March 22 from 11:15 AM–12:15 PM.

Poster No. 287

Bioactive Ti6Al4V Alloy Improves Bone Bonding and Prevents Bacterial Infection: THP Application THP Application

Helena Felgueiras, Véronique Viateau, Azzam Saleh Mghir, Anne-Claude Crémieux, Daniel Blankaert, Véronique Migonney

Poster No. 288

EtO Sterilized Polyethylene: Is Oxidation a Concern?

Barbara H. Currier, John H. Currier, Lindsay A. Holdcroft, Evan Carlson, Douglas Van Citters

Poster No. 289

Preclinical Assessment of Acellular Porcine Super Flexor Tendon Using an Ovine Model of Anterior Cruciate Ligament Repair

Anthony Herbert, Jennifer H. Edwards, Gemma L. Jones, Eileen Ingham, John Fisher

Poster No. 290

Proteomic Analysis of Early Cartilage Repair in a Chronic Cartilage Defect Model in Minipigs

Casper Foldager, Morten Olesen, Bjorn Christensen, Kris Hede, Martin Lind, Johan Palmfeldt

Poster No. 291

Igf-ii Regulates Postnatal Long Bone Growth Through Controlling Glucose Metabolism

Li Zeng, Tomoya Uchmura, Daisy S Nakamura, Zhiyi Liu, Clifford J. Rosen, Irene Georgakoudi

Poster No. 292

Diet Induced Phosphate Deficiency Leads to a Phase Shift and a Change of Gene Expression in Circadian Oscillation During Fracture Healing

Takashi Noguchi, Amira I. Hussein, Deven M. Carroll, Nina Horowitz, Louis C. Gerstenfeld

Poster No. 293

Wnt5a Induces Catabolic Signaling and MMP Production in Human Articular Chondrocytes

Guangxin Huang, Richard Loeser

Poster No. 294

Binding Is Critical to the Design and Function of Lubricin-Mimetics for Cartilage Lubrication

Elizabeth Feeney, Zhexun Sun, David Putnam, Lawrence Bonassar

POSTERS

Poster No. 295

The Structural, Psychological, Functional and Pain Sensitization Characteristics of Presurgical Knee Osteoarthritis Patients with Evidence of Neuropathic Pain: A Prospective Observational Study
Thomas Kurien, Robert Kerslake, Richard G. Pearson, Brigitte E. Scammell

Poster No. 296

Absence of Decorin Exacerbates DMM-induced Post-Traumatic Osteoarthritis in Mice
Qing Li, Ouyang Liu, Basak Doyran, Li Fan, Wei Tong, Wei-Ju Tseng, X. Sherry Liu, Renato V. Iozzo, Ling Qin, David E. Birk, Lin Han

Poster No. 297

Detection of Degenerative Meniscus Changes 6 and 24 Months After Anterior Cruciate Ligament Reconstruction
Tom Gale, James Irrgang, Freddie Fu, Scott Tashman

Poster No. 298

Simvastatin and Atorvastatin Reduce the Mechanical Properties of Tendon Constructs In Vitro and Introduces Catabolic Changes in the Gene Expression Pattern
Pernilla Eliasson, Rene B. Svensson, Antonis Giannopoulos, Christian Eismark, Michael Kjær, Peter Schjerling, Katja Heinemeier

Poster No. 299

The Role of Force in Zebrafish Tendon Development
Arul Subramanian, Jenna Galloway, Lauren Kanzaki, Thomas Schilling

Poster No. 300

Reduction in NF- κ B Rescues the Aging Phenotype of Muscle Derived Stem/Progenitor Cells
Alex Scibetta, Aiping Lu, Laura Niedernhofer, Paul Robbins, Johnny Huard

Poster No. 301

Accurate Prediction of Implant Fixation Strength in a Rat Model Using μ CT
Matthew Meagher, Rachna Parwani, Maleeha Mashiatulla, Ryan D. Ross, Amarjit Virdi, D. Rick Sumner

Poster No. 302

In Vivo Dynamic Bone Formation and Resorption Under Combined PTH and Mechanical Loading
Samuel T. Robinson, X. Edward Guo

Poster No. 303

Intracellular Staphylococcus Aureus Are Resistant to Antibiotics
Francis Y. Lee, Lee Song, Kelly E. Diaz, Jung Ho Back, Do Yo Soung, Saqib Nizami

Poster No. 304

Elevated Levels of Serum Amyloid A in Patients with Osteonecrosis of the Femoral Head
Yong Feng, GuangYi Li, ChangQing Zhang

Poster No. 305

Murine Model for Developmental Dysplasia of Hip: Ablation of Cx3cr1 Affects Gait and Acetabular Morphology
George J. Feldman, Arlene Offemaria, Javad Parvizi, Theresa Freeman

Poster No. 306

Muscle Paralysis Induces Changes in the Intracortical Bone Microporosities of Skeletally Mature Rats
Vittorio Gatti, Michael B. Gerber, Bishoy Ghobryal, Michelle J. Gelbs, Luis Cardoso, Susannah P. Fritton

Poster No. 307

A Proinflammatory and Degenerative Intervertebral Disc Organ Culture Model by Combining Tnf- α Intradiscal Injection and Detrimental Dynamic Loading
Gernot M. Lang, Yishan Liu, Zhiyu Zhou, David Kubosch, Norbert Südkamp, Mauro Alini, Sibylle Grad, Zhen Li

Poster No. 308

WITHDRAWN

Poster No. 309

Co-Culture Cell Sheets of Bone Marrow Stromal Cells and Neural Stem/Progenitor Cells Promote Axonal Regeneration and Remyelination After Completely Transected Spinal Cord Injury in Rats
Akinori Okuda, Takamasa Shimizu, Hideki Shigematsu, Eiichiro Iwata, Tadanobu Onishi, Yasuhiko Morimoto, Keisuke Masuda, Manabu Akahane, Yasuhito Tanaka

Poster No. 310

Molecular Characterization of Intervertebral Disc Tissue by Next Generation Rna Sequencing
A. Noelle Larson, Scott Riester, Andre van Wijnen, Lin Cong, Wenchun Qu, Mohammed Bydon, Moneim Abdel, Ahmad Nassr

Poster No. 311

Expression of Notochordal and Nucleus Pulposus Marker by Sub-Populations of Adult Human Nucleus Pulposus Cells Is Maintained Through Aging and Degeneration
Stephen M. Richardson, Francesca E. Ludwinski, Judith A. Hoyland

Poster No. 312

Growing-Rod Explants in Early Onset Scoliosis: Patient-Based Biomechanical Test Development
Emily M. Olson, Peter Sturm, Viral Jain, Lindsay R. Schultz, David Glos, Donita Bylski-Austrow

Poster No. 313

Investigation of the Impact of the Concomitant Meniscus Injury on the Rotational Laxity in the Anterior Cruciate Ligament Injured Knees Using the Quantitative Measurement of the Pivot-shift Test
Yuichi Hoshino, Nobuaki Miyaji, Toshikazu Tanaka, Kazuyuki Ibaragi, Kyohei Nishida, Yuichiro Nishizawa, Daisuke Araki, Noriyuki Kanzaki, Takehiko Matsushita, Ryosuke Kuroda

POSTERS

Poster No. 314

The Effect of Osteochondral Implant Material and Implantation Inaccuracy on Articular Cartilage

Ashley Heuwerker, Keita Ito, Wouter Wilson, Corrinus C. van Donkelaar

Poster No. 315

Biomechanical And Biological Indicators of Altered Knee Loading in Pre-High Tibial Osteotomy Patients Indicators

Catherine Holt, Gemma Whatling, Paul Biggs, Christopher Wilson, David Elson, Cleo Bonnet, Carole Elford, Deborah Mason

Poster No. 316

Effect of Labrum on Computational Kinematic Simulation During Hip Motion

Takehito Hananouchi, Penny R. Atkins, Stephen Kenji Aoki, Andrew Edward Anderson

Poster No. 317

Stromal Cell-Derived Factor-1 Antibody Decreased Cancellous Osseointegration of a Murine Tibial Implant

Benjamin F. Ricciardi, Kevin Nishida, Zhiwei Wang, Amanda Wach, Arvinth Sethuraman, Sophia Ziemian, Marjolein C.H. van der Meulen, F. Patrick Ross, Xu Yang, Mathias P.G. Bostrom

Poster No. 318

WITHDRAWN

Poster No. 319

Influence of Surgical Variables on Initial Taper Stability

Laura Scholl, David Pierre, Jeremy Gilbert, Michael Ambrosi, Ahmad Faizan, Viswanathan Swaminathan, Reginald Lee, Kevor TenHuisen

Poster No. 320

Osteolysis and Wear of Large and Standard Metal on Highly Cross-Linked Polyethylene Articulations

Donald W. Howie, Oksana T. Holubowycz, Caroline R. Moran, Bogdan Solomon

Poster No. 321

Development of a Novel Time Dependent Polyethylene Cross Shear and Wear Model for Use in the Computational Analysis of Total Knee Replacements

Steven P. Mell, Markus A. Wimmer, Hannah J. Lundberg

Poster No. 322

3D Morphometric Analysis of the Coracohumeral Distance Using In Vivo MRI Data

Taku Hatta, Nobuyuki Yamamoto, Hiroataka Sano, Yasushi Omori, Kazuomi Sugamoto, Kenji Suzuki, Eiji Itoi

Poster No. 323

Subacromial Pressure Reduction After Rotator Cuff Repair with a Biodegradable Subacromial Spacer

Yan Chevalier, Matthias F. Pietschmann, Christoph Thorwaechter, Christian Schoeder, Ofir Chechik, Eliyahu Adar, Assaf Dekel, Peter E. Mueller

Poster No. 324

Development and Validation of a Multivariable Prediction Model for Length of Stay After Shoulder Arthroplasty

David Kovacevic, Ana Mata-Fink, Jacob E. Berman, Geliang Gan, Fangyong Li, Theodore A Blaine

Poster No. 325

MRI-based Assessment of First Carpometacarpal Osteoarthritis

Brent Foster, Robert D. Boutin, Stephen Henrichon, Christopher O. Bayne, Robert M. Szabo, Anand A. Joshi, Abhijit J. Chaudhari

Poster No. 326

Surface Characterisation of Total Ankle Replacement: Retrieved vs. In-vitro Simulation

Ashley A. Stratton-Powell, Alexandra Smyth, Sophie Williams, Anthony C. Redmond, Joanne L. Tipper, John Fisher, Claire L. Brockett

Poster No. 327

Particles from Vitamin E (VE)-Diffused Highly Cross-linked (HXL) UHMWPE Increase Macrophage Viability and Immune Functions Around Implants Compared to HXL UHMWPE

Weishen Chen, David A. Bichara, Jeremy Suhardi, Orhun Muratoglu

Poster No. 328

Optimizing the Reduction and Association of the Scaphoid and Lunate (RASL) Technique: Screw Trajectory Matters

Christina M. Beck, Philip Nasser, Matthew J. Gluck, Michael R. Hausman, Steven M Koehler

Poster No. 329

Objective Prediction of Post-Traumatic OA Risk Following Acetabular Fractures Based on Severity

Tai C. Holland, Kevin N. Dibbern, J. Lawrence Marsh, Donald D. Anderson, Michael C. Willey

Poster No. 330

Real Time In Vivo Cervical Functional Spine Unit Kinematics Evaluated by Merging Static MRI with Dynamic Ultrasound Images

Mingxin Zheng, Amin Mohamadi, Thomas Szabo, Brian Snyder

Poster No. 331

Diagnostic and Prognostic Significance of Circulating Cell-Free MicroRNAs in Osteosarcoma

Tomohiro Fujiwara, Koji Uotani, Aki Yoshida, Takuya Morita, Masahiro Kiyono, Yusuke Mochizuki, Tadashi Komatsubara, Kazuhisa Sugiu, Joe Hasei, Toshiyuki Kunisada, Yutaka Nezu, Eisuke Kobayashi, Akira Kawai, Takahiro Ochiya, Toshifumi Ozaki

POSTERS

POSTER SESSION 1

Posters will be displayed Monday, March, 20 10:00 AM–5:30 PM and Tuesday, March 21, 9:00 AM–11:30 AM.

PS1 Biomaterials—Other

Poster No. 353

Fluoridated Apatite for Percutaneous Implant Application—An In Vitro Study

Brian T. Bennett, James Peter Beck, John S. Colombo, Kent N. Bachus, Kongnara Papangkorn, Colton K. Leavitt, Joshua Shieh, Sujee Jeyapalina

Poster No. 354

Analysis of the Expression of Connexin 43 in Synovial Tissue of Patients with Arthritis

Seiji Shimomura, Shinji Tsuchida, Yuji Arai, Shuji Nakagawa, Hiroaki Inoue, Shohei Ichimaru, Yuta Fujii, Osam Mazda, Toshikazu Kubo

Poster No. 355

Autologous Nucleus Pulposus Cell-Seeded Hydrogel Delivery to Isolated Human Intervertebral Discs: Histological Assessment and T1rho MRI Detection After 5 Weeks of Dynamic Loading

Derek H. Rosenzweig, Axel P. Mathieu, Julien Tremblay Gravel, Janet Moir, Jean A. Ouellet, Lisbet Haglund

Poster No. 356

Retrieved Magnesia-Stabilized Zirconia Femoral Heads Exhibit Minimal Roughening and Abrasive Potential

Marie Emily Roy, Leo A. Whiteside

Poster No. 357

Molecular Evaluation of a Novel Decellularized Meniscal Repair Scaffold

Farrah A. Monibi, Aaron M. Stoker, Ferris M. Pfeiffer, Keiichi Kuroki, Seth L. Sherman, James L. Cook

Poster No. 358

Fatigue Crack Propagation in Carbon Fiber Reinforced PEEK

Noah B. Bonnheim, Marco Regis, Pierangiola Bracco, Farzana Ansari, Lisa Pruitt

Poster No. 359

Pressure Gradient Response of Typical Prosthetic Insert Material for Assessment of Socket Comfort

Meredith K. Owen, Kyle Walker, Shannon Hall, Brian Kaluf, John D. DesJardins

Poster No. 360

Decellularization of the Meniscus by High Hydrostatic Pressure: Temperature Condition for Removal of Cell Debris

Naoto Watanabe, Mitsuru Mizuno, Jumpei Matsuda, Hisako Katano, Nobutake Ozeki, Koji Otabe, Keiichiro Komori, Yuji Kohno, Kenta Katagiri, Naoko Nakamura, Tsuyoshi Kimura, Akio Kishida, Kunikazu Tsuji, Takeshi Muneta, Ichiro Sekiya

Poster No. 361

Are Ceramic-on-Metal Bearings Better Than Metal-on-Metal Bearings: A Retrieval Analysis

Sang-Hyun Park, Sophia Sangiorgio, Zhen Lu, Pat Campbell, Mohammad Nazif, Eddie Ebramzadeh, Ian Clarke, Tom Donaldson

Poster No. 362

The Effect of Freezing on the Biomarker Concentration in Platelet-Rich Plasma Releasate: A Pilot Study

Jillian T. King, Kaitlyn E. Whitney, Kevin Pillifant, Jorge Chahla, Hajime Utsunomiya, Thos A. Evans, Johnny Huard

Poster No. 363

Surfaces Changes on Titanium After Electrical Current Stimulation in a Simulated Physiological Medium

Letícia M. Bins-Ely, Karina Cesca, Fernando S. Souza, Luismar M. Porto, Almir Spinelli, Cesar A.M. Benfatti, Ricardo S. Magini, Julio C.M. Souza

Poster No. 364

Molecular Evaluation of a Novel Decellularized Meniscal Repair Scaffold on Fibroblast-Like Synoviocytes

Farrah A. Monibi, Aaron M. Stoker, Ferris M. Pfeiffer, Keiichi Kuroki, Seth L. Sherman, James L. Cook

Poster No. 365

Effects of Modified Growth Factor-Loaded Hyaluronate-Collagen Dressing Matrix in Diabetic Mice

Tae Hun Kim, Seong Mi Choi, Kyoung-Mi Lee, Yoorim Choi, Hyun Jung Kim, Ik Kyu Park, Wan Jin Cho, Hang-Cheol Shin, Woo Jin Choi, Jin Woo Lee

Poster No. 366

Influence of Female Orthopaedic Surgery Faculty on Female Residency Applicants

Alana M. Munger, Nathanael Heckmann, Braden McKnight, George F. Hatch III, Reza Omid

PS1 Biomaterials—Bone

Poster No. 367

3D Printed Biologically Active and Load Sustaining Scaffold Designs for Segmental Bone Replacement

Rebecca Chung, Antonio Valdevit

Poster No. 368

Sterility and Biointegration of Bone Allografts Protected Against Radiation by Vitamin E

Jeremy V. Suhardi, Weishen Chen, David Bichara, Orhun K. Muratoglu, Ebru Oral

Poster No. 369

Mechanical and Dissolution Characterization of PMMA/13-93B3 Bioactive Glass Mixtures

Kimberly Cole, Grahmm Funk, Terence McIlff

POSTERS

Poster No. 370

In Vivo Safety and Efficacy Testing of a Thermally Triggered Injectable Hydrogel, Loaded with Hydroxyapatite Nanoparticles, to Promote Repair and Regeneration of Bone Defects

Abbey A. Thorpe, Christine Freeman, Paula Farthing, Paul Hatton, Ian Brook, Chris Sammon, Christine Le Maitre

Poster No. 371

Incorporation of 3D Coragraf with Poly(lactic-co-glycolic acid) Microsphere Loaded Human Platelet Derived Growth Factor—BB Enhanced Osteogenic Differentiation of Mesenchymal Stromal Cells

Kamarul T. Saktiswaren Mohan, Hanumatharao Balaji Raghavendran, Malliga Raman Murali

Poster No. 372

Synergistic Effects of Hbo and Prp Improve Bone Regeneration with Autologous Bone Grafting

Johannes Schneppendahl, Jan-Peter Grassmann, Michael Wild, Simon Thelen, Monika Herten, Mohssen Hakimi, Joachim Windolf, Pascal Jungbluth

Poster No. 373

Effects of rhBMP-2 on Bone Formation and Material Resorption After Implantation of the Composite Material Consisting Beta-TCP and PLLA

Hirokazu Komaki, Takaaki Tanaka, Shoushi Akiyama, Keishi Marumo

Poster No. 374

Comparison of In Vitro Biocompatibility of Silicone Based Elastomeric Polymer and Pmma Cements During the Curing Phase of Polymerization

Wei-Ping Ren, Wei Song, Joseph Seta, Rahul Vaidya, David Markel

Poster No. 375

Assessment of Adult db/db Mouse as a Model of Bone Abnormalities in Type 2 Diabetes Mellitus

Andrea L. Baker, Xiaohong Bi, Guijin Lu, Vihang Narkar, Catherine G. Ambrose

Poster No. 376

Elucidating Interplay of Physical and Biochemical Cues on Osteogenesis of Mesenchymal Stem Cells in 3D Using Biomimetic Hydrogels

Xinming Tong, Kunyu Qiu, Fan Yang

Poster No. 377

Use of Micro-Computed Tomography to Quantify Tissue Mineral Density

Stephen Okajima, Caleb Yeung, Vahid Entezari, Vartan Vartanians, John Rennick, Vinay Goyal, Juan Villa-Camacho, Molly Vora, Ara Nazarian

Poster No. 378

Electrospun Poly (Caprolactone) Nanofiber Shish Kebabs Mimicking Mineralized Collagen Fibrils in Bone

Tony Yu

Poster No. 379

Bone-Implant Interface Characterization with Neutron Tomographic Imaging Under In Situ Loading

Sophie Le Cann, Erika Tudisco, Christina Perdikouri, Ola Belfrage, Anders Kaestner, Stephen Hall, Magnus Tägil, Hanna Isaksson

Poster No. 380

Locked Versus Non-locked Two-Hole Plates in Growth Modulation: A Sawbones® Study

Abdel Majid Sheikh Taha, David S. Feldman, Adam Kurland, Karim Z. Masrouha, Fredrick Krummer, Alice Chu

Poster No. 381

Escherichia Coli-Derived BMP-2-Absorbed β -TCP Granules Accelerates Bone Regeneration in Rabbit Femoral Segmental Defects

Yu Kuroiwa, Takahiro Niikura, Sang Yang Lee, Takashi Iwakura, Shunsuke Takahara, Michio Arakura, Yohei Kumabe, Yoshitada Sakai, Ryosuke Kuroda

Poster No. 382

Osseointegration of Novel Macro-Structured Implant Surface

William R. Walsh, George J. Picha, Chris Christou, Matthew Pelletier, Rachel Smith, James Price, Grant Phillips

Poster No. 383

Effect on Bone Density When Combing Cell Therapy with Early and Delayed Mechanical Loading in a Tissue Engineering Scaffold

Tanja C. Hausherr, Katja Nuss, Eric Thein, Swenn M. Krähenbühl, Lee A. Applegate, Dominique P. Pioletti

Poster No. 384

Compressive Properties of Ribose Pre-Treated Irradiation Sterilized Human Bone Allografts

Tarik Attia, Megan Stajkowski, Marc Grynepas, Thomas Willett

Poster No. 385

24-Month Evaluation of a Distally Loaded Percutaneous Osseointegrated Prosthetic System in a Large Animal Amputation Animal Study

James Peter Beck, Sujee Jeyapalina, Alex Drew, Roy D. Bloebaum, Kent N. Bachus

Poster No. 386

Characterization of Composite Bone Cements as Drug Delivery Systems for Osteomyelitis

Vidyalakshmi Jayaraman, Elizabeth Bentley, Jason M. Chang, Kelli L. Palmer, Danieli C. Rodrigues

Poster No. 387

Release of Vancomycin and Tobramycin from Pmma Cements Impregnated with Calcium Polyphosphate Hydrogel

David Markel, Joseph Seta, Wei Song, Xiao Wei Yu, Wei-Ping Ren

Poster No. 388

Tailoring the Subchondral Bone Phase of a Multi-Phase Osteochondral Repair Construct for Enhanced Bone Healing

Alan M. Marionneaux, Jeremy J. Mercuri

POSTERS

Poster No. 389

Tuning Alginate Bioinks to Modulate Their Printability and Stiffness in Order to Spatially Direct MSC Fate Within Bioprinted Tissues

Fiona E. Freeman, Daniel J. Kelly

Poster No. 390

Spinal Fusion Using a Novel BioGlass Fiber Combined with Autograft

William R. Walsh, Rema A. Oliver, Chris Christou, Tian Wang, Emma R. Walsh, Vedran Lovric, Matthew H. Pelletier, Shrikar Bondre

Poster No. 391

A Trisulfated Glycosylated Peptide Amphiphile Nanofiber Scaffold for Spinal Arthrodesis

Gurmit Singh, Sungsoo S. Lee, Timmy Fyrner, Mark T. McClendon, Karina K. Katchko, Andrew D. Schneider, Danielle S. Chun, Joseph A. Weiner, Ralph W. Cook, Justin T. Smith, Sameer Singh, Chawon Yun, Samuel I. Stupp, Erin L. Hsu, Wellington K. Hsu

Poster No. 392

WITHDRAWN

Poster No. 393

Magnesium Ion Enriched Bone Allograft for Large Bone Defect Management

Wenhao Wang, Hoi Man Wong, Paul K Chu, Frankie K.L. Leung, Kenneth M.C. Cheung, Kelvin Yeung

Poster No. 394

Mesenchymal Stem Cell Proliferation and Osteogenic Differentiation in 3D Printing Polycaprolactone-Hydroxyapatite(pcl/ha)scaffolds Combined with Marrow Clot

Fengyong Mao, Pengfei Zheng, Yue Lou, Kai Tang, Liming Wang, Qingqiang Yao

Poster No. 395

Plasma Enhanced Biocompatible and Photocatalytic Antibacterial Degradable Magnesium Alloy for Bone Fracture Fixation

Zhengjie Lin, Ying Zhao, Kenneth M.C. Cheung, Paul K. Chu, Kelvin Yeung, Frankie Leung

Poster No. 396

Efficacy of Wp9qy Peptide (w9) for Bone Formation in a Rat Delayed Union Model

Mikiya Sawa, Shigeyuki Wakitani, Nobuo Adachi, Yuriko Furuya, Mitsuo Ochi

Poster No. 397

Novel Biofunctional Material for Orthopedic Implants: Surface Chemistry, Corrosion and Biocompatibility Aspects

Luciana Daniele Trino, E.S. Bronze-Uhle, A. Ramachandran, Paulo Lisboa-Filho, Mathew Thoppi Mathew, Annie George

Poster No. 398

Poly(lactic-co-glycolic acid) Scaffold Coated with an Antioxidative Fullerene Derivative for Bone Tissue Engineering

Xinlin Yang, Guojun Ma, Yongfei Guo, Fuai Cui, Yazhou Li, Xiaodong Li, Quanjun Cui

Poster No. 399

Nell-1 Combined with Bone Marrow Aspirate Concentrate in a Polyelectrolyte Complex Based Construct Enhances Posterolateral Spinal Fusion in Rabbits

Ling Liu, Wing Moon Lam, Ming Wang, Mathanapriya Naidu, Felly Ng, Xia Fei Ren, Ting Kang, Chia Soo, James Goh, Hee Kit Wong

PS1 Biomaterials—Cartilage

Poster No. 400

Chondrocytes Produce Native-Like ECM Organization Using the MatriTek TissueSpec™ Cartilage Hydrogel Kit as a Scaffold for Cartilage Tissue Engineering When Nutrient Channels and CAGE Strategies are Employed

Wing-Sum A. Law, Krista M. Durney, Robert J. Nims, Gordana Vunjak-Novakovic, Clark T. Hung, Gerard A. Ateshian

Poster No. 401

Bone Bonding Double-Network Hydrogel for Cell-free Cartilage Regeneration: Influences of the Gel Thickness on the Regeneration Process In Vivo

Susumu Wada, Nobuto Kitamura, Takayuki Nonoyama, Ryuji Kiyama, Keiko Goto, Takayuki Kurokawa, Jian Ping Gong, Kazunori Yasuda

Poster No. 402

Bone Marrow-Mesenchymal Stem Cell Embedded Collagen-Based Chondroprogenitor Scaffold for the Treatment of Early Osteoarthritis in a Porcine Animal Model

Wo-Ran Tzeng, Shu-Wei Huang, Jui-Sheng Sun, Chih-Yu Chen, Chih-Hsiang Fang, Pei-I Tsai, Hsin-Hsin Shen, San-Yuan Chen, Feng Huei Lin

Poster No. 403

Acellular Cartilage Matrix Combined with Chitosan Cellulose Hydrogel for Cartilage Regeneration: Cell-Compatibility and Gene Expression Analysis

Chih-Hung Chang, Yu-Chun Chen, Ruo-Yu Chen, Yuan-Ming Hsu

Poster No. 404

Non-Destructive Vibrational Spectroscopic Assessment of Developing Chondrocyte-Seeded Hyaluronic Acid Constructs

Farzad Yousefi, Minwook Kim, Yusra Nahri, Robert L. Mauck, Nancy Pleshko

Poster No. 405

Arthritic Human Cartilage Molecular Engineering Using Biomimetic Proteoglycans Shows Infiltration Throughout the Cartilage Extracellular Matrix Ex Vivo

Evan Phillips, Nicholas Bertha, Brandon Shallop, Katsiaryna Prudnikova, Michele Marcolongo, Mary Mulcahey

POSTERS

Poster No. 406

A Novel Protective Role of GPNMB/Osteoactivin in Post-Traumatic Osteoarthritis

Asaad A. Aladlaan, Nazar Hussein, Fatima Jaber, Tariq Haqqi, Fayez Safadi

Poster No. 407

Local Delivery of Triamcinolone Acetonide in an ACLT Model of Osteoarthritis Impairs Joint Regeneration, Possibly by Inhibition of Wound Healing

Imke Jansen

Poster No. 408

Genetic Modification of Human Bone Marrow Aspirates via Delivery of rAAV Vectors Coated on PNaSS-Grafted Poly(ϵ -caprolactone) Scaffolds

Jagadeesh Venkatesan, Amélie Leroux, Jean-Sébastien Baumann, Ana Rey Rico, Céline Falentin-Daudré, Janina Frisch, Henning Madry, Veronique Mignonney, Magali Cucchiari

Poster No. 409

Effect of Hyaluronic Acid on Chondrogenesis of Bone Marrow Derived Mesenchymal Stem Cells in Rabbit

Hiroki Ohzono, Masafumi Gotoh, Tomonoshin Kanazawa, Hirokazu Honda, Yousuke Nakamura, Kouji Tanaka, Ryo Tanesue, Hisao Shimokobe, Naoto Shiba

Poster No. 410

The Effects of Low Dose Radiation on Porcine Articular Cartilage

Hannah Cash

Poster No. 411

The Effect of Warming on Release of Marrow Elements from Osteochondral Cores

Suzanne M. Tabbaa, Camille Glazer, C. Wayne McIlwraith, David D. Frisbie, Robert Sah, William Bugbee

Poster No. 412

3D printed Construct Incorporating Microspheres with Decellularized Osteochondral Extracellular Matrix for the Treatment of Large Osteochondral Defects

Paulomi Ghosh, Stacey Gruber, James Lin, Patrick W. Whitlock

Poster No. 413

Characterization of Metal Debris From Commonly Used Arthroscopic Shavers

Andrew N. Luu, Aaron Kavanaugh, Fabrizio Billi, Louis Kwong

PS1 Biomaterials—Tendon and Ligament

Poster No. 414

Modulating Microfibrillar Topography, Collagen Presentation and Growth Factor Stimulation to Regulate MSC Differentiation for Interface Tissue Engineering

Dinorath P. Olvera

Poster No. 415

Freeze-Dried Chitosan-PRP in a Rabbit Model of Rotator Cuff Repair

Gabrielle Depres, Anik Chevrier, Michael Buschmann

Poster No. 416

Tendon-Fibrocartilage-Bone Composite Revitalization Using Bone Marrow-Derived Mesenchymal Stem Cell Sheets for Rotator Cuff Repair and Regeneration

Qian Liu, Haoyu Liu, Andrew R. Thoreson, Anne Gingery, Steven L. Moran, Peter C. Amadio, Scott Steinmann, Chunfeng Zhao

Poster No. 417

Usefulness of Elastin for Ligament-Bone Junction Healing in Rabbits

Naoya Ito, Masahiro Hasegawa, Tetsuya Hattori, Takashi Hosoi, Hironori Unno, Yoshiaki Suzuki, Yoshihiro Miura, Yuriyo Matsui, Keiichi Miyamoto, Akihiro Sudo

Poster No. 418

Crimp Characterization of Porcine Posterior Cruciate Ligament by Second-Harmonic Generation Imaging

Woowon Lee, Hafizur Rahman, Mariana E. Kersh, Kimani C. Toussaint

Poster No. 419

Biomechanical Evaluation of Achilles Tendon Repair with Different Collagen Scaffolds in a Rat Model

Carolin Gabler, Jan-Oliver Sass, Thomas Tischer, Rainer Bader

Poster No. 420

Understanding the Relationship Between Chemical Composition and Mechanical Properties of the Human Anterior Cruciate Ligament (ACL)

Taeyong Ahn, Stephen Schlecht, James Ashton-Miller, Edward Wojtys, Mark M. Banaszak Holl

PS1 Cartilage and Synovium—Imaging

Poster No. 421

Symmetry in Postural Stability 2 Years After ACL Reconstruction Is Associated with Longitudinal Tibial Cartilage Health

Alan K. Li, Valentina Pedoia, Keiko Amano, Matthew Tanaka, C. Benjamin Ma, Xiaojuan Li

Poster No. 422

Mitigation of Articular Cartilage Degeneration and Subchondral Bone Sclerosis in Osteoarthritis Using Low Intensity Acoustic Radiation Force

Xiaofei Li, Yue-li Sun, Zhilun Zhou, Jian Jiao, Dongye Zhang, Alyssa Tuthill, Minyi Hu, Yi-Xian Qin

Poster No. 423

In-vivo Structure-Function Characterization of Tibiofemoral Cartilage During Walking: A Dual Fluoroscopy and Magnetic Resonance Imaging Approach

Gulshan B. Sharma, Gregor Kuntze, Jillian E. Beveridge, Janet L. Ronsky

POSTERS

Poster No. 424

A Non-Destructive Optical Method to Quantify Superficial Zone Articular Cartilage Fiber Structure

Ferris M. Pfeiffer, Xuan Yao, Yuanbo Wang, Mohammadreza Ravanfar, Madeline Farris, Dongsheng Duan, Gary Yao

Poster No. 425

The Role of Collapse on the Degeneration of Articular Cartilage in Osteonecrosis of the Femoral Head: A Preliminary Study Using T1 rho MRI

Kazuhiko Sonoda, Goro Motomura, Takuaki Yamamoto, Satoshi Kawanami, Yukihisa Takayama, Satoshi Ikemura, Yusuke Kubo, Yasuharu Nakashima

Poster No. 426

A Novel Imaging Approach for Morphological Analysis of the Pericellular Matrix in Live Cartilage

Eng Kuan Moo, Scott C. Sibole, Walter Herzog

Poster No. 427

Histopathology Grading Using Mankin and Oarsi System for Characterization of Osteoarthritic Human Knee Articular Cartilage Reveals Anomalous Features That Fit Neither Scoring System

Venkata Prasanna R. Mantripragada, Nicolas Piuze, Nancy Obuchowski, Ronald Midura, George Muschler

Poster No. 428

dGEMRIC and Epic- μ Ct Imaging in a Canine Model of Knee Osteoarthritis

Samuel Franklin, Angela Lin, Emily Burke, Aaron Stoker, Chantelle Bozynski, Jackson Spencer, James Cook, Keiichi Kuroki, Robert Guldberg, Shannon Holmes

Poster No. 429

NMR Diffusometry and Relaxometry of Human Stage IV OA Cartilage Shows Loss of Solid Phase

Sarah Mailhot, Joseph D. Seymour, Jennifer R. Brown, Ronald K. June

Poster No. 430

Visualization of the Circadian Clock in Skeletal Bones Obtained from Neonatal Per2: luc Mice Using Bioluminescence Macro-Imaging Device

Tatsuya Kunitomo, Yoichi Minami, Naoki Okubo, Hirotohi Fujiwara, Toshihiro Hosokawa, Ryo Oda, Toshikazu Kubo, Kazuhiro Yagita

Poster No. 431

Diffusion of an MRI Contrast Agent Across the Bone-Cartilage Boundary

Nadine Vautour, Gregory Cron, Andrew D. Speirs

PS1

Cartilage and Synovium—Growth Plate and Endochondral Ossification

Poster No. 432

Analysis of Chondron Deformation During Physiologic and Hyper-Physiologic Compression of the Growth Plate

Bhavya B. Vendra, Esra Roan, John Williams

Poster No. 433

Knocking-Out of Klf10 Induces the Down-regulation of Indian Hedgehog in Endochondral Bone Development

Hye-Young Kim, Jong-Min Lee, Gun-Il Im

Poster No. 434

Clinically Feasible Dose of Meclozine Promotes Bone Growth in Mouse Model with Achondroplasia

Masaki Matsushita, Hiroshi Kitoh, Kenichi Mishima, Hiroshi Sugiura, Akiko Kitamura, Naoki Ishiguro, Kinji Ohno

Poster No. 435

Oxidative Damage Induces Apoptosis and Promotes Calcification in Disc Cartilage Endplate Cell Through Ros/mapk/nf- κ B Pathway: Implications for Disc Degeneration

Yingchao Han, Xinhua Li, Meijun Yan, Mingjie Yang, Shanjin Wang, Lijun Li, Jun Tan

Poster No. 436

Rescuing Chondrocyte Hypertrophic Differentiation Potential and Exploring Therapeutic Approaches for Enhancing Bone Formation in Mucopolysaccharidosis VII Dogs

Sun H. Peck, Jennifer L. Kang, Justin R. Bendigo, Patricia O'Donnell, Caitlin A. Fitzgerald, Jessica Bagel, Neil R. Malhotra, Eileen M. Shore, Margret L. Casal, Lachlan J. Smith

Poster No. 437

Restoring the Damage Growth Plate: Restoration of the Physis Using a Drug-Loaded Scaffold in a Rabbit Model

Huan Huan Liu, Andre van Wijnen, Todd Milbrandt, Emily Camilleri, David Puleo, Scott Riester, A. Noelle Larson

PS1

Cartilage and Synovium—Extracellular Matrix

Poster No. 438

Expression of IGF-2, a Major Embryonic Growth Factor, in Chondrocytes from Adult Osteoarthritic and Non-Diseased Cartilage Tissue

Hongjun Zheng, Britta A. Anderson, Audrey McAlinden

Poster No. 439

WITHDRAWN

Poster No. 440

Lysyl Oxidase Like-2 is an Anabolic Agent for Osteoarthritis Therapy in Knee and Temporomandibular Joints

Weam Alshenibr, Yazeed Alkheriji, Amelia Wise, Sadanand Fulzele, Pushkar Mehra, Mary B. Goldring, Louis C. Gerstenfeld, Manish V. Bais

POSTERS

Poster No. 441

The G608G Progeria Mouse Model as an Animal Model for Osteoarthritis

Maria B. Cubria, Sebastian Suarez, Aidin Masoudi, Amanda Dubose, Michael Erdos, Francis S. Collins, Chris Ploski, Catherine M. Gordon, Brian Snyder, Ara Nazarian

Poster No. 442

The Anabolic Effects of Exogenous Hyaluronic Acid on Articular Cartilage Under Hypoxia

Shohei Ichimaru, Shuji Nakagawa, Yuji Arai, Shinji Tsuchida, Hiroaki Inoue, Kuniaki Honjo, Seiji Shimomura, Osam Mazda, Toshikazu Kubo

PS1

Cartilage and Synovium— Tissue Engineering and Repair

Poster No. 443

Mature Canine Cells in Full-Scale Engineered Cartilage Recapitulate Native Mechanical and Biochemical Properties with Nutrient Channels

Krista Durney, Robert J. Nims, Wing-Sum A. Law, James L. Cook, Clark T. Hung, Gerard A. Ateshian

Poster No. 444

Functional Outcome Measures Correlate with Surgically Induced Moderate Osteoarthritis in the Canine Hip Joint

Masataka Enomoto, Megan A. Gallagher, Bradley T. Estes, Franklin T. Moutos, Jonathan Stallings, Sarah J. Wall, Dianne Little, Farshid Guilak, Duncan X. Lascelles

Poster No. 445

Hyaluronic Acid Hydrogel Functionalized with Self-Assembled Kartogenin Nanoparticles for the Treatment of Osteoarthritis

Mi-Lan Kang, Ji-Eun Kim, Se-Young Jeong, Gun-Il Im

Poster No. 446

CCL21 Expressed in Cartilage Repair Process in Immature Mice and Accelerated Cartilage Repair

Zenta Joutoku, Tomohiro Onodera, Daisuke Momma, Masatake Matsuoka, Rikiya Baba, Kazutoshi Hontani, Shinji Matsubara, Kentaro Homan, Ryosuke Hishimura, Norimasa Iwasaki

Poster No. 447

Comparison of Humoral Factors Produced by Chondrocyte and Synovioocyte Sheets Using SOMAscantm

Yasuyuki Sogo, Masato Sato, Eriko Toyoda, Takumi Takahashi, Eri Okada, Miki Maehara, Takizawa Daichi, Masahiko Watanabe

Poster No. 448

A Phenotype-Specific Gene Circuit to Regulate Chondrocyte Maturation

Biming Wu, Sanjana Murali, Meghan Burns, Rhima Coleman

Poster No. 449

Biological Repair of Osteoarthritic Cartilage Using Short Link N

Michael Philip Grant, Muhammad Albesher, Laura M. Epure, John Antoniou, Fackson Mwale

Poster No. 450

Heterogeneity of Engineered Cartilage Constructs Using Adult Canine Chondrocytes is Reduced with Higher TGF- β Concentrations

Robert J. Nims, Krista M. Durney, Wing-Sum A. Law, Andrea R. Tan, Brendan L. Roach, James L. Cook, Clark T. Hung, Gerard A. Ateshian

Poster No. 451

The Bioactivity of Extra-/Peri-cellular Matrix from Human Adult Stem Cells for Cartilage Repair

Yangzi Jiang, Hsuan Peng, Rocky S. Tuan

Poster No. 452

Evaluation of Culture Conditions for Allogeneic Chondrocyte Sheets in a Rabbit Xenotransplantation Model

Takumi Takahashi, Masato Sato, Eriko Toyoda, Miki Maehara, Daichi Takizawa, Yasuyuki Sogo, Hideyuki Maruki, Ayako Tominaga, Eri Okada, Tomomi Kotoku, Masahiko Watanabe

Poster No. 453

Cartilage-Derived Matrices in Conjunction with PTH Treatment Improve Cartilage Repair and Integration

Sara Nowacki, Michael Zuscik, Hani Awad

Poster No. 454

Clinically Relevant Enzyme Pretreatment Promotes Cell Migration Across Wound Edge in a Cartilage Defect Model

Hannah M. Zlotnick, Amy A. Apostol, Hope J. Chen, Paul H. Liebesny, Keri A. Mroszczyk, Alan J. Grodzinsky

Poster No. 455

Viability of Cells from Displaced Fragments of the Elbow Osteochondritis Dissecans: Alternative Source of Autologous Chondrocyte Implantation

Tadanao Funakoshi, Yusuke Kameda, Katsura Sugawara, Shunsuke Takeuchi, Norimasa Iwasaki

Poster No. 456

A Novel 3D-Bioplotting Osteochondral Scaffold for Site-Specific Human Adipose Stem Cell Differentiation

Rachel C. Nordberg, Liliana F. Mellor, Pedro Huebner, Sonya Sonnenberg, Michael A. Taylor, William Efrid, Jeffery Spang, Rohan A. Shirwaiker, Elizabeth G. Lobo

Poster No. 457

Trypsin Pre-Treatment Combined with Growth-Factor Functionalized Self-Assembling Peptide Hydrogel for Integrative Cartilage Repair in a Rabbit Model

Gustavo Zanutto, Paul Liebesny, Myra Barrett, Hannah Zlotnick, Alan Grodzinsky, David Frisbie

Poster No. 458

Mimicking Endochondral Ossification for Enhanced Osteochondral Defect Repair

Susan E. Critchley, Adam O'Reilly, Gráinne M. Cunniffe, Pedro D. Payno, Aidan McAlinden, Daniel Withers, Eben Alsberg, Daniel J. Kelly

POSTERS

Poster No. 459

Effect of High and Low Compressive Loading on Tissue Engineered Cartilage

Stephany Vasquez, Bahar Bilgen

Poster No. 460

Human Chondrocyte Cytoskeletal Control and Its Implication in Loss of Re-Differentiation Potential

Thomas J. Kean, James E. Dennis

Poster No. 461

A Novel 3D Bio-Printing Paradigm for Printing Benninghoff Arcade Microarchitectures in Synthetic Cartilage

David P. Plaza, Jolanta B. Norelli, Daniel A. Grande

Poster No. 462

Co-Culture of Chondrocytes and Human Synovium-Derived Stem Cells Enhances Cartilage Regeneration In Vitro

Ha Ru Yang, Hyun Cheol Bae, Sun Young Wang, Hee Jung Park, Bo Mi Nam, Sahnghoon Lee, Myung Chul Lee, Hyuk-Soo Han

Poster No. 463

Is T2 Mapping a Useful Technique in Assessing Cartilage Repair?

James Brock, Bernhard Tins, Jan Herman Kuiper, James Richardson, Claire Mennan, Sally Roberts

Poster No. 464

Three-Dimensional Graphene Scaffold for Musculoskeletal Tissue Engineering

Katie M. Yocham, Crystal Scott, Kiyo Fujimoto, Emily Tanasee, Julia T. Oxford, Trevor J. Lujan, David Estrada

Poster No. 465

Transplantation of Human Skeletal Muscle-Derived Progenitor Cells Ameliorates Knee Osteoarthritis

Rong-Sen Yang, Ding-Cheng Chan, Chen-Yuan Chiu, Shing-Hwa Liu

Poster No. 466

Study of the Regenerative Effects Of Xenogeneic Transplantation in Knee Articular Cartilage Defects

Daichi Takizawa, Masato Sato, Eri Okada, Miki Maehara, Takumi Takahashi, Yasuyuki Sogo, Eriko Toyoda, Masahiko Watanabe

Poster No. 467

Articular Cartilage Repair with Magnetic Targeting of iPS Cells

Shinji Kotaka, Shigeyuki Wakitani, Akira Shimamoto, Naosuke Kamei, Nobuo Adachi, Mitsuo Ochi

Poster No. 468

MMP Inhibition and its Effects on Cartilage Repair MMP Inhibition and its Effects on Cartilage Repair

Spencer M. Stein, Haixiang Liang, Daniel Grande

PS1

**Cartilage and Synovium—
Mechanics and Mechanobiology**

Poster No. 469

A Unifying Framework for Evaluating Cartilage Friction and Lubrication Mode: Expressing the Stribeck Curve as a Function of Interstitial Fluid Load Support

Benjamin G. Cooper, Janne T.A. Mäkelä, Brian D. Snyder, Mark W. Grinstaff

Poster No. 470

Interfacial Micromechanics of Native and Repaired Articular Cartilage

Rebecca M. Irwin, Darvin J. Griffin, Amanda M. Meppelink, Itai Cohen, Mark A. Randolph, Lawrence J. Bonassar

Poster No. 471

Biomechanical Responses of Chondrocytes After Partial Meniscectomy—Importance of Cartilage Structure

Ari P. Ronkainen, Petri Tanska, James M. Fick, Walter Herzog, Rami K. Korhonen

Poster No. 472

The Effects of Osteoarthritic Changes on Articular Cartilage Load Support During Sliding

Ali Shegaf, Andrew Speirs

Poster No. 473

Cell Geometry and Mechanics Modulate Chondrocyte Chromatin Organization

Soham Ghosh, Adrienne Scott, Benjamin Seelbinder, Brittany St. Martin, Jeanne Barthold, Jonathan Henderson, Alexander Veress, Corey Neu

Poster No. 474

Cobalt Chromium Ion Release into Cartilage Matrix After Hemiarthroplasty and Cartilage Repair

Teresa M. Veselack, Olga Antipova, Robert Trevino, Lev Rappoport, Markus Wimmer

Poster No. 475

Collagen XI Mutation in Mice Results in Thinner, Less Dense Cortical Bone and Lower Susceptibility to Load-Induced Cartilage Damage

Derek Holyoak, Miguel Otero, Naa Shidaa Armar, Timothy Wright, Steven Goldring, Mary Goldring, Marjolein C.H. van der Meulen

Poster No. 476

Antibody Charge Affects Depth-Dependent Diffusion in Healthy Articular Cartilage

Chris DiDomenico, Andrew Goodearl, Anna Yarilina, Victor Sun, Soumya Mitra, Annette Schwartz Sterman, Lawrence Bonassar

Poster No. 477

WITHDRAWN

POSTERS

Poster No. 478

Cyclic Loading-Mediated Matrix Deformation Contributes to Human Cartilage-Derived Chondroprogenitor Cells Differentiation and Proliferation via 3-Dimensional Organotypic Culture

Meng Feng, Wenguang Liu, Chathuraka Jayasuriya, Hang Peng, Yusheng Qiu, Qian Chen

Poster No. 479

Noninvasive Assessment of Scrape Damage to the Articular Surface of Bovine Cartilage Explants Using Quantitative Polarized Reflectance Microscopy

Ruby N. Huynh, Christopher B. Raub

Poster No. 480

Localization of Collagen VI by Chondrocytes in Response to Mechanical Loading

Joanna Weber, Stephen Waldman

Poster No. 481

A Tissue-Interpenetrating Polymer Confers Cartilage Wear Resistance by Solid- and Fluid-Phase Reinforcement

Taylor B. Lawson, Benjamin G. Cooper, Brian D. Snyder, Mark W. Grinstaff

Poster No. 482

Effect of Sliding on Chondrocyte Viability in Cartilage Explants

David Sun, Michael Lan, Brian T. Graham, Axel C. Moore, David L. Burris, Christopher Price

Poster No. 483

Validation of a New Method for Measuring Cartilage Strain at the Hip

Honglin Zhang, George Belev, Rachel C. Stewart, Mark W. Grinstaff, Brian D. Snyder, David R. Wilson

PS1 **Cartilage and Synovium— Matrix Degradation and Synthesis**

Poster No. 484

Cyclin-Dependent Kinase Inhibitor-1 Deficiency Increases Susceptibility to Osteoarthritis with Inflammation

Shinsuke Kihara, Shinya Hayashi, Noriyuki Kanzaki, Shingo Hashimoto, Nobuaki Chinzei, Masahiko Haneda, Kazuhiro Takeuchi, Ryosuke Kuroda

Poster No. 485

WISP1/CCN4 Aggravates Experimental Osteoarthritis and is Associated with Disease Progression in Early Osteoarthritis Patients

Martijn H. van den Bosch, Arjen B. Blom, Azusa Maeda, Tina M. Kilts, Wim B. van den Berg, Floris P. Lafeber, Peter L. van Lent, Marian F. Young, Peter M. van der Kraan

Poster No. 486

The Enzymatic Cleavage of High-Mannose Type N-Glycan Induces Recoverable Cartilage Degradation

Kentaro Homan, Tomohiro Onodera, Jun-ichi Furukawa, Daisuke Momma, Masatake Matsuoka, Rikiya Baba, Kazutoshi Hontani, Zenta Joutoku, Shinji Matsubara, Ryosuke Hishimura, Kim WooYoung, Masanari Hamasaki, Liang Xu, Norimasa Iwasaki

Poster No. 487

Platelets Rich in Growth Factors Modulates Apoptosis and Extracellular Matrix Degeneration After Injurious Compression of Human Articular Cartilage

Peter Behrendt, Moritz Feldheim, Preusse-Prange Andrea, Bayer Andreas, Alan J. Grodzinsky, Andreas Seekamp, Sebastian Lippross, Sebastian Lippross, Bodo Kurz

Poster No. 488

Development of TPCA-1 Loaded Nanosomes for Osteoarthritis

Karen A. Hasty, Fazal Ur Rehman Bhatti, Hongsik Cho

Poster No. 489

Chondral flaps in Patients with Femoral Acetabular Impingement Cam Type are Not Suitable for Reattachment and Preservation

Francisco Rodriguez Fontan, Abigail Richards, Jorge Chahla, Michelle Sauque, Karin Payne, Cecilia Pascual Garrido

PS1 **Cartilage and Synovium— Matrix Proteins, Collagen, Proteoglycans**

Poster No. 490

Anti-adhesive Properties of Recombinant Human PRG4

Naga Padmini Karamchedu, Lambert T. Li, Tannin A. Schmidt, Gregory D. Jay

Poster No. 491

Can We Predict Future Cartilage Damage from Synovial Fluid in Anterior Cruciate Ligament Reconstruction?

Yasumori Sobue, Toshihisa Kojima, Kazutoshi Kurokouchi, Shigeo Takahashi, Naoki Ishiguro

Poster No. 492

IL-10 Promotes Chondro-Regeneration in Articular Chondrocytes After Injurious Compression

Peter Behrendt, Feldheim Moritz, Haake Marina, Preusse-Prange Andrea, Alan J. Grodzinsky, Andreas Seekamp, Bernd Rolauffs, Bodo Kurz

Poster No. 493

IL37 Inhibits GAG Release from Human OA Cartilage Explants

Ellen W. van Geffen, Arjan van Caam, Henk van Beuningen, Elly Vitters, Esmeralda Blaney Davidson, Peter van der Kraan

POSTERS

**PS1 Cartilage and Synovium—
Musculoskeletal Development and Aging**

**Poster No. 494
Super-Healer Mice Contain Rejuvenating Circulating Factors
That Enhance Tissue Regeneration**

Krishna M. Sinha, Aiping Lu, Ping Guo, Chieh Tseng, Xueqin Gao,
Johnny Huard

**Poster No. 495
Human Femoral Condyle Articular Cartilage Exhibits Flow into
Aging-Associated Pre-Osteoarthritic Lesions**

Felix H. Hsu, Haoran Qiu, Neil Chang, Leening P. Liu, Robert L. Sah

**Poster No. 496
Investigating the Role of the RNA Binding Protein HuR in
Developing Chondrocytes**

Kirsty A. Johnson, Benjamin T. McDermott, Peter I. Milner, Rob Van T. Hof,
George Bou-Gharios, Simon R. Tew

**Poster No. 497
WITHDRAWN**

PS1 Cartilage and Synovium—Physiology

**Poster No. 498
Enhancement of Mitochondrial Biogenesis Inhibits Cell
Proliferation by Inducing Internal Apoptosis of Rheumatoid
Arthritis Fibroblast-like Synovial Cell and Joint Destruction of
Arthritis Model Mice**

Takeshi Ueha, Yoshitada Sakai, Toshihisa Maeda, Masayuki Morishita,
Hanako Nishimoto, Risa Harada, Miho Inoue, Shiho Akahane, Koji Fukuda,
Shinya Hayashi, Yasushi Miura, Akira Hashiramoto, Masahiro Kurosaka,
Ryosuke Kuroda

**Poster No. 499
Modified Delivery of Bupivacaine Decreases Chondrotoxicity in
Human Chondrocytes**

Sanjay Sridaran, Thanh Doan, Brian Traub, Jason Bariteau, Nick Willett

**Poster No. 500
Changes in Cartilage Oligomeric Matrix Protein Levels During a
Transcontinental Multistage Footrace Over 4486 Km**

Annegret Muendermann, Corina Nueesch, Christopher Klenk,
Christian Billich, Thomas Nickel, Geert Pagenstert,
Arno Schmidt-Trucksass, Uwe Schuetz

**Poster No. 501
Thrap3 Suppresses Sox9 Transcriptional Activity in Chondrogenic
Cell Line**

Takashi Sono, Haruhiko Akiyama, Koji Yamamoto, Shuichi Matsuda

**Poster No. 502
Cell Contact-Mediated Response of Fibroblast-Like Synoviocytes
to Cartilaginous Debris**

Amy M. Silverstein, Robert M. Stefani, Evie Sobczak, Mukundan G. Attur,
Roshan Shah, J. Chloe Bulinski, Gerard A. Ateshian, Clark T. Hung

**PS1 Cartilage and Synovium—
Progenitors and Stem Cells**

**Poster No. 503
Discovery of a Small Molecule Inhibitor of the Wnt Pathway
(SM04690) as a Potential Disease Modifying Treatment for
Knee Osteoarthritis**

Vishal Deshmukh, Haidi Hu, Charlene Barroga, Maureen Ibanez,
Luis Dellamary, Josh Stewart, John Hood, Yusuf Yazici

**Poster No. 504
Degree of Cell Cycle Synchrony Directly Influences Chondrogenic
Potential of Equine Adipose Stem Cells**

Andrea R. Tan, Alfonso Martin-Pena, J. Chloe Bulinski, Clark T. Hung

**Poster No. 505
Concurrent Regulation of Chondrogenesis and Hypertrophy
in Human Osteoarthritic Cartilage Stem Cells by OA-Inducing
microRNA-365**

Nan Hu, Yun Gao, Chathuraka T. Jayasuriya, Qian Chen

**Poster No. 506
Overexpression of Human DKK1 Via rAAV Stimulates the
Chondrogenic Differentiation Processes in Human Bone
Marrow-Derived Mesenchymal Stem Cells**

Jagadeesh Venkatesan, Ana Rey Rico, Janina Frisch, Henning Madry,
Magali Cucchiaroni

**Poster No. 507
Expression of Mustn1 During MSC Chondrogenic Differentiation**

Anum N. Mitha, Amanda McMahan, Michael Mashura, Todd Goldstein,
Haixiang Liang, Michael Hadjiargyrou, Daniel A. Grande

**Poster No. 508
Quality Evaluation Based on the Efficacy of Marrow
Mesenchymal Stem Cells for Cartilage Regeneration Therapy**

Katsunori Shiraishi, Naosuke Kamei, Shinobu Yanagida,
Shunsuke Takeuchi, Hisashi Mera, Shigeyuki Wakitani,
Nobuo Adachi, Mitsuo Ochi

**Poster No. 509
Low Oxygen Conditions Promote Synergistic Increases in
Chondrogenesis During Co-Culture of Human Stem Cells with
Osteoarthritic Chondrocytes**

Susan Critchley, Rajalakshmanan Eswaramoorthy, Daniel J. Kelly

**Poster No. 510
Electric Field Modulation of Synovial Fibroblast Migration for
Cartilage Repair**

Robert Stefani, Brendan Roach, Amy M. Silverstein, Robert Nims,
Jae Han Lee, Gerard Ateshian, J. Chloe Bulinski, Clark Hung

**Poster No. 511
Control of Autophagy to Enhance Chondrogenesis and Inhibit
Hypertrophy from Mesenchymal Stem Cells**

Gun-Il Im, Hyelin Jeon

POSTERS

Poster No. 512

Effects of Age and Mechanical Loading on Cartilage Cell Profile
Shannon K. Walsh, Stephanie Schneider, Corey P. Neu, Corinne R. Henak

Poster No. 513

Culture Conditions That Support Expansion and Chondrogenesis of Middle-aged Rat Mesenchymal Stem Cells
John D. Kisiday, John A. Schwartz, Suwimol Tangtrongsup, Laurie R. Goodrich, Daniel A. Grande

Poster No. 514

Recombinant Peptide Petaloid Pieces Enhance In Vitro Cartilage Formation of Mesenchymal Stem Cells
Mana Naritomi, Mitsuru Mizuno, Hisako Katano, Koji Otabe, Keichiro Komori, Shizuka Fujii, Nobutake Ozeki, Masafumi Horie, Kunikazu Tsuji, Takeshi Muneta, Ichiro Sekiya

PS1 Meniscus—Mechanics

Poster No. 515

Correlation Between Meniscus Volume and Tibial Cartilage Degeneration After Anterior Cruciate Ligament Reconstruction
Tom Gale, James Irrgang, Freddie Fu, Scott Tashman

Poster No. 516

The Effect of Sulfated Glycosaminoglycan Concentration on the Transient Osmotic Swelling of Articular Cartilage and Meniscus Fibrocartilage in Confined Compression
Eva G. Baylon, Heidi G. Poppe, Marc E. Levenston

Poster No. 517

Fatigue Life of Bovine Meniscus Under Longitudinal and Transverse Tensile Loading
Jaremy J. Creechley, Madison E. Krentz, Trevor J. Lujan

Poster No. 518

Human Menisci Response to Dynamic Compressive Load
Kristine Fischenich, Katie Boncella, Tammy L. Haut Donahue

Poster No. 519

Anterior Cruciate Ligament Reconstruction Affects the Contact Pattern Between the Lateral Meniscus and Medial Femoral Condyle: An Open MRI Analysis
Hiroto Inoue, Takayuki Furumatsu, Shinichi Miyazawa, Masataka Fujii, Yuuya Kodama, Tomohito Hino, Yuusuke Kamatsuki, Toshifumi Ozaki

Poster No. 520

An In Vitro Study of Cartilage-Meniscus Tribology to Understand the Changes Caused by a Meniscus Implant
Prashant K. Sharma, Sara Ehsani Majd, Roel Kuijjer, Tannin A. Schmidt

Poster No. 521

Effects of Tissue Culture on the Biomechanical Properties of Meniscus Explants
Justin J. Hicks, Victor Taylor, Cristin M. Ferguson, Kerry Danelson

PS1 Meniscus—Biology

Poster No. 522

Matrix Metalloproteinase Activity and Prostaglandin E2 Are Elevated in the Synovial Fluid of Meniscus Tear Patients
Betty Liu, Adam Goode, Terilyn E. Carter, Gangadhar M. Utturkar, Janet L. Huebner, Dean C. Taylor, Claude T. Moorman III, William E. Garrett, Virginia B. Kraus, Farshid Guilak, Louis E. DeFrate, Amy L. McNulty

Poster No. 523

Calcitonin Gene-related Peptide as a Therapeutic Target for Prevention of Meniscus Degeneration
Tomoyuki Nakasa, Masakazu Ishikawa, Munekazu Kanemitsu, Yoshiko Shirakawa, Shigeru Miyaki, Nobuo Adachi

Poster No. 524

Inflammatory Response Is Prerequisite to Initiate Proper Healing Process During Meniscal Regeneration in Mice
Kanehiro Hiyama, Kunikazu Tsuji, Ichiro Sekiya, Takeshi Muneta

Poster No. 525

Pdgf-coated Decellularized Meniscus Sheet for Integrative Healing of Meniscus Tears
Kwang-il Lee, Merissa Olmer, Jihye Baek, Darryl D'Lima, Martin Lotz

Poster No. 526

Matrix-Forming Phenotype of Synovial Fluid-Derived Stem Cells Induced by Transforming Growth Factor Beta 3 and Insulin-Like Growth Factor 1 in a Meniscus-Derived Decellularized Matrix
Yan Liang, Stephen Andrews, Alexander Szojka, Enaam Idrees, Melanie Kunze, Aillette Mullet-Sierra, Nadr Jomha, Adetola Adesida

Poster No. 527

Meniscus Maturation Is Accompanied by Marked Compositional and Structural Reorganization
Sonia Bansal, Niobra M. Keah, Olivia C. O'Reilly, Feini Qu, Robert L. Mauck, Miltiadis H. Zgonis

Poster No. 528

Role of Pre-Differentiated Human Bone Marrow Stromal Cells and Platelet-Rich Plasma Pretreated PLGA Scaffold for Meniscal Lesions
Jeong Joon Yoo, Jinwoo Nam, Won Young Seo, Hee Joong Kim

Poster No. 529

The Effect of Hyaluronic Acid on Human Meniscus Cells
Tomohiko Murakami, Shuhei Otsuki, Yoshinori Okamoto, Kosuke Nakagawa, Masashi Neo

POSTERS

PS1 Meniscus—Clinical

Poster No. 530

The Incidence of Symptomatic Knee Osteoarthritis After Arthroscopic Meniscus Repair vs. Partial Meniscectomy vs. the General Population

Martin Englund, Fredrik Persson, Dan Bergkvist, Paul Neuman, Aleksandra Turkiewicz

Poster No. 531

Tibial Eminence Width Percentage Can Predict the Presence of Complete Discoid Lateral Meniscus

Tomohito Hino, Takayuki Furumatsu, Shinichi Miyazawa, Masataka Fujii, Hiroto Inoue, Yuya Kodama, Kazuki Yamada, Yusuke Kamatsuki, Toshifumi Ozaki

Poster No. 532

Characterization of the In Vivo Inflammatory Response to Polycarbonate-Urethane Wear Debris

Maoz Shemesh, Lotem Mahluf, Roni Noyvirt, Shmuel Israeli, Judit Krausz, Natalia Edison, Nimrod Rozen, Eran Linder-Ganz, Jonathan J. Elsen

Poster No. 533

Reproducibility of Quantification of Extrusion of the Medial Meniscus in Knee Osteoarthritis Using MRI-Based 3D Models

Goro Watanabe, Kenji Hoshi, Masashi Sadakiyo, Toshihiro Sadamatsu, Kazuyoshi Gamada

PS1 Osteoarthritis and Forms of Arthropathy—Cytokines, Inflammation

Poster No. 534

A Single Dose of Autologous Protein Solution Exhibits Potential to Mitigate Osteoarthritis via a Chondroprotective Effect

Kathleen Steckbeck, Brian Burnikel, Jeremy Mercuri

Poster No. 535

Human Synovial Fluid Metabolite Profiles in Inflammatory and Non-inflammatory Arthritis

James Anderson, Susama Chokesuwattanakul, Marie Phelan, Tim Welting, Peter Clegg, Lu-Yun Lian, Mandy Peffers, Helen Wright

Poster No. 536

Treatment of Collagen Induced Arthritis in Rat Using Preconditioned Bone Marrow Mesenchymal Stem Cells with Fetal Appendage Extraction

Takashi Matsumura, Takako Chikenji, Yuki Saito, Yuka Mizue, Kanna Nagaishi, Tomoyuki Suzuki, Toshihiko Yamashita, Mineko Fujimiya

Poster No. 537

Inflammatory Licensing of MSCs Improves Immunomodulatory Function and Does Not Induce a Pro-Inflammatory Secretome

Lisa A. Fortier, Jennifer M. Cassano, Lauren V. Schnabel, Margaret B. Goodale

Poster No. 538

Chimera Decoy Oligodeoxynucleotide (ODN) Inhibits the Gene Expression of Pro-Inflammatory Cytokines and Pain-Related Molecules and the Production of Matrix Metalloproteinase-3 (MMP-3) in Rabbit Knee Synovia

Shingo Miyazaki, Kenji Kato, Mary E. Lenz, Takahiro Nakazawa, Makoto Sakaguchi, Koichi Masuda

Poster No. 539

Synovium, Hoffa's Fat Pad and Meniscus of Knee Osteoarthritis Patients Release Higher Levels of Prostaglandin Subtypes Than Cartilage and Their Release Can Be Modulated by Celecoxib

Ufuk T. Timur, Marjolein C. Caron, Yvonne M. Bastiaansen-Jenniskens, Tim J. Welting, Gerjo J. van Osch, Pieter J. Emans

Poster No. 540

Thrombospondin2 Induces Vcam1 Expression in Human Synovial Fibroblasts Through Syk, Pkc δ , Jnk and Ap-1 Pathway

Ju-Fang Liu, Chun-Han Hou, Sheng-Mou Hou

Poster No. 541

Expression of LIGHT in Rheumatoid Synovial Fibroblasts

Toshihisa Maeda, Yasushi Miura, Koji Fukuda, Shinya Hayashi, Ryosuke Kuroda

Poster No. 542

More Advanced Pro-Inflammatory and Pro-Fibrotic Changes in Synovial but Not Ipf α Adipose Tissue Depot in Obese OA Patients

Natalia S. Harasymowicz, Nick D. Clement, Richard Burnett, Donald M. Salter, Hamish A.R.W. Simpson

Poster No. 543

Regional and Time-Course Differences in the Induction of c-fos-eGFP Fluorescence in the Spinal Cord and Hypothalamus of Transgenic Rats After Nociceptive and Inflammatory Stimuli

Yasuhiro Motojima, Makoto Kawasaki, Hitoshi Suzuki, Hideo Ohnishi, Takanori Matsuura, Mitsuhiro Yoshimura, Hirofumi Hashimoto, Reiko Saito, Hiromichi Ueno, Takashi Maruyama, Satomi Sonoda, Ken Sabanai, Toshiharu Mori, Akinori Sakai, Yoichi Ueta

Poster No. 544

Piezo1, a Mechanically Activated Ion Channel, Is Involved in the Pathogenesis of Osteoarthritis

Ke Zeng, Guoxin Zhu, Jiayi Wan, Lennex Yu, Qi Chen

PS1 Osteoarthritis and Forms of Arthropathy—Gene Therapy

Poster No. 545

Association Between Oxidative Stress and Fatty Acid Metabolism in the Synovial Fluid in Knee Osteoarthritis

Takanori Wakayama, Yoshitomo Saita, Yohei Kobayashi, Toshiaki Okuno, Takehiko Yokomizo, Susumu Fukasaku, Masayuki Nemoto, Kazuo Kaneko

POSTERS

Poster No. 546

Interference of Platelet Rich Plasma with Gene Transfer via rAAV Vectors in Human Bone-marrow Derived Mesenchymal Stem Cells

Jagadeesh Venkatesan, Ana Rey Rico, Isabelle Müller, Janina Frisch, Britt Wildemann, Hermann Eichler, Henning Madry, Magali Cucchiari

PS1 Osteoarthritis and Forms of Arthropathy—Genetics, Transcriptomics and Proteomics

Poster No. 547

RNA-Seq of Site-Matched Synovium and Articular Cartilage to Define the Response to Anterior Cruciate Ligament Injury and Identify Gene Expression Related to Glycosaminoglycan Loss in Post-Traumatic Osteoarthritis

Jakob T. Sieker, Benedikt L. Proffen, Ata M. Kiapour, Kimberly A. Waller, Kaitlyn E. Chin, Naga P. Karamchedu, Johannes Konrad, Martha M. Murray, Braden C. Fleming

Poster No. 548

TWIST1 Is a Key Regulator Promoting Catabolic Responses and Abnormal Differentiation in Human Chondrocytes

Joe Hasei, Takeshi Teramura, Merissa Olmer, Tomohiro Fujiwara, Toshiyuki Kunisada, Toshifumi Ozaki, Martin K. Lotz, Hiroshi Asahara

PS1 Osteoarthritis and Forms of Arthropathy—Post Traumatic

Poster No. 549

Targeted Designed Variants of Alpha-2-Macroglobulin, New Promising Biologic Inhibitors Attenuate Cartilage Degeneration by Reducing Cartilage Catabolic Enzymes in an Act Rat OA Model

Yang Zhang, Xiaochun Wei, Shawn Browning, Lewis S. Hanna, Gaetano Scuderi, Lei Wei

Poster No. 550

The Effect of Inhibitors of Brd4 and CDK9 on Early Phase of Post Traumatic Osteoarthritis

Tomoaki Fukui, Jasper Yik, Andrew Haddad, Jack Davis, Iannis E. Adamopoulos, Dominik Haudenschild

Poster No. 551

Phlpp Inhibitors Block Post-Traumatic Osteoarthritis

Soyun M. Hwang, Marina Feigenson, Dana L. Begun, Kirsty L. Culley, Miguel Otero, Mary B. Goldring, Lauren Ta, Sanjeev Kakar, Elizabeth W. Bradley, Jennifer J. Westendorf

Poster No. 552

An In Vivo Large Animal Model to Study Acute Impact-Induced Cartilage Injury and the Development of Early Posttraumatic Ankle Arthritis

Michelle L. Delco, Edward D. Bonnevie, Peter G. Alexander, Rocky S. Tuan, Lawrence J. Bonassar, Lisa A. Fortier

Poster No. 553

Complex I Inhibition After Intra-Articular Fracture Prevents Rapid Progression of Osteoarthritis in a Porcine Model

Mitchell C. Coleman, Jessica E. Goetz, Marc J. Brouillette, Michael C. Willey, Dongrim Seol, Emily B. Petersen, Behnoush Khorsand, Aliasger K. Salem, Douglas C. Fredericks, Todd O. McKinley, James A. Martin

Poster No. 554

Site-Specific Changes in Deformation of Articular Cartilage Chondrocytes at Very Early Stage of Post-Traumatic OA

Simo P. Ojanen, Mikko A. Finnilä, Kiira Saarela, Emilia Happonen, Walter Herzog, Simo Saarakkala, Rami Korhonen

Poster No. 555

Interleukin 1-Receptor Antagonist Inhibits Arthrofibrosis in a Post-Traumatic Knee Immobilization Model

Stephen Kallianos, David Berkoff, Vishavpreet Singh, David Henry, Laurence Dahners, Paul Weinhold

Poster No. 556

Destabilization of the Medical Meniscus in Mice Induces Rapid and Focal Progression of Chondrocyte Proliferation and Death

Michael A. David, Melanie K. Smith, Alexis Merritt, Rachael N. Pilachowski, Michael Lan, Sejal Shah, Ryan C. Locke, Christopher Price

Poster No. 557

Whole-Joint Structural Consequences Following Destabilization of the Medial Meniscus in the Mouse

Michael A. David, Melanie K. Smith, Rachael N. Pilachowski, Avery T. White, Ryan C. Locke, John M. Lowman, Brianna Gietter, Brendan Horne, Brian T. Graham, Christopher Price

Poster No. 558

A Combined Metabolomic and Morphological Analysis of a Preclinical Model of ACL Injury-Induced Post-Traumatic Osteoarthritis

Tristan Maerz, Eric Sherman, Michael Newton, Ali Yilmaz, Praveen Kumar, Stewart F. Graham, Kevin C. Baker

Poster No. 559

Synovial Fluid Analysis Reveals a Novel Panel of Vascular and Inflammatory Biomarkers That Are Altered Following Articular Fracture

Janet L. Huebner, Bridgette D. Furman, Kelly A. Kimmerling, Yi-Ju Li, Yi-Hung Wu, Farshid Guilak, Steven A. Olson, Virginia B. Kraus

Poster No. 560

The Search of Protein Markers in Synovial Fluids from ACL-Deficient Knees for Post-Traumatic Osteoarthritis

Lei Ding, Annunziato (Ned) Amendola, Brian Wolf, Matthew J. Bollier, John Albright, Carolyn Hettrich, James Martin

POSTERS

PS1 Osteoarthritis and Forms of Arthropathy— Therapeutic Strategies

Poster No. 561

Chondro-Protective Function of Bisphosphonate and the Inhibition of Mevalonate Pathway

Yilu Zhou, Mengxi Lv, Liyun Wang, X Lucas Lu

Poster No. 562

Tight Hamstrings May Be a Precursor to Hip Osteoarthritis

Michael S. Braman, Pablo Dopico, Julie Lowell, Audrey Zucker-Levin, William M. Mihalko

Poster No. 563

Femtosecond Laser Irradiation as Novel Paradigm for Treatment of Early Osteoarthritis

Chao Wang, Krista Durney, Mikhail Fomovsky, Jun Yu, Jamie Hall, Gerard Ateshian, Sinisa Vukelic

Poster No. 564

Fluoxetine Ameliorates Cartilage Degradation in Osteoarthritis by Inhibiting Wnt/ β -catenin Signaling

Kentaro Miyamoto, Bisei Ohkawara, Tadahiro Sakai, Hideki Hiraiwa, Takashi Hamada, Kinji Ohno, Naoki Ishiguro

Poster No. 565

Nanoparticle Delivery to Cartilage: The Influence of Disease State and Synovial Fluid on Cartilage Retention

Shannon B. Brown, Blanka Sharma

Poster No. 566

Procyanidins Mitigate OA Pathogenesis by, at Least in Part, Targeting VEGF Signaling

Angela Wang, Daniel J. Leong, Zhiyong He, Lin Xu, Lidi Liu, Sun Jin Kim, David Hirsh, John A. Hardin, Neil J. Cobelli, Hui B. Sun

Poster No. 567

Open-Wedge High Tibial Osteotomy Changes In Vivo Stress Distribution Patterns of the Patellofemoral Joint Using Computed Tomography Osteoabsorptiometry

Toshiaki Kameda, Eiji Kondo, Yabuuchi Koji, Tomohiro Onodera, Jun Onodera, Kazunori Yasuda, Norimasa Iwasaki

Poster No. 568

Joint Academy—An Innovative Internet-based Platform for the Management of Osteoarthritis

Leif E. Dahlberg, Daniel Grahn, Jakob E. Dahlberg, George R. Dodge, Carina Thorstensson

Poster No. 569

Effect of MSC Delivery Format on Therapeutic Efficacy for Osteoarthritis in a Rat Model

Olivia A. Burnsied, Nadiya Zafar, Elizabeth E. Marr, Todd C. McDevitt, Robert E. Guldborg

Poster No. 570

A Role for Free Calcium in the Degeneration of Articular Cartilage

Michael Philip Grant, Omar Salem, Laura M. Epure, Olga L. Huk, David J. Zukor, John Antoniou, Fackson Mwale

Poster No. 571

Controlled Release of Celecoxib from Polyesteramide Microparticles in a Rat Model of Osteoarthritis

Anna R. Tellegen, Imke Jansen, Rachel E. Thomas, Huub M. De Visser, Marja J.L. Kik, Guy C.M. Grinwis, Nina Woike, George Mihov, Pieter J. Emans, Björn P. Meij, Laura B. Creemers, Marianna A. Tryfonidou

Poster No. 572

Mechanisms of Action for Benefits of Cosamin® Asu in Osteoarthritis

Kamryn Chastain, Eli Pratte, Madeline Quoss, Aaron M. Stoker, James L. Cook

Poster No. 573

Priming MSCs Through an Inflammatory Microenvironment and TLR Ligands Enhances Their Immunomodulatory Function

Lisa A. Fortier, Jennifer M. Cassano, Lauren V. Schnabel, Margaret B. Goodale

Poster No. 0573A

Evaluation of TRB-N0224, a Chemically Modified Curcumin for the Treatment of Osteoarthritis

Ryan A. Nixon, Josephine Coury, Sarav Shah, Nadeen Chahine, Daniel Grande

PS1 Osteoarthritis and Forms of Arthropathy— Pathophysiology

Poster No. 574

ROC Curve Analysis of Protein Biomarkers in Serum and Urine for Diagnosis of Hip Dysplasia

Chantelle C. Bozynski, Carin E. Ahner, Aaron M. Stoker, Emily Leary, James L. Cook

Poster No. 575

Diet-induced Obesity and the Development of Hip and Shoulder Osteoarthritis: Insights from a Rat Model

Kelsey H. Collins, David A. Hart, Ruth A. Seerattan, Raylene A. Reimer, Walter Herzog

Poster No. 576

Effects of 17- α -Estradiol Treatment on Naturally Occurring Knee Osteoarthritis in Aged Mice

Channing A. Bancroft, Richard F. Loeser, Richard A. Miller, Cathy S. Carlson

Poster No. 577

Diet-Induced Obesity Increases Cartilage Damage but Does Not Exacerbate Load-induced Osteoarthritis

Sophia Ziemian, Jason D. Guss, Marysol Luna, Gabriel Guisado, Steven R. Goldring, Marjolein C.H. van der Meulen, Christopher J. Hernandez

POSTERS

Poster No. 578

Age-dependent Changes in the Articular Cartilage and Subchondral Bone of C57BL/6 Mice After Surgical Destabilization of Medial Meniscus

Henry Huang, Jordan D. Skelly, David C. Ayers, Jie Song

Poster No. 579

Comparison of Normal and Osteoarthritic Infrapatellar Fat Pad Metabolism

Andy Lee, Aaron M. Stoker, James Keeney, James L. Cook

Poster No. 580

Osteoarthritis Defects Impair Molecular Transport Within and Between Tissue Compartments of the Knee

Lucy Ngo, Damien Schnebelen, Roy Aaron, Melissa Knothe Tate

Poster No. 581

Microstructural and Tissue-Level Mechanical Changes in Subchondral Bone in Osteoarthritis with/Without Type 2 Diabetes

Y. Eric Yu, Lukas Vasadi, Yizhong Hu, Yan Chen, X. Edward Guo

Poster No. 582

Automated Capture of Molecular Transport in Tissue Compartments of the Lower Limb Using Episcopic Blockface Imaging and Digital Image Processing

Andre F. Pereira, Nolwenn Martin, Melissa Knothe Tate

Poster No. 583

Mathematical Model Relating Metabolic Biomarker Concentrations to the Biomechanical Properties of Articular Cartilage Using Genetic Programming

Joe T. Rexwinkle, Bahaa Kazem, Ferris M. Pfeiffer, Nicole C. Werner, Aaron M. Stoker

Poster No. 584

Glucocorticoids Suppress Osteocyte Maintenance of the Lacunocanalicular Network and Bone Quality to Cause Osteonecrosis

Tristan Fowler, Claire Acevedo, Courtney Mazur, Faith Hall Herbold, Aaron Fields, Hrishikesh Bale, Robert Ritchie, Jeffrey Lotz, Thomas Vail, Tamara Alliston

Poster No. 585

Analysis of the Metabolic Profile Associated with Increased Nitric Oxide and Prostaglandin E2 Production by Osteoarthritic Osteochondral Tissue In Vitro

Aaron M. Stoker, Nicole C. Werner, Chantelle C. Bozynski, James L. Cook

PS1 Tendon/Ligament—Mechanics

Poster No. 586

Dynamic Compressive Mechanical Properties of Supraspinatus Tendons Are Altered in Aged Mice

Brianne K. Connizzo, Alan J. Grodzinski

Poster No. 587

Sex-based Differences in Tendon Structure and Function

Dylan Sarver

Poster No. 588

Immobilization Angle Effects on Tendon Healing in Achilles Tendon Rupture

Cody D. Hillin, George W. Fryhofer, Benjamin R. Freedman, Daniel S. Choi, Stephanie N. Weiss, Louis J. Soslowsky

Poster No. 589

Elucidating Quantitative Relationships Between Tendon Hyaluronan Content and Biomechanical Properties

Vincent M. Wang, Kristen Renner, Katie J. Trella, Jun Li, John D. Sandy, Ron J. Midura, Anna Plaas

Poster No. 590

Efficacy of a Low-Profile Functional Splint for Protecting the Thumb Metacarpophalangeal Joint Ulnar Collateral Ligament

Joseph A. Gil, Kerry Ebert, Keri Blanchard, Avi D. Goodman, Joseph J. Crisco, Julia A. Katarincic

Poster No. 591

Loading Levels Experienced by a Tendon Can be Quantified by Ultrasound

Gerald A. Ferrer, Ryan T. Black, Masahito Yoshida, Volker Musahl, Richard E. Debski

Poster No. 592

A Biomechanical Evaluation of a Two Suture Anchor Repair Technique for Thumb Metacarpophalangeal Joint Ulnar Collateral Ligament Injuries

Joseph A. Gil, Alison Biercevicz, Kalpit N. Shah, Joseph J. Crisco, Christopher Got, Edward Akelman

Poster No. 593

Positional and Energy-Storing Tendons are Composed of Collagen Fibrils with Differing Structure-Function Relationships

Andrew S. Quigley, Laurent Kreplak, Samuel P. Veres

Poster No. 594

Strength of Dynamic Elbow Stabilizers in Professional Baseball Pitchers Decreases Over the Season

Brandon L. Morris, Bruce Toby, Evan C. Glidewell, Vincent Key, Terence E. McIlff

Poster No. 595

Fascicles and the Interfascicular Matrix Show Decreased Fatigue Resistance with Ageing in Energy Storing Tendons

Chavaunne T. Thorpe, Graham P. Riley, Helen L. Birch, Peter D. Clegg, Hazel R.C. Screen

Poster No. 596

Predicting Mechanical Properties with Quantitative Ultrasound Measures

Ryan T. Black, Gerald A. Ferrer, Masahito Yoshida, Volker Musahl, Richard E. Debski

POSTERS

Poster No. 597

Biceps Tenotomy in the Presence of a Supraspinatus Tear Alters the Adjacent Intact Tendons and Glenoid Cartilage

Zakary M. Beach, Jennica J. Tucker, Katherine E. Reuther, Stephen J. Thomas, Chancellor F. Gray, Chang-Soo Lee, David L. Glaser, Louis J. Soslowsky

Poster No. 598

Aging Leads to Inferior Achilles Tendon Mechanics and Altered Ankle Function in Rodents

Adam Michael Pardes, Ashley B. Rodriguez, Benjamin R. Freedman, George W. Fryhofer, Louis J. Soslowsky

Poster No. 599

Pre-Existing Degenerative Rotator Cuff Tears Require Similar Magnitude of Load to Propagate as Simulated Tears

R. Miller, Gerald A. Ferrer, Volker Musahl, Richard E. Debski

Poster No. 600

Effects of Lipus on the Temporal and Spatial Expression of Tissue Regeneration Related Factors After Rabbit Bone-Tendon Junction Injury

Hongbin Lu, Yong Cao, Huabin Chen, Jianzhong Hu

Poster No. 601

The Effects of Unloading on the Structure and Mechanics of the Tendon Enthesis

Alix C. Deymier, Andrea Schwartz, Zhonghou Cai, Guy Genin, Stavros Thomopoulos

Poster No. 602

Low Strain-Rate Overextension Injury Causes Massive Nano-Scale Disruption to Tendon Collagen

Khaled M. Hijazi, Kalaivani K. Murdymootoo, Kathy L. Singfield, Samuel P. Veres

Poster No. 603

Bundle-Specific Mechanics and Real-Time Microstructural Changes of the Ulnar Collateral Ligament Under Load

Matthew Smith, Ryan Castille, Ashvin Dewan, David Bernholt, Robert H. Brophy, Spencer Lake

Poster No. 604

Effects of Pulsed Electromagnetic Field Therapy at Different Frequencies and Durations on Rotator Cuff Tendon-to-Bone Healing in a Rat Model

Julianne Huegel, Daniel S. Choi, Courtney A. Nuss, Mary C.C. Minnig, Jennica J. Tucker, Cody D. Hillin, Andrew F. Kuntz, Erik I. Waldorff, Nianli Zhang, James T. Ryaby, Louis J. Soslowsky

Poster No. 605

Cyclic Loading Injury to Tendon: Unloading is More Damaging Than Loading

Tyler W. Herod, Samuel P. Veres

Poster No. 606

Collagen V Haploinsufficiency Results in Deficient Mechanical and Structural Recovery of Injured Mouse Patellar Tendons

Snehal S. Shetye, Jessica M. Johnston, Brianne K. Connizzo, Kelsey A. Robinson, Julianne Huegel, Ashley B. Rodriguez, Mei Sun, Sheila M. Adams, David E. Birk, Louis J. Soslowsky

Poster No. 607

Low-Intensity Pulsed Ultrasound on Bone-Tendon Junction Healing in a Rabbit Model: A Study of the Efficacy of Treatment Initiation

Hongbin Lu, Can Chen, Yong Cao, Jianzhong Hu

PS1-025 Tendon/Ligament—Tissue Engineering and Repair

Poster No. 608

Adipose Derived Perivascular Stem Cells Are a Superior Cell Source for Ligament Tissue Engineering

Robert C. Maciel, Jie Jiang, Natalie L. Leong, Kent T. Yamaguchi, Nima Kabir, Frank A. Petrigliano, David R. McAllister

Poster No. 609

Matrix Organization Steers Remodeling Capacity in a Biomimetic Model System of Tendon Disease

Jasper Foolen, Stefania Wunderli, Jess Snedeker

Poster No. 610

Plant Derived Human Collagen Scaffold Combined with PRP for Treatment of Tendinopathy-Preclinical and Clinical Evaluation

Oded Shoseyov, Jasmine Seror, Rachel Gueta, Frida Grynspan, Tal Amzel, Abraham Nyska, Nadav Orr

Poster No. 611

Desferoxamine Soaked Suture to Improve Angiogenesis and Repair Potential in Hypovascular Fibrocartilage

William Efrid, Alex Fletcher, Jeffrey Spang, Reid Draeger, Laurence Dahnners, Paul Weinhold

Poster No. 612

Nanoparticle Properties That Determine siRNA Delivery to Tenocytes: Implications for Therapeutic Development

Margaret A.T. Freeberg, Dominic Malcolm, Yuchen Wang, Danielle S.W. Benoit, Hani Awad

Poster No. 613

Multilayered PLA Scaffold for Rotator Cuff Tissue Engineering

Yu-Kai Huang, Wei-Ren Su, Ming-Long Yeh

Poster No. 614

Tenogenic Phenotype Maintenance and Trans-Differentiation/Differentiation Using Macromolecular Crowding and Mechanical Loading

Diana Gaspar, Dimitrios I. Zeugolis

Poster No. 615

Biomechanical Strength and Stiffness Are Impaired Following Acute Partial-Width, Full-Thickness Tendon-Bone Injury in a Rat Rotator Cuff Defect Model

Elisabeth Lemmon, Ryan C. Locke, Adrianna Szostek, Megan Killian

POSTERS

Poster No. 616

Macromolecular Crowding and Low Oxygen Tension Accelerate the Production of Tissue-Like Supramolecular Assemblies

Dimitrios I. Zeugolis, Diana Gaspar, Daniela Cigognini, Abhi Satyam

Poster No. 617

Effects of Synthetic Augmentation of Tendon Allografts for Complete ACL Reconstruction in a Translational Animal Model

James Cook, Patrick Smith, James P. Stannard, Ferris M. Pfeiffer, Keiichi Kuroki, Chantelle Bozynski, Cristi Cook

Poster No. 618

The Morphological Changes of Enthesis Caused by Specific Contractions of Antigravity Muscle-Tendon Unit in Rats

Motoki Kuroo, Takanori Kokubun, Kenji Murata, Naohiko Kanemura

Poster No. 619

Synovium-Derived Mscs Promote the Restoration of Tensile Strength of Rotator Cuff Tendon After Repair in a Rat Model

Mari Uomizu, Tomoyuki Mochizuki, Toshiyuki Ohara, Junpei Matsuda, Nobutake Ozeki, Kunikazu Tsuji, Akimoto Nimura, Takashi Miyamoto, Masafumi Goto, Ichiro Sekiya, Takeshi Muneta

Poster No. 620

Poly-N-Acetyl Glucosamine (sNAG) Enhances Rotator Cuff Tendon Healing in a Rat Model

Courtney Nuss, Daniel Choi, Julianne Huegel, Stephanie N. Weiss, John Vournakis, Louis J. Soslowsky

PS1 Tendon/Ligament—Cell Biology

Poster No. 621

Analysis of Tendon-Related Genes and Angiogenesis-Related Genes in Tendon-Like Cells

Saho Tsuchiya, Tadahiro Sakai, Hideki Hiraiwa, Takashi Hamada, Yohei Ono, Tomoyuki Oda, Satoshi Yamashita, Kentaro Miyamoto, Yasuzumi Kishimoto, Yusuke Kawamura, Hiroki Oba, Naoki Ishiguro

Poster No. 622

Proteomic Analysis of Achilles and Patellar Tendon Dialysate Following Extracorporeal Shockwave Treatment

Danae E. Zamboulis, Charlotte M. Waugh, Dylan Morrissey, Hazel R.C. Screen, Peter D. Clegg

Poster No. 623

Mechanical Loading Activates mTOR Signaling Pathway in Tendon Stem/Progenitor Cells

Daibang Nie, Jianying Zhang, Yu Jiang, James H-C Wang

Poster No. 624

Roles of R-spondin2: The Susceptibility Gene for Ossification of Posterior Longitudinal Ligament

Kazuhito Soma

Poster No. 625

Degenerative Suspensory Ligament Desmitis (DSL) in Peruvian Paso Horses is Characterized by Altered Expression of TGFbeta Signaling Components in Adipose-Derived Stromal Fibroblasts

Jun Li, Katie Trella, Wei Luo, John Sandy, Sabrina Brounts, Jorge Galante, Anna Plaas

Poster No. 626

Systemic Corticosteroids Improve Tendon Healing if Given After the Inflammatory Phase

Parmis Blomgran, Malin Hammerman, Per Aspenberg

Poster No. 626A

Alarmins Are Not Present in Advanced Tendon Disease in Humans

Mustafa S. Rashid, Stephanie Dakin, Sarah Snelling, Andrew Carr

Poster No. 627

Possible Function of Pax9 in Ligamentum Flavum

Taiki Mori, Yusuke Murasawa, Yoshihito Sakai, Atsushi Harada, Shumpei Niida, Ken Watanabe

Poster No. 628

N-acetylcysteine Reduces Glutamate-Induced Cytotoxicity to Fibroblasts of Rat's Rotator Cuff Tendon

Jin-Hyung Im, Ji-Yong Gwark, Hyung Bin Park, Ra Jeong Kim, Young-Sool Hah

Poster No. 629

HMGB-1 Is a Marker for Tendinopathy in Aging Mice

Jianying Zhang, Daibang Nie, James H.C. Wang

Poster No. 630

No Effect of Cox-2 Inhibition on the Composition of Inflammatory Cell Populations During Early and Mid-Time Tendon Healing

Parmis Blomgran, Robert Blomgran, Jan Ernerudh, Per Aspenberg

Poster No. 631

Lect-1, an Intrinsic Inhibitor of Angiogenesis, Decreases in Mesenchymal Stem Cells Derived from Ossification of the Yellow Ligament (oyl) Patients

Hikaru Ishibashi, Ken-Ichi Furukawa, Kanichiro Wada, Toshihiro Tanaka, Gentaro Kumagai, Takashi Shiozaki, Xizhe Liu, Yasuyuki Ishibashi

Poster No. 632

Altered Gene and Protein Expressions in Torn Rotator Cuff Tendon Tissues in Diabetic Patients

Seok Won Chung, Yong-Soo Lee, Ja Yeon Kim, Kyung-Soo Oh, Jin-Young Park

Poster No. 633

Development of an Agent-Based Model to Predict the Salient Features of Age-Related Patellar Tendon Degeneration

Madison K. Vanosdoll, Wendell M.R. Heard, Felix H. Savoie, Kristin S. Miller

POSTERS

Poster No. 634

Fcrl3 Polymorphism Increase the Risk of Tendinopathy in Volleyball Athletes

Jamila Perini, Diego Aguiar, Daniel Machado, Lucas Lopes, João Olyntho Machado Neto, João Matheus Guimarães, Maria Eugenia Leite Duarte, José Inácio Salles

Poster No. 635

Platelets Activated by PAR-1 & 4 Exert Differential Effects on Tendon Stem Cells—An Effective Strategy to Treat Tendon Injuries in Clinics

Jianying Zhang, Daibang Nie, Jorge L. Rocha, MaCalus V. Hogan, James H.C. Wang

Poster No. 636

Yap is Required for the Tendon Healing Response

Mor Grinstein, Heather Dingwall, Ronen Schweitzer, Terence Capellini, Jenna Galloway

Poster No. 637

A New Murine Model of Subacromial Impingement: Biomechanical, Histologic, and Gene Expression Features

Amir Lebaschi, Guang-Ting Cong, Christopher Camp, Camila Carballo, Zoe Album, Liang Ying, Xiang-Hua Deng, Scott Rodeo

Poster No. 638

Targeted Smad4 Deletion in Tenocytes Enables Tendon Cell Recruitment After Adult Tendon Injury

Chun Chien, Kristen Howell, Alice H. Huang

PS1 Tendon/Ligament—Progenitors and Stem Cells

Poster No. 639

Platelet-Rich Plasma Promotes Proliferation and Migration but Does Not Effect on Differentiation in Tendon-Proper Derived Stem/Progenitor Cells and Peritenon Derived Stem/Progenitor Cells

Sosuke Imai, Ken Kumagai, Hironori Tanabe, Yasuteru Yamaguchi, Kazuma Miyatake, Hiroto Kono, Tomoyuki Saito

Poster No. 640

A Novel In Vitro Model System for Isolating Mechanotransduction Effects of Applied Stress Versus Strain

John Boyle, Suphannee Pongkitwitoon, Stavros Thomopoulos

Poster No. 641

Murine Supraspinatus Tendon Detachment and Repair Model Augmented with Tendon-Derived, Activated Endothelial Cells: A New Concept in Biologic Enhancement of Tendon-to-Bone Healing

Amir Lebaschi, Christopher Camp, Camila Carballo, Guang-Ting Cong, Zoe Album, Liang Ying, Xiang-Hua Deng, Scott Rodeo

PS1 Muscle

Poster No. 642

Integrin $\alpha7\beta1$ Signaling Is Mediated in Muscle Regeneration and Myoblast Syncytial Fusion

Michael J. McClure, David Cohen, MoonHae Sunwoo, Yen C. Huang, Barbara D. Boyan, Zvi Schwartz

Poster No. 643

Sarcopenia, Atherosclerosis, and Inflammation in Community Dwelling People—The Yakumo Study

Tetsuro Hida, Shiro Imagama, Yoshihiro Nishida, Naoki Ishiguro

Poster No. 644

Analysis of Skeletal Muscle and Regeneration Under Circulation Decline in Ob/ob Mice

Takahiro Asano, Masaya Tsujii, Takuya Nakanishi, Takahiro Iino, Akihiro Sudo

Poster No. 645

Tendon Transection Results in Muscle Stem Cell Activation in a Mouse Model of Rotator Cuff Injury

Steven Garcia, Michael Davies, Stanley Tamaki, Xuhui Liu, Joanna Dreux, Solomon Lee, Anthony Jose, Brian Feeley, Jason H. Pomerantz

Poster No. 646

Bisphosphonates Inhibit Immobilization-Induced Skeletal Muscle Atrophy

Ryuichi Watanabe, Takeshi Miyamoto, Morio Matsumoto, Masaya Nakamura

Poster No. 647

Resuscitation Fluid Can Affect Severity of Muscle Injury

Amit Aurora, Janet Roe, Nsini Umoh, Joseph Wenke, Thomas J. Walters

Poster No. 648

Active and Passive Muscle Mechanics Are Altered in a Rat Elbow Model of Post-Traumatic Joint Contracture

Chelsey L. Dunham, Aaron M. Chamberlain, Leesa M. Galatz, Gretchen A. Meyer, Spencer P. Lake

Poster No. 649

Estrogen-Related Receptor γ -Overexpressing C2C12 Cells Rescues the Defect of Old Muscle Progenitor Cells Through VEGFA

Alex Scibetta, Aiping Lu, Vihang A. Narkar, Johnny Huard

Poster No. 650

Fibrosis and Functional Recovery in a Rat Muscle Crush Injury Model Treated with Trauma-Induced Mesenchymal Progenitor Cells

Christopher M. Daniels, Youngmi Ji, Daniel Griffin, Tiffani Slaughter, Vyomesh Patel, Leon J. Nesti

POSTERS

Poster No. 651

Vitamin D Receptor Polymorphisms Are Associated with Baseline Muscle Strength and Response to Strength Training

Jordan S. Cohen, Andrea Attenasio, Samuel Swenson, Alex Gu, Heather Gordish-Dressman, Marianne Floor, Brennan Harmon, Eric Hoffman, Dustin Hittel, Susan Knobloch, Joseph Devaney, Laura L. Tosi

Poster No. 652

The Effect of Substrate Stiffness and Adhesion on the Structure and Function of Tissue-Engineered Skeletal Muscle Units

Brittany L. Rodriguez, Rebecca L. Blair, Lisa M. Larkin

Poster No. 653

In Vivo Functional Selection of Chemokines Identifies Ccl7 as a Stimulator of Regeneration in Injured Skeletal Muscle

Pirkka Kaipainen, Giulia Ruozi, Ilmari Lahtinen, Francesca Bortolotti, Ulrike May, Stuart Prince, Mauro Giacca, Tero Järvinen

Poster No. 654

Ultrasound Images to Determine Dynamic Changes and Muscle Activity in the Gastrocnemius Muscle While Squatting

Kouhei Yoshino

Poster No. 655

Altered Leg Circumference and Muscle and Skin Hemodynamics During Lower Body Negative Pressure and Recovery

Roshmi Bhattacharya, Rachel L. Becker, Alan R. Hargens

Poster No. 656

Protein Expression, Glycosylation and Assembly of the Alpha 6 Chain of Collagen VI, a New Member of the Collagen VI Family

Jamie Fitzgerald, Jamie Endicott, Paul Holden

Poster No. 657

Effect of Transcutaneous Carbon Dioxide (CO₂) Application for Muscle Atrophy Associated with Femoral Bone Defect in Rats

Shunsuke Takahara, Takahiro Niikura, Sang Yang Lee, Takashi Iwakura, Michio Arakura, Yu Kuroiwa, Yohei Kumabe, Ryosuke Kuroda

Poster No. 658

Deltoid Muscle Volume by Three Dimensional Measurement Affects Clinical Outcome of Reverse Total Shoulder Arthroplasty in Cuff Tear Arthropathy

Jong Pil Yoon, Anna Seo, Jeoung Jun Kim, Seung-Hun Baek, Shin Yoon Kim, Seok Won Chung

Poster No. 659

WITHDRAWN

Poster No. 660

Mechanical Stimulation Alleviates the Defects Observed in Progeria Muscle-Derived Stem Cells

Andrea Liebowitz, Elizabeth Morris, Alex Scibetta, Xiaodong Mu, Johnny Huard

Poster No. 661

Measuring Microvascular Flow Through Photoplethysmography in an Acute Compartment Syndrome Model

Yuki E. Iizuka, Brandon Macias, Robert M. Healey, Alan Hargens

Poster No. 662

Volumetric Muscle Loss Injury: Biomaterial Repair in a Large Animal Model

Sarah M. Greising, Jessica C. Rivera, Chrissy M. Leopold Wager, Stephen M. Goldman, Benjamin T. Corona

Poster No. 663

TGF- β Limits Thymic Stromal Lymphopoietin Production in Mouse Myoblast Cells Upon TNF- α Stimulation by Suppressing NF- κ B Pathway

Takashi Ando, Jiro Ichikawa, Tetsuro Ohba, Kensuke Koyama, Nobutaka Sato, Masanori Saito, Yoshihiro Takayama, Satoshi Ochiai, Tetsuo Hagino, Hirota Haro

Poster No. 664

Muscle Stem Cells Adopt a Neurogenic Lineage in 3D Acellular Nerve Allografts

Alexander Wetzig, Christina Liu, Matthew Wood, Susan Mackinnon, Xiaodong Mu, Johnny Huard

Poster No. 665

Involvement of Advanced Glycation End Products—Mediated β -enolase in Diabetic Impaired Muscle Function

Shing-Hwa Liu, Chen-Yuan Chiu, Rong-Sen Yang

PS1

Bone—Musculoskeletal Development and Aging

Poster No. 666

The Role of Pdgfr β Expressing Cells in Skeletal Muscle During Aging

Chieh Tseng, Haiying Pan, Zhanguo Gao, Mikhail G. Kolonin, Aiping Lu, Johnny Huard

Poster No. 667

Increased Nf- κ b Activity in Osteoprogenitor-Lineage Cells Impairs the Balance Between Bone/Bone Marrow Fat in Skeletal Mature Mice

Tzu-hua Lin, Jukka Pajarinen, Akira Nabeshima, Laura Lu, Karthik Nathan, Zhenyu Yao, Joy Wu, Stuart B. Goodman

Poster No. 668

Can We Predict Bone Quality and Bone Strength by Assessing Handgrip Muscle Strength in Normal Adolescents?

Ka Yee Cheuk, Vivian W.Y. Hung, Wayne Y.W. Lee, Bobby K.W. Ng, Jack C.Y. Cheng, Tsz Ping Lam

Poster No. 669

Influence of Loading Cycles and Magnitude on Bone in Independently Ambulatory Children with Spina Bifida

Tishya AL Wren, Nicole M. Mueske, Alexander Van Speybroeck, Deirdre D. Ryan

POSTERS

Poster No. 670

Quantifying the Effects of Fetal Immobility on Joint Morphogenesis Using 3D Image Registration

Paraskevi Sotiriou, Paula Murphy, Rebecca A. Rolfe, Niamh C. Nowlan

Poster No. 671

Correspondence Between Bone Mineral Density and Intervertebral Disc Degeneration Across Age and Sex

Jarred Kaiser, Brett Allaire, Paul M. Fein, Darlene Lu, Serkalem Demissie, Elizabeth J. Samelson, Mary L. Bouxsein, Elise F. Morgan

Poster No. 672

Age- and Sex-Dependent Effects of Advanced Glycation End Products Ingestion on Vertebral Bone Quality and Function in Mice

Paolo E. Palacio-Mancheno, William F. Kindschuh, Xue Chen, Ariel A. Harned, James C. Iatridis, Svenja Illien-Jünger

Poster No. 673

Normative Morphology and Growth of the Pediatric Lumbar Vertebrae

James R. Peters, Robert M. Campbell Jr., Sriram Balasubramanian

Poster No. 674

The Contribution of Advanced Glycation End-Products to Skeletal Fragility in Type-II Diabetic Rats

Stacyann Morgan, Ewan McNay, Deepak Vashishth

Poster No. 675

Physical Risk Factors Related with Progression of Degenerative Change of the Cervical Spine: A 6-year Longitudinal Population-based Study

Gentarō Kumagai, Kanichiro Wada, Toshihiro Tanaka, Takashi Shiozaki, Daisuke Chiba, Yasuyuki Ishibashi

PS1 Bone—Cells

Poster No. 676

H19 Promotes Osteoblast Differentiation via Activating Wnt/ β -catenin Signaling

Jin-Fang Zhang, Gang Li

Poster No. 677

Regulation of Osteoblast Differentiation by a Novel Bmp Signaling Target Gene *Atoh8*

Yuhei Yahiro, Shingo Maeda, Naohiro Shinohara, Kanehiro Matsuyama, Ichiro Kawamura, Yasuhiro Ishidou, Setsuro Komiya

Poster No. 678

Osteogenic Differentiation of Human Adipose Derived Stem Cells is Enhanced by Stem Cell Factor (SCF) Through the mTOR Pathway

Wanqun Chen, Haixuan Chen, Yifei Wang, Xiaodong Mu, Johnny Huard

Poster No. 679

Loading-Induced Bone Formation Depends on Osteoblast Proliferation

Heather M. Zannit, Michael D. Brodt, Matthew J. Silva

Poster No. 680

Genetic Inhibition of Canonical Notch Signaling Reduces Osteoclast Maturation, but Not Gene Expression

Jason W. Ashley, Gurpreet Kaur, John H. Hebb, Peeyush Goel, Kurt D. Hankenson, Jaimo Ahn

Poster No. 681

Progranulin Recruits Hsp70 to β -Glucocerebrosidase and is Therapeutic Against Gaucher Disease

Jinlong Jian, Qingyun Tian, Chuanju Liu

Poster No. 682

Differentiating Mesenchymal Stromal Cells Towards an Early Osteocyte-Like Phenotype In Vitro

Ewa M. Czekanska, Rene Rothweiler, Jennifer J. Bara, Robert G. Richards, Mauro Alini, Martin J. Stoddart

Poster No. 683

Role of Csf1 in the Proliferation of Osteal Macrophages and Osteoblasts

Paul Childress J. Childress, James Fischer, Austin E. Winger, Safa Mhoamad, Marta B. Alvarez, Edward F. Srouf, Melissa A. Kacena

Poster No. 684

Intermittent Parathyroid Hormone Injection Can Decrease Femoral Head Collapse in the Vascular Deprivation of Rat Femoral Head Model

Chiang Chih-Wei, Chen Chih-Hwa, Lee Chian-Her

Poster No. 685

Phase Shift of the Circadian Clock by Heat Stimulation in *Mc3t3-e1*

Toshihiro Hosokawa, Yoshiki Tsuchiya, Naoki Okubo, Tatsuya Kunimoto, Yoichi Minami, Hiroyoshi Fujiwara, Ryo Oda, Toshikazu Kubo, Kazuhiro Yagita

PS1 Bone—Osteocytes and Mechanobiology

Poster No. 686

Accumulation of Microdamage in Subchondral Bone at the Femoral Head in Patients with Osteoarthritis of the Hip

Masashi Shimamura, Ken Iwata, Tasuku Mashiba, Yamamoto Tetsuji

Poster No. 687

Fluid Shear Rate and Shear Stress Modulate Osteoclast Activity and Morphology

Karen Howard, Kenneth Mann, Megan Elizabeth Oest

Poster No. 688

High-throughput Computational Characterization of Osteocytic Proteins Upregulated by Mechanical Signals

Graeme Murray

Poster No. 688A

Altered SOST and Sclerostin Expression in Murine Calvariae following 15 and 30 Days of Spaceflight

Timothy R. Macaulay, Brandon R. Macias, Jamila Siamwala, Joanne Steinauer, Alan R. Hargens

POSTERS

Poster No. 689

Exacerbated Loss of Osteocytes in Patients with High Bisphosphonate Suppression of Bone Remodeling

Abigail Coffman, Adele Boskey, Robert Majeska, Deborah Novack, Reina Villareal, Nicola Napoli, Mitchell Schaffler

Poster No. 690

Mechanobiological Modulation of In Situ and In Vivo Osteocytic Calcium Oscillations in Response to Acoustic Radiation Force Using Black6 and Ai38/Dmp1-Cre Mice

Minyi Hu, Jian Jiao, Daniel Gibbons, Chaudhry Raza Hassan, Xiaofei Li, Guowei Tian, Yi-Xian Qin

Poster No. 691

Nanofishing of Hyaluronic Acid on Murine Osteoblast Precursor Cells

Stefania Marcotti, Koichiro Maki, Taiji Adachi, Gwendolen C. Reilly, Damien Lacroix

Poster No. 692

Bone (Re)Modeling Response to Mechanical Loading in Sost Deficient Mice Is Age and Gender Dependent

Haisheng Yang, Alexander Büttner, David Pflanz, Laia Albiol-Sanchez, Annette I. Birkhold, Tobias Thiele, Ina Kramer, Michaela Kneissel, Georg Duda, Uwe Kornak, Sara Checa, Bettina M. Willie

PS1 Bone—Progenitors and Stem Cells

Poster No. 693

Oscillatory Fluid Flow Induces MSC Osteogenic Lineage Commitment in a Magnitude and Frequency Dependent Manner

Elena Stavenschi, Marie-Noelle Labour, David A. Hoey

Poster No. 694

The Influence of Donor Variability and Medical History on Adipose-Derived Stem Cell Regenerative Potential

Adrienne M. Parsons, Deborah M. Ciombor, Paul Liu, Eric M. Darling

Poster No. 695

R-Spondin-2 Deficiency Leads to Defective Osteoblastogenesis and Mineralization

Meghan N. Knight, Michele Lowe, Jaimo Ahn, Kurt Hankenson

Poster No. 696

Dioxin Inhibits Osteogenic Differentiation of Human Osteoblast-Like MG-63 Cells

Chawon Yun, Karina M. Katchko, Andrew D. Schneider, Gurmit Singh, Andrew George, Jonghwa Yun, Nehal Samra, Sohyun Lee, Ryan D. Freshman, Wellington K. Hsu, Erin L. Hsu

Poster No. 697

Endothelin Receptor Type Dictates Multilineage Differentiation of Tissue-Derived Stem Cells in Response to Endothelin-1 Induction

Ming-Song Lee, Jesse Wang, Huihua Yuan, Tsung-Lin Tsai, Wan-Ju Li

Poster No. 698

Enhancer of Zeste Homology 2 (EZH2) and Myogenic miRNAs in Heterotopic Ossification from Combat Blast Injury

Youngmi Ji, Christopher Daniels, Daniel Griffin, Vyomesh Patel, Leon Nesti

Poster No. 699

Regulation of Vitamin D Metabolism and Osteoblast Differentiation in Human MSCs: Impact of Chronic Kidney Disease or of Obesity

Julie Glowacki, Jing Li, Fangang Meng, Meryl S. LeBoff, Shuanhu Zhou

Poster No. 700

Quantitation of Stem Cell Populations After Bone Marrow Aspirate Concentration

Malcolm R. DeBaun, Richard Schaefer, Erika Fleck, Karen Bieback, Jason L. Dragoo

Poster No. 701

Involvement of the Aryl Hydrocarbon Receptor in Cigarette Smoke-induced Inhibition of Osteogenesis

Chawon Yun, Gurmit Singh, Karina Katchko, Andrew Schneider, Andrew George, Jonghwa Yun, Nehal Samra, Sohyun Lee, Ryan Freshman, Wellington K. Hsu, Erin L. Hsu

Poster No. 702

Magnetic Sorting Offers Efficient Isolation of Osteogenic Cells from Stromal Vascular Fraction of Fat

Bryan Sutermeister, Eric Darling

Poster No. 703

Feline Adipose Derived Multipotent Stromal Cells Express Major Histocompatibility Complex II and Have Ectodermal Transdifferentiation Capacity

Wei Duan, Marilyn A. Dietrich, Mandi J. Lopez

PS1 Bone—Osteoporosis, Metabolic Bone Disease, Biomarkers

Poster No. 704

A Novel Method to Quantify Joint Deformity in Psoriatic Arthritis

Travis F. Henchie, Ellen M. Gravalles, Todd L. Bredbenner, Karen L. Troy

Poster No. 705

WITHDRAWN

Poster No. 706

Anabolic Effects of Sclerostin Antibody Therapy in Bone Derived from Pediatric Osteogenesis Imperfecta Patients

Rachel K. Surowiec, Ferrous S. Ward, Basma M. Khoury, Michelle S. Caird, Kenneth M. Kozloff

Poster No. 707

Tibial Bone Microvascular Flow Changes as Compared to Anterior Tibial Microvascular Flows During Body Tilt

Rachel L. Becker, Jamila Siamwala, Brandon Macias, Alan Hargens

POSTERS

Poster No. 708

Serum Bone Turnover Biomarkers in Revision Surgery for Shoulder Arthroplasty Loosening

Justin T. Smith, Spencer K. Wilhelm, Erin A. Baker, Michael J. Wiater, Kevin C. Baker

Poster No. 709

Bone Microarchitecture and Strength Diminished in Mice with Chronic Kidney Disease and Aging

Danielle Howe, Chelsea M. Heveran, Eric W. Livingston, Ted A. Bateman, Karen B. King, Moshe Levi, Virginia L. Ferguson, Anthony G. Lau

Poster No. 710

Cellular Mechanisms for the Osteoporotic Phenotype Associated with Perlecan-Deficiency

Ashutosh Parajuli, Victor Yuan Gao, Catherine Kirn-Safran, Liyun Wang

Poster No. 711

Deletion of Liver Fatty Acid Binding Protein-1 Increases Bone Marrow Fat and Bone Mass in Male and Female Mice

Claire Watson, Diarra K. Williams, Shannon S. Huggins, Alyssa Falck, Avery L. MacIntosh, Friedhelm Schroeder, Larry J. Suva, Dana Gaddy

Poster No. 712

Is Bone Composition Altered when Turnover Is “Over suppressed” by Bisphosphonate Treatment?

Adele L. Boskey, Lyudmila Spevak, Yihe Huang, Yan Ma, Mitchell B. Schaffler, Nicola Napoli, Reina Villareal, Debra Novack

Poster No. 713

Brtl/+ Male and Female Mice Show a Dose-Dependent Bone Response to Sclerostin-Antibody Therapy

Basma M. Khoury, Reid M. Davison, Joan C. Marini, Michelle S. Caird, Kenneth M. Kozloff

Poster No. 714

Age-Dependent Systemic Bone Loss and Recovery Following Femoral Fracture in Mice

Armaun J. Emami, Chrisoula A. Toupadakis, Franklin D. Tarke, Clare E. Yellowley, David P. Fyhrie, Blaine A. Christiansen

Poster No. 715

Effects of Osteoporosis on Bone Repair in Lumbar Vertebral Body Defects in Ovariectomized Rats

Munehiro Sakata, Hitoshi Tonomura, Tomonori Itsuji, Hidenobu Ishibashi, Ryota Takatori, Yasuo Mikami, Masateru Nagae, Ken-ichi Matsuda, Masaki Tanaka, Toshikazu Kubo

Poster No. 716

Osteophyte Formation in Hip Osteoarthritis Is Related to Clinical Scores, Bone Mineral Density, and Serum TRACP-5b

Takeshi Ogawa, Takashi Sakai, Hidetoshi Hamada, Masaki Takao, Nobuhiko Sugano

Poster No. 717

Hearing Loss in Osteogenesis Imperfecta: Altered Intracortical Porosity and Structure in the oim Mice Cochlea

Brendyn J. Miller, Andrew Bodey, Michael Doube, Alessandra Carriero

Poster No. 718

Ginkgolide B Promotes Osteogenic Differentiation of Mesenchymal Stromal Cells

Qiao-Ling Chou, Yi-Shiuan Liu, Oscar Kuang-Sheng Lee

Poster No. 719

Non-Thermal Infrared Light Decreases Bone Loss Following Ovariectomy

James T. Ninomiya, Janine A. Struve, Omeed Ghassemi, Joshua M. Kolz, Jeanette H. Man, Mei Wang, Dorothee Weihrauch, Scott A. Marshall, Rick Davidson

Poster No. 720

Bone Marrow Microvasculature Undergoes Dynamic Angiogenesis and Responds to Anabolic Bone Treatment by Active Remodeling in Adult Animals

Wei Tong, Lin Tiao, Abhishek Chandra, Xiaoyuan Ma, Luqiang Wang, Wei-Ju Tseng, Gaoyuan Cao, X. Sherry Liu, Motomi Enomoto-Iwamoto, Ling Qin

Poster No. 721

Genes Involved in Bone Formation, Not Resorption, and Inflammatory Signals Dominate the Differential Gene Expression Profile in an Equine Osteoporotic Condition

Regina Zavodovskaya

Poster No. 722

Tibial Reference Point Indentation Predicts Lumbar Vertebral Body Mechanical Behavior in Aging Women

Andrew Chang, Simon Y Tang

Poster No. 723

PTH Treatment Assessed by Nanoscale Infrared Spectroscopy

Laurianne Imbert, Eduardo Villarreal-Ramirez, Samuel Gourion-Arsiquaud, Edward F. DiCarlo, Elizabeth G. Pluhar, Adele L. Boskey

Poster No. 724

Chronic Alcohol Consumption Alters Adult Stromal Cell Expansion, Multipotentiality, Gene Expression, and Lumbar Vertebral Trabecular Bone in a Dose Dependent Manner

Cristina Terhoeve, Jianhua Xiao, Dejiang Feng, Carmel Fargason, Mandi Lopez

Poster No. 725

Akt Signaling Pathway Was Involved in the Effect of Icaritin on Preventing Osteoporosis in Ovariectomy Rats

Xinluan Wang, Linying Wang, Ling Li, Huijuan Cao, Yuxiao Lai, Ling Qin

Poster No. 726

Functional Near Infrared Spectroscopy for Measuring Bone Hemoglobin Content After Exercise in Individuals with Spinal Cord Injury

Adina Draghici, Diane Portart, Mark Niedre, Sandra Shefelbine

POSTERS

Poster No. 727

Exercise Mitigates Bone Loss Through Adipogenic and Osteogenic Differentiation in Alcohol Administrated Mice

Yuankun Zhai, Akash K George, Jyotirmaya Behera, Suresh C. Tyagi, Neetu Tyagi

Poster No. 728

Bone Robusticity in Osteogenesis Imperfecta Diverges from Established Patterns

Cathleen Raggio, Kate Citron, Cosmo Veneziale, Erin Carter, Josephine Marino, Karl Jepsen

Poster No. 729

A Randomized Trial Comparing Efficacy and Safety of Brand vs. Generic Alendronate for Osteoporosis Treatment

Aasis Unnanuntana, Atthakorn Jarusriwanna, Wachirapan Narktang, Panupan Songcharoen

PS1 Bone—Mechanics and Computational Modeling

Poster No. 730

Femoral Fracture Load and Fracture Pattern il Accurately Predicted Using a Gradient-Enhanced Quasi-Brittle Finite Element Model

Ifaz Haider, John Goldak, Hanspeter Frei

Poster No. 731

Boundary Conditions Influence Cortical and Trabecular Load Sharing at the Distal Radius

Joshua E. Johnson, Karen L. Troy

Poster No. 732

Assessment of Bone Quality by Electrical Bioimpedance Measurement

Mustafa Unal, Fatih Cingoz, Cevat Bagcioglu, Yilmaz Sozer, Ozan Akkus

Poster No. 733

The Morphological Effects of Bilateral Sagittal Split Ramus Osteotomy on Temporomandibular Joint of Patients with Facial Asymmetry

Zhan Liu, Yuanli Zhang

Poster No. 734

Cartilage Contact Characteristics of the Tibiofemoral Joint During Dynamic Step-Up Motion

Peng Yin, Jing-Sheng Li, Willem A. Kernkamp, Tsung-Yuan Tsai, Ali Hosseini, Guoan Li

Poster No. 735

Ultrastructural Changes in Osteogenesis Imperfecta Bone: Synchrotron Study of a Murine Model

Jitin Samuel, Xiaodu Wang, Shu Yang

Poster No. 736

Sost Deficiency Leads to a Reduction in the Mechanical Strains Induced Within the Mouse Tibia

Laia Albiol, David Pflanz, Myriam Cilla, Ina Kramer, Michaela Kneissel, Georg Duda, Paul Zaslansky, Bettina M. Willie, Sara Checa

Poster No. 737

Comparative Study of Morphological Parameters of Temporomandibular Joint from 2D Cbct Images and 3D Models

Zhan Liu, Yuanli Zhang

Poster No. 738

Stiffness of High-Resolution Imaging-Based 3D Printed Bone Models

Abigail L. Hong, Benjamin T. Newman, Daniel B. Sipzner, Malika Shukurova, Elizabeth Silvestro, Robert J. Pignolo, Chamith S. Rajapakse

Poster No. 739

The Correction of Systematic Error Due to Cast Type and Thickness on Distal Radius Bone Parameters Measured In Vivo Using HR-pQCT for the Study of Fracture Healing

Danielle E. Whittier, Prism S. Schneider, Sarah L. Manske, Steven K. Boyd

Poster No. 740

Age-Dependent Cortical Bone Geometric and Mechanical Property Phenotype in CD26 Deficient Mice

Meghan M. Moran, Ryan D. Ross, Margaret A. McNulty, Kent W. Christopherson, D. Rick Sumner

Poster No. 741

Changes in Non-Enzymatic Glycation, Whole Bone Microarchitecture, and Mechanical Properties in an Aging Murine Model

Lamyia Karim, Julia Moulton, Ann Robbins, Tessabella Magliochetti, John Pena, Mary L. Bouxsein

Poster No. 742

A New Determinant of Human Lumbar Vertebrae Mechanical Behavior After Simulated Mild Fracture

Jean-Paul Roux, Stephanie Boutroy, Roland Chapurlat, Julien Wegrzyn

Poster No. 743

Prediction of the Fracture Risk of Reconstructed Bone with Cement Using Qct Based Structural Rigidity and Finite Element Analysis

Hoda Mosleh, Gholamreza Rouhi, Azadeh Ghouchani, Jalil Nourisa, Nima Bagheri

Poster No. 744

The Effects of Fractionated Irradiation on Bone Morphology and Strength

Hannah Infelt, M. James Rudert, Emmalei Huber, Benjamin J. Miller, Jessica E. Goetz

Poster No. 745

In Silico Determination of Optimal Scaffold Stiffness for Osteogenesis in a Murine Fracture Healing Model

Duncan C. Betts, Esther Wehrle, Gisela Kuhn, Sandra Hofmann, Ralph Müller

POSTERS

Poster No. 746

Impingement and Range of Motion Analysis of a Radial Head Replacement

Dana J. Coombs, Pavel E. Galibarov, Kevin Clancy, Michael Sedlack, Michael Bushelov

Poster No. 747

Mechanics Based Fracture-Risk Correlates Poorly with Mirels' Score in Metastatic Lesions to the Proximal Femur

Palani Permeswaran, Benjamin J. Miller, Jessica Goetz

Poster No. 748

Lumbar Lordosis and Pelvic Sagittal Balance Modulate Symptoms for Femoroacetabular Impingement

Robby Turk, Benedict Nwachuwu

Poster No. 749

Mathematical Kinematics for Surgical Guidance of 3D Osteotomy

Scott Tucker, Kent Weinheimer, Lyndsy Shaubach, Umur Aydogan, Gregory S. Lewis

Poster No. 750

Stiffness of the Equine Third Metacarpal Subchondral Bone: A MicroCT-Based Finite Element Study

Fatemeh Malekipour, Peter Vee Sin Lee, Chris Whitton

PS1 Bone—Tissue Engineering and Repair

Poster No. 751

Locally Applied Simvastatin as an Adjunct to Promote Spinal Fusion in Rats

Sravisht Iyer, Patrick Donnelly, Kelsey Y. Young, George N. Spaniel, Robert Frawley, Matthew A. Goldstein, Matthew E. Cunningham

Poster No. 752

mRNA Engineering Strategies to Improve mRNA Translation and Stability for Musculoskeletal Gene Therapy

Mehrije Ferizi, Elizabeth Rosado Balmayor, Manish K. Aneja, Johannes Geiger, Zohreh S. Badiyean, Olga Mykhaylyk, Carsten Rudolph, Christian Plank

Poster No. 753

In Situ Bone Tissue Engineering via Ultrasound-Mediated Gene Delivery to Endogenous Stem Cells in Pigs

Gadi Pelled, Maxim Bez, Dmitriy Sheyn, Wafa Tawackoli, Pablo Avalos, Joseph C. Giaconi, Galina Shapiro, Xiaoyu Da, Shiran Ben-David, Sandra Ann De Mel, Hyun W. Bae, Hani Awad, Zulma Gazit, Katherine W. Ferrara, Dan Gazit

Poster No. 754

Immunomodulatory Ability of Nf-kb Sensing and IL4 Secreting Mesenchymal Stem Cells on Macrophage Polarization

Tzu-hua Lin, Jukka Pajarinen, Akira Nabeshima, Laura Lu, Karthik Nathan, Zhenyu Yao, Stuart B. Goodman

Poster No. 755

Bone Marrow Aspirate Concentrate vs. Platelet Rich Plasma to Enhance Osseous Integration Potential for Osteochondral Allografts

Charles A. Baumann, Aaron M. Stoker, Farrah A. Monibi, Nicole L. Walden, James P. Stannard, James L. Cook

Poster No. 756

Angiopoietin-2 Has an Enhancing Role for Osteogenesis and Angiogenesis

Se-Young Jeong, Mi-Lan Kang, Ji-Eun Kim, Gun-Il Im

Poster No. 757

Conductive Gelatin Methacrylate-Polyaniline Hydrogels for Bone Tissue Engineering

Stephen W. Sawyer, Ping Dong, Sarah A. Venn, Andrew S. Ramos, David E. Quinn, Jason A. Horton, Pranav Soman

Poster No. 758

Macroporous Microribbon Hydrogels with Tunable Extracellular Matrix Compositions Induce Robust Osteogenesis of Mesenchymal Stem Cells in 3D

Xinming Tong, Fan Yang

Poster No. 759

Prefabrication of Vascularized Allo-Bone Graft in Rat by Implanting a Flow-Through Vascular Pedicle and Bfgf-Containing Hydroxyapatite/Collagen Composite

Kounosuke Yamaguchi, Yoshio Kaji, Osamu Nakamura, Sachiko Tobiume, Tetsuji Yamamoto

Poster No. 760

Bone Healing of Critical-Size Defects with a CaSO4/CaPO4-TCF Bone Graft Substitute Compared to Cancellous Allograft Bone in a Canine Model

Deborah J. Hall, Thomas M. Turner, Stephanie M. McCarthy, Jennifer L. Wright, Robert M. Urban

Poster No. 761

Mimicking the Biochemical and Mechanical Extracellular Environment of Endochondral Ossification Enhances the In Vitro Mineralisation Potential of Human MSCs

Fiona E. Freeman, Jessica Schiavi, Meadhbh A. Brennan, Pierre Layrolle, Laoise McNamara

Poster No. 762

Allob[®], an Allogeneic Osteoblastic Cell Product, Promotes Bone Healing in a Subcritical-size Calvarial Defect Model

Sandra Pietri, Sabrina Ena, Jerome Jenicot, Enrico Bastianelli

Poster No. 763

Multiple Heat Stimuli Enhanced Osteogenesis in Rat and Rabbit

Takehiro Ota, Kunihiro Ikuta, Eiji Kozawa, Shunsuke Hamada, Hiroshi Urakawa, Tomohisa Sakai, Naoki Ishiguro, Yoshihiro Nishida

Poster No. 764

Development and Evaluation of Vascularization in 3D Printed Tissue Constructs

Chi-Chun Pan, Sungwoo Kim, Yunzhi Peter Yang

POSTERS

Poster No. 765

Temporal Modulation of Macrophage Polarization Enhances Osteogenesis in Primary Mesenchymal Stem Cells

Karthik Nathan, Laura Y. Lu, Jukka Pajarinen, Tzu-hua Lin, Akira Nabeshima, Zhenyu Yao, Stuart B. Goodman

Poster No. 766

Biological Assessment of the Induced Membrane in the Chronic Caprine Tibial Defect Model

Viviane Luangphakdy, Cynthia Boehm, Cathy Carlson, Wesley Bova, Elizabeth Marchant, Joan E. Bechtold, Elizabeth Pluhar, George Muschler

Poster No. 767

The Anabolic Effects of Low-Level Laser Therapy and Low-Amplitude High-Frequency Whole Body Vibration on Bone Healing Process in the Presence of a Metallic Implant

Mahdi Rajaei Jafarabadi, Gholamreza Kaka, Seyed Homayoun Sadraie, Jamshid Arum, Ehsan Sadeghian Dehkord, Seyyed Amir Hooshair Ahmedi, Gholamreza Rouhi

Poster No. 768

Voltage-dependent Effects on Human Osteoblasts Stimulated with Alternating Current

Josefin Ziebart, Thomas J. Dauben, Thomas Bender, Martin Krogull, Anika Jonitz-Heincke, Bernd Kreikemeyer, Rainer Bader

Poster No. 769

Chitosan-Guided Wound Repair Cell Migration into a Porous 3D Bioplastic Bone Void Filler

Javier Rodriguez, Ebrahim Jalili Dil, Jessica Guzman-Morales, David Fong, Basil Favis, Janet Henderson, Caroline D. Hoemann

Poster No. 770

In Vitro Cell Sheet Vascularization for Tissue Engineered Periosteum

Bentley Hunt, Hani Awad

Poster No. 771

Combination Therapy of Teriparatide and Denosumab has Additional Effects on Cancellous Bone Regeneration

Kazuma Kitaguchi, Masafumi Kashii, Takashi Kaito, Tsuyoshi Sugiura, Kosuke Ebina, Takahiro Makino, Takaaki Noguchi, Masayuki Furuya, Hideki Yoshikawa

Poster No. 772

Early Effect of Mechanical Vibration on Osteogenic and Chondrogenic Differentiation of Mesenchymal Stem Cells

Atiyeh Safavi, Nooshin Haghighipour, Fatemeh Bagheri, Mohamadreza Bagheban Eslaminejad, Frough Azam Sayahpour, Gholamreza Rouhi

Poster No. 773

Fixation of Transverse Patellar Fracture in Rabbits Using Biodegradable Magnesium Pins Treated with Microarc Oxidation

Dick H. Chow, Jiali Wang, Peng Wan, Ke Yang, Ling Qin

Poster No. 774

Sugar Based Tissue Engineering Approaches to Heal Critical Sized Bone Defects

Tegan L. Cheng, Elisabeth Leblanc, Anastassia Kalinina, Kathy Mikulec-Langton, Peter Valtchev, Fariba Dehghani, Aaron Schindeler, David G. Little

PS1

Bone—Genetics, Transcriptomics and Proteomics

Poster No. 775

Mechanisms Involved in Impaired Metabolic Function and Callus Mineralization Under Phosphate Deficiency

Amira I. Hussein, Kevin C. Blank, Deven M. Carroll, Kyle E. Lybrand, Margaret E. Cooke, Heather E. Matheny, Brenna L. Hogue, Serkalem Demissie, Louis C. Gerstenfeld

Poster No. 776

Female Mice Lacking Estrogen Receptor Alpha in Mature Osteoblasts Have an Increased Transcriptional Response to Mechanical Loading in Cancellous but Not Cortical Bone

Natalie H. Kelly, John C. Schimenti, F. Patrick Ross, Marjolein C.H. van der Meulen

Poster No. 777

Scaffold Composition Directs Osteogenic Signaling in Adult Adipose-Derived Multipotent Stromal Cell Osteogenesis In Vitro

Wei Duan, Kearney T. Kearney, Jeffrey M. Gimple, Mandi J. Lopez

PS1

Bone—Matrix Degradation and Synthesis

Poster No. 778

3D Visualization of Subchondral Plate Vascular Channels by Digital Volumetric Imaging

Neil Chang, Van W. Wong, William D. Bugbee, Robert L. Sah

Poster No. 779

Accumulation of Bone Microdamage in the Trabecular Bone of the Femoral Condyle in a Patient with Spontaneous Osteonecrosis of the Knee

Shingo Yoshitake

Poster No. 780

Sensitivity of Raman Spectroscopy and Reference Point Indentation to Sugar-Induced Changes in Human Bone

Sasidhar Uppuganti, Mathilde Granke, Amy Creecy, Calen Leverant, Shoshana Hodes, Jeffrey Nyman

PS1

Spine—Computational Modeling

Poster No. 781

Vertebral Loading Predictions Are Influenced by Incorporation of Ct-based Measurements of Trunk Anatomy into Subject-Specific Musculoskeletal Models of the Thoracolumbar Spine

Hossein Mokhtarzadeh, Alexander G. Bruno, Brett T. Allaire, Kelsey R. Velie, Clara Paolis, Dennis E. Anderson, Mary L. Bouxsein

POSTERS

Poster No. 782

Upper Cervical Spine Kinematics During Upright Dynamic Rotation

Bryan Ryneerson, Tyler West, Madeline Preece, William Donaldson, Joon Lee, William Anderst

Poster No. 783

A 3D Method to Detect the Lumbar Ligamentum Flavum Attachment Sites and Its Ex Vivo Validation

Yibo Zhao, Hiroki Takahashi, Alejandro A. Espinoza Orias, Jade He, Cheng Li Lin, Xinwei Zhu, Taku Sugawara, Takuro Endo, Howard S. An, Nozomu Inoue

Poster No. 784

The Effect of Cervical Spine Injury on Intervertebral Kinetics and Spinal Cord Strain During Direct Laryngoscopy: A Computational Investigation

Benjamin C. Gadomski, Snehal Shetye, Brandon Santoni, Michael Todd, Vincent Traynelis, Ricardo Fontes, Christian Püttlitz

Poster No. 785

Change in Biomechanical Parameters in Spinal Cord and Nerve Roots After Open-door and Double-door Laminoplasty for Ossification of the Posterior Longitudinal Ligament

Batbayar Khuyagbaatar, Won Man Park, Kyungsoo Kim, Yoon Hyuk Kim

Poster No. 786

Impact of Ligament Laxity on the Stability of Posterior Atlantoaxial Fusion Constructs in Finite Element Analysis

Timothy L. Lasswell, Duane S. Cronin, John B. Medley, Parham Rasoulinejad

Poster No. 787

A Computational Model of the Post-Yield Response of Vertebral Bone Using Zero-Thickness Cohesive Elements

Saeid Samiezadeh, Hamid Ebrahimi, Frankie (Hoi-Ki) Hong, Cari M. Whyne

Poster No. 788

Uncortical and Bicortical Lateral Plate Fixation Offer Similar Stability and Load on the Endplate but Pedicle Screw Fixation Offers Better Stability and Load Reduction: A Finite Element Study

Sushil P. Sudershan, Anand Agarwal, Vijay Goel

Poster No. 789

Calculation of Optimal Bone Cement Dosage and Location for Prophylactic Vertebroplasty During Long Thoracolumbar Fusion to Reduce the Occurrence of Proximal Junction Kyphosis (PJK)—A Finite Element Study

Anoli A. Shah, Robert Mcguire, Hassan Serhan, Anand Agarwal, Vijay K. Goel, Joseph Zavatsky

Poster No. 790

Dynamic Loading on the Kinetics of Charged Antibiotic Penetration into Human Intervertebral Disc

Weiyong Gu, Qiaoqiao Zhu, Na Li, Mark Brown

PS1

Spine—Scoliosis

Poster No. 791

Upregulated TLR2 in Abnormally Loaded Scoliotic Facet Joints Accelerates Degeneration

Daniel Bisson, Polly Lama, Derek H. Rosenzweig, Jean A. Ouellet, Lisbet Haglund

Poster No. 792

Vitamin D Binding Protein (DBP) Is Increased in Adolescent Idiopathic Scoliosis Patients with Thoracolumbar/Lumbar Curvatures

Hiroto Makino, Shoji Seki, Yoshiharu Kawaguchi, Yasuhiro Yahara, Makiko Nogami, Kenta Watanabe, Tomoatsu Kimura

Poster No. 793

Development and Evaluation of a Low Cost Minimally Invasive Growth Rod for Juvenile Scoliotic Patients

Ardalan Seyed Vosoughi, David Dick, Aakash Agarwal, Anand Agarwal, Vijay Goel

Poster No. 794

Expression of Lbx1 in Muscle and Bone of Adolescent Idiopathic Scoliosis in Chinese

Gene C.W. Man, Nelson L.S. Tang, Wayne Y.W. Lee, Jiajun Zhang, Bobby K.W. Ng, LeiLei Xu, Qiu Yong, Jack C.Y. Cheng

Poster No. 795

A 3D Morphometric Analysis in the Difference of Vertebral Morphology Around Apical Vertebrae Between Neuromuscular Scoliosis and Idiopathic Scoliosis

Takahiro Makino, Takashi Kaito, Yusuke Sakai, Shota Takenaka, Masafumi Kashii, Hideki Yoshikawa, Kazuomi Sugamoto

Poster No. 796

Anterior Spinal Growth Tethering Leads to Asymmetric Growth of the Apical Vertebra and Scoliosis Correction Without Fusion

Peter Newton, Yi Yang, Megan E. Jeffords, Tracey Bastrom, Carrie Bartley, Fredrick Reighard, Burt Yaszay

Poster No. 797

Three-Dimensional Correction of Juvenile Scoliotic Spine: Finite Element Study

Ardalan Seyed Vosoughi, Ali Kiapour, Aakash Agarwal, Vijay Goel

Poster No. 798

Thoracoscopic Mechanical Spinal Hemiepiphysiodesis Modulates Human Spine Growth

Eric J. Wall, Viral V. Jain, Joseph E. Reynolds, Alvin H. Crawford, Donita I. Bylski-Austrow

Poster No. 799

Ultralow Dose Radiation 3D Intraoperative Imaging: How Low Can We Go? An O-Arm, CT Scan, Cadaveric Study

Vishal Sarwahi, Monica Payares, Terry D. Amaral, Stephen F. Wendolowski, Rachel Gecelter, Adam Wollowick, Beverly Thornhill, Dan Wang

POSTERS

PS1 Spine—Peripheral Nerve and Spinal Cord Injury

Poster No. 800

Neural Progenitor Cells Overcome Extrinsic Inhibitors and Extend Axons in Chronically Injured Spinal Cord

Ken Kadoya, Kenny Nguyen, Hans Strobl, Norimasa Iwasaki, Mark Tuszynski

Poster No. 801

Transplantation of Human Adipose Tissue-Derived Regenerative Cells for Peripheral Nerve Injury

Yumio Fujioka, Naosuke Kamei, Kazunori Yokota, Nobuo Adachi, Mitsuo Ochi

Poster No. 802

Biomechanical Characteristics of Post-Operative C5 Palsy Due to Ossification of the Posterior Longitudinal Ligament in Different Types of Cervical Spinal Alignment

Batbayar Khuyagbaatar, Won Man Park, Kyungsoo Kim, Yoon Hyuk Kim

Poster No. 803

3D Digital Anatomic Angioarchitecture of the Mouse Spinal Cord: A Synchrotron Radiation Micro-CT Study

Hongbin Lu, Yong Cao, Jianzhong Hu

Poster No. 804

The Mechanism of Motor Function Recovery and Histological Findings After Spinal Cord Injury in OASIS Knockout Mice

Yoshikazu Sumida, Naosuke Kamei, Norifumi Suga, Atsushi Takazawa, Mitsuo Ochi, Nobuo Adachi

Poster No. 805

Directly Reprogrammed Human Neural Precursor Cells—A Novel and Translationally Relevant Source for Cell Replacement Therapy in Spinal Cord Injury

Narihito Nagoshi, Jan-Eric Ahlfors, Mohamad Khazaei, Morio Matsumoto, Masaya Nakamura, Cindi Morshead, Michael Fehlings

Poster No. 806

Ultrahigh Resolution Submicrometric 3D Visualization of the Neural Structure in a Rat Spinal Cord

Yong Cao, Shuangfei Ni, Hongbin Lu, Jianzhong Hu

Poster No. 807

Neurotrophin Accelerates Peripheral Nerve Regeneration by Promoting the Differentiation of Schwann Cells

Hozo Matsuoka, Hiroyuki Tanaka, Junichi Sayanagi, Toru Iwahashi, Koji Suzuki, Kiyoshi Okada, Tsuyoshi Murase, Hideki Yoshikawa

Poster No. 808

Suppression of Sympathetic Nerve Sprouting by Local Administration of α -antagonist Around Dorsal Root Ganglion in a Lumbar Radiculopathy Model

Izaya Ogon, Tsuneo Takebayashi, Tsuyoshi Miyakawa, Takehito Iwase, Katsumasa Tanimoto, Yoshinori Terashima, Syunsuke Ilmbo, Toshihiko Yamashita

Poster No. 809

The Association Between Anxiety and Neurological Function After Spinal Cord Injury in Mice

Tatsuhiko Fukutoku, Gentaro Kumagai, Taku Fujita, Yoshikazu Nikaido, Kanichiro Wada, Xizhe Liu, Toshihiro Tanaka, Takashi Shiozaki, Shinya Ueno, Yasuyuki Ishibashi

Poster No. 810

Activation of Nlrp3 Inflammasomes in a Rat Spinal Cord Injury Model

Sho Yanagisawa, Hiroyuki Kato, Takeshi Imai, Satoshi Nomura, Masahiko Watanabe

Poster No. 811

Reconstruction of Denervated Muscles Using Motor Neurons Derived from Mouse Es Cells

Hiroki Shinkai, Satoshi Niwa, Shigeru Kurimoto, Yohei Okada, Hitoshi Hirata

Poster No. 812

The Association Between Anxiety and Motor Function Recovery After Spinal Cord Injury in Gabaa Receptor Defective Mice

Taku Fujita, Gentaro Kumagai, Xizhe Liu, Kanitiro Wada, Toshihiro Tanaka, Takashi Shiozaki, Yoshikazu Nikaido, Shinya Ueno, Yasuyuki Ishibashi

Poster No. 813

Matrix Metalloproteinase-12 Expression in a Neuropathic Pain Rodent Model—Activity to Prototype Probe Development

Raymond Wing Moon Lam, Syeda Fabeha Husain, Tao Hu, Khanna Sanjay, Bhakoo Kishore, Yulin Lam, Ming Wang, Chun Man Roger Ho, Hee Kit Wong

PS1 Spine—Disc Mechanics

Poster No. 814

Advanced Glycation End-Products Are Associated with the Declined Mechanical Performance of the Intervertebral Disc in Murine Models of Type 1 and Type 2 Diabetes

Jennifer W. Liu, Adam Abraham, Simon Y. Tang

Poster No. 815

What is the Role of Disc Structure in the Herniation Process?

Kelly Wade, Nikolaus Berger-Roscher, Marija Josipovic, Volker Rasche, Fabio Galbusera, Hans-Joachim Wilke

Poster No. 816

Collagen Fibril Alteration in Degenerative Annulus Fibrosus

Ting Liang, Lin-Lin Zhang, Wei Xia, Hui-Lin Yang, Zong-Ping Luo

Poster No. 817

Volumetric Adaptation of the Intervertebral Disc Under Compressive Strains Assessed by Contrast-Enhanced MicroCT Imaging

Kevin H. Lin, Jennifer W. Liu, Simon Y. Tang

POSTERS

Poster No. 818

Ultrasound Stimulation Reduces Friction Between Soft Tissue and Viscous Fluid Interface

Thomas M. McGrath, Chun-Feng Lai, Christine Yu, Po-Chun Yen, Jaw-Lin Wang

Poster No. 819

Investigation of Cervical Disc Deformation Using Weightbearing and Non-Weightbearing References

Yan Yu, Haiqing Mao, Jing-Sheng Li, TsungYuan Tsai Tsai, Kamran Khan, Liming Cheng, Kirkham B. Wood, Guoan Li, Thomas D. Cha

Poster No. 820

Investigation of Lumbar Disc Annulus Heterogeneity Using a Parametric Motion Segment Finite Element Model

Chaochao Zhou, Khalid Sethi, Ryan Willing

PS1 Spine—Spine Therapeutics

Poster No. 821

Pharmacokinetic Analysis of Oligodeoxynucleotide After an Injection into Intervertebral Discs of Normal Rabbits

Kenji Kato, Shingo Miyazaki, Weibo Jiang, Kevin Cheng, Jenny Huang, Anna Chang, Mary E. Lenz, Robert L. Sah, Takahiro Nakazawa, Toshinori Yamamoto, Koichi Masuda

Poster No. 822

Short Link N Stimulates Intervertebral Disc Repair in a Novel Long-Term Organ Culture Model That Includes the Bony Vertebrae

Michael Philip Grant, Nizar Algarni, Laura M. Epure, Omar Salem, John Antoniou, Fackson Mwale

Poster No. 823

Co-Existence of Ossification of the Nuchal Ligament is Associated with Spinal Hyperostosis in Patients with Cervical Ossification of the Posterior Longitudinal Ligament: A Multicenter Ct Study

Toshitaka Yoshii, Takashi Hirai, Tsuyoshi Yamada, Akio Iwanami, Kazuhiro Takeuchi, Kanji Mori, Atsushi Okawa, Yoshiharu Kawaguchi

Poster No. 824

A Novel Fibrin Dressing Stops CSF Leak in a Caprine Spine CSF Leak Model

Charles T. Floyd, Rodolfo A. Padua, Curtis E. Olson

Poster No. 825

Three-Dimensional Computed Tomographic Evaluation of Extreme Lateral Interbody Fusion: A Preliminary Study

Kevin Cheng, Koji Akeda, Nozomu Inoue, Koichi Masuda, Akihiro Sudo

Poster No. 826

Osteoinductive Properties of Silicon Nitride, Alumina, and Titanium

B. Sonny Bal, Ryan Bock, Alfredo Rondinella, Elia Marin, Wenliang Zhu, Tetsuya Adachi, Bryan J. McEntire, Giuseppe Pezzotti

Poster No. 827

Changes in Gait Patterns and Gait Asymmetry During a Six Minute Walking Test in Patients with Symptomatic Lumbar Spinal Stenosis

Corina Nüesch, Cordula Netzer, Anja Schraknepper, Stefan Loske, Annegret Mündermann

Poster No. 828

Biomechanical and Histologic Comparison of Facet Fusion to Posterolateral Fusion

Jeffrey M. Toth, Kevin T. Foley, Mei Wang, Howard B. Seim, Anthony S. Turner

Poster No. 829

TLIF Fusion with Viable Allograft—50 Consecutive Cases at 12 Month Follow-Up

William Tally, Sonnie Looney, Jeff Donohue, Luiz Lozada, Timothy Ganey

PS1 Spine—Disc, Tissue Engineering and Repair

Poster No. 830

Analysis of Individual and Combined Annulus Fibrosus and Nucleus Pulposus Repair In Vitro

Stephen R. Sloan Jr., Devis Galesso, Cynthia Secchieri, Lawrence J. Bonassar

Poster No. 831

Expression of Notochordal and Nucleus Pulposus Markers in Adult Human Nucleus Pulposus Progenitor Cells

Shu-Hua Yang, Ming-Hsiao Hu, Yuan-Hui Sun, Kai-Chiang Yang

Poster No. 832

Pulsed Electromagnetic Fields (PEMF) Reduce Acute Inflammation in the Injured Rat Intervertebral Disc

Xinyan Tang, Dezba Coughlin, Annie Ouyang, Ellen Liebenberg, Stefan Dudli, Erik I. Waldorff, Nianli Zhang, James Ryaby, Jeffrey C. Lotz

Poster No. 833

Intervertebral Disc Repair by a Combination of Genipin-Enhanced Fibrin Hydrogel and Growth Factor-Enriched Silk-Fleece

Daniela A. Frauchiger, Silvan Heeb, Adel Tekari, Michael Wöltje, Lorin M. Benneker, Benjamin Gantenbein

Poster No. 834

The Regenerative Effects of Notochordal Cell Matrix (NCM) on Canine and Human Nucleus Pulposus Cells

Frances Bach, Stefan de Vries, Laura Creemers, Björn Meij, Keita Ito, Marianna Tryfonidou

Poster No. 835

Porous Peek Improves the Bone-Implant Interface Compared to Plasma-sprayed Titanium Coating on Peek: In Vitro and In Vivo Analysis

F. Brennan Torstrick, Angela Lin, Ken Gall, Robert Guldberg

Poster No. 836

Potential Use of Nonautologous Cell Matrix for Rejuvenation of Human Nucleus Pulposus Cells from Herniated Discs

Tyler Pizzute, Ming Pei

POSTERS

Poster No. 837

Adenosine Upregulates Extracellular Matrix Gene Expression in Nucleus Pulposus Cells via Receptor-Independent Mechanism

Xue Yin

Poster No. 838

Intervertebral Disc Regeneration After Implantation of an Acellular Bioresorbable Ultra-purified Alginate Gel

Takeru Tsujimoto, Hideki Sudo, Katsuhisa Yamada, Koji Iwasaki, Takashi Ohnishi, Norimasa Iwasaki

Poster No. 839

Nf- κ B Involved in Pemf Treatment Effects on Pro-inflammatory Cytokine Il-6 Expression in Nucleus Pulposus

Xinyan Tang, Dezba Coughlin, Erik I Waldorff, Nianli Zhang, James T. Ryaby, Tamara Aliston, Jeffery C. Lotz

Poster No. 840

Testing the Efficacy of Plga Microparticles for the Controlled and Sustained Delivery of Gdf6 for Intervertebral Disc Regeneration

Tom Hodgkinson, Louise Clarke, Lisa White, Kevin Shakesheff, Judith A. Hoyland, Stephen M. Richardson

Poster No. 841

Effects of Hypoxia and TGF- β Exposure During Monolayer Expansion on the Survival and Matrix Producing Capacity of Mesenchymal Stem Cells

Sun H. Peck, Justin R. Bendigo, Sarah E. Gullbrand, John W. Tobias, George R. Dodge, Robert L. Mauck, Neil R. Malhotra, Lachlan J. Smith

Poster No. 842

Notochordal Cell-Rich Nucleus Pulposus Matrix as an Inhibitor of Neurite and Blood Vessel Growth

Stefan A.H. de Vries, Marina van Doeselaar, Björn P. Meij, Marianna A. Tryfonidou, Keita Ito

Poster No. 843

Matched Cohort Analysis of Elective Lumbar Spinal Fusion in Patients with and Without Parkinson's Disease: Complications, Length of Stay, and Hospital Charges

Justin E. Kleiner, Adam Eltorai, Alan H. Daniels

Poster No. 844

Inhibition of Toll-Like Receptor 4 Promotes Chondrogenic Differentiation of Bone-Marrow Derived Mesenchymal Stromal Cells in Inflammatory Environment

Quynhhoa T. Nguyen, Olivia Coughlin, Nadeen O. Chahine

Poster No. 845

Injectable In Situ Gelling Native Extracellular Matrix for Nucleus Pulposus Tissue Engineering

Rebecca A. Wachs, Ella N. Hoogenboezem, Hammad I Huda, Shangjing Xin, Stacy Porvasnik, Christine E. Schmidt

Poster No. 846

Growth Differentiating Factor 6 Signalling in Mesenchymal Stem Cell Populations—Implications for Intervertebral Disc Regeneration Therapies

Tom Hodgkinson, Judith A. Hoyland, Stephen M. Richardson

Poster No. 847

Effect of Electromagnetic Therapy on Mechanoreceptor Number as a Risk Factor of Low Back Pain

Mahmoud M. Nabhan, Naitham Mohamed Sharaf Eldin

PS1 Spine—Disc Biology

Poster No. 848

Comparison of Glucose Consumption and Lactate Production Rates and Mitochondrial Membrane Potential of Nondegenerate and Degenerate Human IVD Cells

Sarah Cisewski, Yongren Wu, Brooke Damon, Barton Sachs, Michael Kern, Hai Yao

Poster No. 849

Anabolic Effects of Bioactive Proteins and Extracellular Vesicles Derived from Notochordal Cell-Conditioned Medium

Frances Bach, Stefan de Vries, Frank Riemers, Janneke Boere, Ferdi van Heel, Marina van Doeselaar, Soenita Goerdayal, Peter Nikkels, Karin Benz, Laura Creemers, Maarten Altelaar, Björn Meij, Keita Ito, Marianna Tryfonidou

Poster No. 850

Potential Involvement of Unfolded Protein Response in the Pathogenesis of Intervertebral Disc Degeneration

Takeshi Fujii, Nobuyuki Fujita, Satoshi Suzuki, Kota Watanabe, Ken Ishii, Takashi Tsuji, Takeshi Miyamoto, Keisuke Horiuchi, Morio Matsumoto, Masaya Nakamura

Poster No. 851

Anti-inflammatory Properties of Platelet Rich Plasma-releasate on Human Intervertebral Disc Cells

Junichi Yamada, Koji Akeda, Norihiko Takegami, Kazuma Nakase, Tomohiko Sano, Akihiro Sudo

Poster No. 852

Inhibition of Autophagy Through ATG5 Knock Down Induces Apoptosis and Senescence, Resulting in Reduced Cellularity, in Human Intervertebral Disc Cells

Masaaki Ito

Poster No. 853

Evaluation of the Contractile Phenotype and Actin Regulated Signal Transduction Pathways in Bovine Outer Annulus Fibrosus Cells

Rahul Gawri, Weiqiang Wu, Justin Parreno, Rita Kandel

POSTERS

Poster No. 854

Disc Height Loss, but Not Pro-Inflammatory Cytokine or Substance P Expression, Predicts Intervertebral Disc Degeneration-Related Pain in a Rat

Thomas W. Evashwick-Rogler, Alon Lai, Jonathan M. Salandra, Devina Purmessur, Branko Skovrlj, Beth A. Winkelstein, Samuel K. Cho, Andrew C. Hecht, James C. Iatridis

Poster No. 855

Age-Related Reduction in the Expression of Foxo Transcription Factors and Correlations with Intervertebral Disc Degeneration

Oscar Alvarez-Garcia, Tokio Matsuzaki, Merissa Olmer, Martin K. Lotz

Poster No. 856

The Role of Indian Hedgehog and Parathyroid Hormone Related Protein in the Intervertebral Disc

Frances Bach, Willem de Jong, Laura Creemers, Danny Chan, Marianna Tryfonidou

Poster No. 857

Inflammatory Processes Associated with Canine Intervertebral Disc Herniation

Marie Monchaux, Simone Forterre, David Spreng, Karin Wuertz-Kozak, Franck Forterre

Poster No. 858

Comparison of Metabolic Responses of Preservation Strategies for Whole Organ Intervertebral Discs

James T. Stannard, Nicole L. Walden, Aaron M. Stoker, Theodore J. Choma, James L. Cook

Poster No. 859

Selective mTORC1 Inhibition Through RNA Interference for Raptor Is Protective Against Human Disc Cellular Apoptosis, Senescence, and Extracellular Matrix Degradation with Akt and Autophagy Induction

Masaaki Ito, Takashi Yurube, Kenichiro Kakutani, Koichiro Maeno, Toru Takada, Yoshiki Terashima, Yuji Kakiuchi, Yoshiki Takeoka, Ryosuke Kuroda, Kotaro Nishida

Poster No. 860

The Chemokine CxCL16 and Its Receptor CxCR6 Are Constitutively Expressed in the Human Annulus, and Expression of CxCL16 Is Upregulated by Exposure to IL-1 β In Vitro

Helen E. Gruber, Gretchen L. Hoelscher, Jane A. Ingram, Emilio Marrero, Edward N. Hanley

Poster No. 861

A Computational Analysis on the Effects of Reduced Bioavailability of Insulin-Like Growth Factor-1 on the Homeostasis of the Intervertebral Disc

Shady Elmasry, Shihab Asfour, Juan Pablo de Rivero Vaccari, Francesco Travascio

Poster No. 862

Comparison Between Lipophilic and Hydrophilic Statins on Regeneration Potential of Human Nucleus Pulposus Cells

Ming-Hsiao Hu, Shu-Hua Yang, Yuan-Hui Sun, Feng-Huei Lin

Poster No. 863

Interleukin-17A Induces Interleukin-6 mRNA Expression and Cyclooxygenase-2 Production In Nucleus Pulposus Cells

Kaori Suyama, Daisuke Sakai, Noriaki Hirayama, Kou Sakabe, Masahiko Watanabe

Poster No. 864

Toll-like Receptor2 Activation Induces Human Intervertebral Disc Degeneration

Emerson Krock, Brooke Currie, Jean A. Ouellet, Lisbet Haglund

Poster No. 865

Investigation of the Regulation of Aquaporin Gene Expression in Human Nucleus Pulposus Cells

Joseph W. Snuggs, Neil Chiverton, Ashley Cole, Rowena Bunning, Matthew Conner, Christine Le Maitre

Poster No. 866

Proline 3-hydroxylation of Type II Collagen Synthesized by a Rat Cell Line Suggests a Nucleus Pulposus Origin

David Hudson, Marylin Archer, MaryAnn Weis, David R. Eyre, Russell J. Fernandes

Poster No. 867

The Role of Heparan Sulfate Endosulfatase-1 (Sulf-1) in Intervertebral Disc Degeneration

Shuhei Otsuki, Martin K. Lotz, Tomohiko Murakami, Kosuke Nakagawa, Yoshinori Okamoto, Go Iida, Masashi Neo

Poster No. 868

The Construction of Intervertebral Disc: A Story of Three Chapters or Four?

Feng Wang, Rui Shi, Zhi-Yang Xie, Xiao-Tao Wu

Poster No. 869

The Balance of Transient Receptor Potential Channel Trpc6 to Trpc1 Determines Ageing and Mechanotransduction in Intervertebral Disc Cells

Alfredo Franco-Obregon, Hiroshi Kobayashi, Helen Greutert, Elena Cambria, Timon Wernas, Marcel Egli, Miho Sekiguchi, Norbert Boos, Oliver Hausmann, Stephen J. Ferguson, Karin Wuertz-Kozak

Poster No. 870

Three-dimensional Characterization of the Morphology Changes in the Intervertebral Disc and Endplate and Their Cross Talk During Aging: A Propagation Phase Contrast Synchrotron CT Study

Yong Cao, Hongbin Lu, Jianzhong Hu

Poster No. 871

Phenotypic Marker Genes Distinguish Inner and Outer Annulus Fibrosus from Nucleus Pulposus Tissue in the Bovine Intervertebral Disc

Guus G. van den Akker, Anne J. Rorije, Esmeralda Blaney Davidson, Peter M. van der Kraan

POSTERS

Poster No. 872

Caffeine Has Negative Effects on Intervertebral Disc Health in a Whole Organ Rat Tail Culture Model

James T. Stannard, Benjamin Raines, Olivia E. Stricklin, Nicole L. Walden, Aaron M. Stoker, Theodore J. Choma, James L. Cook

Poster No. 873

Hypoxic Conditions Interfere with Nucleus Pulposus Pluripotency Stem Cell Induction

Shunsuke Hiraishi, Daisuke Sakai, Jordy Shcol, Takashi Ikeda, Takafusa Hikichi, Shinji Masui, Masahiko Watanabe

Poster No. 874

Biologic Response of Human Nucleus Pulposus Cells to Treatment with Soluble Collagen VI

Gregory D. Schroeder, Dessislava Z. Markova, Panya Luksanapruksa, Paul W. Millhouse, Mayan Lendner, Jeffery A. Rihn, Alan S. Hilibrand, Alexander R. Vaccaro, Greg Anderson, Christopher K. Kepler

Poster No. 875

Microstructural Analysis of Nutrition Canals in Human Vertebral Endplate: Do Large-Scale Transverse Canals Exist in Human Endplate?

Cheng Li Lin, Jade He, Hiroki Takahashi, Alejandro A. Espinoza Orias, Yibo Zhao, Howard S. An, Nozomu Inoue

Poster No. 876

Constitutive Expression of IL-22 in the Human Intervertebral Disc, and Its Reduction by Exposure to Proinflammatory Cytokines In Vitro

Helen Gruber, Gretchen Hoelscher, Letitia Bullock, Emilio Marrero, Jane A. Ingram, Edward N. Hanley

PS1 Spine—Mechanics

Poster No. 877

Factors Aggravating the Trunk Anterior Inclination During Walking in Spinal Kyphosis Patients

Kumi Kamata, Hiroshi Ozawa, Yusuke Sekiguchi, Toshimi Aizawa, Shinichi Izumi, Eiji Itoi

Poster No. 878

Quantitative Analysis of Neural Foramen Size in Patients with Acute Cervical Radiculopathy After Conservative Treatment

Favian Su, William Donaldson, Joon Lee, William Anderst

Poster No. 879

In Vivo Lumbar Facet Kinematics During a Dynamic Lifting Task

Ryan Byrne, Liying Zheng, Yu Zhou, Ameet K. Aiyangar, Xudong Zhang

Poster No. 880

Sliding Rods in Early Onset Scoliosis: In Vivo and In Vitro Analysis in Porcine Model

Nicholas J. Vaudreuil, Jingbo Xue, Robert Tisherman, Wen-Jun Wang, Ozgur Dede, Kevin Bell

Poster No. 881

Biomechanical Evaluation of Lateral-Access Anterior Instrumentation for Thoracolumbar Instability

Loren Latta, Joseph Gjolaj, Amir Qureshi, Edward Milne, David Kaimrajh, Frank Eismont

Poster No. 882

Gait Analysis on Adult Cervical Spondylotic Myelopathy Surgical Patients

Ram Haddas, Raj Arakal, Shant Aghyarian, Theodore Belanger

Poster No. 883

In Vivo Three-Dimensional Analysis of the Facet Joint Alignment of the Lumbar Spine

Hollis E. Johanson, Alejandro A. Espinoza Orias, Yohei Ishihara, Howard An, Nozomu Inoue

Poster No. 884

Axial T1 ρ Mapping in Lumbar Facet Joint Cartilage: A Comparative Study With T2 And T2* Mapping for Evaluating Early Lumbar Facet Joint Degeneration

Hongbin Lu, Yi Zhang, Yong Cao, Jianzhong Hu, Chunyue Yue

Poster No. 885

Effects of Sagittal Alignment After Lumbosacral Spine Fusion: A Finite Element Analysis

Luis Fernando Nicolini, Borja Martinez Yllera, Marcelo Simoni Simões, Carlos Rodrigo de Mello Roesler, Eduardo A. Fancello

Poster No. 886

Reliability of Quantifying Spinal and Thoracic Alignment Using Three-Dimensional Surface Models of Human Trunk Built by KINECT Camera

Hiroshi Ito, Kenji Hoshi, Atushi Bou, Kazuyoshi Gamada

Poster No. 887

Comparison of Three-dimensional Helical Axes in the Cervical Spine: In Vitro vs. In Vivo

René Jonas, Robert Demmelmaier, Steffen Paul Hacker, Hans-Joachim Wilke

Poster No. 888

A Finite Element Analysis on Sagittal Malalignment in Cervical Spine Following Disc Arthroplasty

Wen-Ming Chen, Jie Jin, Tae Hyun Park, Kyeong Sik Ryu, Sung Jae Lee

Poster No. 889

Biomechanical Analysis of Pedicle Screw Density in Posterior Spine Instrumentation

Nicholas Vaudreuil, Jingbo Xue, Robert Tisherman, Kevin Bell, Ozgur Dede

Poster No. 890

Effect of Lumbar Disc Fusion on Adjacent Segment Disc Deformation: An In Vivo Patient Analysis Pre and Post Fusion Surgery

Thomas Cha, Kamran Z. Khan, Yan Yu, Jing Sheng, Shaobai Wang, Tsung Yuan Tsai, Kirk Wood, Guoan Li

POSTERS

Poster No. 891

A Breakage of Transverse Process Cortex During Insertion Decreases the Fixation Strength of Pedicle Screw—An In Vitro Human Cadaveric Biomechanical Model

Mao-Wei Huang, Yu-Tang Shih, Yi-Hsing Chen, Dar-Ming Lai, Andy Chien, Chun-Feng Lai, Po-Chun Yen, Ya-Lin Fang, Jaw-Lin Wang

PS1 **Spine—Biology**

Poster No. 892

18F-fluoride PET/CT as an Early Predictor of Bony Fusion After Posterior Lumbar Interbody Fusion

Marloes Peters, Boudewijn Brans, Roel Wierds, Elisabeth Jutten, Felix Mottaghy, Lodewijk van Rhijn, Willems Paul, J.J. Chris Arts

Poster No. 893

Mitochondrial Changes Are Associated with Pro-ageing Features of Senescent Disc Cells

Prashanti Patil, Gwendolyn Sowa, Nam Vo

Poster No. 894

The Natural Expression of Bmp Antagonists in Intervertebral Disc Cells

Rahel D. May, Adel Tekari, Samantha C.W. Chan, Daniela A. Frauchiger, Lorin M. Benneker, Benjamin Gantenbein

Poster No. 894A

Serum MMP-9 Levels Correlate with the Severity of Intervertebral Disc Herniation in Patients

Timothy Walden, Christopher Filippi, Aysha Khan, Mitchell Levine, Beth Winkelstein, Nadeen Chahine

Poster No. 895

WITHDRAWN

Poster No. 896

Epidemiology of Ossification of the Posterior Longitudinal Ligament in a Japanese General Population: Relationship with Bone Metabolism Marker of Ossification of the Posterior Longitudinal Ligament in a Japanese General Population: Relationship with Bone Metabolism Marker

Nana Ichikawa, Gentaro Kumagai, Kanichiro Wada, Toshihiro Tanaka, Takashi Shiozaki, Ippei Takahashi, Shigeyuki Nakaji, Yasuyuki Ishibashi

Poster No. 897

The Effect Of Tungsten in the IVD

Michael Grant, Elias Elahie, Alicia Bolt, Laura Epure, Koren Mann, John Antoniou, Fackson Mwale

PS1

Knee—Kinematics and Gait

Poster No. 898

Effects of the Release of the Superficial Medial Collateral Ligament in Medial Open-Wedge High Tibial Osteotomy: In Vitro and In Vivo Biomechanical Studies Using a Quantitative Valgus Stress Radiography

Dai Sato, Eiji Kondo, Koji Yabuuchi, Jun Onodera, Toshiaki Kameda, Tomohiro Onodera, Nobuto Kitamura, Tomonori Yagi, Norimasa Iwasaki, Kazunori Yasuda

Poster No. 899

Tensioning Pattern of the Anterior Cruciate Ligament in Response to Tibial Anterior Loading

Satoshi Yamakawa, Thomas R. Pfeiffer, Richard E. Debski, Hiromichi Fujie

Poster No. 900

Analysis of the Metabolic Response of Osteochondral Allograft Stored Using the MOPS™ Protocol or the Current Standard of Care Protocol to Culture at Body Temperature

Aaron M. Stoker, Katherine Caldwell, James P. Stannard, James L. Cook

Poster No. 901

Fatigue Has a Different Effect on the Biomechanics of Drop Vertical Jump Between Female College Athletes and Recreational Players

Reika Uchiyama, Kengo Harato, Masayoshi Kurosawa, Yutaro Morishige, Aiko Sakurai, Toshiro Otani, Hideo Matsumoto, Satoshi Imai, Shu Kobayashi, Yasuo Niki, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

Poster No. 902

Kinematics and Kinetics of Modular Unlinked Bicomartmental Knee Arthroplasty for Medial and Patellofemoral Compartment Arthritis

Kengo Ukishiro, Yasumitsu Ohkoshi, Takumi Ino, Kensaku Kawakami, Sho'ji Suzuki, Kouta Miura, Yuhei Ohsumi, Satoshi Kotake, Toshinori Yoshida, Tatsunori Maeda, Ko Suzuki

Poster No. 903

Postoperative Time Dependent Tibiofemoral Articular Cartilage Contact Kinematics During Step-Up After ACL Reconstruction

Lin Lin, Jing-Sheng Li, Willem A Kernkamp, Ali Hosseini, ChangWang Kim, Peng Yin, Lianxin Wang, Tsung-Yuan Tsai, Peter Asnis, Thomas Gill, Guoan Li

Poster No. 904

Gait Mechanics 1 Year After ACL Reconstruction Are Associated with Longitudinal Knee Cartilage Degeneration

Lawrence J. Leung, Michael A. Samaan, Matthew S. Tanaka, Richard B. Souza, Xiaojuan Li, Benjamin Ma

POSTERS

Poster No. 905

Relating the Biomechanics and Metabolomics of a Focal Defect Cohort

Nidal Khatib, Andreas Papageorgiou, Christopher Wilson, Deborah J. Mason, Cathy A. Holt

Poster No. 906

The Reduction Translation Depends on Starting Position and Examiner-Induced Motion: Performing the Pivot Shift Test Properly

Jan-Hendrik Naendrup, Jason Zlotnicki, Toni Patterson, Volker Musahl, Richard E. Debski

Poster No. 907

The Effects of Unweighting by a Lower Body Positive Pressure Treadmill on 3D Gait Kinematics

Yoshiaki Kataoka, Kentaro Homan, Ryo Takeda, Shigeru Tadano, Takeshi Chiba, Harukazu Tohyama

Poster No. 908

Investigation of Three-Dimensional Kinematics of Knee and Ankle Joints during Short-Track Speed Skating for Evaluation of Injury Risks

Tserenchimed Purevsuren, Junseok Kim, Won Man Park, Kyungsoo Kim, SuKyoung Lee, Yoon Hyuk Kim

Poster No. 909

Knee Center of Rotation During Walking for Anterior Cruciate Ligament Reconstructed Knees with Transtibial and Anteromedial Portal Technique in Single-Bundle ACL Reconstruction

Nigel Zheng, Shangcheng Wang, James Fleischli

Poster No. 910

Helical Axis of Five Knee Braces Under Neutral and Loading Condition

Steffen P. Hacker, Anita Ignatius, Lutz Dürselen

Poster No. 911

Comparison of Implant Alignment Between Conventional Method and Patient Specific Instrument Method in Unicompartmental Knee Arthroplasty

Atsushi Goshima

Poster No. 912

Comparison of Kinematics Data Between Mild and Severe Knee Osteoarthritis During the Walking Cycle

Takashi Fukaya, Hiroataka Mutsuzaki, Toshiyuki Aoyama, Koji Iwamoto, Tomoyuki Okubo, Koichi Mori

Poster No. 913

Weight Bearing Asymmetry Will Lead to the Side-to-Side Differences of Bone Mineral Density at Femoral Neck in Patients with Knee Osteoarthritis

Kohei Nishizawa, Kengo Harato, Yutaro Morishige, Aiko Sakurai, Satoshi Imai, Shu Kobayashi, Yasuo Niki, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

Poster No. 914

Effects of Visual Information on Single Leg Landing—A Biomechanical Study

Satoshi Imai, Yutaro Morishige, Takeo Nagura, Kengo Harato, Reika Uchiyama, Masayoshi Kurosawa, Ryuto Yoshida, Yuki Hoshi, Toshiro Otani, Tetsuya Tsuji, Meigen Liu, Hideo Matsumoto

Poster No. 915

Hindlimb Kinematics in the Dog with and Without a Stifle Orthosis

Bryan T. Torres, Yang-Chieh Fu, Gabriella Sandberg, Steven C. Budsberg

Poster No. 916

Articular Cartilage Contact Characteristics During Gait in Obese Individuals

Jing-Sheng Li, Tsung-Yuan Tsai, Willem A. Kernkamp, Nathan H. Varady, David T. Felson, Cara L. Lewis, Guoan Li

Poster No. 917

A Novel System to Evaluate Dynamic Knee Function in Clinical Practice

Shaobai Wang, Jinzhong Zhao, Xin Ma, Chen Wang, Hai Hu, Yu Liu

PS1 Knee—Mechanics

Poster No. 918

The Association Between Anteroposterior Laxity in Mid-Range Flexion and Subjective Feeling of Instability

Tomoharu Mochizuki, Osamu Tanifuji, Takashi Sato, Hiroki Hijikata, Satoshi Watanabe, Yukimasa Higano, Akihiro Ariumi, Takayuki Murayama, Naoto Endo

Poster No. 919

Diurnal Variations of T1rho Relaxation Time in Superficial and Deep Layers of Tibial Cartilage

Betty Liu, Kevin A. Taylor, Amber T. Collins, Gangadhar M. Utturkar, John T. Martin, William E. Garrett, Louis E. DeFrate

Poster No. 920

Peak Times of Quadriceps Force and Anterior Tibial Force Significantly Later Than That of Vertical Ground Reaction Force During Single Leg Landing

Ryo Ueno, Tomoya Ishida, Masanori Yamanaka, Shohei Taniguchi, Mina Samukawa, Hiroshi Saito, Harukazu Tohyama

Poster No. 921

Intraoperative Analysis of Flexion Kinematics of Osteoarthritic Knees Undergoing Total Knee Arthroplasty

Okuno Makiko, Takatoshi Morooka, Fumiaki Imamura, Shinichi Yoshiya

Poster No. 922

Influence of Implant Design on Knee Mechanics in Posterior-Stabilized Rotating Platform TKA

Erin M. Mannen, Azhar A. Ali, Sarah R. Walden, Douglas A. Dennis, Brian Haas, Paul J. Rullkoetter, Kevin B. Shelburne

POSTERS

Poster No. 923

The Influence of Thigh Weight on the Flexion Gap in Total Knee Arthroplasty: A Cadaveric Study

Ryutaku Kaneyama, Hidetaka Higashi, Hiroyuki Yoshii, Hideaki Shiratsuchi, Kazuhiro Oinuma, Yoko Miura, Tatsuya Tamaki, Ryuji Nagamine

Poster No. 924

Passive, Wireless Force Sensors Designed for an Implantable Smart Patellar Implant

Matthew Dion, John Drazan, Khaled Abdoun, Andru Caruso, Benjamin Beretvas, Jared Roberts, Reena Dahle, Nathaniel Cady, Eric Ledet

PS1 **Knee—Computational Modeling**

Poster No. 925

Prediction of Knee Articular Cartilage from Bone Geometry Using a Statistical Shape Model

Lowell M. Smoger, Clare K. Fitzpatrick, Paul J. Rullkoetter, Peter J. Laz

Poster No. 926

Engagement Patterns of the Anterolateral Ligament—A Computational Study

Hamidreza Jahandar, Mohammad Kia, Robert Kent, Danyal Nawabi, Thomas L. Wickiewicz, Andrew D. Pearle, Carl Imhauser

Poster No. 927

Appropriate Input Parameters for Computational Wear Models of UHMWPE Under High Contact Stress Conditions

Abdellatif Abdelgaied, John Fisher, Louise M. Jennings

Poster No. 928

Effects of Tibial Baseplate Shape on Rotational Alignment in Total Knee Arthroplasty: Three-Dimensional Surgical Simulation Using Asian Osteoarthritis Knees

Yuan Ma, Hideki Mizu-uchi, Ken Okazaki, Tetsuro Ushio, Shigetoshi Okamoto, Satoshi Hamai, Yukio Akasaki, Umuto Kuwashima, Koji Murakami, Yasuharu Nakashima, Darryl D'Lima

Poster No. 929

Femoral Rotational Axes Variation Across Demographic and Radiological Measures

Joshua Twiggs, Caitlin Wilcox, Willy Theodore, Elizabeth Kolos, Brad Miles, Justin Roe, David Dickison, Brett Fritsch

Poster No. 930

The Effect of Sulcus Angle and Tubercle Lateralization on Patellofemoral Contact Pressures During Gait: A Computational Study

Swithin Razu, Seth Sherman, Trent Guess

Poster No. 931

The Factors Correlating with Femorotibial Angle Under Weight-Bearing Condition for Varus Knee Osteoarthritis Using 3D to 2D Registration in Biplane Radiography

Tomoharu Mochizuki, Osamu Tanifuji, Yoshio Koga, Takashi Sato, Satoshi Watanabe, Akihiro Ariumi, Toshihide Fujii, Koichi Kobayashi, Hiroshi Yamagiwa, Go Omori, Naoto Endo

Poster No. 932

Assessment of Unsupervised Multi-Atlas Segmentation Errors in Context of Intended Application: Data from the Osteoarthritis Initiative

Ed Schreyer, Saara Totterman, Joshua M. Farber, Patricia C. Gonzalez, Jose G. Tamez-Pena

Poster No. 933

Smaller Femoral Neck Anteversion in Varus Knees Compared to Normal and Valgus Knees

Shinya Kawahara, Daisuke Hara, Brian Park, Koji Murakami, Toshihiko Hara, Scott Banks

Poster No. 934

Computational Pre-Clinical Assessment of the Effect of Varying Stem and Sleeve Size in Revision Knee Replacement

Maged Awadalla, Rami Al-Dirini, Dermot O'Rourke, Bogdan Lucian Solomon, Mark Heldreth, Mark Taylor

Poster No. 935

Inter-Observer Reproducibility of Measurements of Tibial Axial Rotation Using Akagi's Line in Knee Osteoarthritis

Takayuki Murayama, Yuki Takahashi, Katsumitsu Arai

Poster No. 936

Femur and Bearing Surface Design Influences Stability and Function of Mobile Bearing Total Knee Arthroplasties

Eik Siggelkow, Iris Blatter, Marc Bandi

PS1 **Knee—Surgical Repair and Rehabilitation**

Poster No. 937

Feasibility and Usability of a Portable System for Monitoring Knee Motion During Physical Rehabilitation

Kevin M. Bell, Michael P. McClincy, Chukwudi Onyeukwu, Zachery Merrill, Abhigyan Mukherjee, Adrianna Oh, Robert Hartman, Andrew D. Lynch, James J. Irrgang

Poster No. 938

Lower Limb Joint Dynamics in Oncology Patients with Distal Femoral Endoprostheses

Christina M. Garman, Jessica M. Fritz, Jake Bauwens, Donald A. Hackbarth Jr., David M. King, John C. Neilson, Gerald F. Harris

Poster No. 939

Are We Still Scoping Knee Osteoarthritis?

Robert Westermann, Nicholas Bedard, Kyle Duchman, Andrew Pugely, Natalie Glass, Annunziato Amendola, John Callaghan

POSTERS

Poster No. 940

Development of a Preclinical Natural Knee Simulation Model for the Tribological Assessment of Osteochondral Grafts

Philippa Bowland, Eileen Ingham, John Fisher, Louise M. Jennings

Poster No. 941

Biomechanical Factors in High Tibial Osteotomy

Frank Chen

Poster No. 942

Multi-joint Compensatory Mechanics During Landing and Cutting at Least One Year after Return to Sport Following ACL Reconstruction

Michael D. Harris, Ke Song, Bradley S. Davidson, Michael J. Decker, Kevin B. Shelburne

Poster No. 943

Biomechanical Comparison of Tension Band Fixation of Patella Transverse Fracture: Headless Screws vs. Headed Screws

Mei Wang, Jill Martin, Dylan T. Applin, Linda M. McGrady, Gregory J. Schmeling

Poster No. 944

Contact Pressure and Force Analysis in the Medial Compartment of the Knee in Response Atlas™ Knee System

Rajshree Mootanah, Oliver J. Morgan, David Lowe, Anil Ranawat, Austin T. Fragomen, S. Robert Rozbruch, Howard J. Hillstrom

Poster No. 944A

Evaluation of the Natural Patella and the Logic PS Knee Under Physiologic Loading

Luis C. Grau, Raymond Robinson, Karim Sabeh, Ruth Solomon, Andrew Sori, Ted Milne, Loren Latta

Poster No. 945

Novel Bony Landmark Between the Attachment of the Medial Meniscus Posterior Root and the Posterior Cruciate Ligament: Radiographic Anatomical Study

Masataka Fujii, Takayuki Furumatsu, Shinichi Miyazawa, Hiroto Inoue, Yuya Kodama, Tomohito Hino, Yusuke Kamatsuki, Toshifumi Ozaki

PS1 Knee—Knee Ligament

Poster No. 946

Early Proteolytic Response of the Anterior Cruciate Ligament After Injury

Benedikt L. Proffen, Jakob T. Sieker, Ugur M. Ayturk, Braden C. Fleming, Martha M. Murray

Poster No. 947

Graft Fixation Protocol in One-Stage Anterior Cruciate Ligament and Posterior Cruciate Ligament Reconstruction

Li-Bin Zheng, Soheil Sabzevari, Brandon Marshall, Junjun Zhu, Monica A. Linde, Patrick Smolinski, Freddie H. Fu

Poster No. 948

Activities Associated with Increased Fear of Re-Injury After Anterior Cruciate Ligament Reconstruction

Michael C. Yonz, Matthew H. Blake, Molly A. Lex, Cale Jacobs, Darren L. Johnson, Mary Lloyd Ireland, Brian Noehren

Poster No. 949

Kinematic Changes Following Anterior Cruciate Ligament (ACL) Reconstruction Detected by Quantitative Magnetic Resonance (qMR) Imaging and Their Relationship to Knee Function

Qi Li, Keiko Amano, Matthew Tanaka, Valentina Pedoia, Xiaojuan Li, Benjamin Ma

Poster No. 950

Investigation of Clinical Diagnostic Accuracy of Quantitative Rotational Laxity Measurements

Toshikazu Tanaka, Yuichi Hoshino, Nobuaki Miyaji, Kazuyuki Ibaragi, Kyohei Nishida, Yuichiro Nishizawa, Daisuke Araki, Noriyuki Kanzaki, Takehiko Matsushita, Ryosuke Kuroda

Poster No. 951

Feasibility Assessment of Shear Wave Elastography to Tendon of Semitendinosus Muscle for Anterior Cruciate Ligament Reconstruction

Yoshiaki Itoigawa, Yuji Takazawa, Yuichiro Maruyama, Keichi Yoshida, Tastuo Sakai, Kazuo Kaneko

Poster No. 952

Morphological Size Evaluation of the Mid-substance Insertion and the Fan-Like Extension Fibers in the Femoral ACL Footprint

Makoto Suruga, Takanori Iriuchishima, Takashi Horaguchi, Yasuaki Tokuhashi

Poster No. 953

The Relationship of Anterior Cruciate Ligament Insertion Sites to the Distal Femoral Growth Centers: An MRI Study

Molly Khoury, Vincent Staggs, Amie Robinson, Brian Dunoski, Donna Pacicca

Poster No. 954

An In Vivo Study of Isometry of the Anterolateral Aspect of the Knee

Willem A. Kernkamp, Samuel K. van de Velde, Tsung-Yuan Tsai, Ewoud R.A. van Arkel, Peter D. Asnis, Rob G.H.H. Nelissen, Robert F. LaPrade, Bertram Zarins, Guoan Li

Poster No. 955

Novel Mechanical Impact Simulator Designed to Generate Clinically Relevant Anterior Cruciate Ligament Rupture

Nathaniel A. Bates, Nathan D. Schilaty, Christopher V. Nagelli, Aaron J. Krych, Timothy E. Hewett

POSTERS

Poster No. 956

In Vivo Analysis of Dynamic Graft Bending Angle During Downhill Running and Level Walking: Comparison of Anterior Cruciate Ligament Reconstructed Knees Using Flexible and Rigid Drills

Yasutaka Tashiro, Vani Sundaram, Eric Thorhauer, Tom Gale, Irrgang J. James, William Anderst, Freddie H. Fu, Scott Tashman

Poster No. 957

Anterolateral Capsular Complex Exploration in the Human Fetal Knee

Soheil Sabzevari, Amir Ata Rahnamaï-Azar, Marcio Albers, Monica Linde, Patrick Smolinski, Freddie H. Fu

Poster No. 958

Increased Lateral Tibial Posterior Slope is Related with Tibial Tunnel Widening After Primary ACL Reconstruction

Soheil Sabzevari, Amir Ata Rahnamaï-Azar, Humza Shaikh, Justin Arner, James Irrgang, Freddie H. Fu

Poster No. 959

Excessive Resection of the Medial Posterior Femoral Condyle Can Cause Medial Joint Laxity in Flexion Due to Posterior Oblique Ligament Damage During Total Knee Arthroplasty: Cadaver and In Vivo Studies

Shinichi Kuriyama, Yosuke Hamamoto, Ryuzo Arai, Shinichiro Nakamura, Kohei Nishitani, Moritoshi Furu, Hiromu Ito, Shuichi Matsuda, Ken Okazaki

Poster No. 960

Radiographic Result of Medial Patellofemoral Ligament Reconstruction for Recurrent Patella Dislocation

Takashi Ohsawa, Atsuko Ogoshi, Haku Iizuka, Kenji Takagishi, Masashi Kimura

Poster No. 961

Graft Bending Angle Can Affect Early Graft Healing After Anterior Cruciate Ligament Reconstruction

Yasutaka Tashiro, Tom Gale, Vani Sundaram, Kanto Nagai, James J. Irrgang, William Anderst, Freddie H. Fu, Scott Tashman

Poster No. 962

Age-Specific Function of the ACL Bundles During Skeletal Growth in the Porcine Model

Stephanie G. Cone, Emily P. Lambeth, Paul B. Warren, Stephanie D. Teeter, Jorge A. Piedrahita, Jeffrey T. Spang, Matthew B. Fisher

Poster No. 963

Graft Shift in Femoral Tunnel with Single-Bundle Anterior Cruciate Ligament Reconstruction

Junjun Zhu, Brandon Marshall, Libin Zheng, Shuzhen Li, Monica A. Linde, Patrick Smolinski, Freddie H. Fu

Poster No. 964

The CT Evaluation of the Bone Tunnel Axis Between Outside-In Method and Trans-Portal Method in Anatomical Anterior Cruciate Ligament Reconstruction with Acufex Pinpoint Anatomic ACL Guide System®

Yusuke Sasaki, Satomi Abe, Go Sato, Hiroshi Ito

Poster No. 965

Effects of Additional Anterolateral Structure Reconstruction with Different Femoral Tunnel Positions to Anterior Cruciate Ligament Reconstruction the Pivot Shift Phenomenon: Quantitative Assessment with a 3-Dimensional Electromagnetic Measurement System

Mai Katakura, Hideyuki Koga, Tomomasa Nakamura, Daisuke Araki, Kanto Nagai, Kyohei Nishida, Ryosuke Kuroda, Takeshi Muneta

PS1 Hip—Mechanics

Poster No. 966

Resistance of Labrum Using a Quantitative Probing Device in Hip Arthroscopy

Takehito Hananouchi, Taichi Nishimori, Kentaro Iwakiri, Noboru Funakoshi, Akio Kobayashi, Soushi Uchida

Poster No. 967

Finite Element Analysis and Material-Characteristics Measurement of Osteonecrosis of the Femoral Head

Masamitsu Tomioka, Yutaka Inaba, Naomi Kobayashi, Hyonmin Choe, Hiroyuki Ike, Haruka Suzuki, Tomoyuki Saito

Poster No. 968

A Cross Sectional Study of Hip Range of Motion and Thomas Test in Professional and Collegiate Soccer Players

Sarav S. Shah, Jeffrey Goldstein, Joseph Sullivan, Roger Gerland, Marlena McGill, Andrew Goodwillie, Randy M. Cohn

Poster No. 969

Comparison of Smooth and Rough Taper Locking Efficacy

Oludele Popoola, Trent Pals

Poster No. 970

Comparison of Muscle Activity Between Symptomatic and Asymptomatic Individuals with Cam Femoroacetabular Deformity During a Squatting Task

Mario Lamontagne, Danilo Catelli, Erik Kowalski, Paul Beaulé

Poster No. 971

Influence of Soft Tissue Restraints on Femoral Head Stability in Hip Dislocation Events

Jose R. Garcia, Ananthkrishnan Gopalakrishnan, Sezen Buell, Sally LiArno

POSTERS

S1 Hip—Kinematics and Gait

Poster No. 972
Kinematic Difference During Single Leg Step Down Between Individuals with FAI and Healthy Controls
Cara L. Lewis, Anne Khuu, Kari Loverro

Poster No. 973
Effect of Walking Poles on Trunk, Pelvic and Knee Kinematics in Older Adults
Roxana Martinez Campuzano, Carmen Abbott, Evan Prost, Swithin Razu, Trent Guess

Poster No. 974
Gait in Patients with Bilateral Hip Osteoarthritis Before and After Total Hip Arthroplasty
Masaya Ueno, Riki Tanaka, Tomoki Kobatake, Shunsuke Kawano, Masaru Kitajima, Motoki Sonohata, Etsuo Horikawa, Masaaki Mawatari

Poster No. 975
Functional Femoral Anteversion Decreases from Supine to Standing Position
Keisuke Uemura, Masaki Takao, Yoshito Otake, Koki Koyama, Futoshi Yokota, Hidetoshi Hamada, Takashi Sakai, Nobuhiko Sugano

Poster No. 976
Analysis of Gait Mechanics During Walking and T2 Relaxation Times in Femoroacetabular Impingement Patients After Hip Arthroscopy
Michael A. Samaan, Alan L. Zhang, Matthew C. Gallo, Sharmila Majumdar, Richard B. Souza

Poster No. 977
A 3-Year Longitudinal Study in Hip Osteoarthritis: Association Between Baseline Biomechanics and Changes in Patient Reported Outcomes and Cartilage Compositional T1ρ and T2
Matthew C. Gallo, Michael A. Samaan, Valentina Pedoia, Richard B. Souza, Sharmila Majumdar

PS1 Hip—Computational Modeling

Poster No. 978
Automatic DXA Image Quality Control for Population Studies
Mohsen Farzi, Jose M. Pozo, Eugene V. McCloskey, Alejandro F. Frangi, J. Mark Wilkinson

Poster No. 979
Development of an Accelerated Tribo-Corrosion Test for In Vitro Evaluation of Modular Junctions
Jonathan Gold, Hugh Jones, Sabir Ismaili, Joshua Choi, Rikin Patel, Philip C. Noble

Poster No. 980
FE Analysis of Changes in Taper Design to Reduce Corrosion In Vivo
Halimat Y. Raji, Julia C. Shelton

Poster No. 981
The Effect of Variations in Component Positioning on the Dynamics and Contact Mechanics of Ceramic-on-Polyethylene Total Hip Replacement
Faezeh Jahani, Ruth Wilcox, John Fisher, Alison Jones, David Barton, James Brooks

Poster No. 982
Evaluation of Residual Cam Deformity After Osteochondroplasty by Three Dimensional Impingement Simulation—Is There Room for Improvement?
So Kubota, Naomi Kobayashi, Yutaka Inaba, Hyonmin Choe, Taro Tezuka, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

PS1 Hip—Joint Morphology

Poster No. 983
Effect of Intertrochanteric Osteotomy Plane and Preoperative Femoral Anteversion on the Postoperative Morphology of the Proximal Femur in Transtrochanteric Rotational Osteotomy: A 3D CT-based Simulation Study
Kazuhiko Sonoda, Goro Motomura, Takuaki Yamamoto, Satoshi Ikemura, Yusuke Kubo, Hiroyuki Hatanaka, Takeshi Utsunomiya, Shoji Baba, Yasuharu Nakashima

Poster No. 984
Leg-Length Discrepancy After Curved Periacetabular Osteotomy for Developmental Dysplasia of the Hip
Nobunao Doi, Koichi Kinoshita, Tomohiko Minamikawa, Hajime Seo, So Minokawa, Tetsuro Ishimatsu, Sodai Ishii, Ayumi Matunaga, Syunsuke Akiho, Daisuke Setoguchi, Takuaki Yamamoto

Poster No. 985
Morphological Study of the Femoral Trochanter Region (Measurement and Analysis of Cortical Bone Thickness)
Tomohiro Yasuda, Shu Obara, Junji Hayashi, Masayuki Arai, Kaoru Sato, Koji Kanzaki, Keisuke Hiratsuka, Hiromitsu Ezure, Naruhito Ohtsuka

Poster No. 986
Sex Differences in the Influence of Ethanol Consumption and Drinking Period in the Development of Alcohol-Induced Osteonecrosis of the Femoral Head
Junya Shimizu, Shunichiro Okazaki, Satoshi Nagoya, Keisuke Mizuo, Satoshi Watanabe, Toshihiko Yamashita

Poster No. 987
WITHDRAWN

Poster No. 988
A Study of the Relationship Between Femoral Neck Anteversion and Femoral Head Torsion
Isao Uchida

POSTERS

Poster No. 989

Hip Osteoarthritis in Japan: Involvement of Hip Dysplasia and Femoroacetabular Impingement

Veronica Khauv, Masahiro Hasegawa, Tetsuya Hattori, Naoya Ito, Kevin Cheng, Koichi Masuda, Akihiro Sudo

Poster No. 990

Non-Surgical Induction of Osteonecrosis by Overloading in Standing Wistar Kyoto Rats

Suriya Bhattacharyya, Khaled Zaghoul, Ali Husain, Norman Otsuka, Alice Chu

Poster No. 991

Investigation of Male and Female Hip Cam Lesions Using Radiographic Features and Statistical Shape Models

Dawn Groves, Mike A. Bowes, Marcus J.K. Bankes, Seo Kiat Goh, Philip Robinson, Sophie Williams

PS1 Hip—Surgical Repair and Rehabilitation

Poster No. 992

A T Capsulotomy Provides Increased Hip Joint Visualization Compared to an Extended Interportal Capsulotomy: Implications for Improved Capsular Management

Gift C. Ukwuani, Alexander E. Weber, Benjamin Kuhns, Jeffery Grzybowski, Thomas Wuerz, David M. Levy, Gregory Cvetanovich, Mahmoud M. Khair, Shane J. Nho

Poster No. 993

A Comparative Study Between the Stryker EZout™ Powered Acetabular Revision System and the Zimmer Explant™ Acetabular Cup Removal Systems

Louis Kwong, Fabrizio Billi, Scott Keller, Aaron Kavanaugh, Andrew Luu, Jessica Ward, Cris Salinas, Wayne Paprosky

Poster No. 994

Risk Factors Affecting Helical Blade Cut-Through in Patients with an Intertrochanteric Fracture: The Anti-Sliding Effect of the Iliotibial Band

Nam Hoon Moon, Won Chul Shin, Ki Young Park, Jae Yoon Jeong

Poster No. 995

Pubic Osteotomy to Decrease Pubic Delayed Union in Curved Periacetabular Osteotomy

Shunsuke Akiho, Takuaki Yamamoto, Koichi Kinoshita, So Minokawa, Hajime Seo, Tomohiko Minamikawa, Satohiro Ishii, Teturo Ishimatu, Ayumi Matsunaga, Yoshinari Nakamura

Poster No. 996

Effect of Femoroacetabular Impingement (FAI) Surgical Correction on Acetabular Labrum Seal

Suzan Bsat, Hanspeter Frei, Paul E. Beaulé

Poster No. 997

Impact of Reamer Condition on Acetabular Tissue Preparation

Kari L. Puma, Brian E. McGrath, Matthew J. Phillips, Sridhar R. Rachala

Poster No. 998

Fresh Osteochondral Allograft for Treatment of Femoral and Acetabular Cartilage Defects in Young, Active Patients

Xin Y. Mei, Oleg A. Safir, Allan E. Gross, Paul R. Kuzyk

PS1 Hip and Knee Arthroplasty—Kinematics and Gait

Poster No. 999

Influence of Preoperative Range of Motion on Varus-Valgus Laxity in Total Knee Arthroplasty

Hiroshi Kiyomatsu, Hiromasa Miura

Poster No. 1000

Effect of Posterior Cruciate Ligament Resection on the Tibiofemoral Joint Gap Under Closely Related Normal Knee Kinematic Conditions

Yasushi Oshima, Tokifumi Majima, Takanori Kataoka, Norishige Iizawa, Shinro Takai

Poster No. 1001

The Change of the Tibial Joint Line with the Change of the Posterior Tibial Slope in Total Knee Arthroplasty

Yoshikazu Tsuneizumi, Tadashi Tsukeoka, Kensuke Yoshino

Poster No. 1002

The Effect of Body Location and Gait Pattern on the Reliability of Activity Tracking Monitors

Matthew Grosso, Jonathan Danoff, Carl L. Herndon, Taylor Murtaugh, William Macaulay, Jeffrey Geller, Roshan Shah

Poster No. 1003

Geometric Design Variables Influence on the Kinematic Behavior of a Customized Surface-Guided TKR

Shabnam Pejhan, Eric Bohm, Jan-Mels Brandt, Urs Wyss

Poster No. 1004

Influence of Posterior Cruciate Ligament Resection on Patellar Biomechanics in Condylar-Stabilizing Total Knee Arthroplasty

Hidenori Tanikawa, Mitsunori Tada, Kengo Harato, Ryo Ogawa, So Nomoto, Takeo Nagura

Poster No. 1005

Comparison of Trochlear Grooves in Contemporary Total Knee Designs to Native Trochlear Groove

Hyung Jin Sun, Daniel Choi, Joseph Lipman, Timothy Wright

Poster No. 1006

Balance and Knee Joint Kinematics After Total Knee Arthroplasty: Comparing Cruciate-Retaining and Posterior-Stabilized Designs

Adam M. Katchky, Brian E. Maki, Veronica M. Wadey, William H. Gage, J. Roderick Davey, Geoff R. Fernie

POSTERS

PS1 Hip and Knee Arthroplasty—Computational Modeling and Finite Element Analysis

Poster No. 1007 Effects of Kinematically Aligned TKA with the Posterior Stabilized Implant

Yoshihisa Tanaka, Shinichiro Nakamura, Shinichi Kuriyama, Kohei Nishitani, Hiromu Ito, Moritoshi Furu, Shuichi Matsuda

Poster No. 1008 Total Hip Arthroplasty Templating: A Simple Method to Correct for X-Ray Magnification

Yonah Heller, Stanley Asnis

Poster No. 1009 Decreased Blood Flow to the Tensor Fascia Latae Muscle After Ligation of the Ascending Branch of the Lateral Circumflex Femoral Artery

Satohiro Ishii, Takuaki Yamamoto, Kouichi Kinoshita, So Minokawa, Hajime Seo, Tomohiko Minamikawa, Tetsuro Ishimatsu, Shunsuke Akiho, Ayumi Matsunaga, Daisuke Setoguchi, Nobunao Doi

Poster No. 1010 A New Hip Impingement Index Combines the Effect of Femoral and Acetabular Morphology in Predicting Hip ROM from a Single CT Slice

Joshua Choi, Ryan Blackwell, Sabir K. Ismaily, Rathika Mallepaly, Joshua Harris, Philip C. Noble

Poster No. 1011 Component Size Prediction for Total Knee Arthroplasty Using Two- and Three-dimensional Planning

Takayuki Murayama, Nobuchika Tanishi, Yoichi Murata, Takashi Murata, Satoshi Okabe

Poster No. 1012 Prediction of Lower Extremity Shape from BMI in Obese Patients

Kevin Simoens, Jacob Elkins, John Callaghan

Poster No. 1013 The Effect of Posterior Tibial Slope on Simulated Laxity Tests in Cruciate-Retaining TKA

Marco Marra, Marta Strzelczak, Petra Heesterbeek, Sebastiaan van de Groes, Dennis Janssen, Bart Koopman, Ate Wymenga, Nico Verdonschot

Poster No. 1014 The Effect of Patient-Specific Unicompartmental Knee Arthroplasty on Contact Stresses in Medial and Other Compartment: Finite Element Analysis

Kyung-Tak Kang, Juhyun Son, Oh-Ryong Kwon, Changhyun Baek, Yong-Gon Koh

Poster No. 1015 Correlations of Patello-Femoral Alignment and Post-Operative Patient Reported Outcome Measures (PROMS) in Total Knee Arthroplasty

Andy Li, Willy Theodore, Lauren Kark, Elizabeth Kolos, David Dickison, Justin Roe

Poster No. 1016 The Effect of Inter Patient Variation on Location of Peak Liner Contact Stress in THA

Dan Huff, Adam Scott, Broderick Schwartz, Paul Rullkoetter

Poster No. 1017 Interaction of Femoral Component External Rotation with Compartmental Contact Forces and Collateral Ligament Tension in Posterior Stabilized Total Knee Arthroplasty

Mohammad Kia, Timothy Wright, Peter Sculco, Andrew Pearle, Michael Cross, David Mayman, Geoffrey Westrich, Carl Imhauser

Poster No. 1018 Post-Cam Design and Stress on Tibial Posts in Posterior-Stabilized Total Knee Prostheses: Comparison Between a Rounded and a Squared Design

Toshifumi Watanabe, Takeshi Muneta, Hideyuki Koga, Masafumi Horie, Koji Otabe, Toshiyuki Ohara, Kaori Nakamura, Mai Katakura, Ichiro Sekiya

Poster No. 1019 Evaluating the Effect of Lateralization on the Primary Stability of Cementless Formal Stems

Rami M.A. Al-Dirini, Dan Huff, Mark Taylor

Poster No. 1020 Optimized Distribution of the Elastic Modulus of Prostheses Adaptive to the Patient-specific Biomechanical Environment

Changning Sun, Ling Wang, Jianfeng Kang, Dichen Li, Zhongmin Jin

Poster No. 1021 Impact of Anatomic Alignment on TKA Joint Mechanics

Clare K. Fitzpatrick, Paul J. Rullkoetter

Poster No. 1022 Muscle Forces After Total Knee Arthroplasty During Squatting: A Simulation Study

Jaehun Ro, Yeokyung Kang, Ouisik Yoo, Goonhee G. Lee

POSTERS

PS1 Hip and Knee Arthroplasty—Implant Wear

Poster No. 1023

Simulating Edge Wear of MOM in Subluxing Patients

Ian C. Clarke

Poster No. 1024

Defining a Component Position “Safe Zone” for the Wear of Cross-Linked Polyethylene

Brian F. Mayeda, Jonathan Haw, Andrew Battenberg, Thomas P. Schmalzried

Poster No. 1025

Impact of Multiple Taper Connections on the Junction Strength of a Revision Tibial Implant Assembly

Laura Gazza, Aeshan Ali, Ashley Parker, Satya Nambu, Irina Timmerman

Poster No. 1026

Reciprocating Bone-Cement-Abrasion Testing of Multilayer Zirconium Nitride Coating and Surface Transformed Zirconium Oxide

Chenxi Li, Sophie Louth, Carolyn Weaver, Abraham Salehi

Poster No. 1027

Cell-Induced Corrosion is Associated with a Column-Like Damage Pattern in Wrought CoCrMo Modular Head Tapers

Deborah J. Hall, Robert M. Urban, Stephanie M. McCarthy, Jennifer L. Wright, Joshua J. Jacobs, Robin Pourzal

Poster No. 1028

Response to Cobalt Release from Joint Replacements: Enhancement in Fibroblast Proliferation, Motility and Contractility

Jing Xu, Agata Nyga, Martin Knight, Julia Shelton

Poster No. 1029

Characterization of Wear and Corrosion Products from Around a Retrieved CoCrMo Taper Junction

Alina M. Crainic, Mauro Callisti, Martin R. Palmer, Richard B. Cook

Poster No. 1030

Successful Recovery of Ultra-Low Wear Volumes of Clinically Relevant Wear Particles Generated from the Latest Generation Composite Ceramic Hip Replacements

Imran M. Asif, Saurabh Lal, John Fisher, Mazen Al-Hajjar, James Anderson, Sophie Williams, Joanne L. Tipper

Poster No. 1031

BHR Resurfacing Arthroplasty and the Risk of Small Heads

Evert J. Smith, Antonios Koutalos, Ian C. Clarke

Poster No. 1032

Variations in Component Positioning Leading to Dynamic Separation and Edge Loading Influences the Deformation and Wear of Metal-on-Polyethylene Hip Replacement Bearings

Murat Ali, Mazen Al-Hajjar, Louise M. Jennings, John Fisher

Poster No. 1033

Does the UHMWPE Liner Thickness or the Femoral Head Size Have an Influence on UHMWPE Wear?

Keita Uetsuki, Tomohiro Sugimoto, Yoshihiro Hasebe

Poster No. 1034

Evaluation of Separation Distances on UHMWPE THA Implants in a Wear Hip Simulation Study

Elizabeth Hippensteel, Dustin Whitaker, Jason Langhorn

Poster No. 1035

Failure Modes of Hip Taper Modular Junctions: The Influence of Topography

Dmitry Royhman, Robin Pourzal, Markus Wimmer, Joshua Jacobs, Nadim Hallab, Mathew Mathew

Poster No. 1036

Is Abrasive Damage of the Femoral Component a Significant Factor in the Wear of Total Knee Replacements?

Chinonso Agubosim, Ryan Blackwell, Hugh Jones, Melvyn Harrington, Philip Noble

Poster No. 1037

Accelerated Fretting Corrosion Testing of Zirconia Toughened Alumina Composite Ceramic and a New Composition of Ceramicised Metal Femoral Heads

Patrick Aldinger, Taylor Williams, Erik Woodard

Poster No. 1038

Simulator Wear Test of a Cross-linked Polyethylene Dual Mobility Insert Against Worn Birmingham Hip Resurfacing Cups

Chenxi Li

Poster No. 1039

The Effect of the Swing Phase Load Under Head and Cup Centre Mismatch on the Severity of Edge Loading and Wear of Ceramic-on-Ceramic Hip Joint Replacements

Oscar O'Dwyer Lancaster-Jones, Mazen Al-Hajjar, Sophie Williams, Louise Jennings, Jonathan Thompson, Graham Isaac, John Fisher

PS1 Hip and Knee Arthroplasty— Clinical Outcomes Research

Poster No. 1040

Presence Of Repair Reaction in Necrotic Area on Preoperative Contrast-Enhanced MRI Is Favorable Prognostic Factor After Transtrochanteric Anterior Rotational Osteotomy for Osteonecrosis of the Femoral Head

Hiroyuki Hatanaka, Goro Motomura, Satoshi Ikemura, Kazuhiko Sonoda, Yusuke Kubo, Takeshi Utsunomiya, Shoji Baba, Yasuharu Nakashima

Poster No. 1041

Patellar Tendon Length During Knee Flexion of Meniscal Bearing and Rotating Total Knee Arthroplasty Implants

Yoshinori Ishii, Hideo Noguchi, Junko Sato

POSTERS

Poster No. 1042

Standing Is a Valid Subject Position for Obtaining Repeatable Maximal Isokinetic Hip Strength Measurements

Zachary Hostetler, Carley Fuller, Jonathan Rylander

Poster No. 1043

Minimum 25-Year Follow Up of a Cementless Anatomic Femoral Design: A Benchmark for Future Designs

Sean E. Slaven, Richard L. Purcell, Andrew W. Mack, Nicholas Bedard, Lucian Warth, John J. Callaghan

Poster No. 1044

Rotational Alignment of the Femoral Component Did Not Affect Patellofemoral Joint Congruency When a Balanced Gap Technique is Used in Posterior Stabilized Total Knee Arthroplasty

Satomi Abe

Poster No. 1045

Does Trunnion Cleaning Method Affect the Taper Interface

Jason A. Longaray, Ahmad Faizan, Michael Ambrosi, L. Herrera, Reginald Lee, Jim Nevelos, Geoffrey Westrich

Poster No. 1046

Spatiotemporal Characterization of Pressure Distributions Applied by Compression Garments to Prevent Deep Vein Thrombosis and/or Mitigate Lymphedema

Daniel Hageman, Karen Virdi, Melissa Knothe Tate

Poster No. 1047

Identifying Risk Factors for the Development of Stiffness Following Total Knee Arthroplasty

Spencer B. Dowdle, Nicholas Bedard, Steve Liu, John Callaghan

Poster No. 1048

Hip Fractures Treated with Total Hip Arthroplasty: Incidence and Risk Factors for Surgical Delay

Christopher Anthony, Nicholas Bedard, Kyle Duchman, Andrew Pugely, Yubo Gao, John Callaghan

Poster No. 1049

Viable Bacteria Persist on Antibiotic Spacers Following Two-Stage Revision for Periprosthetic Joint Infection

Dongzhu Ma, Kenneth L. Urish

Poster No. 1050

Patient Satisfaction and Extension/Flexion Strength Following Total Knee Arthroplasty

Kevin A. Valenzuela, Lauren E. Schroeder, Joshua T. Weinhandl, Harold E. Cates, Songning Zhang

Poster No. 1051

Early Postoperative Patient Outcomes and Kinematics Using a PCL-Retaining TKA Designed to Restore Anatomic Motions

Adrian Harvey, James O. Smith, Ian Leadbitter, Scott A. Banks

Poster No. 1052

Motor-Evoked Potential Analysis of Femoral Nerve Status While Performing the Direct Anterior Approach in Total Hip Arthroplasty

Tetsuro Ishimatsu, Koichi Kinoshita, So Minokawa, Hajime Seo, Tomohiko Minamikawa, Satohiro Ishii, Ayumi Matsunaga, Syunsuke Akiho, Takuaki Yamamoto

Poster No. 1053

Assessment of the Amount of Additional Bone Resection in the Distal Femur to Correct Flexion Contracture Up to 30 Degrees During PCL Retaining Total Knee Arthroplasty

Hidetaka Higashi

Poster No. 1054

Bode Margin of Knee Kinematic Waveforms Are Related to Knee Function Score in Patients with Total Knee Arthroplasty

Marzieh Ardestani, Aaron Resenberg, Markus A. Wimmer

Poster No. 1055

Comparison of Classification Systems for Osteonecrosis of the Femoral Head by Evaluating Necrotic Lesion and Prognosis

Kazuma Takashima, Takashi Sakai, Hidetoshi Hamada, Masaki Takao, Nobuhiko Sugano

Poster No. 1056

Comparison of Magnetic Resonance Images After Posterolateral Total Hip Arthroplasty with and Without Preservation of the Piriformis Tendon

So Minokawa, Takuaki Yamamoto, Koichi Kinoshita, Hajime Seo, Tomohiko Minamikawa, Tetsuro Ishimatsu, Satohiro Ishii, Ayumi Matsunaga, Syunsuke Akiho

Poster No. 1057

Are Trends in THA Bearing Surface Continuing to Change? A Look at 2007-2015

Nicholas Bedard, Jesse Otero, S. Blake Dowdle, Robert Burnett, Steve Liu, John Callaghan

Poster No. 1058

Hip Abductor Strength Is Associated with Both Performance Test-Based and Self-Reported Function After Total Hip Replacement

Christopher Cinnamon, Jessica Longworth, Heather Brunner, Vivian Chau, Colleen Ryan, Kris Dapiton, Samuel Chmell, Kharma Foucher

Poster No. 1059

Defining Thresholds for Arthroplasty Treatment Success Using the Oxford Hip and Knee Scores

David F. Hamilton, Fany Loth, Johannes M. Giesinger, Karlmeirad Giesinger, Deborah J. MacDonald, James T. Patton, Colin R. Howie

Poster No. 1060

Effects of Ti6Al4V and CoCrMo Surface Polarization on the Inflammatory Response of Thp1 Macrophages

Dmitry Royhman, Lauryn Samelko, Kyron McAllister, Mathew Mathew, Nadim Hallab

POSTERS

Poster No. 1061

Accuracy of Intraoperative Estimation of Stem Anteversion with the Hip in Neutral Position During Total Hip Arthroplasty

Nakamura Tetsuro, Fujii Masanori, Iwasaki Kenyu, Shin Satoshi, Hara Toshihiko

Poster No. 1062

Reduced Opioid Program in Total Knee Arthroplasty Utilizing Liposomal Bupivacaine: A Prospective Observational Trial

Stephen Mitros, Daniel Hake, Sarah Greve, Jobie Thurin, Michael Son, Cheyney McWilliams, Zachary Crowell, Mark Walsh, George Kolettis, Jacob Shreve, Elizabeth Finn, Harsha Musunuru, Yolanda Emley, Maciej Jaskiewicz, Crystal Beneker

Poster No. 1063

Midterm Results of Recap/Magnum Metal on Metal Total Hip Arthroplasty with Retrieval Analysis of Failed Implants: Introduction of Margin of Safety Angle

Antonios Koutalos, Evert J. Smith, Aristotelis Kourtis, Susan Scholes, Tom Joyce, Ian C. Clarke

Poster No. 1064

Use of Silver Nylon Dressing Following Total Hip and Knee Arthroplasty Decreases Postoperative Infection Rate

Ashley J. Tisosky, Otatade Iyoha-Bello, Giovanni Quimbayo, Nicholas Demosthenes, Tara Coreanu, Victor Novack, Ayesha Abdeen

Poster No. 1065

Are We Still Prescribing Opioids for Osteoarthritis?

Nicholas Bedard, S. Blake Dowdle, David DeMik, Michael McHugh, John Callaghan

Poster No. 1066

Varus Knees Involve Medial Shift of the Tibial Articular Surface, and Kinematic Alignment Induces High Stress in Medial Tibial Condyle in Varus Knees

Ryuji Nagamine, Yuan Ma, Makoto Kawasaki, Weijia Chen, Kei Osano, Masanobu Takayama, Mitsugu Todo, Keitaro Yamamoto

Poster No. 1067

THA in Patients with Previous Lumbar Fusion Surgery: Are Their Outcomes Worse?

Kevin L. Ong, Edmund Lau, Doruk Baykal, Andrew Garber, Steven Glassman, John Dimar, Daniel Berry, Arthur Malkani

PS1 Hip and Knee Arthroplasty— Polyethylene and Biomaterials

Poster No. 1068

Is Highly Cross Linked UHMWPE Blended with Vitamin E a Viable Reduction Wear in TKA?

Tsung-Wei Chang, Ya-Wen Cheng, Cheng-Kuang Lu, Jiann-Jong Liao

Poster No. 1069

Fatigue Crack Growth of Polycarbonate Urethane Compared to Ultra High Molecular Weight Polyethylene

Audrey C. Ford, Samuel C. Li, Emile Givental, Lisa Pruitt

Poster No. 1070

Evaluation of Dislocation Damage Resistance Using a Novel Test Method

Amit Parikh, Carolyn Weaver, Vivek Pawar

Poster No. 1071

Drug-Eluting Ultrahigh Molecular Weight Polyethylene for Periprosthetic Biofilm Infection

Jeremy V. Suhardi, David Bichara, Sheldon J. Kwok, Andrew A. Freiberg, Harry E Rubash, Andrew Yun, Orhun K. Muratoglu, Ebru Oral

Poster No. 1072

Human Synovial Fluid vs. Bovine Calf Serum: A Hip-Load of Friction

Hani Haider, Joel N. Weisenburger, Kevin L. Garvin

Poster No. 1073

The Tridimensional Geometry of the Proximal Femur Should Determine the Design of Cementless Femoral Stem in Total Hip Arthroplasty

Julien Wegrzyn, Jean-Paul Roux, Charlotte Loriau, Matthieu Malatray, Nicolas Bonin, Vincent Pibarot

Poster No. 1074

Cytotoxicity and Genotoxicity of Titanium Alloy Particles Used for Additive Manufacturing of Orthopaedic Implants

Hideyuki Sakoda, Atsuko Matsuoka, Ken Kono, Hiroyuki Takahashi, Yoshio Nakashima, Yoshihiro Okamoto, Yuji Haishima

Poster No. 1075

Comparison of the Fatigue Properties of Two Highly Crosslinked Vitamin E UHMWPEs (Warm Irradiation Blended vs. Post Crosslinking Infused)

William P. Rodgers III, John Knight, Jordan Freedman

Poster No. 1076

Electrochemical Evaluation of Modular THA Design Factors in a Hip Simulator

Corey Laukhuf, Dustin Whitaker, Justin Grostefon, Bob Hastings

PS1 Hip and Knee Arthroplasty— Surgical Navigation Outcomes and Robotics

Poster No. 1077

Accuracy of a Computer-Assisted Surgical System for Total Knee Arthroplasty: A Review of Surgical Parameters on 4000+ Clinical Cases

Yifei Dai, Laurent Angibaud, Amaury Jung, Cyril Hamad, Fabrice Bertrand, David Liu, Bernard Stulberg, James Huddleston

Poster No. 1078

The Effect of Passive Reception of Feedback on the Accuracy of Resection Planning During TKA

Yifei Dai, Laurent Angibaud, Matthew Rueff, Michael Cross, Kyle Swanson, Matthew Crozier, Brendan Williams, Amaury Jung

POSTERS

Poster No. 1079

Preoperative Coronal Alignment in Total Knee Arthroplasty: An Assessment on Patients from Three Countries

Yifei Dai, Amaury Jung, Cyril Hamad

Poster No. 1080

How Consistently Can a Robot-Assisted THA Reconstruct Femoral Anteversion, Femoral Offset, and Vertical Offset Within Clinically-Desirable Limits? An In Vitro Study

Chih Ming Hsieh, Stephen M. Howell, Maury L. Hull

Poster No. 1081

3D Evaluation for a Portable Accelerometer-Based Navigation System in Total Knee Arthroplasty

Hideki Ueyama, Yukihide Minoda, Yoichi Ohta, Ryo Sugama, Suguru Nakamura, Kazumasa Yamamura, Hiroaki Nakamura

Poster No. 1082

Does Patient-Specific Instrument with an Extramedullary Tibial Guide for Total Knee Arthroplasty Influence on Operative Efficiency?

Oh-Ryong Kwon, Kyoung-Tak Kang, Juhyun Son, Changhyun Baek, Yong-Gon Koh

Poster No. 1083

Impact of Surgeon Experience on the Accuracy of TKA Resections During Computer-Assisted Surgery

Yifei Dai, Laurent Angibaud, Amaury Jung, Cyril Hamad, Fabrice Bertrand

Poster No. 1084

The Cationic Amphipathic Peptide WLBU2 Is Able to Eliminate PJI Biofilm

Jonathan Mandell

PS1 Hip and Knee Arthroplasty—Osteolysis and Adverse Soft Tissue Reaction

Poster No. 1085

The Histologic Features of Tissues from Joint Replacements Revised After Median 20 Years

Patricia A. Campbell, Ahmad Al-Shihabi, Ma. Cristina D.C. Briones, Wasan Yotchai, Scott D. Nelson

Poster No. 1086

PEEK Sleeved Femoral Heads and the Effect on Taper Performance

Justin Grostefon, William Nelson

Poster No. 1087

The Chemical Form of Metal Species Released from Hip Implants: A Comparison of Taper and Bearing Surface Debris in Patient Tissue

Anna Di Laura, Paul Quinn, Vasiliki Panagiotopoulou, Harry Hothi, Jonathan Powell, Johann Henckel, Ilona Swiatkowska, Fitim Berisha, Fernanda Amary, Fred Mosselmans, John Skinner, Alister Hart

Poster No. 1088

Effect of Circulating Metal Ions on Survival and Function of Osteoclasts from Patients Following Hip Resurfacing

Karan M. Shah, Numhom Sudsok, Daniel Morell, Alison Gartland, J. Mark Wilkinson

Poster No. 1089

Response to Cobalt Release from Joint Replacements: Enhancement in Macrophage Invasiveness Through the Remodeling of Actin Cytoskeleton and Cell-matrix Interaction

Jing Xu, LingFang Zeng, Martin Knight, Julia Shelton

Poster No. 1090

Does an Established Condition of Metal Hypersensitivity Lead to Increased Metal Implant Debris Induced Inflammatory Osteolysis In Vivo?

Laurn Samelko, Marco Caicedo, Kyron McAllister, Joshua J. Jacobs, Nadim J. Hallab

PS1 Hip and Knee Arthroplasty—Implant Fixation

Poster No. 1091

The Reliability and Accuracy of Measuring Anteversion of the Acetabular Component on Plain Anteroposterior and Lateral Radiographs After Total Hip Arthroplasty

Won Chul Shin, Nam Hoon Moon, Kuen Tak Suh

Poster No. 1092

Cantilever Bending Stiffness of Locking and Non-Locking Screws in a Variable Angle Hole

Erik Woodard

Poster No. 1093

Difference in Stem Alignment Between Supine Position and Lateral Position in THA Using the Same Muscle Sparing Modified Watson-Jones Approach

Yuichi Kishimura, Yukihide Minoda, Shigekazu Mizokawa, Ryo Sugama, Yoichi Ohta, Kazumasa Yamamura, Suguru Nakamura, Hideki Ueyama, Hiroaki Nakamura

Poster No. 1094

The Mechanical Axis of the Tibia Is Different from the Anatomical Axis of the Tibia in the Analysis of 3D-CT, and Influences Coronal Alignment of the Lower Extremity in the Total Knee Arthroplasty

Makoto Kawasaki, Ryuji Nagamine, Masanobu Takayama, Ken Sabanai, Yasuhito Motojima, Toshiharu Mori, Toru Yoshioka, Nobukazu Okimoto, Akinori Sakai

Poster No. 1095

Comparison of Friction Between Traditional Porous Coatings and an Additive-Manufactured Porous Structure

Mark L. Morrison, Erik Woodard

Poster No. 1096

Micromotion Analysis of Various Tibial Constructs in Moderate Tibial Defects

Vincent Alipit, Amanda Kirk, Daniel Scholl, Gregg Schmidig, Gwo-Chin Lee

POSTERS

Poster No. 1097

The Role of Moisture and Accumulated Wear Particles at Interfaces on Accelerated Corrosion in Modular Hip Junctions

Payton Stamon, Divya R. Bijukumar, Dmitry Royhman, Mark Barba, Mathew Mathew

Poster No. 1098

The Cement-Within-Cement Technique for Revision Using a Collarless Polished Taper Stem

Peter Smitham, Kerry Costi, Lucian Bogdan Solomon, Young Sung Kim, Kate Southam, Daniel Mandziak, Donald Howie

Poster No. 1099

Is Canal Flare Index a Reliable Measure of Fit for Contemporary Femoral Stem Designs?

Samuel G. Hoare, Thies Wuestemann, Andreas Petersik, Bernhard Hofstaetter, David C. Markel

Poster No. 1100

Correlation Between Bone Mineral Density and the Uptake of ¹⁸F-Fluoride Positron Emission Tomography Around Femoral Implant in Total Hip Arthroplasty ± Hydroxyapatite-coated Stem vs. Non-coated Stem

McAndrew Merlini, Naomi Kobayashi, Yutaka Inaba, Hyonmin Choe, Taro Tezuka, So Kubota, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

Poster No. 1101

Mechanical Overload Results in Damage to Supporting Tibial Bone in Total Knee Replacements

Mark A. Miller, Kenneth A. Mann

PS1 Shoulder and Elbow

Poster No. 1102

Radiographic Evaluation of Incidences of DVT and PE in Total Shoulder Arthroplasty and Associate Surgeries Using DVT-CT

Takashi Fukushima, Hideyuki Sasanuma, Tsuneari Takahashi, Yuji Kanaya, Yuki Ijima, Katsushi Takeshita

Poster No. 1103

PARP-1 Inhibition Improves Healing in a Rat Model of Acute Rotator Cuff Tear

Michael Kuenzler, Matthias Zumstein, Michelle McGarry, Masaki Akeda, Hansel Ihn, Agnieszka Karol, Brigitte von Rechenberg, Thay Lee

Poster No. 1104

Does Successful Rotator Cuff Repair Improve Muscle Atrophy and Fatty Infiltration of the Rotator Cuff?

Hamano Noritaka

Poster No. 1105

Bilateral Arm-Abduction Shoulder Radiography to Determine the Involvement of the Scapulothoracic Motion in Frozen Shoulder

Jonathan Z. Egan, Amir R. Kachooei, Kevork Hamparian, Patrick Williamson, Ara Nazarian

Poster No. 1106

Reverse Shoulder Arthroplasty Has Higher Perioperative Implant Complications Than Total Shoulder Arthroplasty

Jonathan Yin, Anthony De Giacomo, Emily J. Curry, Andrew Jawa, Josef K. Eichinger, Xinning Li

Poster No. 1107

The Influence of Different Rotator Cuff Deficiencies on Shoulder Stability Following Reverse Shoulder Arthroplasty

Andrea P. Caceres, Vijay N. Permeswaran, Jessica E. Goetz, Carolyn M. Hettrich, Donald D. Anderson

Poster No. 1108

Characterization of the Role of BMP-7 and TGF β Signaling in Fibro/Adipogenic Progenitor Fibro-and Adipogenesis

Carlin Lee, Mengyao Liu, Xuhui Liu, Hubert Kim, Brian Feeley

Poster No. 1109

Objective Assessment of Shoulder Activity by Wearable Sensors as a Diagnostic Tool and Outcome Assessment

Iris H.M. Wetzels, Matthijs Lipperts, Ralph Walbeehm, Steven Samijo, Bernd Grimm

Poster No. 1110

Risk Factors for Recurrence of Shoulder Instability After Arthroscopic Revision Anterior Stabilization

Favian Su, Stephenson Ipke, Marcin Kowalczyk, Soheil Sabzevari, Albert Lin

Poster No. 1111

The Muscular Adaptation of Intact Cuff Muscles in a Rat Model of Large Rotator Cuff Tear

Tsuyoshi Ichinose, Atsushi Yamamoto, Tsuyoshi Sasaki, Noritaka Hamano, Haku Iizuka, Noriyuki Koibuchi, Kenji Takagishi

Poster No. 1112

Tendon-to-Bone Interface Augmentation Using a Marrow Wicking System for Primary Rotator Cuff Repair in a Sheep Model

Kirk McGilvray, Eileen Hackett, Michael Hawes, Patrick St. Pierre, Dean Cummings, Mark Frankle, Robert Tashjian, Joseph Abboud, Charles Getz, Derek J. Harper, Kevin Nason, Christian Puttlitz, Jeremiah T. Easley

Poster No. 1113

Glennoid Component Stability in Anatomical Shoulder Replacement is Related to Regional Bone Quality—In Vitro Study on Cadaver Specimens

Yan Chevalier, Mohamad Chamseddine, Christian Schroeder, Volkmar Jansson, Peter E. Mueller, Matthias F. Pietschmann

Poster No. 1114

Novel Approach for Tracking Thorax Motion Using Biplane Fluoroscopy

Mohsen Akbari Shandiz, Joseph Mozingo, Kristin Zhao

POSTERS

Poster No. 1115

Statistical Fragility in Shoulder Research: Can P Values Be Trusted?

Robert L. Parisien, David P. Trofa, Patrick K. Cronin, Jesse Dashe, Emily J. Curry, Josef K. Eichinger, Xinning Li

Poster No. 1116

A Method for Quantification of Scapular Dyskinesia and Winging Using Moiré Topography

Sidney J. Perkins, Jacqueline C. Fox, Charles M. Jobin, Katherine E. Reuther

Poster No. 1117

Morphologic Analysis of the Three Columns of the Scapula: Surgical Implications in Reverse Shoulder Arthroplasty

Ashish Gupta, Nikolas K. Knowles, George S. Athwal, Louis M. Ferreira

Poster No. 1118

Relationships of Scapular Plane Definitions: Application to Glenoid Fixation in Total Shoulder Arthroplasty

Ashish Gupta, Nikolas K Knowles, George S. Athwal, Louis M. Ferreira

Poster No. 1119

Reaction Force on the Radial Ulnar Joint Due to Activities of Daily Living

Dana J. Coombs, Pavel E. Galibarov, Kevin Clancy, Michael Sedlack, Michael Bushelow

Poster No. 1120

A Novel Patient-Specific Modeling Predicts Individual Variations in Clinical Outcomes in Shoulder Injuries

Dokwan Lee, Ki-Taek Hong, Jung Ah Choi, Joo Han Oh, Choongsoo Shin, Yongnam Song

Poster No. 1121

Custom Distal Humeral Hemiarthroplasty Implants: How Much Customization Is Really Beneficial?

Ryan Willing

Poster No. 1122

Directional Specificity of Measurement Error of Skin-Mounted Tracker for Recording 3D Scapular Kinematics

Shoji Konda, Tetsuya Inui, Wataru Sahara, Kazuomi Sugamoto

Poster No. 1123

Test Method Design and Fixation of a Lateralized Glenoid in Reverse Shoulder Arthroplasty

Dustin Whitaker, Jesse Hontz, James Brownhill

Poster No. 1124

The Effect of Polyethylene Rotation on Impingement and Instability in Reverse Shoulder Arthroplasty

Vijay N. Permeswaran, Jessica E. Goetz, Andrea Caceres, Donald D. Anderson, Carolyn M. Hettrich

Poster No. 1125

Proximal Humeral Morphometry in Normal and Arthritic Shoulders: Implications for Stem Design

David D. D'Lima, Nathaniel E. Skinner, Armodios M. Hatzidakis, Heinz R. Hoenecke, James D. Kelly, Scott Jacobson, Drew Miller, Darryl D. D'Lima

Poster No. 1126

The Role of Beige Adipocytes in Fatty Infiltration of the Rotator Cuff Muscles

Lawrence Lee, Xuhui Liu, Chantal Nguyen, Max Feinstein, Hubert T. Kim, Shingo Kajimura, Brian Feeley

Poster No. 1127

Short-Term Time Course of Contracture Development in a Rat Elbow Model of Post-Traumatic Joint Contracture

Chelsey L. Dunham, Ryan M. Castile, Necat Havlioglu, Aaron M. Chamberlain, Leesa M. Galatz, Spencer P. Lake

Poster No. 1128

The Dynamic Environment of Cubital Tunnel Syndrome Changes Intra-neuronal Microvasculature of The Ulnar Nerve

Yuichiro Matsui, Tadanao Funakoshi, Daisuke Kawamura, Tatsunori Horie, Mutsumi Nishida, Norimasa Iwasaki

Poster No. 1129

Novel Model for Upper Extremity Heterotopic Ossification with Functional Outcomes

William K. Oelsner, Saito Masanori, Sandra S. Gebhart, Yael Ihejirika, Christopher Wallace, Rivka Ihejirika, Courtney E. Baker, Gregory D. Hawley, Nicholas Mignemi, Jon G. Schoenecker

Poster No. 1130

Fibro/Adipogenic Progenitor (fap) Cells Undergo Beige Adipose Transformation in Adipogenic Conditions In Vitro

Mengyao Liu, Carlin Lee, Shingo Kajimura, Brian T Feeley, Xuhui Liu

Poster No. 1131

Effect of Myostatin Inhibition on Muscle Fatty Degeneration Following Chronic Rotator Cuff Tear: A Transgenic Mouse Model Study

Lawrence V. Klomps, Yue Zhang, Naseem Zomorodi, Henry J. Donahue, Hyun Min M. Kim

Poster No. 1132

Acute Proximal Long Head Biceps Rupture as a Predictor of Rotator Cuff Tears

Kevin T. Kohut, Soheil Sabzevari, Jan-Hendrik Naedrup, Albert Lin

Poster No. 1133

Biomechanical Analysis of Superior and Anterior Pre-Contoured Plate Fixation for Neer Type II Clavicle Fractures

Aniruddh Nayak, Kellen Worhacz, Robert Boudreaux, Marc Jacofsky, Beatrice Pavan, Felix Wipf, Arash Araghi

POSTERS

Poster No. 1134

Glenohumeral Laxity and the Effects of Elevation, Stretching and Plication

Andrew Kraszewski, Andreas Kontaxis, Stephanie Mayer, Russel Warren

Poster No. 1135

Suprpectoral Intraarticular Biceps Tenodesis Reduces Proximal Biceps Tendon Motion

Patrick J. Schimoler, Brian Kelly, Alexander Kharlamov, Mark Carl Miller, Sam Akhavan

Poster No. 1136

The Effect Of G-csf Administration on Rotator Cuff Repair at the Tendon-to-Bone Insertion

Yukichi Kabuto, Toru Morihara, Okihiko Onishi, Tsuyoshi Sukenari, Ryuhei Furukawa, Yoshikazu Kida, Ken-ichi Matsuda, Masaki Tanaka, Hiroyoshi Fujiwara, Toshikazu Kubo

Poster No. 1137

Impact of Scapular Notching on Reverse Total Shoulder Arthroplasty Clinical Outcomes

Christopher P. Roche, Pierre Henri Flurin, Thomas Wright, Joseph Zuckerman

Poster No. 1138

The Effects of Humeral Component Lateralization on Rotator Cuff Strength After Reverse Shoulder Arthroplasty

Kevin T. Chan, G. Daniel G. Langohr, Matthew Mahaffy, James A. Johnson, George S. Athwal

Poster No. 1139

Comparison of Clinical Outcomes with Posteriorly Augmented Glenoid Components with Anatomic and Reverse Total Shoulder Arthroplasty

Christopher P. Roche, Pierre Henri Flurin, Sean Grey, Thomas Wright, Joseph Zuckerman

Poster No. 1140

Valgus Carrying Angle at the Elbow in Professional Baseball Players: A Cross-Sectional Study

Sarav S. Shah, Jeffrey Goldstein, Spencer Stein, Roger Gerland, Steven Rokito

Poster No. 1141

Biomechanical Analysis of RSA vs. TSA for the Management of Biconcave (B2) Glenoids

Andreas Kontaxis, Jonathan Glenday, Xiang Chen, Russell Warren, Lawrence Gulotta

Poster No. 1142

Sclerostin Antibody Treatment Enhances Tendon-to-Bone Healing in a Rotator Cuff Animal Model

Shivam A. Shah, Ioannis Kormpakis, Necat Havlioglu, Michael S. Ominsky, Leesa M. Galatz, Stavros Thomopoulos

Poster No. 1143

Evidence of Abrasive and Adhesive Wear Mechanisms in Retrieved Total and Reverse Shoulder Arthroplasty

Kathleen Lewicki, John-Erik Bell, Douglas Van Citters

Poster No. 1144

A Comparison of the Daily Motion of Anatomic and Reverse Total Shoulder Arthroplasty Reconstructed Shoulders

G. Daniel G. Langohr, John P. Haverstock, James A. Johnson, George S. Athwal

Poster No. 1145

Study of Biomechanical Behaviors of the Common Extensor Tendon In Vivo: Sex Effect

Su-Ya Lee, Chien-Ju Lin, Hsiao-Feng Chieh, Li-Chieh Kuo, I-MING Jou, Yung-Nien Sun, Tai-Hua Yang, Fong-Chin Su

Poster No. 1146

Maximal Biceps Contraction Causes Greater Superior Radial Head Translation During Flexion Than in Supination

David Jordan, Steven Regal, Alexander Kharlamov, Edward Birdsong, Mark Carl Miller

Poster No. 1147

Does Patient Age at Time of Surgery Influence the Rate of Clinical Improvement After Total Shoulder Arthroplasty?

Richard Friedman, Emilie Cheung, Pierre Henri Flurin, Thomas Wright, Joseph Zuckerman, Ryan Simovitch, Christopher P. Roche

Poster No. 1148

The Influence of Critical Shoulder Angle on Glenohumeral Joint Load in Reverse Shoulder Arthroplasty

Vijay N. Permeswaran, Jessica E. Goetz, Andrea P. Caceres, Donald D. Anderson, Carolyn M. Hettrich

Poster No. 1149

Influence of Suprascapular Nerve Injury on Rotator Cuff Muscle in Massive Tear Model: Histological and Ultrastructural Analysis

Hisao Shimokobe, Masafumi Gotoh, Tomonoshin Kanazawa, Hiroki Ohzono, Keiichirou Nakamura, Naoto Shiba

Poster No. 1150

Medial Posterior Capsular Plication vs. Remplissage for Anterior Shoulder Instability with a Large Hill Sachs Defect

Brian Werner, Xiang Chen, Christopher Camp, Andreas Kontaxis, Joshua Dines, Lawrence Gulotta

Poster No. 1151

Version Correction Affects Glenoid Fixation in Total Shoulder Arthroplasty on Biconcave Glenoids

Xiang Chen, Andreas Kontaxis, Jonathan Glenday, Akhil Reddy, Daniel Choi, Timothy Wright, Lawrence Gulotta

POSTERS

Poster No. 1152

Relationship Between Bilateral Humeral Retroversion Angle and Age at Starting Baseball Career in Skeletally Matured Baseball Players

Tetsuya Takenaga, Hideyuki Goto, Katsumasa Sugimoto, Atsushi Tsuchiya, Masahiro Nozaki, Takanobu Otsuka

Poster No. 1153

Glenoid Component Shift Can Occur Without Component Loosening Following Total Shoulder Arthroplasty

Eric T Ricchetti, Bong-Jae Jun, Thomas E. Patterson, Joseph P. Iannotti

Poster No. 1154

Downregulation of the Slow Oxidative Gene Program Precedes Wasting of Fast Type Muscle Fibers and Fat Infiltration in Rotator Cuff Muscle After Tendon Release

Martin Flück

Poster No. 1155

Statistical Shape Modeling to Quantify Variation in Proximal Humeral Anatomy

Irene Sintini, Paul Sade Sr., William S. Burton, Jason Chavarria, Peter J. Laz

PS1 Hand and Wrist

Poster No. 1156

Asymmetric Six-Strand Core Sutures Enhance Tendon Fatigue Strength and the Optimal Asymmetry

Naoya Kozono, Takamitsu Okada, Naohide Takeuchi, Masuo Hanada, Takeshi Shimoto, Hidehiko Higaki, Go Miake, Yoshitaka Nakanishi, Takahiro Senju, Yasuharu Nakashima

Poster No. 1157

Fibrin Glue Adds Strength to Conduit-Assisted Digital Nerve Repairs

Patrick J. Schimoler, Jessica Childe, Steven Regal, Alexander Kharlamov, Mark Carl Miller, Peter Tang

Poster No. 1158

The Influence of Hemodialysis and Amyloid Deposits on the Severity of Carpal Tunnel Syndrome

Yasushi Naganuma, Hiroshi Satake, Ryusuke Honma, Masahiro Maruyama, Naomi Hanaka, Junichiro Shibuya, Yuya Takakubo, Michiaki Takagi

Poster No. 1159

The Expression of Advanced Glycation End Products in Dupuytren's Disease

Fumiaki Takase, Yutaka Mifune, Atsuyuki Inui, Yasuhiro Ueda, Takeshi Kataoka, Takashi Kurosawa, Takeshi Kokubu, Ryosuke Kuroda

Poster No. 1160

Optimizing the Design of a Three Dimensionally Printed Hand Prosthesis for Children

Laura Watkins, Aditya Chawla, Kerry Danelson, Andrew Koman

Poster No. 1161

Association of Sex with Lunate Morphology and Proximal Carpal Row Ligament Injury

Marissa Borgese, Robert D. Boutin, Brent Foster, Christopher O. Bayne, Robert M. Szabo, Abhijit J. Chaudhari

Poster No. 1162

Redistribution of Strain in End-to-End Nerve Repairs Under Tension

Turki Alaziz, Reid A. Abrams, Sameer B. Shah

Poster No. 1163

Radiographic Characteristics of Wrists in Idiopathic Carpal Tunnel Syndrome Patients

Kazuhiro Ikeda, Yuichi Yoshii, Tomoo Ishii

Poster No. 1164

Sonographic Assessment of Distal Radius Dorsal Cortex Prominent Hardware After Fixed-Angle Volar Plating: A Cadaveric Model

Kevin J. Leffers, Joel I. Edionwe, Caroline Jansen, Ronald W. Lindsey

Poster No. 1165

A Biomechanical Analysis of a Criss-Cross Repair Technique for Flexor Tendon Pulley Reconstruction

Iain Elliott, Safa Herfat, David Kaimrajh, Amar Patel, Edward Milne, Loren Latta, Elizabeth A. Ouellette

Poster No. 1166

Hemi-Prosthetic Replacement of the Distal Radio-Ulnar Joint (druj) in 12 Rheumatoid Patients After Minimum 5-Year: A Clinical Report and a Radiographic Analysis Focusing on Periimplant Bone Remodeling

Magnus Tagil, Hanna Berne, Mats Geijer, Philippe Kopylov, Antonio Abramo

Poster No. 1167

The Effect of Tension on Entrance Angle of Flexor Tendons to the A1-Pulley at Different Wrist Postures

Hsin-Yi Chen, Hsiao-Feng Chieh, Chien-Ju Lin, Li-Chieh Kuo, Yung-Nien Sun, I-Ming Jou, Fong-Chin Su

Poster No. 1168

In Vivo Contact Mechanics of the Thumb Carpometacarpal Joint During Pinch

Ryan Downing, Lance Frazer, Phil Lee, Terence McIlff, E. Bruce Toby, Kenneth Fischer

Poster No. 1169

Peripheral Nerve Regeneration Using Bio 3D Conduit

Hirofumi Yurie, Ryosuke Ikeguchi, Tomoki Aoyama, Yukitoshi Kaizawa, Junichi Tajino, Akira Ito, Souichi Ohta, Hiroki Oda, Takahisa Takeuchi, Shizuka Akieda, Manami Tsuji, Koichi Nakayama, Shuichi Matsuda

POSTERS

Poster No. 1170

Subject-Specific Finite Element Model of the Carpal Tunnel Cross Section to Examine Area Changes in Response to Carpal Arch Loading

Piyush Walia, Ahmet Erdemir, Zong-Ming Li

Poster No. 1171

Senescence and Fibrosis Biomarkers in Subsynovial Connective Tissue of Carpal Tunnel Patients

Anne Gingery, Pritha Chanana, Zhifu Sun, Tamar Tchkonja, James L. Kirkland, Peter C. Amadio

Poster No. 1172

Influence of Carpal Tunnel Pressure on Finger Kinematics: A Biomechanical Study

Farid Amirouche, Giovanni F. Solitro, Olivia Wang, Livia Bänninger, Kyle MacGillis, Mark Gonzalez, Alfonso Mejia

Poster No. 1173

Effectiveness of Trapeziectomy with Suture Button Suspension in Preventing Metacarpal Subsidence

Mei Wang, Benjamin S. Zellner, Linda M. McGrady, Cameron M. Best, Hani S Matloub

Poster No. 1174

Effect of Pushup Position on Wrist Joint Pressures in the Intact Wrist and Following Scapholunate Interosseous Ligament Sectioning

Brett T. Daly, Frederick W. Werner, Salvatore M. Cavallaro, Emily R. Tucci, Brian J. Harley

PS1 Foot and Ankle

Poster No. 1175

WITHDRAWN

Poster No. 1176

Treatment of Proximal Fifth Metatarsal Fractures and Re-Fractures in Elite Athletes with Plantar Plating

Ronald J. Mitchell, Derek T. Bernstein, Patrick C. McCulloch, Joshua D. Harris, Kevin E. Varner

Poster No. 1177

Stabilization of Proximal Interphalangeal Arthrodesis of Lesser Toes Using K-Wires vs. Implants: A Comparative Biomechanical Cadaveric Study

Shane Rothermel, Gregory Lewis, Evan Roush, Umur Aydogan

Poster No. 1178

Effect of Pad Positioning on Medial Clear Space Widening in Ankle Gravity Stress Views

Edward Schleyer, Bernhard Rohrbacher, Gina Spiracino, Sonja Pavlesen

Poster No. 1179

Biomechanical Comparison of Fifth Metatarsal Jones Fracture Fixation—What Is Ideal Construct?

Neil L. Duplantier, Ronald Mitchell, Aaron Stone, Steve Zambrano, Domenica A. Delgado, Bradley S. Lambert, Michael R. Moreno, Joshua D. Harris, Patrick C. McCulloch, David M. Lintner, Kevin E. Varner

Poster No. 1180

The Resistance to Failure of Spring Ligament Reconstruction

Nicole C. Fischer, Chandra Pasapula, Saj Shariff

Poster No. 1181

Arthroscopic Access to Osteochondral Lesions of the Talus: Effects of Limited Ankle Range of Motion on Arthroscopic Accessibility

Phinit Phisitkul, Craig Akoh, Kevin N. Dibbern, Chamnanni Rungprai, Vinay Hosuru Siddappa, Tinnart Sittapiroj, Alexej Barg, Donald D. Anderson

Poster No. 1182

Factors Impacting Complication Rates Following Surgical Treatment for Syndesmotic Instability

Daniel H.L. Lemmers, Bart Lubberts, X.J. Ruben Stavenuiter, Anne H. Johnson, Daniel Guss, Ali Hosseini, Gino M.M.J. Kerkhoffs, Christopher W. DiGiovanni

Poster No. 1183

Evaluating Complication Rates Between Immediate vs. Delayed Weightbearing Management of First Metatarsophalangeal Joint Arthrodesis

Matthew Igbinigie, Michael VanPelt, George Liu, Benjamin Schell, Christopher Chen

Poster No. 1184

Dynamic Ankle Stability After Brostrom-Gould Repair

William Anderst, Landon Invin, MaCalus Hogan

Poster No. 1185

Effectiveness of Foot Orthoses in Controlling the Posture of Medial Longitudinal Arch: A Pilot Study

Elizabeth C. Bachman, Amira Otmane, Bradley S. Davidson, Kevin B. Shelburne, Stuart J. Currie, Thomas G. McPoil, Erin M. Mannen

Poster No. 1186

Low Magnitude High Frequency Vibration Accelerated Foot Wound Healing by Lowering Blood Glucose Level Through Enhancing Glucose Uptake by Glucose Transporter 4 and Enhancing Proliferating Cell Nuclear Antigen Expressions in the Wound of Streptozotocin-Induced Diabetic Rats

Caroline Oi-Ling Yu, Kwok Sui Leung, Kwok Pui Fung, Simon Kwoon-Ho Chow, Ning Zhang, Wing-Hoi Cheung

Poster No. 1187

Antinociceptive Effect of Hyaluronic Acid Sodium on Ankle Osteoarthritis Model

Shunsuke Jimbo, Yoshinori Terashima, Tsuneo Takebayashi, Tsuyoshi Miyakawa, Izaya Ogon, Kota Watanabe, Atsushi Teramoto, Noritsugu Tohse, Toshihiko Yamashita

POSTERS

Poster No. 1188

Effect of Defect Size and Plantar Flexion Angle on Stress Distribution Within the Osteochondral Lesions of the Talus

Tomonobu Hagio, Keisuke Sato, Ichiro Yoshimura, Kazuki Kanazawa, Akira Maeyama, So Minokawa, Takuaki Yamamoto

Poster No. 1189

Pronation of the First Metatarsal in Hallux Valgus: 3D Clinical Measurements

Bradley C. Campbell, Stephen F. Conti, Mark C. Miller

Poster No. 1190

Postoperative Complications After Acute Achilles Tendon Ruptures: Incidence and Risk Factors

Ruben X.J. Stavenuiter, Bart Lubberts, Robert M. Prince, Ali Hosseini, Daniel Guss, Christopher W. DiGiovanni

Poster No. 1191

Development of a Total Ankle Wear Model

Joseph Mummert, Sascha Bombosch, Jason Longaray, Lizeth Herrera

Poster No. 1192

The Peroneus Brevis and Plantar Fascia Insertions Are Related to Proximal Fifth Metatarsal Fractures

Pim A.D. van Dijk, Sofie H. Breuking, Bryan Vopat, Daniel Guss, Holly Johnsson, Guoan Li, Ali Hosseini, Christopher W. DiGiovanni

Poster No. 1193

Transverse Plane Rotational Misalignment of Total Ankle Arthroplasty Alters Foot Joint Kinematics in Cadaveric Gait Simulation

Brian K. Cook, Christina J. Stender, Cameron G. Patthanacharoenphon, Bruce J. Sangeorzan, William R. Ledoux

Poster No. 1194

The New Technique of Anterior Portal Placement of Ankle Arthroscopy for the Reduction of Complication Using Peripheral Vein Illumination Device

Yusuke Tsuyuguchi, Tomoyuki Nakasa, Masakazu Ishikawa, Yasunari Ikuta, Mikiya Sawa, Masahiro Yoshikawa, Nobuo Adachi

Poster No. 1195

Toward a Better Understanding of High Ankle Sprains in Athletes: Injury Pattern, Sequence and Tolerance in Combined Flexion and External Rotation

Bingbing Nie, Jason R. Kerrigan, Shepard R. Hurwitz, Jason L. Forman, Richard W. Kent

Poster No. 1196

Effects of Variations in Dwyer Calcaneal Osteotomy Determined by 3D-Printed Patient-Specific Modeling

Kent T. Weinheimer, Gregory S. Lewis, Evan Roush, Umur Aydogan

Poster No. 1197

Evaluation of Ligament Strains in Lateral Ankle Sprain of Accidental Injury Cases Using Computational Simulation

Tserenchimed Purevsuren, Myagmarbayar Batbaatar, Won Man Park, Kyungsoo Kim, SuKyoung Kim, Yoon Hyuk Kim

Poster No. 1198

Effects of Micronized Cartilage Matrix on Cartilage Repair in a Model of Osteochondral Lesions of the Talus

Sohni Singh, Connor Nathe, Evan Lian, Alvin Shieh, Eric Giza, Christopher Kreulen, Dominik R. Haudenschild

Poster No. 1199

Establishment of Rat Ankle Osteoarthritis Model Induced by Malleolus Fracture

Dawei Liang, Fangyuan Wei, Xiaochun Wei, Pengcui Li, Jianzhong Zhang, Yingke Xu, Jin Deng, Xianwen Shang, Lei Wei

Poster No. 1200

Inter-Segmental Foot Motions in Children and Adolescents Using a Three-Dimensional Multi-Segmental Foot Model

Dong Yeon Lee, Ho Seung Lee, Doo Jae Lee, Sung Hyun Kim

PS1 Infection and Inflammation

Poster No. 1201

Infection Risk in Primary Joint Arthroplasty—The Impact of Case Sequence

Laura Q. Wu, Ronald W. Lindsey, Zbigniew Gugala

Poster No. 1202

Prevention of Titanium Associated Acinetobacter Baumannii Infections with Cathodic Electrical Stimulation

Mary Canty, Nicole Luke-Marshall, Anthony Campagnari, Mark Ehrensberger

Poster No. 1203

Immune Dysregulation Following Treatment of Chronic Non-union

Albert Cheng, Laxminarayanan Krishnan, Pallab Pradhan, Krishnendu Roy, Robert Guldberg

Poster No. 1204

Changes in Inflammation and Cell Recruitment Following Metallic Implant Placement

Kelly Hotchkiss, Kegan Sowers, Alex Whitehead, Rene Olivares-Navarrete

Poster No. 1205

Carbon-Infiltrated Carbon Nanotube Coating of External Fixator Pins Provides MRSA Resistance

Jaclyn Larsen, Stephanie R. Morco, Brian D. Jensen, Anton E. Bowden

Poster No. 1206

Development of New Amphiphilic Polyelectrolytes for Orthopedic Infection

Chih-Hao Chang, Chia-Wei Hsieh, Jing-Ru Tu, Rong-Sen Yang, Chi-Yang Chao

Poster No. 1207

Nanosilver: New Approach Towards the Treatment of Intracellular Staphylococcus Aureus

Jason Kang, Jabeen Noore, Bingyun Li

POSTERS

Poster No. 1208

High-Molecular-Weight Adiponectin Is Correlated with Disease Activity in the Patients with Rheumatoid Arthritis

Yuya Takakubo, Hiroharu Oki, Yasushi Naganuma, Kan Sasaki, Michiaki Takagi

Poster No. 1209

Conforming Chitosan Paste for Antibiotic Delivery and Infection Prevention

Joel Berretta, Jessica Jennings, Chris Alexander, Mike Harris, Harry Courtney, Karen Beenken, Mark Smeltzer, Warren Haggard

Poster No. 1210

Single vs. Multidrug Prophylaxis for Gustilo-Anderson Type II and IIIA Open Fractures

Edgar Araiza, Brandon Carlson, Stefan Johnson, Michael B. Tilley

Poster No. 1211

Evaluation of Elution, Bioactivity, and Mechanical Properties of Antimicrobial-Loaded PMMA

Grahm A. Funk, Ryan T. Morse, Damon E. Mar, David W. Anderson, Terence E. McIff

Poster No. 1212

Rapid Detection and Quantification of Biofilms on Orthopaedic Implants

Douglas T. Barber, Dioscaris Garcia, Christopher Born

Poster No. 1213

Circulating Micrnas Novel Biomarkers for Early Detection of Joint Infections

Evanthia Mourmoura, Konstantinos Malizos, Sokratis Varitimidis, Nikolaos Stefanou, Ioanna Papanthasiou, Eleni Ntounou, Lydia Anastasopoulou, Aspasia Tsezou

Poster No. 1214

Magnetic Nanoparticle Hyperthermia in Treatment of Peri-Implant Osteomyelitis

Chih-Hsiang Fang, Shu-Wei Huang, Jui-Sheng Sun, Pei-I Tsai, Hsin-Hsin Shen, San-Yuan Chen, Zwei-Chieng Jenny Chang, Yen-Ping Mark Kuo

Poster No. 1215

The Incidence and Risk Factors of Surgical Site Infection in Micro Endoscope-Assisted Posterior Lumbar Interbody Fusion

Ayako Itoh, Ayako Kudo, Kazumi Kawakami, Keita Nishimura, Yuichi Takano, Hirohiko Inanami

Poster No. 1216

WITHDRAWN

Poster No. 1217

MBEC Decreases with Increasing Exposure Time to Antimicrobials

Paulo Castaneda, Alex C. McLaren, Douglas Steinhauft, Derek J. Overstreet

Poster No. 1218

The Novel Antibiotic Dalbavancin Is Heat Stable, Elutes from Pmma Cement Spacers and Has Superior Antimicrobial Activity Than Vancomycin in an In Vitro Killing Assay of Staphylococcus Aureus

Samrath Bhimani, Alberto Carli, Arvinth Sethuraman, F. Patrick Ross, Mathias P.G. Bostrom

Poster No. 1219

Regulation Of Pro-Inflammatory Mediators and Intracellular Lipid Accumulation in Progeria Muscle Stem Cells with Mechanical Stimulation

Elizabeth R. Morris, Andrea B. Liebowitz, Alex C. Scibetta, Xiaodong Mu, Johnny Huard

Poster No. 1220

Normal Parent: The Effects of the Inflammatory Species Hypochlorous Acid on the Electrochemical Behavior of Co-Cr-Mo Alloys

Gregory Kubacki, Yangping Liu, Jeremy Gilbert

Poster No. 1221

Novel Preclinical Model of Gram-Negative Prosthetic Joint Infection

John M. Thompson, Alyssa G. Ashbaugh, Robert J. Miller, Julie Pickett, Carly Dillen, Roger V. Ortines, Kevin Francis, Nicholas Bernthal, Daniel Thorek, Robert S. Sterling, Lloyd Miller

Poster No. 1222

"Smart" Polymer Coating Prevents Spinal Implant Infection in a Mouse Model of Spine Surgery

Weixian Xi, Howard Park, Suwei Zhu, Vishal Hedge, Stephen Zoller, Tatiana Segura, Nicholas Bernthal

Poster No. 1223

Evenly Distributed Thin-Film Ag Coating on Stainless Plate by Tricomponent Ag/Silicate/PU with Antimicrobial and Biocompatible Properties

Chih-Hao Chang, Rong-Sen Yang, Yi-Chen Lee, Jing-Ru Tu, Jiang-Jen Lin

Poster No. 1224

Zinc Pyrithione and Silver Sulfadiazine Kills Staphylococcus Aureus Persister Cells and Is Effective Against Staphylococcal Biofilm In Vitro

Ryan P. Trombetta, Paul M. Dunman, Edward M. Schwarz, Hani A. Awad

Poster No. 1225

Influence of an Active Physis in Seeding an Orthopaedic Implant in a Mouse Model of Prosthetic Joint Infection Arising from a Hematogenous Source

John M. Thompson, Alyssa G. Ashbaugh, Yu Wang, Robert J. Miller, Kevin P. Francis, Nicholas Bernthal, Robert S. Sterling, Lloyd S. Miller

Poster No. 1226

Plasma Levels of Acrolein in Patients with Rheumatoid Arthritis

Takatoshi Soutome, Chisato Kawabata, Yuko Hotta, Nagayoshi Tarumoto, Koichiro Shiokawa, Kazuei Igarashi, Hirotaka Kawano, Keita Nishimura

POSTERS

PS1 Trauma and Fracture—Biology

Poster No. 1227

Syndecan-4 Deficiency Influences Bone Healing Dependent on Inflammatory Signals During Aging and Estrogen Deficiency

Melanie Timmen, Heriburg Hidding, Britta Wieskoetter, Daniel Kronenberg, Michael Raschke, Thomas Pap, Richard Stange

Poster No. 1228

Conjugated Linoleic Acid Promotes Fracture Healing in Rats

Zhong-Shu Shan, Liang Chen, Xiao Z. Shen, Xi Chen, Zong-Ping Luo

Poster No. 1229

Role of the Glucocorticoid Receptor in Fracture Healing

Anna E. Rapp, Yasmine Hachemi, Julia Kemmler, Mascha Koenen, Peng Liu, Anita Ignatius, Jan P. Tuckermann

Poster No. 1230

Evaluation of High-Resolution Small Animal MRI for Longitudinal Analysis of Endochondral Fracture Healing in Mice

Melanie Haffner-Luntzer, Fabian Müller-Graf, Yvonne Hägele, Verena Heidler, René Jonas, Romano Matthys, Volker Rasche, Anita Ignatius

Poster No. 1231

Mechanisms of Mandibular Healing: Transformation of Cartilage to Bone

Sarah A. Wong, Diane P. Hu, Theodore Miclau, Chelsea S. Bahney, Ralph S. Marcucio

Poster No. 1232

Role of Interleukin-6 in the Inflammatory and Repair Phase of Fracture Healing

Katja Prystaz, Anna Kovtun, Kathrin Kaiser, Verena Heidler, Melanie Haffner-Luntzer, Jochen Kroner, Georg H. Waetzig, Stefan Rose-John, Anita Ignatius

Poster No. 1233

Radiation-Induced Changes to Bone Mineral and Matrix Quality Extend throughout Cortical Bone

Gurjit S. Mandair, Megan E. Oest, Kenneth A. Mann, Timothy A. Damron, Michael D. Morris, David H. Kohn

Poster No. 1234

Regulation of SDF-1 and CXCR-4 in Fracture Healing

Jan-Tobias Weitkamp, Sabine Fuchs, Andreas Seekamp, Sebastian Lippross, Peter Behrendt, Tim Klüter

Poster No. 1235

Spatiotemporal Mustn1 Protein Expression During Skeletal Development and Regeneration

Evan H. Chernoff, Eleni Kallinos, David E Komatsu, Michael Hadjiargyrou

Poster No. 1236

Association Of Bone Mineral Density With Distal Ulnar Fracture Combined With Distal Radius Fracture

Tetsu Tsubone, Naoki Toba, Fumio Fukuda, Natsuki Hara, Toshinari Iiyama, Jun Fujita, Michiko Tamaru, Shuhei Yoshida

PS1 Trauma and Fracture—Biomechanics/Clinical

Poster No. 1237

Long Term In Vitro Testing of a Wireless Pressure Sensor for Detection of Acute Compartment Syndrome

John F. Drazan, Michael T. Wassick, Khalil A. Drayton, Samuel R. Mayo, Nathaniel C. Cady, Reena Dahle, Eric H. Ledet

Poster No. 1238

A Biomechanical Study Comparing Minimally Invasive Anterior Pelvic Ring Fixation Techniques to External Fixation

Lauren M. McCormick, Jeff Gilbertson, Sikander E. Khan, Frank Chen, Lisa K. Schroder, Joan E. Bechtold, Peter A. Cole

Poster No. 1239

Ideal Entry Points for an Antegrade Humeral Nail: A Three-Dimensional Computational Analysis

Alex Chaw Tat Choh, Suraya Zainul-Abidin, Andy Yew, Joyce Suang Bee Koh, Tet Sen Howe, Mann Hong Tan

Poster No. 1240

Mechanical Profile of Intramedullary Reaming in the Tibia

Kari Puma, Paul Phillips, Mark Ehrensberger

Poster No. 1241

The Surgeon's Role in Cerclage Wire Failure After Sternal Fracture Repair: A Biomechanical Evaluation

Christina Salas, C. Etta Tabe, Rachel Tufaro, Kwasi Addae-Mensah, W. Daniel Tandberg, Christopher Buksa, Jessica Avila, Jorge Wernly

Poster No. 1242

The Effect of Various Lateral Locking Plate Configurations on the Fixation Stiffness in Osteoporotic Femoral Sawbones

Amin Mohamadi, Jonathan Egan, Magdalena Nevett, Kenneth Ierardi, Stephen Okajima, Mark Vrahas, Edward Rodriguez, Ara Nazarian, Michael Weaver

Poster No. 1243

Biomechanical Analysis of Four Augmented Fixations of Plate Osteosynthesis for Comminuted Mid-Shaft Clavicle Fracture

Ming Ni, Jiong Mei, Stacey M.S. Gruber, Chia-Ying James Lin

Poster No. 1244

Impact of Alternative Drill Hole Locations on Load Bearing Capacity of Long Bone

Christopher J. Yiachos, Subrata Saha

Poster No. 1245

A Novel Surgical Tool to Facilitate the Entry Point Selection in IM Nailing-Femoral Antegrade Starting Tool (FAST)

Hamid Ebrahimi, Albert Yee, Cari Whyne

Poster No. 1246

Biomechanical Analysis of Supra-Acetabular Insufficiency Fracture

Hidetatsu Tanaka, Go Yamako, Hiroaki Kurishima, Shutaro Yamashita, Yu Mori, Daisuke Chiba, Etsuo Chosa, Eiji Itoi

POSTERS

PS1 Trauma and Fracture— Clinical Outcome/Methodologies

Poster No. 1247

The Modified Extensile Lateral Approach: A Safer Technique for the Surgical Treatment of Calcaneus Fractures?

John Y. Kwon, Tyler A. Gonzalez, Matthew D. Riedel, Ara Nazarian, Mohammad Ghorbanhoseini

Poster No. 1248

Is There a Time Dependent Fracture Site Bone Loss After Injury?

Lucian B. Solomon, Paul H. Anderson, Dongqing Yang, Mark Rickman, Egon Perilli, David M. Findlay, Gerald J. Atkins

Poster No. 1249

Temporal and Regional Trends in the Management of Proximal Humerus Fractures Across a 13 Million Patient Database

Lauren L. Nowak, Michael McKee, Marissa Bonyun, Milena Vicente, Aaron Nauth, Emil H. Schemitsch

Poster No. 1250

Development of a Novel Femur Fracture Fixation Model for Mice Utilizing Open Intramedullary Nailing

Nathan P. Thomas, Joey P. Johnson, P. Kaveh Mansuripur, Jeremy Truntzer, Justin Kleiner, Scott C. McAlister, Christopher T. Born

Poster No. 1251

Orthopaedic Surgeons' Opinion Surrounding the Management and Evaluation of Proximal Humerus Fractures

Lauren L. Nowak, Milena Vicente, Aaron Nauth, Michael McKee, Jeremy Hall, Emil Schemitsch

Poster No. 1252

Risk Factors for Delay to Surgery in Patients with Hip Fractures

Yonah Heller, Luke Garbarino, Ariel Goldman

PS1 Trauma and Fracture— Mechanics and Computational Modeling

Poster No. 1253

A Universally Applicable Objective CT-based Method for Quantifying Articular Fracture Severity

Kevin N. Dibbern, Andrew M. Kern, Donald D. Anderson

PS1 Trauma and Fracture—Pathophysiology

Poster No. 1254

Noninvasive Intracranial Pressure Following Simulated Head Contact

William Watkins, Alan R. Hargens, Erika M. Clary, Shannon Baird, Douglas G. Chang, Brandon R. Macias

Poster No. 1255

Microdamage Accumulation and Osteocyte Necrosis Cause Atypical Femoral Fractures from Bone Histomorphometric Findings of Cortex of Fracture Sites

Naoki Kondo, Taketoshi Shimakura, Yo Watanabe, Noriaki Yamamoto, Naoto Endo

Poster No. 1256

Catastrophic Failure in Proximal Sesamoid Bones of Racehorses Is Associated with Increased Bone Density

Erin N. Cresswell, Sean P. McDonough, Scott E. Palmer, Christopher J. Hernandez, Heidi L. Reesink

PS1 Trauma and Fracture—Repair/Therapeutics

Poster No. 1257

Enhancement of Fracture Healing in the Rat Modulated by Compounds That Stimulate Inducible Nitric Oxide Synthase

Sang-Hyun Park, Rebecca Rajfer, Ayhan Kilic, Su Hlaing, Lean Schulte, Andrew Neviasser, Eddie Ebramzadeh, Jessica Landeros, Monica Ferrini

Poster No. 1258

Palovarotene Treatment Suppresses Osteoprogenitor Cell Activity and Ectopic Bone Formation in a Trauma Induced Rodent Model of Heterotopic Ossification

Ammar T. Qureshi, Jonathan G. Seavey, Katherine E. Cilwa, Allison M. Tomasino, Wesley Bova, Cynthia Boehm, Erin M. Sanders, Devaveena Dey, Jonathan A. Forsberg, George Muschler, Thomas A. Davis

Poster No. 1259

Acute Limb Ischemia and Reperfusion Impairs rhBMP-2 Mediated Fracture Healing

Stephen M. Goldman, Richard K. Hurley Jr., Beth E. Pollot, Joseph C. Wenke, Bryan K. Lawson, Benjamin T. Corona

Poster No. 1260

Patient Specific 3D Printed Titanium Truss Strut Implants Combined with the Masquelet Technique: A Novel Strategy to Reconstruct Massive Segmental Bone Loss

Kevin Tetsworth, Joe Isaacs, Vaida Glatt

Poster No. 1261

Delayed Endothelial Progenitor Cell Therapy Promotes Bone Defect Repair in a Pre-Clinical Rat Model

Brent D. Bates, Charles Godbout, David J. Ramnarain, Emil H. Schemitsch, Aaron Nauth

Poster No. 1262

Exogenous Hedgehog Signal Inhibition Impairs Fracture Healing

Jennifer McKenzie, Xiaochen Liu, Clayton Maschhoff, Matthew J. Silva, Michael J. Gardner

Poster No. 1263

Chitosan Paste for Local Antibiotic Delivery: An Assessment of Cell and Tissue Compatibility

Christopher M. Alexander, Joel M. Berretta, Warren O. Haggard, Jessica A. Jennings

Poster No. 1264

Pattern Analysis of Time Series Transcriptomic Datasets Reveal Similarities in Aging-related Defects in Fracture Healing and Liver Regeneration

Theresa Freeman

POSTERS

Poster No. 1265

Using Impedance to Characterize Fracture States in Externally-Stabilized Mouse Tibia Fractures vs. Critical-Sized Defects

Monica C. Lin, Diane Hu, Frank Yang, Safa T. Herfat, Chelsea S. Bahney, Michel M. Maharbiz, Meir Marmor

Poster No. 1266

Co-Delivery of BMP-2 and Vascular Cell Source to Mitigate Composite Bone and Muscle Injury

Marissa A. Ruehle, Laxminarayanan Krishnan, Hazel Y. Stevens, Nick J. Willett, Robert E. Guldberg

Poster No. 1267

Stimulation of Fracture Healing Using Parathyroid Hormone in Alcohol Induced Delayed Unions

Taylor J. Reif, Esha Kapania, Joshua Eisenberg, John Callaci

Poster No. 1268

Transcutaneous CO₂ Application Accelerates Bone Regeneration in a Rat Femoral Defect Model

Yu Kuroiwa, Takahiro Niikura, Shunsuke Takahara, Sang Yang Lee, Takashi Iwakura, Michio Arakura, Yohei Kumabe, Yoshitada Sakai, Ryosuke Kuroda

Poster No. 1269

Wear Resistance Characterization of CoBlast Surface Modifications for Metallic Implants

Sarah Helms, Marian Kennedy, John DesJardins

Poster No. 1270

Osteoprogenitors, but Not Endothelial Cells Are Directly Affected by PTH in Modulating Vasculogenesis Around Calvarial Allografts

Doron Cohn-Yakubovich, Dmitriy Sheyn, Eran Yalon, Yeshai Scharj, Alin Yaya, May Amira, Gadi Pelled, Dan Gazit, Zulma Gazit

Poster No. 1271

Pullout Strength After Multiple Reinsertions in Radial Bone Fixation

Alfonso Mejia, Farid Amirouche, Giovanni F. Solitro, Donald Chuang, Elena Gonzalez, George Ozoude

PS1 Diagnostic Imaging

Poster No. 1272

Quantitative Evaluation of Muscle Volume of the Supraspinatus Using 3D MRI: Comparison of Before and After Surgery

Tsuyoshi Sasaki, Atsushi Yamamoto, Noritaka Hamano, Hitoshi Shitara, Tsuyoshi Ichinose, Kenji Takagishi

Poster No. 1273

Neutron Tomographic Imaging of Bone-Implant Ingrowth

Hanna Isaksson, Erika Tudisco, Christina Perdikouri, Sophie LeCann, Mikael Turunen, Anders Kastner, Magnus Tägil, Stephen Hall

Poster No. 1274

Deep Imaging of Traditional Histological Staining in Cartilage Tissue Using Optical Clearing and Confocal Microscopy

Soham Ghosh, Dominik Haudenschild, Sarah Calve, Corey P. Neu

Poster No. 1275

In Vivo Densitometric Analysis at the Metatarsal and Tarsometatarsal Joint in Normal and Hallux Valgus Patients

Bradley C. Campbell, Stephen F. Conti, Mark C. Miller

Poster No. 1276

Analysis of Femoral Anteversion Angle in Canines and Humans: Establishing a Uniform Method for Clinical Use and Comparative Analysis

Mitchell D. Peterson, Madison S. Doutré, Tony Y. Kuo, Roy D. Bloebaum, John G. Skedros

Poster No. 1277

WITHDRAWN

Poster No. 1278

A Simple Correction Strategy for Elasticity Measurements in Thin Layer Samples Using Shear Wave Elastography

Hao Xu, Jian-Qiang Mo, Shi-Gao Chen, Kai-Nan An, Zong-Ping Luo

Poster No. 1279

Automatic Knee X-Ray Analysis System Reveals That Meniscus Repair During Anterior Cruciate Ligament Reconstruction Surgery Cannot Prevent the Development of Osteoarthritis

Koji Otabe, Mai Katakura, Toshiyuki Ohara, Kaori Nakamura, Masafumi Horie, Hideyuki Koga, Toshifumi Watanabe, Ichiro Sekiya, Takeshi Muneta

Poster No. 1280

Validation of Digital Visual Analog Scale (VAS) Pain Scoring with Traditional Paper Based Visual Analog Scale Pain Scoring in Adults

Domenica A. Delgado, Joshua D. Harris, Andrew Robbins, Bradley S. Lambert, Nickolas Boutris, Cole Chapman, Michael R. Moreno, Patrick C. McCulloch

Poster No. 1281

Importance of Lateral Radiographic Parameters in Predicting Elbow Deformity Following Pediatric Supracondylar Humeral Fracture Treatment

Takamasa Shimizu, Shohei Omokawa, Atsushi Yoshida, Tadanobu Onishi, Yasuhito Tanaka

Poster No. 1282

How Does the T1 ρ Relaxation Time Change with Time in Asymptomatic Hips with CAM Femoral Acetabular Impingement?

George Grammatopoulos, Gerd Melkus, Kawan S. Rakhra, Paul E. Beaulé

Poster No. 1283

Simultaneously Excited Multi-Slice DTI in the Peripheral Nerves

Tina Jeon, Ek Tsoon Tan, Maggie M.K. Fung, Darryl B. Sneag

POSTERS

Poster No. 1284

Whole Human Vertebral Body Creep is Associated with DTS-Derived Texture Parameters

Daniel Oravec, Woong Kim, Michael J. Flynn, Yener N. Yeni

Poster No. 1285

Automated Bone Segmentation and Surface Topology Evaluation in a Small Animal Model of Osteoarthritis

Austin Ramme, Matin Lendhey, Kevin Voss, Jurinus Lesporis, Thomas Coughlin, Oran Kennedy

Poster No. 1286

Shear Wave Elastography (SWE) of Healthy Achilles Tendons: A Comparison Between Professional Athletes and the Non-Athletic General Population

Valentin M. Quack, Simone Schradling, Marcel Betsch, Matthias Gatz, Markus Tingart, Timm Dirrichs

Poster No. 1287

Vertebral Endplate and Shell Thickness Measurement Using Digital Tomosynthesis

Yener N. Yeni, Michael R. Dix, Angela Xiao, Daniel Oravec, Michael J. Flynn

Poster No. 1288

Cervical Nerve Root to Foraminal Size Ratio Correlates with Post-Surgical Patient-Reported Outcomes

Yener N. Yeni, Mirabelle Lindquist, Daniel Oravec, Timothy Baumer, Michael J. Bey, Stephen Bartol, Victor Change

Poster No. 1289

Objective Quantitative Assessment of Cervical Spondylotic Myelopathy Severity Using Preoperative MRI and Machine Learning

Matthew J. Courtemanche, Maryse Fortin, Michael G. Fehlings, Michael Weber, Carolyn J. Sparrey

PS1 Tumors—Metastatic Tumors

Poster No. 1290

Metastatic Involvement in Vertebral Bone Modifies Features of the Bone Tissue Matrix Impacting Its Material Characteristics and Mechanical Behaviour

Mikhail V. Burke, Ayelet Atkins, Ahmad Golaraei, Virginijus Barzda, Margarete Akens, Cari Whyne

Poster No. 1291

Physiological Loading Enhances Convective Transport of ¹⁸F-Fluoride in a Rat Model of Tibial Metastasis

Vittorio Gatti, Paolo E. Palacio-Mancheno, Valerie A. Longo, Pat B. Zanzonico, Vinagolu K. Rajasekhar, Gene R. DiResta, John H. Healey, Susannah P. Fritton

Poster No. 1292

Signature Genetic Mutations Related to Refractory Bone Metastasis in Non-small Cell Lung Cancers

Sungwook Seo

Poster No. 1293

Thrombospondin2 Enhances Vcam1 Expression and Cell Migration Via Integrin $\alpha\beta3$ Dependent Signaling Pathway in Human Osteosarcoma Cells

Ju-Fang Liu, Sheng-Mou Hou, Chun-Han Hou

Poster No. 1294

Difference of Microrna Profiling Between Osteosarcoma Cells and Secreted Exosomes

Kiyono Masahiro, Tomohiro Fujiwara, Aki Yoshida, Takuya Morita, Koji Uotani, Yusuke Mochizuki, Tadashi Komatsubara, Kazuhisa Sugiu, Joe Hasei, Toshiyuki Kunisada, Toshifumi Ozaki

PS1 Tumors—Primary Tumors

Poster No. 1295

Sodium Valproate, a Histone Deacetylase Inhibitor, Induces the Expression of Cell-Surface Nkg2d Ligand, Mica and B, with Decreasing Their Soluble Forms to Enhance Susceptibility of Human Osteosarcoma Cells to Natural Killer Cell-Mediated Cytotoxicity

Shunsuke Kumanishi, Koji Yamanegi, Hiroyuki Futani, Keiji Nakasho, Shinichi Yoshiya

Poster No. 1296

Influence of Rhbmp-2 on Canine Adipose Derived Mesenchymal Stem Cells and Canine and Human Osteosarcoma Cells

Callie Rogers, Laura Chubb, Ross H. Palmer, Ruth Rose, Edward Cheng, Nicole E. Ehrhart

Poster No. 1297

Validation of a Rat Model for Analyzing microRNA in Chondrosarcoma

Nicholas B. Frisch, Timothy J. Evans, Christopher Dobson, Yun Wang, Albert M. Levin, Gary Gibson, Michael P. Mott, Theodore Parsons

Poster No. 1298

The Anti-Tumor Effects of Chemotherapy on Human Osteosarcoma Cell Line in Combination with Suppression of Heat Shock Protein

Yuki Mori

Poster No. 1299

Inhibition of Casein Kinase 2 Prevents Growth of Human Osteosarcoma

Kengo Takahashi

Poster No. 1300

Prospective Randomized Clinical Trial Comparing Ultraporous Beta-Tricalcium Phosphate with Bone Marrow Aspirate to Combined TCP with Calcium Sulfate in Cured Benign Cavitary Tumor Lesions

Timothy A. Damron, William Grant, Tina Craig, Joseph Inzinna, Hal Cohen

POSTERS

Poster No. 1301

Frequent Amplification of Receptor Tyrosine Kinase Genes in Well Differentiated/Dedifferentiated Liposarcoma

Naofumi Asano, Akihiko Yoshida, Sachiyo Mitani, Eisuke Kobayashi, Bunsyo Shiotani, Motokiyo Komiyama, Hiroyuki Fujimoto, Hirokazu Chuman, Hideo Morioka, Morio Matsumoto, Masaya Nakamura, Mamoru Kato, Akira Kawai, Tadashi Kondo, Hitoshi Ichikawa

Poster No. 1302

The Antitumor Effects of Chloroquine Involve the Suppression of Autophagy and Inhibition of the Mapk Pathway in Osteosarcoma Cells

Yoichi Kitano, Osamu Nakamura, Hideki Nishimura, Ryosuke Horie, Natsuko Fukuoka, Tetsuji Yamamoto

Poster No. 1303

Proteomics Analysis of Characteristic Histological Changes with Denosumab Treatment in Giant Cell Tumors of Bone

Yoshiyuki Suehara, Kenta Mukaihara, Yu Tanabe, Shinji Kohnsaka, Saiko Kazuno, Midori Ishii, Keisuke Akaike, Daisuke Kubota, Kazuo Kaneko, Tsuyoshi Saito

Poster No. 1304

Myxofibrosarcoma Detection Using 5-ALA Tumor Paint in a Micromass Culture

Shachar Kenan, Haixiang Liang, Howard Goodman, Daniel A. Grande, Adam Levin

Poster No. 1305

Characterization of Circulating Micro RNAs in Tumor Derived Exosomes in Myxofibrosarcoma Patients

Takuya Morita, Tomohiro Fujiwara, Koji Uotani, Aki Yoshida, Masahiro Kiyono, Kazuhisa Sugiu, Tadashi Komatsubara, Yusuke Mochizuki, Joe Hasei, Toshiyuki Kunisada, Akira Kawai, Takahiro Ochiya, Toshihumi Ozaki

Poster No. 1306

Identification of Exosomal Surface Markers by Proteomic Profiling of Exosomes Derived from Ewing Sarcoma Cells

Aki Yoshida, Tomohiro Fujiwara, Koji Uotani, Yusuke Yoshioka, Koji Ueda, Takuya Morita, Masahiro Kiyono, Kazuhisa Sugiu, Tadashi Komatsubara, Jo Hasei, Toshiyuki Kunisada, Takahiro Ochiya, Toshifumi Ozaki

Poster No. 1307

Telomerase-Specific Oncolytic Adenoviral Therapy Reverses Chemoresistance and Radioresistance in Human Osteosarcoma

Yusuke Mochizuki, Toshimori Omori, Shuhei Osaki, Joe Hasei, Tsuyoshi Sasaki, Kazuhisa Sugiu, Tadashi Komatsubara, Tomohiro Fujiwara, Toshiyuki Kunisada, Hitoshi Tazawa, Toshiyoshi Fujiwara, Toshifumi Ozaki, Shunsuke Kagawa, Yasuo Urata

Poster No. 1308

Plasma-Activated Media Kill Osteosarcoma Cells by Inducing Autophagy and Caspase-counteracted Cell Death

Tomohisa Ito

Poster No. 1309

Novel Non-Invasive Diagnostic Approach Using Serum Cell-Free MicroRNAs for Patients with Synovial Sarcoma

Koji Uotani, Tomohiro Fujiwara, Aki Yoshida, Takuya Morita, Masahiro Kiyono, Yutaka Nezu, Yusuke Mochizuki, Tadashi Komatsubara, Kazuhisa Sugiu, Joe Hasei, Toshiyuki Kunisada, Akira Kawai, Takahiro Ochiya, Toshifumi Ozaki

POSTER SESSION 2

Posters will be displayed Tuesday, March 21, 2:00 PM – 5:00 PM and Wednesday, March 22, 10:00 AM – 4:00 PM.

PS2 Biomaterials—Other

Poster No. 1310

Electrospun Nanofiber Sheets Including Methylcobalamin Promote Nerve Regeneration and Functional Recovery in a Rat Sciatic Nerve Injury Model

Koji Suzuki, Hiroyuki Tanaka, Mitsuhiro Ebara, Junichi Sayanagi, Toru Iwahashi, Hozo Matsuoka, Kiyoshi Okada, Tsuyoshi Murase, Hideki Yoshikawa

Poster No. 1311

Evaluation of Thermosensitive Keto-hydrogel for Postoperative Pain Control in a Rat Model

Meng-Huang Wu, Wei-Bin Hsu, Navneet Kumar Dubey, Tsung-Jen Huang, Chung-Sheng Shi, Chung-Hang Wong

Poster No. 1312

Transcriptional Profiling of Macrophages Induced by Phagocytosis of Wear Debris from Ultrahigh Molecular Weight Polyethylene

Alaa Terkawi, Masanari Hamasaki, Daisuke Takahashi, Tsuyoshi Asano, Tohru Irie, Tomohiro Onodera, Norimasa Iwasaki

Poster No. 1313

Biomimetic Coatings and Negative Pressure Wound Therapy Limit Epithelial Downgrowth Around Percutaneous Devices

Sujee Jeyapalina, Saranne J. Mitchell, Jayant Agarwal, Kent N. Bachus

Poster No. 1314

Comparative Wear Performance of Ceramic-on-Ceramic Bearings Under Non-Standard Hip Simulation

Bryan J. Mcentire, Ramaswamy Lakshminarayanan, Darin Ray, Ian C. Clarke, Giuseppe Pezzotti

Poster No. 1315

Effects of Altering Spacer Material and Topography on Membrane Mechanics in the Masquelet Technique

Natalie Gaio, Zachary Toth, Tracy Watson, Daemeon Nicolaou, Sarah McBride-Gagy

Poster No. 1316

A Silver-Based, Titanium Dioxide/Polymer-Hybrid Coating as a Preventative for C. Albicans Biofilms

Kevin Mertz, Dioscaris R. Garcia, John Jarrell, Christopher Born

POSTERS

Poster No. 1317

Maintaining of Induced Pluripotent Stem Cells Through Culture on Nanopattern Polydimethylsiloxane Membrane

Gun-Il Im, Ji-Yun Ko, Jimin Lee

Poster No. 1318

Exploratory Study on the Effect of Osteoactivin on Muscle Regeneration in a Rat Volumetric Muscle Loss Model

Jinjin Ma, Anthony Calabro, Andrew R. Baker, Kathleen A. Derwin

Poster No. 1319

Post-Debridement Local Antimicrobial Delivery from PNDJ Gel is Effective for Orthopaedic Infections: A Rabbit Study

Alex C. McLaren, Paulo Castaneda, Derek J. Overstreet

Poster No. 1320

A Comparison of the Surface and Bulk Mechanical Properties of Ultra High Molecular Weight Polyethylene (UHMWPE) Infused with Vitamin E

Sofia E. Arevalo, Louis Malito, Lisa Pruitt

Poster No. 1321

The Effects of Elastic Intramedullary Nails of a New β Type Ti-nb-sn Alloy with Low Young's Modulus on Fracture Healing in Mice Tibiae

Hirokazu Fujisawa, Yu Mori, Masayuki Kamimura, Naoya Masahashi, Shuji Hanada, Eiji Itoi

Poster No. 1322

Interface Analysis of the Low Young's Modulus Ti-nb-sn Alloy with Anodic Oxidation and Hot Water Treatment Implanted to Rabbit Femur

Hidetatsu Tanaka, Yu Mori, Atsushi Kogure, Shuji Hanada, Naoya Masahashi, Eiji Itoi

Poster No. 1323

Analysis of Ti-Alloy Surface Conditions After Changes in Laser Marking Power

Ethan S. Baker, Satya Nambu, Irina Timmerman

PS2 Biomaterials—Bone

Poster No. 1324

Transplantation of Paclitaxel Impregnation Hap/Col to Bone Metastasis Model Rat

Matsumoto Rempei

Poster No. 1325

In Situ Microcomputed Tomography Study of the Local Deformation Behavior of Porous PEEK

David L. Safranski, Nathan T. Evans, F. Brennan Torstrick, Robert E. Guldberg, Ken Gall

Poster No. 1326

Novel Calcium Phosphate Antibiotic Carrier with Slow Release Properties to Protect and Promote Bone Healing

Siddhesh R. Angle, Michael Strunk, Jerry Chang

Poster No. 1327

Local Delivery of Cefazolin from Calcium Phosphate Cement: An In Vitro Elution Study

Michio Arakura, Takahiro Niikura, Sang Yang Lee, Takashi Iwakura, Shunsuke Takahara, Yu Kuroiwa, Ryosuke Kuroda

Poster No. 1328

Bone Formation and Beta-Tricalcium Phosphate Resorption in Opening High Tibial Osteotomy with 10 Years Follow-Up

Takaaki Tanaka, Yoshio Kumagai, Masaaki Chazono, Hirokazu Komaki, Seichiro Kitasato, Atsuhito Kakuta, Syousi Akiyama, Keishi Marumo

Poster No. 1329

Two-Step Stem Cell Therapy Significantly Improves Bone Regeneration in a Murine Critical Size Femoral Bone Defect Model Compared to Instant Stem Cell Therapy

Julia Bolte, Robert Langanke, Anna Carla Culla, Tilman Ahlfeld, Matthias Schumacher, Jörg Nowotny, Philip Kasten, Klaus-Peter Günther, Klaus-Dieter Schaser, Stuart Goodman, Maik Stiehler, Michael Gelinsky, Stefan Zwingenberger

Poster No. 1330

Study of the Bioactivity of a Novel 3D Printed Titanium Scaffold and the Effect of Scaffold Pre-conditioning on Cell Attachment

Sorousheh Samizadeh, Chaozong Liu

Poster No. 1331

Inflammatory Profile of MSCs on Microstructured Titanium Is Altered by Bone Morphogenetic Protein 2

Sharon L. Hyzy, Rene Olivares-Navarrete, Sarah E. Ortman, Zvi Schwartz, Barbara D. Boyan

Poster No. 1332

WITHDRAWN

Poster No. 1333

Titanium (Ti6Al4V) Lattices via Selective Laser Melting for Dental and Orthopaedic Applications

Zena J. Wally, Frederik Claeysens, Antonio Feteira, Abdul Haque, Russell Goodall, Gwendolen Reilly

Poster No. 1334

Repair of Femoral Bone Defects in Rats Using Hydroxyapatite/Collagen (HAp/Col) with BMP-2

Satoru Egawa, Wei Xue Tao, Hiroaki Yasuda, Toshitaka Yoshii, Rempei Matsumoto, Atsushi Okawa, Shinichi Sotome

Poster No. 1335

WITHDRAWN

Poster No. 1336

Engineering of Smart Textiles That Mimic Periosteum's Intrinsic Weave

Joanna L. Ng, Lillian E. Knothe, Melissa L. Knothe Tate

POSTERS

Poster No. 1337

Dual Local Delivery of Cefazolin and Gentamycin from Calcium Phosphate Cement: An In Vitro Elution Study

Shunsuke Takahara, Takahiro Niikura, Sang Yang Lee, Takashi Iwakura, Michio Arakura, Yu Kuroiwa, Yohei Kumabe, Ryosuke Kuroda

Poster No. 1338

Pre-Vascularized Biomimetic Tissue-Engineered 3D Bone Graft Promotes Neovascularization and Maintains Structural Integrity In Vivo

Brittany L. Taylor, Sarah Indano, Isabel Perez, Joseph Freeman

Poster No. 1339

Development of a Ceramic-Demineralized Bone Matrix Biomaterial Ink for 3D-Printing of Hyperelastic Bone Composite Scaffolds for Spinal Fusion

Andrew Schneider, Adam Jakus, Gurmit Singh, Karina Katchko, Danielle Chun, Joseph Weiner, Ralph Cook, Michael Schallmo, Michael Newton, Tristan Maerz, Kevin Baker, Ramille Shah, Wellington Hsu, Erin Hsu

Poster No. 1340

Antibacterial Activity of Microstructured Silver Platinum-Group Metals (Ag-Pd, Ag-Pt, Ag-Ir) Sacrificial Anode Thin Films

Manfred Koeller, Adham Abuayyash, Christina Sengstock, Chinmay Khare, Yahya Montemani, Kristina Tschulik, Thomas Schildhauer, Alfred Ludwig

Poster No. 1341

Peptide Amphiphile NanoSlurry as an Improved BMP-2 Carrier for Spinal Arthrodesis

Karina M. Katchko, Mark T. McClendon, Sungsoo S. Lee, Gurmit Singh, Andrew D. Schneider, Danielle S. Chun, Joseph A. Weiner, Ralph W. Cook, Michael S. Schallmo, Ryan D. Freshman, Chawon Yun, Samuel I. Stupp, Erin L. Hsu, Wellington K. Hsu

Poster No. 1342

Resorbable AGN1 Biomaterial Confers Biomechanical Integrity to Osteoporotic Cadaveric Femurs

Jonathan L. Shaul, Dominique Favell, Ronald Hill, Bryan Huber, James Howe, Mary L. Bouxsein

Poster No. 1343

Apolipoprotein E (apoe) Plays a Crucial Role in Maintaining Trabecular and Cortical Bone Mass by Promoting Osteoblastic Differentiation and Suppressing Osteoclast Differentiation

Takaaki Noguchi, Kosuke Ebina, Makoto Hirao, Kazuma Kitaguchi, Hideki Yoshikawa

Poster No. 1344

A Biphasic Biomaterial as Carrier for Bone Active Substances: Tibial Bone Defect Reconstruction in Rats

Deepak Raina, Peter Horstmann, Hanna Isaksson, Werner Hettwer, Lars Lidgren, Michael Mørk Petersen, Magnus Tagil

Poster No. 1345

A Novel Regulatory Role of TRAPPC9 in L-Plastin-Mediated Actin Ring Formation and Osteoclast Function

Nazar J Hussein, Thomas Mbimba, Asaad Aladlaan, Mohammad Y. Ansari, Takhar Kasumov, Zhicheng Jin, Fayez Safadi

Poster No. 1346

A Fast-degrading Thiol-Acrylate Hydrogel Shows Promise as a Cell Carrier for Stem-Cell Assisted Cranial Regeneration

Alarbi Emmakah, Marta Alvarez, Paul Childress, W. Scott Goebel, Melissa Kacena, Chien-Chi Lin, Tien-Min Chu

Poster No. 1347

Effects of Elastic Intramedullary Nails of Low Young's Modulus Ti-Nb-Sn-alloy on Bone Healing

Atsushi Kogure, Yu Mori, Hidetatsu Tanaka, Masayuki Kamimura, Naoya Masahashi, Shuji Hanada, Eiji Itoi

Poster No. 1348

Unravelling the Connection of Sensory Nerve System and Stem Cells in Magnesium-enhanced Bone Formation

Jiankun Xu, Yifeng Zhang, Jiali Wang, Kiwai Ho, Shuhang Yung, Kaiming Chan, Ling Qin

Poster No. 1349

Prostaglandin EP4 Agonist Promotes Osteoblastic Differentiation and Bone Formation

Sadaaki Kanayama, Takashi Kaito, Kazuma Kitaguchi, Hiroyuki Ishiguro, Kunihiko Hashimoto, Rintaro Okada, Shota Takenaka, Takahiro Makino, Yusuke Sakai, Hideki Yoshikawa

Poster No. 1350

Three-Dimensional Analysis Using CT of the First Metatarsal Torsion in Patients with Hallux Valgus

Tomohiko Ota, Takeo Nagura, Tetsuro Kokubo, Masateru Kitashiro, Naomichi Ogihara, Yasunori Suda, Morio Matsumoto, Masaya Nakamura

Poster No. 1351

Design, Construction and Mechanical Testing of Porous Titanium Bone Tissue Engineering Scaffold by Three-Dimensional Printing

Qingqiang Yao, Jun Hu, Pengfei Zheng, Zorica Buser, Bo Wei, Jin Zhou, Jiayi Li, Nancy Liu, Jeffrey Wang, Liming Wang

Poster No. 1352

Bioactivity of Titanium Metal Releasing Strontium Ions or Magnesium Ions

Yaichiro Okuzu, Shunsuke Fujibayashi, Seiji Yamaguchi, Koji Yamamoto, Koji Goto, Bungo Otsuki, Tomiharu Matsushita, Tadashi Kokubo, Shuichi Matsuda

Poster No. 1353

Delivery of Liposomal Bone Morphogenetic Protein-2 to Encourage Osseointegration of Cemented Implants

Wayne N. Nishio Ayre, Rachel J. Waddington, Samuel L. Evans, Deborah J. Mason, Bronwen A. Evans, James C. Birchall, Rhidian Morgan-Jones, Stephen P. Denyer, Alastair J. Sloan

POSTERS

Poster No. 1354

Titanium Surface Dependent Regulation of Bone Remodeling in Osseointegration Implicates Semaphorins

Ethan M. Lotz, Michael B. Berger, Sharon L. Hyzy, Zvi Schwartz, Barbara D. Boyan

Poster No. 1355

Customized Load-Bearing and Degradable Functionally-Graded Scaffold for Improved Treatment of Early Stage Osteonecrosis of the Femoral Head

Toshiyuki Kawai, Yunzhi P. Yang, Stuart B. Goodman

Poster No. 1356

The Effect of Ribose Pre-Treatment of Cortical Bone on Gamma-Irradiation Sterilization Effectiveness

Tarik Attia, Jindra Tupy, Dalal Asker, Benjamin Hatton, Marc Grynblas, Thomas Willett

PS2 Biomaterials—Cartilage

Poster No. 1357

Estimations in Articular Cartilage Material Property by Using Image Based Finite Element Analysis

Gangto Lee, Yoonjin Kim, Choongsoo Shin, Yongname Song

Poster No. 1358

Effects of Autologous Osteochondral Transplantation Augmented by Ultrapurified Alginate Gel in Rabbit Model

Ryosuke Hishimura, Tomohiro Onodera, Kazutoshi Hontani, Rikiya Baba, Kentaro Homan, Shinji Matsubara, Zenta Joutoku, WooYoung Kim, Norimasa Iwasaki

Poster No. 1359

Development of Optimized Photocrosslinked Gelatin/Hyaluronic Acid Scaffold for Repair of Osteochondral Defect

Hang Lin, Angela Beck, Shimomura Kazunori, Peter Alexander, Madalyn Fritch, Evan Kilroy, Ying Tang, Rocky Tuan

Poster No. 1360

JAK Nanopieces: Novel, Biomimetic, and Tiny Nano-vehicles for In Vivo Rnai Therapeutics Delivery to Treat Joint Diseases

Hongchuan Yu, Yupeng Chen, Brandon Vorrius, Peter Feltman, Chathuraka Jayasuriya, Michael Ehrlich, Qian Chen

Poster No. 1361

Development of a Gene-Activated Scaffold for Cartilage Defect Repair: The Role of the Sox Trio of Genes

Rosanne M. Rafferty, Sally-Ann Cryan, Fergal J. O'Brien

Poster No. 1362

Postoperative 3 Years Followup of Matrix Induced Autologous Chondrocyte Implantation in 67 Cases

Wei Min Zhu

Poster No. 1363

Combinatorial Effects of Type II Collagen and Transforming Growth Factor- β 3 on Chondrogenesis Within Stem Cell Laden Alginate Hydrogels

Swetha Rathan, Daniel J. Kelly

Poster No. 1364

How Does the Coefficient of Friction of All Cartilage Bearings Compare to Cartilage On-Biomaterial Bearings?

Timothy Bertone, Gabrielle Toner, Ryan Siskey, Steven Kurtz

Poster No. 1365

Effects of Osteochondral Defect Size on Cell-free Cartilage Regeneration Using a Double-Network Hydrogel

Kotaro Higa, Nobuto Kitamura, Keiko Goto, Shuken Kai, Takayuki Kurokawa, Jian Ping Gong, Fuminori Kanaya, Kazunori Yasuda

Poster No. 1366

An Extracellular Matrix Based Hydrogel as In Vitro Model to Study Zone-Specific Chondrocyte Differentiation

Jens Antons

Poster No. 1367

Treatment of Goat Osteochondral Defects with a Novel Biomaterial

Ryan Fernan, Gail K. Naughton, Michael Zimmer

Poster No. 1368

Spatial Growth Factor Delivery for Integrated Osteochondral Tissue Regeneration

Deborah L. Dorcemus, Marisa E. Boch, Syam P. Nukavarapu

Poster No. 1369

Significance of Permeability and Crosslinking Density on Viscoelastic Behavior of Tissue Engineering Scaffolds

Naser Nasrollahzadeh, Dominique Pioletti

Poster No. 1370

Adam10 Inhibitor Suppresses Cd44 Cleavage and Chondrogenic Dedifferentiation in Bovine Primary Chondrocyte Cells

Yasumori Sobue, Nobunori Takahashi, Toshihisa Kojima, Naoki Ishiguro

Poster No. 1371

Intermittent Compression Force as Physical Stimuli Affecting Proliferation and Differentiation of Adipose-derived Stem Cells

Benjamin Teong, Shun-Cheng Wu, Jhen-Wei Chen, Je-Ken Chang, Mei-Ling Ho

PS2-081 Biomaterials—Tendon and Ligament

Poster No. 1372

Effects of Ligament Remnant Tissue Preservation on the Tendon Graft After Anterior Cruciate Ligament Reconstruction: Biomechanical and Histological Evaluations with a Sheep Model

Tsuneari Takahashi, Eiji Kondo, Nobuto Kitamura, Jun Onodera, Masashi Yokota, Masayuki Inoue, Norimasa Iwasaki, Kazunori Yasuda

POSTERS

Poster No. 1373

Biomechanical Evaluation of the Hollow Mesh Suture Technique of Flexor Tendon Repair

Haoyu Liu, Andrew R. Thoreson, Assaf Kadar, Peter C. Amadio, Steven L. Moran, Chunfeng Zhao

Poster No. 1374

Biomechanical Evaluation of Rotator Cuff Repairs and Measuring Gaps Within the Repair

Kevin Collon, David Kaimrajh, Edward Milne, Geoffrey Higgs, Loren Latta

Poster No. 1375

Region-Dependent Distribution of Elastic Fibers in Genetically-Modified Mouse Supraspinatus and Achilles Tendons

Fei Fang, Spencer Lake

Poster No. 1376

The Effect of Vancomycin Soakage on the Material Properties of Patellar Tendon ACL Graft

Joseph Liu, Ian Hutchinson, Tony Chen, Thomas Wickiewicz, Scott Rodeo, Russell Warren

Poster No. 1377

Electrospinning with Porogen to Enhance Cell Infiltration in Tissue Engineered Constructs

Jian Hong Lee, Pen-hsiu Grace Chao

Poster No. 1378

Tailoring the Degradation Rate of a Polydioxanone Yarn with Potential to Improve Soft Tissue Repair

Roxanna E. Abhari, Pierre-Alexis Mouthuy, Cameron Brown, Nasim Zargar, Andrew Carr

Poster No. 1379

Strengthening Tendon-to-Bone Repair with Mechanically-Optimized Adhesives

Stephen W. Linderman, Mikhail Golman, Donghwan Yoon, Victor Birman, Guy M. Genin, Stavros Thomopoulos

PS2 Cartilage and Synovium—Imaging

Poster No. 1380

Assessment of Water Compartments in Cartilage Using Raman Spectroscopy

Mustafa Unal, Ozan Akkus

Poster No. 1381

Early Bone and Cartilage Structural and Compositional Changes After DMM Surgery Quantified by μ CT

Maleeha Mashiatulla, Jun Li, Amit Patwa, Mark W. Grinstaff, Anna Plaas, D. Rick Sumner

Poster No. 1382

In Vivo Behavior of Patellar Cartilage in Response to and 24 Hours Following Running

Lauren N. Heckelman, Alexie D. Riofrio, Emily N. Vinson, Amber T. Collins, Gangadhar M. Utturkar, Charles E. Spritzer, Louis E. DeFrate

Poster No. 1383

Three-Dimensional Micro-Scale Strain Mapping in Live Cartilage

Eng Kuan Moo, Scott C. Sibole, Sang Kuy Han, Walter Herzog

Poster No. 1384

Cationic Contrast-Enhanced Computed Tomography Detects Subtle Equine Articular Cartilage Damage After Impact Injury and Reflects Biomechanical Properties

Brad B. Nelson, Janne T.A. Mäkelä, Taylor B. Lawson, Brian D. Snyder, Mark B. Hurtig, Valerie J. Moorman, Mark W. Grinstaff, Laurie R. Goodrich, Chris E. Kawcak

Poster No. 1385

In Vivo Long-Term MRI Monitoring of Superparamagnetic Iron-Oxide Labeled Synovium-Derived Stem Cells After Intra-Articular Transplantation

Bo Mi Nam, Hyun Cheol Bae, Sun Young Wang, Hee Jung Park, Ha Ru Yang, Sahngghoon Lee, Myung Chul Lee, Hyuk-Soo Han

Poster No. 1386

Spectroscopic Evaluation of Collagen in a Pre-Clinical Fibrosis Model

Jessica M. Falcon, Rutvin Kyada, Obiora Ufodu, Jolanta Fertala, Andrzej Steplewski, Andrzej Fertala, Nancy Pleshko

Poster No. 1387

Next Generation Fluorescent Arthroscopy for Early Detection of OA: A Pilot Study

Hongsik Cho, Fazal Ur Rehman Bhatti, Jaehyun Park, Frederick M. Azar, Karen A. Hasty

Poster No. 1388

MRI Reveals Focal Cartilage Defects After Traumatic Joint Injury

David Heckelsmiller, Barbara Laughlin, Mothana Saad Eldine, Dan Thedens, Douglas Pedersen, Douglas Fredericks, Jessica Goetz

Poster No. 1389

Early Osteoarthritic Changes in Medial Tibial Cartilage Three Weeks After ACL Transection by Microscopic MRI

Daniel Mittelstaedt, David Kahn, John Matyas, Yang Xia

PS2 Cartilage and Synovium—Growth Plate and Endochondral Ossification

Poster No. 1390

Torsional Growth Modulation of Long Bones Via Oblique Plating in a Rabbit Model

David Lazarus, Christine Farnsworth, Megan Jeffords, Nikolas Marino, Jericho Hallare, Eric Edmonds

Poster No. 1391

Investigate the Roles of A Protein During Skeletal Development by Using Chondrocyte-Specific A Protein Knockout Mice

Chou Liang Yin

POSTERS

Poster No. 1392

Hydrogel Composition Regulates Chondrogenesis by Mesenchymal Stem Cells and Endochondral Ossification in Engineered Cartilaginous Interfacial Tissues

Jingming Chen, Amalie E. Donius, Juan M. Taboas

Poster No. 1393

Involvement of MicroRNA-29b-ADAM12-L Axis in the Process of Chondrocyte Hypertrophy and Osteophyte Formation in Osteoarthritis

Masahiro Horita, Keiichiro Nishida, Joe Hasei, Takayuki Furumatsu, Toshiyuki Kunisada, Tomohiro Fujiwara, Miwa Sakurai, Shinichi Miyazawa, Yoshihisa Nasu, Ryuichi Nakahara, Toshifumi Ozaki

Poster No. 1394

The G Protein Couple Estrogen Receptor-1 (GPER-1) Regulates Endochondral Bone Formation in Cultured Tibia

Shu-Chun Chuang, Chiu-Fan Shen, Mei-Ling Ho, Je-Ken Chang

PS2 Cartilage and Synovium—Extracellular Matrix

Poster No. 1395

Prevention of Cartilage Degeneration Using the Peptide of Tenascin-C

Tetsuya Hattori, Masahiro Hasegawa, Hironori Unno, Takasi Hosoi, Naoya Ito, Takahiro Lino, Fumio Fukai, Toshimichi Yoshida, Akihiro Sudo

Poster No. 1396

Antioxidant EGCG Protects Cartilage from Inflammatory Attack

Jessica Kerns, Mengxi Lv, Yilu Zhou, Shongshan Fan, X. Lucas Lu

Poster No. 1397

Hyaluronan Alters Chondrogenesis on Adipose Derived Stem Cells Involved in Cd44 Clustering, Erk and Sox-9 Pathway

Shun Cheng Wu, Chung-Hwan Chen, Je-Ken Chang, Mei-Ling Ho

Poster No. 1398

Alterations in Structural Macromolecules in ECM and PCM in Early OA Lapine Cartilage Model

Sang Kuy Han, Ari Ronkainen, Simo Saarakkala, Lassi Rieppo, Walter Herzog, Rami Korhonen

Poster No. 1399

The Control of Inflammatory Mediators by Microenvironmental Factors

ShihJye Tan

PS2 Cartilage and Synovium— Tissue Engineering and Repair

Poster No. 1400

Design and Characterization of a Tissue Engineered Synovium Model to Study Pro-Inflammatory and Chondroprotective Mediators in Osteoarthritis

Amy M. Silverstein, Robert M. Stefani, Evie Sobczak, Saiti S. Halder, Priya Medberry, Roshan P. Shah, Gerard A. Ateshian, Clark T. Hung

Poster No. 1401

Verteporfin, A Promising Photosensitizer for Photochemical Integration of Articular Cartilage

Alberto L. Arvayo, Dalia Szafer, Marc E. Levenston

Poster No. 1402

Recombinant Human Transglutaminase-4 Enhances Cartilage Regeneration of Synovium-Derived Mesenchymal Stem Cells Encapsulated in Hydrogel

Hyun Cheol Bae, Sun Young Wang, Hee Jung Park, Ha Ru Yang, Bo Mi Nam, Sahngsoon Lee, Myung Chul Lee, Hyuk Soo Han

Poster No. 1403

Synovial Membrane Responses to CTGF/TGF β 3-Polymeric Meniscal Scaffold Transplantation in an Ovine Model

Tyler J. Uppstrom, Yusuke Nakagawa, Colin Danaher, Margaret B. Goodale, Amir H. Lebaschi, Camila B. Carballo, Liang Ying, Andrew Miller, Chang Hun Lee, Ling He, Xuguang Nie, Jeremy J. Mao, Scott A. Rodeo, Lisa A. Fortier

Poster No. 1404

Depletion of Gangliosides Enhances Articular Cartilage Repair by Suppressing the Chondrocyte Hypertrophy Surrounding Repair Tissue

Masatake Matsuoka, Tomohiro Onodera, Kentaro Homan, Fumio Sasazawa, Daisuke Momma, Rikiya Baba, Kazutoshi Hontani, Zenta Joutoku, Shinji Matsubara, Ryosuke Hishimura, Norimasa Iwasaki

Poster No. 1405

Directing Tissue Maturation via Biofactor Delivery from Mechanically-Activated Microcapsules

Bhavana Mohanraj, Gang Duan, Daeyeon Lee, Robert Mauck, George Dodge

Poster No. 1406

Physioxia Promotes the Stable Articular Cartilage Tissue Phenotype in Self-Organized Neocartilage

Devon E. Anderson, Brandon D. Markway, Kenneth J. Weekes, Helen E. McCarthy, Brian Johnstone

Poster No. 1407

Interposition of a Cell-Seeded Slow-Degrading Membrane Generates a Stable Osteochondritis Dissecans-Like Lesion in a Large Animal Model

James M. Friedman, Mackenzie L. Sennett, Marcelo B. Bonadio, Blair S. Ashley, Robert L. Mauck, James L. Carey

Poster No. 1408

The Combination of Rapidly Isolated Infrapatellar Fat Pad Stromal Cells and Glyoxal Cross-Linked Type II Collagen Scaffolds as a Single-Stage Therapy for Articular Cartilage Repair

David Browe, Olwyn Mahon, Ivan Dudurych, Ailsing Dunne, Conor Buckley, Daniel Kelly

POSTERS

Poster No. 1409

A Standardized Large Animal Model for Articular Cartilage Repair Cartilage Repair

Anthony Ratcliffe, Andreas Kern, Mohammad Sotoudeh, Fatemeh Saed-Nejad, Robert L. Sah, Albert Chen, Richard D. Coutts, John G. Lane, Jeremiah Easley, Ross Palmer

Poster No. 1410

The Effect of Glucosamine and Glucosamine Derivative on Cartilage Regeneration for Osteochondral Lesion Repair

Tzu-Hsiang Lin, Horng-Chaung Hsu, Ming-Long Yeh

Poster No. 1411

Transplantation of Synovial Mesenchymal Stem Cells Enhances the Effect of Centralization with Suture Anchor and Promotes Meniscus Regeneration for Extruded Meniscus After Partial Meniscectomy in Microminipigs

Kenta Katagiri, Mitsuru Mizuno, Hldeyuki Koga, Nobutake Ozeki, Yusuke Nakagawa, Yuji Kohno, Koji Otabe, Masafumi Horie, Hisako Katano, Kunikazu Tsuji, Hideo Ono, Takeshi Muneta, Ichiro Sekiya

Poster No. 1412

A Novel Algorithm for a Precise Analysis of Subchondral Bone Alterations

Liang Gao, Patrick Orth, Lars Goebel, Magali Cucchiari, Henning Madry

Poster No. 1413

Toward Cartilage Drug Delivery: Uptake of the Tat Ptd in Human OA Cartilage

Sarah Mailhot, Ronald K. June

Poster No. 1414

Development of a Vitrification Method for Polydactyly-Derived Chondrocyte Sheets for Regeneration of Articular Cartilage

Miki Maehara, Masato Sato, Eriko Toyoda, Takumi Takahashi, Eri Okada, Daichi Takizawa, Kazuaki Matsumura, Suong-Hyu Hyon, Hiroshi Nagashima, Masahiko Watanabe

Poster No. 1415

Effective, Durable rAAV-Mediated Gene Transfer in Human Articular Chondrocytes in a Tissue Engineered Scaffold-Free Cartilage Analog Platform

Oliver Mueller, Janina Frisch, Ana Rey Rico, Jagadeesh Venkatesan, Gertrud Schmitt, Henning Madry, George R. Dodge, Magali Cucchiari

Poster No. 1416

Weekly Sprifermin Treatment Enhances Cartilage Integration in an In Vitro Repair Model

Gregory R. Meloni, Mackenzie Sennett, Alexandra J.E. Farran, Anne Gigout, Robert L. Mauck, George R. Dodge

Poster No. 1417

Influence of Transient TGF- β 1 Exposure on Proliferation and Differentiation of Human Chondrocytes Embedded in an Alginate-Collagen Matrix

Bettina Hiemer, Kathleen Achenbach, Juliane Pasold, Rainer Bader

Poster No. 1418

Effect of Genipin on Engineered Tissue Integration in an Injectable Cell-Seeded, Collagen and Fibrin Glue Matrix

Carina R. Sirochinsky, Natalie Pino, Robert M. Stefani, Brendan L. Roach, Andrea R. Tan, Clark T. Hung, J.C. Bulinski

Poster No. 1419

Combined bFGF and Synovocyte Derived-Extracellular Matrix Scaffold Effects on Human Articular Chondrocyte Proliferation and Re-Differentiation Capacity

Alex J. Yazdi, Thomas J. Kean, James E. Dennis

Poster No. 1420

Biofabrication of Mechanically Reinforced and Spatially Distinct Tissues Using 3D Printing for Osteochondral Tissue Engineering

Susan Critchley, Gráinne M. Cunniffe, Eben Alsborg, Daniel J. Kelly

Poster No. 1421

Dual Fluidic High Throughput Bioreactor Obtained by 3D-Printing, for Osteochondral and Other Biphasic Tissue Constructs Targeted at High Throughput Screening: Computational Model and Experimental Validation

Riccardo Gottardi, Giovanna D'Urso, Laura Iannetti, Giocchino Conoscenti, Elena Cutri, Manuela T. Raimondi, Paolo Zunino, Rocky S. Tuan

Poster No. 1422

Characterization of Cryopreserved Human Articular Cartilage Fragments

Alex McNally, Jennifer Van Deven, Kurt Sly, Chris Chapman, Lee Krengel, Steve Lin

Poster No. 1423

High Intensity Focused Ultrasound Enhances Cartilage-to-Cartilage Integration

Andrea R. Tan, William T. Yu, Thomas Payen, Yang Han, Brian Hamzavi, Gerard A. Ateshian, Clark T. Hung

Poster No. 1424

Effect of BMP-2 Adherent to Sutures for Cartilage Repair on a Rat Xyphoid Model

Nathan Drummond, Bradley W Bruner, Paul Wooley, Michael H. Heggeness, Shang-You Yang

Poster No. 1425

A Comparative Study of Platelet-Rich Fibrin (PRF) and Platelet-Rich Plasma (PRP) on the Large Osteochondral Defects Treated with an Autologous Osteochondral Plug in Rabbit Model

Masahiro Maruyama, Hiroshi Satake, Ryusuke Honma, Yasushi Naganuma, Yuya Takakubo, Michiaki Takagi

Poster No. 1426

Appropriate Concentration of Ferucarbotran for Cartilage Repair Using Magnetically Labeled Mesenchymal Stem Cells

Hiroshi Negi, Naosuke Kamei, Shinobu Yanagida, Nobuo Adachi, Mituso Ochi

POSTERS

Poster No. 1427

Bone Marrow-Derived Mesenchymal Stem Cells Cultured on Three-Dimensional Nano Fibrous Chitosan-Silk Fibroin Scaffold Enhanced the Repair of Critical-Sized Defects of Articular Cartilage in Rabbit

Mohammad Mehdi Dehghan, Narges Mahdigholi, Khosro Hoseini Pajooh, Abbas Tavasoli, Saeed Farzad, Hossein Gholami, Mobina Raayat

PS2 **Cartilage and Synovium— Mechanics and Mechanobiology**

Poster No. 1428

Maturation of Human Tissue Engineered Constructs Improves Glycosaminoglycan Content and Reduces Localized Weaknesses

Jill Middendorf, Sonya Shortkroff, Caroline Dugopolski, Stephen Kennedy, Joseph Siemiatkoski, Lena Bartell, Itai Cohen, Lawrence Bonassar

Poster No. 1429

Lack of Lubricin Expression in Transgenic Mice Intensifies Hyaluronic Acid Accumulation and Raises Friction

Katherine Larson, Ling Zhang, Naga Padmini Karamchedu, Gary Badger, Gregory Jay

Poster No. 1430

Effects of Osteoarthritic Knee Cartilage Biomechanical Properties on the Tissue's Metabolic Responses to Load

Alexander R. Rodriguez, Aaron M. Stoker, Elliott Voss, Ferris M. Pfeiffer, Jill E. Jouret, James A. Keeney, James P. Stannard, James L. Cook

Poster No. 1431

Primary Osteoarthritic Chondrocyte Mechanotransduction Is Regulated by Substrate Stiffness

Carley N. McCutchen, Donald L. Zignego, Ronald K. June

Poster No. 1432

The Act of Sliding Enhances Solute Transport into Cartilage

Brian T. Graham, Axel C. Moore, David L. Burris, Christopher Price

Poster No. 1433

The Influence of Synovial Fluid Properties on Tissue Engineering Cartilage Development

Yabin Wu, Martin Stoddart, Karin Wuertz-Kozak, Sibylle Grad, Mauro Alini, Stephen Ferguson

Poster No. 1434

Shear Strain Can Trigger Proteoglycan Loss in Injured Cartilage

Atte S. Eskelinen, Petri K. Tanska, Mika E. Mononen, Mikko S. Venäläinen, Rami K. Korhonen

Poster No. 1435

A Proposed Method for In Vivo Mechanical Characterization of Articular Cartilage Using Metabolic Biomarkers and Artificial Neural Networks

Joe T. Rexwinkle, Ferris M. Pfeiffer, Nicole C. Werner, Aaron M. Stoker

Poster No. 1436

Application of a Turn-Key Bioreactor for Functional Tissue Engineered Cartilage

Brendan Roach, Mark Aronson, Charlie Cai, Alex Frank, Michael Bottlang, Gerard Ateshian, Clark Hung

Poster No. 1437

Obesity Alters the In Vivo Biochemical and Biomechanical Properties of Cartilage

Amber T. Collins, Micaela L. Kulvaranon, Gangadhar M. Utturkar, Charles E. Spritzer, Farshid Guilak, Louis E. DeFrate

Poster No. 1438

Cartilage Modulus Varies with Indentation Probe Size and Contact Radius at Multiple Length Scales

Joseph A. Wahlquist, Xin Xu, Mark A. Randolph, Frank W. DelRio, Corey P. Neu, Virginia L. Ferguson

Poster No. 1439

Culture of Passaged Chondrocytes on Soft Substrates Promotes Redifferentiation via the Actin-mrtf Signalling Axis

Justin Parreno, Mortah Nabavi Niaki, Rita Kandel

Poster No. 1440

Dynamic Friction Analysis of Articular Cartilage

Daniela Warnecke, Maxi Messemer, Luisa de Roy, Anita Ignatius, Lutz Dürselen

Poster No. 1441

Rho Pathway Activation Protects Against Inflammatory Induced Alterations in Biomechanics of Cells from the Nucleus Pulposus in a Myosin-II Contractility Dependent Mechanism

Timothy Jacobsen, Paula Hernandez, Nadeen Chahine

Poster No. 1442

Comparison of Anterior Glenoid Rim Restoration Using Traditional and Novel Grafting Techniques

Laurent B. Willemot, Mohsen A. Shandiz, Joaquin Sanchez-Sotelo, Kristin Zhao, Olivier Verborgt

PS2 **Cartilage and Synovium— Matrix Degradation and Synthesis**

Poster No. 1443

Can Early Continuous Passive Motion Therapy and Active Treadmill Exercise Prevent Posttraumatic Osteoarthritis on Patellofemoral Joint After Anterior Cruciate Ligament Transection in Rabbits?

Nai-Jen Chang, Kuan-Wei Lee, Chih-Jou Chu, Chih-Chan Lin, Yanjmaa Erdenekhuyag

Poster No. 1444

Effects on Acetabular Cartilage Metabolism of the Alumina Ceramic and Co-CR Head Endoprosthesis

Syuhei Matsui, Tokifumi Majima, Kenji Takahashi, Yasushi Oshima, Shinro Takai

POSTERS

Poster No. 1445

Synovitis Modulates Inflammatory Signaling in Articular Cartilage Following Osteochondral Fracture

Daniel Cunningham, Bridgette D. Furman, Amy L. McNulty, Farshid Guilak, Steven A. Olson

Poster No. 1446

Protective Effect of Normal Synovium on Damaged Cartilage

Atsushi Urita, Maximilian A. Meyer, Brett T. Madden, Arnavaz Hakimiyan, Susanna Chubinskaya, Brian Cole, Adam Yanke

Poster No. 1447

Inhibition of Hyaluronidase 2 in Articular Cartilage Stimulates the Osteoarthritic Progression in Mice Model

Yoshitoshi Higuchi, Eiji Kozawa, Eisuke Arai, Shunsuke Hamada, Daigo Morita, Naoki Ishiguro, Yoshiriro Nishida

PS2

Cartilage and Synovium— Matrix Proteins, Collagen and Proteoglycans

Poster No. 1448

Biophysical Evidence for a Molecular Interaction Between Proteoglycan 4 and Hyaluronan in Solution: Effect of Exposure to a Zwitterionic Detergent on Cartilage Boundary Lubricating Function

Alyssa A. Morin, Suresh C. Regmi, Gregory D. Jay, Tannin A. Schmidt

Poster No. 1449

Proteomic Response Following Acute Anterior Cruciate Ligament Injury: Implications for Post-Traumatic Osteoarthritis

John D. King, Cale A. Jacobs, Kristen J. McQuerry, Virginia B. Kraus, Christian Lattermann

Poster No. 1450

Multivalent Presentation of Growth Factors by Cartilage Oligomeric Matrix Protein

Michael Fong, Arpad Karsai, Victoria Tran, Gang-Yu Liu, Dominik Haudenschild

Poster No. 1451

Sclerostin Is Upregulated in Early Stage of Chondrogenic Differentiation, but Not Required in Endochondral Ossification

Yasuteru Yamaguchi, Ken Kumagai, Hironori Tanabe, Sosuke Imai, Kazuma Miyatake, Tomoyuki Saito

Poster No. 1452

Characterization of Injury Induced by Routine Surgical Manipulations of Septal Cartilage

William W. Thomas, Abdullah Alotabi, Robert M. Brody, Emilie Rabut, Noam A. Cohen, Oren Friedman, George R. Dodge

PS2

Cartilage and Synovium— Musculoskeletal Development and Aging

Poster No. 1453

Prospects and Limitations of Improving Skeletal Growth in a Mouse Model of Spondyloepiphyseal Dysplasia Caused by R992C (p.R1192C) Substitution in Collagen II

Machiko Arita, Jolanta Fertala, Cheryl Hou, James Kostas, Andrzej Steplewski, Andrzej Fertala

Poster No. 1454

Leptin Regulates Cartilage Endplate Degeneration and Ossification Through Activation of the Mapk-erk Signalling Pathway In Vivo and In Vitro

Yingchao Han, Xinhua Li, Meijun Yan, Jie Pan, Mingjie Yang, Shanjin Wang, Lijun Li, Jun Tan

Poster No. 1455

Cd24 Enrichment Marks Juvenile Chondrocytes and Protects from Inflammation

Nidhi Bhutani

PS2

Cartilage and Synovium—Physiology

Poster No. 1456

Redox Regulation of C-Jun N-Terminal Kinase (JNK) Signaling in Articular Chondrocytes

Richard Loeser, John Collins, Kimberly Nelson, Scott Wood, Jesalyn Bolduc, Leslie Poole, Cristina Furdui

Poster No. 1457

Articular Cartilage Specific Gene Expression Pattern: Identification of Novel Transcription Factors That Are Enriched in Cartilage

Ramy Gamini, Oscar Alvarez-Garcia, Andrew I. Su, Martin Lotz

Poster No. 1458

Comparison of Chondrocyte, Synoviocyte, and Meniscofibrochondrocyte Metabolic Responses to Osteoarthritic and Normal Synovial Fluid

Aaron M. Stoker, Delaney F. Patterson, James L. Cook

Poster No. 1459

Role of Atp-Citrate Lyase (acly) in Metabolic Regulation in Articular Chondrocytes

Ru L. Bryan, Liang-Yu Chen

Poster No. 1460

In Vitro Responses of Cartilage and Synovium Co-Cultures to Long-Term Exposure to Various Concentrations of IL-1 β

Madeline Quoss, Kamryn S Chastain, Eli L. Pratte, Nicole L. Walden, James L. Cook, Aaron M. Stoker

POSTERS

PS2 Cartilage and Synovium—Progenitors and Stem Cells

Poster No. 1461

Contribution of Wnt/B-Catenin-Responsive Cells to Growth Plate and Articular Cartilage Growth

Yu Usami, Aruni T. Gunawardena, Noelle B. Francois, Hajime Takano, Eiki Koyama, Rebekah S. Decker, Maurizio Pacifici, Masahiro Iwamoto, Satoru Toyosawa, Motomi Enomoto-Iwamoto

Poster No. 1462

Identification of Differentiation Biomarkers for the Chondrogenic Differentiation of Induced Pluripotent Stem Cells (iPSCs) Using Glycomics Monitoring

Kazutoshi Hontani, Tomohiro Onodera, Daisuke Momma, Masatake Matsuoka, Rikiya Baba, Zenta Joutoku, Shinji Matsubara, Kentaro Homan, Kentaro Homan, Ryosuke Hishimura, Kim WooYoung, Masanari Hamasaki, Liang Xu, Yuan Tian, Norimasa Iwasaki

Poster No. 1463

Osteoarthritis Stem Cells from Human Cartilage Exhibit High Hypertrophic Differentiation Capacity, Which Can Be Attenuated by Simultaneous Knockdown of Runx2 and Notch1

Chathuraka T. Jayasuriya, Adam Rokicki, Jing Li, Richard M. Terek, Michael G. Ehrlich, Qian Chen

Poster No. 1464

MicroRNA-Induced Chondrogenic Differentiation of Mesenchymal Stromal Cells

Lucienne A. Vonk, Robin F. Coopmans, Leander A. Vonk, Daniel B. Saris, Hugo A. Fernandes

Poster No. 1465

miR-483 Inhibits Chondrogenic Differentiation of Human Bone Marrow-Derived Mesenchymal Stem Cells

Britta A. Anderson, Hongjun Zheng, Audrey McAlinden

Poster No. 1466

Bone Morphogenetic Protein-9 (BMP9) is Superior to BMP2, 6 and 7 for Enhancing the Chondrogenic Potential of Human MDSCs

Alex Scibetta, Xueqin Gao, Aiping Lu, Johnny Huard

Poster No. 1467

Complete Human Serum Maintains Viability and Chondrogenic Potential of Human Synovial Stem Cells: Suitable Condition for Transplantation

Mitsuru Mizuno, Hisako Katano, Koji Otabe, Keiichiro Komori, Yuji Kohno, Shizuka Fujii, Nobutake Ozeki, Masafumi Horie, Kunikazu Tsuji, Takeshi Muneta, Ichiro Sekiya

Poster No. 1468

Inflammation Induced Smad2/3 Linker Modifications Alter Tgfb Signaling Dynamics Via Tak1

Guus G. van den Akker, Henk M. van Beuningen, Elly L. Vitters, Esmeralda Blaney Davidson, Peter M. van der Kraan

Poster No. 1469

Insulin-like Growth Factor 1 Gene Transfer to Synovial Mesenchymal Stem Cells Promote Chondrogenic Differentiation Potential Without Induction Of Hypertrophic Phenotype

Yasutoshi Ikeda, Morito Sakaue, Ryota Chijimatsu, Shuichi Hamamoto, Masato Kobayashi, Kazunori Shimomura, Hidenori Otsubo, Hideki Yoshikawa, Norimasa Nakamura

Poster No. 1470

Harvested Cell Number Varies Greater in RA Than in OA After a Suspended Synovium Culture

Yuji Kohno, Mitsuru Mizuno, Kenta Katagiri, Koji Otabe, Nobutake Ozeki, Hisako Katano, Keiichiro Komori, Msafumi Horie, Kunikazu Tsuji, Mikio Matsumoto, Haruka Kaneko, Yuji Takazawa, Takeshi Muneta, Ichiro Sekiya

Poster No. 1471

Effects of Extracorporeal Shockwaves on Mesenchymal Stem Cell Proliferation and Chondrogenesis

Wanting Niu, Ravikumar Rajappa, Abdulmonem A. Alshihri, Myron Spector

Poster No. 1472

Vimentin Knockdown Impairs Neo-Cartilage Formation in Human Mesenchymal Stem Cell Pellet Cultures

Poonam Sharma, Diane Wagner, Adam H. Hsieh

Poster No. 1473

Optimizing the Stem Cell Niche for Improved Cartilage Repair

Claire Shortt, Tushar Nichakawade, Mary Cowman, Thorsten Kirsch

PS2 Meniscus—Mechanics

Poster No. 1474

Menisci Prevent Cell Death in Intact and Damaged Articular Cartilage

Ziad Abusara, Stephen Andrews, Markus Kossel, Walter Herzog

Poster No. 1475

Glucose Partitioning Is Affected by Mechanical Loading in Porcine Meniscus Fibrocartilage

Kelsey L. Kleinhans, Alicia R. Jackson

Poster No. 1476

Biomechanical Characterization of a Novel Silk Fibroin Scaffold for Partial Meniscal Replacement

Svenja E. Klose, Daniela Warnecke, Nick Skaer, Robert Walker, Oliver Kessler, Anita Ignatius, Lutz Dürselen

Poster No. 1477

Meniscal Contact Pressure Changes in ACL Deficient Knees: A Finite Element Study

Sara Sadeqi, Rodney Summers, Marcel Ingels, Ali Kiapour, Tim E. Hewett, Vijay Goel

Poster No. 1478

The Effects of Bone Morphogenetic Protein-7 and Interleukin-1 of the Biomechanical Properties of Meniscus Explants

Victor Taylor II, Justin Hicks, Cristin Ferguson, Kerry Danelson

POSTERS

Poster No. 1479
WITHDRAWN

PS2 Meniscus—Biology

Poster No. 1480
In Vitro Repair of Meniscus Radial Tear Using Hydrogels Seeded with Adipose-Derived Stem Cells and TGF- β 3
Hiroshi Sasaki, Ben Rothrauff, Peter Alexander, Hang Lin, Kazunori Shimomura, Freddie Fu, Rocky Tuan

Poster No. 1481
Meniscus Repair Using Hydrogels Seeded with Stem Cells and Meniscus Extra Cellular Matrix
Hiroshi Sasaki, Ben Rothrauff, Peter Alexander, Hang Lin, Freddie Fu, Rocky Tuan

Poster No. 1482
Enhanced Integration Using Freshly Isolated Human Infrapatellar Fat Pad Cell and Chondrocyte Coculture with a Polyurethane Meniscal Replacement
Srujana V. Vedicherla, Daniel Withers, Cathal J. Moran, Conor T. Buckley

Poster No. 1483
Meniscal Degeneration in Hartley Guinea Pigs—Inhibited by Phosphocitrate Analogue-III
Yubo Sun, Andrew Sun, Alex Kiraly, David Mauerhan, Edward Hanley

Poster No. 1484
IL-10 Inhibits TNF-Alpha Induced Meniscus Degeneration
Peter Behrendt, Klaus Häfelein, Andrea Preusse-Prange, Andreas Bayer, Andreas Seekamp, Bodo Kurz

Poster No. 1485
Development of a Single-Stage Cell Therapy for Meniscus Regeneration Using a Combination of Meniscus Cells, Mesenchymal Stromal Cells and the Collagen Meniscus Implant®
Michella H. Hagmeijer, Daniel B. Saris, Lucienne A. Vonk

Poster No. 1486
Intra-Substance Collagen and Proteoglycan Degradation in the Equine Meniscus
Julia Dubuc, Valérie Dubuc, Hélène Richard, Sheila Laverty

Poster No. 1487
Hydrostatic Pressure Stimulates Production of Cell Adhesive Proteins and Extracellular Matrix by Primary Bovine Meniscal and Synovium Cells
Hideaki Fukuda, Akihiro Tsuchiya, Scott Martin, Shuichi Mizuno

PS2 Meniscus—Clinical

Poster No. 1488
WITHDRAWN

Poster No. 1489
Tibial Tunnel Position Can Affect Extrusion of the Lateral Meniscus Following Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction
Kazuki Yamada, Takayuki Furumatsu, Shinichi Miyazawa, Masataka Fujii, Hiroto Inoue, Yuya Kodama, Tomohito Hino, Yusuke Kamatsuki, Toshifumi Ozaki

Poster No. 1490
Lateral Meniscal Extrusion Can Be an Indicator to Estimate Severity of the Lateral Meniscus Posterior Root Tear in Anterior Cruciate Ligament-Injured Knees
Yusuke Kamatsuki, Takayuki Furumatsu, Yuya Kodama, Shinichi Miyazawa, Masataka Fujii, Hiroto Inoue, Kazuki Yamada, Tomohito Hino, Toshifumi Ozaki

PS2 Osteoarthritis and Forms of Arthropathy—Cytokines, Inflammation

Poster No. 1491
Hyaluronan Inhibits Toll-Like Receptor-2 Activation and Interleukin-1 Expression in Human Macrophages in a Cd44-Dependent Manner
Sara Almadani, Ali Alquarini, Marwa Qadri, Gregory D. Jay, Khaled A. Elsaid

Poster No. 1492
Amniotic Mesenchymal Stem Cells Attenuate Osteoarthritis Progression In Vivo More Effectively Than Adipose Stem Cells
Natasha Topoluk, John Tokish, Jeremy Mercuri

Poster No. 1493
Autologous Protein Solution Inhibits Osteoarthritis Disease Progression in a IL-1 β —Induced Animal Model
William King, Bo Han, Jennifer Woodell-May

Poster No. 1494
The Effect of C-DIM12 on Mitigating the Development of Inflammation in Adult Cultured Expanded Equine Chondrocytes and Synoviocytes
John A. Schwartz, Mary Afzali, William Hanneman, Marie Legare, C. Wayne McIlwraith, Laurie R. Goodrich

Poster No. 1495
Role of the A2b Adenosine Receptor in the Degradation of Bone and Cartilage in Collagen Antibody-Induced Arthritis
Lauren M. Mangano Drenkard, Blake E. Oberfeld, Ryan D. Shimizu, Eric G. Rapp, Louis C. Gerstenfeld, Elise F. Morgan

POSTERS

Poster No. 1496

Predictive Factors Associated with the Progression of Large Joint Destruction in Patients with Rheumatoid Arthritis After Biological Therapy: A Prospective Study Using FDG PET/CT and the ARASHI (Assessment of Rheumatoid Arthritis by Scoring of Large Joint Destruction and Healing in Radiographic Imaging) Scoring Method

Takahito Suto

Poster No. 1497

Atsttrin, an Engineered Protein Derived from Progranulin Growth Factor, Is Therapeutic Against Osteoarthritis

Jian-lu Wei, Yuanjing Ding, Brendon Richborough, Aubryanna Hettinghouse, Matin Lendhey, Oran Kennedy, Chuanju Liu

Poster No. 1498

Auto/Parane Amplification of Inflammation via the Substance P-MrgX2 Axis Is in Human Synovial Mast Cells in Rheumatoid Arthritis

Yuki Okamura, Shintaro Mishima, Hyunho Lee, Jun-Ichiro Kan, Masahiko Yanagisawa, Jun-Ichi Kashiwakura, Tomomi Sakamoto, Takanori Iriuchishima, Masayuki Seki, Shu Saito, Yasuaki Tokuhashi, Yoshimichi Okayama

Poster No. 1499

Aggregated IgG-Induced Activation of Human Synovial Mast Cells Through Fcγ Receptor I and Fcγ Receptor IIA in Rheumatoid Arthritis

Hyunho Lee, Jun-ichi Kashiwakura, Masahiko Yanagisawa, Yuki Okamura, Junichiro Kan, Shintaro Mishima, Takashi Suzuki, Kunihiro Hosaka, Takanobu Sumino, Takao Ishii, Masayuki Seki, Shu Saito, Yasuaki Tokuhashi, Chisei Ra, Yoshimichi Okayama

Poster No. 1500

Alteration of Synovial Fluid Biomarkers for Osteoarthritis After Opening Wedge Valgus High Tibial Osteotomy

Ken Kumagai, Hideo Kobayashi, Yoshihiro Kusayama, Yasushi Akamatsu, Tomoyuki Saito

Poster No. 1501

The Prevalence of Calcium Pyrophosphatedihydrate Crystal Deposition in Knee Osteoarthritis

Takashi Suzuki, Keinosuke Ryu, Hideki Ono, Eisei Goto, Hyunho Lee, Shu Saito, Masahiro Nagaoka

PS2 Osteoarthritis and Forms of Arthropathy—Gene Therapy

Poster No. 1502

The Role of MicroRNA-x on IL-1β-induced Cartilage Destruction in Chondrocytes

Dawoon Baek, Ki Won Park, Kyoung-Mi Lee, Sung-Hwan Kim, Woo Jin Choi, Jin Woo Lee

Poster No. 1503

Durable rAAV-Mediated Gene Transfer in Human Normal and Osteoarthritic Articular Chondrocytes in Three-Dimensional Culture Conditions

Oliver Mueller, Janina Frisch, Ana Rey Rico, Jagadeesh Venkatesan, Gertrud Schmitt, Henning Madry, Magali Cucchiari

PS2 Osteoarthritis and Forms of Arthropathy—Genetics, Transcriptomics and Proteomics

Poster No. 1504

Transcriptional Changes of In Situ Chondrocytes Damaged by Interleukin-1

Mengxi Lv, Yilu Zhou, Shongshan Fan, Shawn Polson, Liyun Wang, X Lucas Lu

Poster No. 1505

Metabolomics in Osteoarthritis: A Fatty Acids Link

Jennifer Meessen, Fatemeh Saberi-Hosnijeh, Janet Wesseling, Eline Slagboom, Andre Uitterlinden, Rob Nelissen, Joyce van Meurs, Ingrid Meulenbelt

PS2 Osteoarthritis and Forms of Arthropathy—Post Traumatic

Poster No. 1506

Synovial Fluid Hyaluronan Fluctuation in Post-Traumatic Osteoarthritis: Dependence on the Dynamic Balance Between Biosynthesis, Loss, and Fluid Flux

Aimee R. Raleigh, Yang Sun, Dongfang Qian, Michele M. Temple-Wong, Kenji Kato, Koichiro Murata, Gary S. Firestein, Koichi Masuda, Robert L. Sah

Poster No. 1507

Repeated Intra-Articular Injection of Zoledronic Acid Suppresses Cartilage Erosions Following Destabilization of the Medial Meniscus in Mice

Michael A. David, Melanie K. Smith, Rachael N. Pilachowski, John M. Lowman, Christopher Price

Poster No. 1508

Destabilization of the Medial Meniscus in Mice Induces Early, Focal Changes in Cartilage Cellularity and Structure

Michael A. David, Melanie K. Smith, Rachael N. Pilachowski, Avery T. White, Ryan C. Locke, Christopher Price

Poster No. 1509

Patellar Cartilage Thickness Changes Four Years Post ACL-Injury and Reconstruction are Sex Specific

Mack G. Gardner-Morse, Ethan L. Leveillee, Erin C. Argentieri, Timothy W. Tourville, James R. Slauterbeck, Bruce D. Beynon

POSTERS

Poster No. 1510

Cartilage-Specific NFAT1 Overexpression Delays the Onset and Attenuates the Progression of Posttraumatic Knee Osteoarthritis Induced by Meniscal Destabilization

Yi Feng, Qinghua Lu, William C. Kramer, Nicholas C. Barnhouse, Jinxi Wang

Poster No. 1511

Acute Changes in Articular Cartilage Morphology Correspond with Subchondral and Epiphyseal Bone Remodeling Following Anterior Cruciate Ligament Rupture

Tristan Maerz, Michael D. Newton, Mackenzie Fleischer, Samantha Hartner, Kevin C. Baker

Poster No. 1512

Osteophyte Formation and the Effect of Mechanical Loading: Comparisons to Fracture Healing in Mice

Allison W. Hsia, Armaun J. Emami, Hailey C. Cunningham, Franklin D. Tarke, Blaine A. Christiansen, Nicole M. Collette

Poster No. 1513

Similar Mid-Term Outcome After Total Knee Arthroplasty for Idiopathic and Posttraumatic Osteoarthritis—A Matched-Pair Analysis

Stefan Zwingerberger, Franziska Beyer, Cornelia Lützner, Julian Dexel, Jörg Lützner

Poster No. 1514

Brief Hyperoxic Treatment for Improved Cartilage Viability and Joint-Dependent Cracking Patterns After Injury

Lisa A. Fortier, Sarah G. Poland, Kira D. Novakofski, Rebecca M. Williams, Michelle L. Delco, Scott A. Rodeo

Poster No. 1515

Comparison of Knee Injury Threshold During Tibial Compression Based on Limb Orientation in Mice

Franklin D. Tarke, Allison W. Hsia, Trevor J. Shelton, Dominik R. Haudenschild, Blaine A. Christiansen

Poster No. 1516

Sphingolipid Metabolites are Upregulated in Human Synovial Fluid Following Articular Fracture

Bridgette D. Furman, Kelly Kimmerling, Sivapriya Ramamoorthy, Yi-Ju Li, Yi-Hung Wu, Janet L. Huebner, Farshid Guilak, Virginia B. Kraus, Steven A. Olson

PS2 Osteoarthritis and Forms of Arthropathy—Therapeutic Strategies

Poster No. 1517

Prevention of Cartilage Degeneration by Targeting Smad2/3-MMP13 Signaling Pathway

Sien Lin, Yuk Wai Wayne Lee, Jinfang Zhang, Liao Cui, Gang Li

Poster No. 1518

Sex Differences in Descending Pain Inhibition in People with Symptomatic Knee Osteoarthritis

Kharma Foucher, Samuel Chmell, Carol Courtney

Poster No. 1519

14-3-3 Epsilon Is a Novel Component of Pgrn/Tnf2 Receptor Complex to Mediate Pgrn's Chondroprotective Function

Wenyu Fu, Young-Su Yi, Chuan-Ju Liu

Poster No. 1520

Three-Dimensional Culture of Mesenchymal Stem Cells for Treatment of Osteoarthritis

Sophie H. Bogers, Srijan Bhasin, Jennifer G. Barrett

Poster No. 1521

WITHDRAWN

Poster No. 1522

Effect of Combined Platelet-Rich Plasma and Hyaluronic Acid on BMSC and Chondrocyte Metabolism

Alexander M. Satin, Jolanta Norelli, David Plaza, Haixiang Liang, Nicholas A. Sgaglione, Daniel Grande

Poster No. 1523

WITHDRAWN

Poster No. 1524

Gait Symmetry Metrics Provide Different Outcomes in Patients with Ankle Osteoarthritis

Bhushan Thakkar

Poster No. 1525

Three-Dimensional Lower Extremity Alignment in Knee Osteoarthritis: A Comparison Between Weight-Bearing and Non Weight-Bearing Conditions

Toshihide Fujii, Takashi Sato, Akihiko Ariumi, Go Omori, Yoshio Koga, Naoto Endo

Poster No. 1526

What Are the Costs of Knee Osteoarthritis in the Year Prior to TKA?

Nicholas Bedard, S. Blake Dowdle, Christopher Anthony, David DeMik, Michael McHugh, Kevin Bozic, John Callaghan

Poster No. 1527

Influence of Particle Size on Micronized Human Amnion/Chorion Membrane Therapeutic Efficacy in a Post-Traumatic Osteoarthritis Rat Model

David S. Reece, Lina M.M. Castro, Giuliana E. Salazar-Noratto, Olivia A. Burnsed, Angela S. Lin, Robert E. Guldberg

Poster No. 1528

Intra-Articular Parathyroid Hormone (1-34) Improved Knee Osteoarthritis in Guinea Pig with Spontaneous Osteoarthritis Without Affecting Subchondral Trabecular Bone Mass

Chung-Hwan Chen, Je-Ken Chang, Ling-Hua Chang, Shun-Cheng Wu, Sung-Yen Lin, Yin-Chih Fu, Mei-Ling Ho

Poster No. 1529

Inhibition of Mevalonate Pathway in Chondrocytes Attenuates IL-1 Induced Cartilage Degeneration

Mengxi Lv, Yilu Zhou, Shongshan Fan, Kalani Picho, Liyun Wang, X. Lucas Lu

POSTERS

PS2 Osteoarthritis and Forms of Arthropathy— Pathophysiology

Poster No. 1530

Subchondral Fractures Begin at Bone Resorption Zone in Osteonecrosis of Femoral Head: A Micro CT Study

Hidetoshi Hamada, Masaki Takao, Takashi Sakai, Nobuhiko Sugano

Poster No. 1531

Pannexin 1: A Novel Inflammasome Activation Cascade Mediator and Potential Target in OA (osteoarthritis) Pathogenesis and OA-Related Pain

Daniel J. Leong, Zhiyong He, Mia M. Thi, Sylvia O Suadicani, Lidi Liu, Angela Wang, Neil J. Cobelli, David C. Spray, Hui B. Sun

Poster No. 1532

Mild Exercise as a Model to Study Osteoarthritis Severity and Pain in Mice Following DMM Joint Injury

Timothy M. Griffin, Erika Barboza, Joanna Hudson, Yao Fu, Tyler Grubb

Poster No. 1533

Role of Subchondral Bone Properties and Remodeling in Load-Induced Osteoarthritis in Mice

Olufunmilayo Adebayo, Frank Ko, Philip Wan, Steven Goldring, Mary Goldring, Timothy Wright, Marjolein C.H. van der Meulen

Poster No. 1534

The Cross-Sectional Association Between Muscle Volume of Lower Extremity and Bone Mineral Density in Patients with Knee Osteoarthritis: A Japanese Population Study

Seiya Ota, Daisuke Chiba, Eiji Sasaki, Yuji Yamamoto, Ipppei Takahashi, Shigeyuki Nakaji, Eiichi Tsuda, Yasuyuki Ishibashi

Poster No. 1535

A High-Fat Diet/Low-Dose Streptozotocin-Induced Type 2 Diabetic (T2D) Rat: A Model with High Risk of Metabolic Syndrome for Osteoarthritis Study

Sik Loo Tan, Mun-Peak Nyon, Hong-Hao Chan, Hak Savatey, Chee-Ken Chan, Tunku Kamarul

Poster No. 1536

A Novel Method for Quantitative CT Assessment of Condylar and Tibial Apparent Subchondral Bone Mineral Density: Comparison of Non-Osteoarthritic and Severe Osteoarthritic Knees

Patrick Omoumi, Hugo Babel, Brigitte Jolles-Haeberli, Julien Favre

Poster No. 1537

Depletion of Glycosphingolipids Induces the Excessive Response of Chondrocytes Under Mechanical Stress Condition

Shinji Matsubara, Tomohiro Onodera, Eijiro Maeda, Daisuke Momma, Masataka Matsuoka, Rikiya Baba, Kazutoshi Hontani, Zenta Joutoku, Kentarou Homan Homan, Toshiro Ohashi, Norimasa Iwasaki

Poster No. 1538

Transthyretin and Amyloid Deposition in Osteoarthritis

Yukio Akasaki, Martin Lotz, Tokio Matsuzaki, Oscar Alvarez-Garcia, Ken Okazaki, Yasuharu Nakashima

Poster No. 1539

Validation of an Ex Vivo Osteoarthritis Model Using Articular Cartilage Explants from Patients

Nicole L. Walden, Aaron M. Stoker, James P. Stannard, James A. Keeney, James L. Cook

Poster No. 1540

Up-regulation of Cyclooxygenase-2 in Osteoarthritic Chondrocytes Alters Expression of Degeneration Marker Genes

Ling-Hua Chang, Mei-Ling Ho

PS2 Tendon/Ligament—Mechanics

Poster No. 1541

Morphological Changes of the Transverse Carpal Ligament in Response to Collagenolysis

Sourav Patnaik, Tamara L. Marquardt, Peter J. Evans, William H. Seitz, Zong-Ming Li

Poster No. 1542

A Framework for Estimating Connective Tissue in Situ Strain in a Full Knee Model

Malek Adouni, Yasin Dhaher

Poster No. 1543

Mechanical and Microstructural Properties of Common Graft Options for Knee Ligament Reconstruction

Ryan M. Castile, Nathan W. Skelley, Robert H. Brophy, Spencer Lake

Poster No. 1544

Anatomical Preparation Method for Achilles Tendon Allograft in Anterior Cruciate Ligament Repair

Keith Hechtman, Matthew Sussman, Loren Latta, Gaetan Delcroix, David Kaimrajh, Edward Milne

Poster No. 1545

Severe Rotator Cuff Tendon Degeneration Is a Risk for Tear Propagation as Predicted by Subject-Specific Modeling

R. Matthew Miller, James Thunes, Volker Musahl, Spandan Maiti, Richard E. Debski

Poster No. 1546

Effects of Sample Preparation and Dehydration on Tendon Collagen Nanostructure

Mikael J. Turunen, Hanifeh Khayyeri, Manuel Guizar-Sicairos, Per Aspenberg, Hanna Isaksson

Poster No. 1547

Towards a Microstructurally-Motivated Constitutive Model of Age-Dependent Murine Patellar Tendon Healing to Elucidate Underlying Deficiencies in Extracellular Matrix Dynamics

Akinjide R. Akintunde, Wendell M.R. Heard, Felix H Savoie, Kristin S. Miller

Poster No. 1548

Supraspinatus Tendons Have Different Mechanical Properties Across Sex

Kelsey A. Robinson, Adam M. Pardes, Benjamin R. Freedman, Louis J. Soslowsky

POSTERS

Poster No. 1549

Achilles Tendon Viscoelastic Properties Relate to Clinical Outcomes Following Rupture

Jennifer A. Zellers, Laura Pontiggia, Daniel H. Cortes, Karin Gravare Silbernagel

Poster No. 1550

The Effect of Structural Variation on Ligament Apparent Properties

Hafizur Rahman, Mariana E. Kersh

Poster No. 1551

Modeling the Coupled Orthotropic Mechanical Response of Tendons

Eduardo A. Fancello, Thiago André Camiel

Poster No. 1552

Effects of Difference of Activity Level on Drop Vertical Jump-Analysis of the Asymmetry in Female Athletes and Recreational Players

Masayoshi Kurosawa, Kengo Harato, Reika Uchiyama, Yutaro Morishige, Aiko Sakurai, Toshiro Otani, Hideo Matsumoto, Hideo Matsumoto, Satoshi Imai, Shu Kobayashi, Yasuo Niki, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

Poster No. 1553

The Effects of Early Loading on Achilles Tendon Healing are Diminished Over Time

Hanifeh Khayyeri, Malin Hammerman, Parmis Blomgran, Per Aspenberg, Hanna Isaksson

Poster No. 1554

Postoperative Changes in Patellar and Quadriceps Tendons Measured by Shear Wave Elastography

Marcel Betsch, Julian Hellmann, Valentin Quack, Bjoern Rath, Markus Tingart, Simone Schrading, Tim Dirrichs

Poster No. 1555

The Role of Mineral on the Micromechanical Properties of Tendon Enthesis

Alix C. Deymier, Yiran An, John Boyle, Andrea Schwartz, Victor Birman, Guy Genin, Stavros Thomopoulos, Asa Barber

Poster No. 1556

Effect of Mineralized Bone Activity on the Tendon-to-Bone Healing After Rotator Cuff Repair in an Osteoporotic Rat Model

Tomonoshin Kanazawa, Masafumi Gotoh, Hiroki Ohzono, Ryo Tanesue, Hisao Shimokobe, Kei-Ichiro Nakamura, Naoto Shiba

Poster No. 1557

Characterisation and Comparison of Human and Ovine Spinal Ligaments

Ayesha Bint-E-Siddiq, Vithanage N. Wijayathunga, Marlène Mengoni, Alison C. Jones, Ruth K. Wilcox

Poster No. 1558

Fatigue of the Flexor Carpi Ulnaris Tendon Produces Distinct Regions of Collagen Fiber Kinking and Denaturation

Spencer Szczesny, Celine Aeppli, Alexander David, Ashley Rodriguez, Benjamin Freedman, Louis Soslowky, Robert Mauck

Poster No. 1559

Advanced Glycation End-Products: Mechanics of Aged Collagen from Molecule to Tissue

Fabian S. Passini, Alfonso Gautieri, Manuel Guizar-Sicairos, Giulia Carimati, Piero Volpi, Matteo Moretti, Alberto Redaelli, Martin Berli, Jess G. Snedeker

Poster No. 1560

Conditional Deletion of Decorin and Biglycan in Mature Mouse Tendons Results in Inferior Mechanical Properties and Delayed Collagen Fiber Realignment

Kelsey A. Robinson, Carrie E. Barnum, Stephanie N. Weiss, Julianne Huegel, Snehal S. Shetye, Mei Sun, Sheila M. Adams, David E. Birk, Louis J. Soslowky

Poster No. 1561

Greater Risk of Propagation for Large Tears in the Posterior Supraspinatus Is Predicted by Finite Element Model

R. Matthew Miller, James Thunes, Volker Musahl, Spandan Maiti, Richard E. Debski

Poster No. 1562

Knee Kinematics and MCL Strains During Gait, Passive Flexion, and Laxity Tests

Jason R. Kerrigan, Bronislaw Gepner, Jacek Toczyski, Zhaonan Sun, Carolyn Roberts, Jack Cochran, Shepard Hurwitz, Brian Werner, Mark D. Miller

Poster No. 1563

Graft Augmentation of Fascia Lata Enhanced Healing Process of Rotator Cuff Tear in a Rabbit Model

Takeshi Kataoka, Takeshi Kokubu, Tomoyuki Muto, Yutaka Mifune, Atsuyuki Inui, Fumiaki Takase, Yasuhiro Ueda, Takashi Kurosawa, Ryoosuke Kuroda

PS2 Tendon/Ligament—Tissue Engineering and Repair

Poster No. 1564

DBM Soluble Factors Induce Chondrocytic Differentiation of MSCs In-Vitro

Shirin Shahbazi, Gordon Blunn, Catherine Pendegrass

Poster No. 1565

Characterization of Meltblown Polymer Fabric for Use as a Scaffold in Tendon Tissue Engineering

Thomas Jenkins, Sean Meehan, Behnam Pourdeyhimi, Dianne Little

Poster No. 1566

Effect of Stretching Exercise Onset Time on Healing of Strain Induced Muscle Injury in Rats

Tasneem Mohammad, Nabila S. Hassan

POSTERS

Poster No. 1567

The Effect of Ag Nanoparticles on Tendon Repair in Achilles Tendon Rupture Model Rat

Oya Noboru

Poster No. 1568

Tissue Engineered Tendon Constructs for Sheep Rotator Cuff Repair

Stoyna S. Novakova, Shelby E. Florida, Vasudevan D. Mahalingam, Ellen M. Arruda, Answorth Allen, Asheesh Bedi, Lisa Larkin

Poster No. 1569

The Regenerative Effects of Two Common Platelet-Rich Plasma Production Methods on Human Anterior Ligamentocytes

Anna M. Krismer, Romina Cabra, Rahel May, Sandro Kohl, Sufian Ahmad, Benjamin Gantenbein

Poster No. 1570

Fabrication and Characterization of a Bilayer Delivery System for Localized and Sustained Therapeutic Release

Dong Hwa Kim, Julianne Huegel, Louis J. Soslowsky, Robert L. Mauck, Andrew F. Kuntz

Poster No. 1571

Simultaneous Tension and Torsion Stimulations of the Porcine Tibialis Tendon Recellularized with Human Adult Stem Cells: In Vitro, In Vivo, and Computational Analyses

Kwang Il Lee, Jung Soo Lee, Kyoung Tak Kang, Young Bock Shim, Young Sik Kim, Ju Woong Jang, Seong Hwan Moon

Poster No. 1572

Assess Functional Outcomes of Flexor Tendon Reconstruction with Revitalized and Synovialized Intrasynovial Allograft in a Canine In Vivo Model

Tao Zhang, Ramona Reisdorf, Cheng-Chang Lu, Andrew Thoreson, Peter Amadio, Steven Moran, Chunfeng Zhao

Poster No. 1573

WITHDRAWN

Poster No. 1574

Chondrocytic Differentiation of MSCs and Tenocytes Seeded on Demineralised Bone Matrix

Shirin Shahbazi, Gordon Blunn, Catherine Pendegrass

Poster No. 1575

Dynamic Tensile Loading Regulates ECM Composition in PG-Rich μ -domains in Engineered Constructs

Su-Jin Heo, Tonia K. Tsinman, Dong Hwa Kim, Dawn M. Elliott, Robert L. Mauck

Poster No. 1576

Optimization of Spectral Imaging Data Collection from Fibrous Collagenous Tissues

Rutvin Kyada, Mugdha Padalkar, Nancy Pleshko

Poster No. 1577

Mechanical and Histological, but Not Functional, Properties Remain Inferior in Conservatively Treated Achilles Tendons in Rodents: Long Term Evaluation

Benjamin R. Freedman, George W. Fryhofer, Nabeel S. Salka, Harina Raja, Cody Hillin, Courtney A. Nuss, Daniel C. Farber, Louis J. Soslowsky

PS2 Tendon/Ligament—Cell Biology

Poster No. 1578

Molecular Changes of Tendon After Collagenase-Induced Achilles Tendinitis In Senescence Accelerated Mouse

Yasuhiro Ueda, Atsuyuki Inui, Yutaka Mifune, Fumiaki Takase, Takeshi Kataoka, Takashi Kurosawa, Takeshi Kokubu, Ryosuke Kuroda

Poster No. 1579

Histological and Molecular Analysis of Acute vs. Chronic Ruptures of Achilles Tendons

Susann Minkwitz, Franka Klatte-Schulz, Aysha Schmock, Nicole Bormann, Alper Kurtoglu, Sebastian Manegold, Britt Wildemann

Poster No. 1580

Effect of Pro- and Anti-Angiogenic Factors on Vascular Response in the Rat Achilles Tendon After Injury

Corinne N. Riggan, Susan M. Schultz, Chandra M. Sehgal, Louis J. Soslowsky

Poster No. 1581

Aging Decreases Rat Achilles Tendon Vessel Density and Blood Flow After Injury

Corinne N. Riggan, Susan M. Schultz, Chandra M. Sehgal, Louis J. Soslowsky

Poster No. 1582

WITHDRAWN

Poster No. 1583

The Implication of Substance P in the Development of Tendinopathy

Soonchul Lee, Jiye Song, Wonchul Choi, Youngrak Choi, Catherine Ding, Lloyd Baik, Spencer Ward, Soohong Han

Poster No. 1584

Differential Expression of Alarmins - S100A9, IL-33, HMGB1 - and HIF-1 α in Supraspinatus Tendinopathy Before and After Treatment

Michael J. Mosca, Andrew J. Carr, Sarah J. Snelling, Stephanie G. Dakin

Poster No. 1585

Differential Properties of Stem Cell Populations Isolated from Sheath and Core of Rabbit ACL

Biao Chen, Jianying Zhang, Daibang Nie, Guangyi Zhao, Freddie H. Fu, James Wang

Poster No. 1586

Nuclear Factor Kappa B Activation in Achilles Tendon Healing in Diabetic Rats

Aisha S. Ahmed, Mahmood Ahmed, Claes-Göran Ostenson, Carolyn Hewitt, Paul Salo, David Hart, Paul Ackermann

POSTERS

Poster No. 1587

Investigation of Ossification in the Posterior Longitudinal Ligament Using Micro-Focus X-Ray CT Scanning and Histological Examination

Katsunori Fukutake, Akihito Wada, Yasuhiro Inoue, Asato Maekawa, Hiroyuki Hattori, Shintaro Tsuge, Keiji Hasegawa, Yasuaki Iida, Yuuichirou Yokoyama, Hiroshi Takahashi, Kazuaki Tsuchiya

Poster No. 1588

S100 Alarmin Proteins Modulate Immune Cell Recruitment in Human Tendinopathy

Lindsay A.N. Crowe, Moeed Akbar, Susan Kitson, George A.C. Murrell, Iain B. McInnes, Derek S. Gilchrist, Neal L. Millar

Poster No. 1589

RNASeq Analysis of Scleraxis-Mediated Gene Targets Important in Maintaining Tenocyte Fate

Anne E.C. Nichols, Robert E. Settlage, Linda A. Dahlgren

Poster No. 1590

The MRL/MpJ Mouse as a Model of Improved Healing Response to Flexor Tendon Injuries

David Abplanalp, Jake Kallenbach, Margaret Freeberg, Hani Awad

Poster No. 1591

Collagen-producing Fsp1+ Cells are Required for Scar Formation During Tendon Healing

Jessica Ackerman

Poster No. 1592

Tenocyte Trans-Differentiation as a Mechanism of Collagen Disorganization in Diabetic Tendinopathy

Melissa Glasner, Alayna Loisel

Poster No. 1593

Platelet-Derived Growth Factor Signaling Is Required for Postnatal Tendon Growth

Kristoffer B. Sugg, Nathaniel P. Dissler, Andrew M. Rizzi, Dylan C. Sarver, Christopher L. Mendias

Poster No. 1594

Low Magnitude Mechanical Loading of Ex Vivo Mouse Tendon Fascicles Protects Against Adverse Effects of Unloading

Stefania L. Wunderli, Jonas Widmer, Jasper Foolen, Unai Silvan, Niklaus Amrein, Jess G. Snedeker

Poster No. 1595

Pre- and Post-Natal Development of the Tendon Inter-Fascicular Matrix and Fascicles in the Equine Superficial Digital Flexor Tendon and Common Digital Extensor Tendon

Danae E. Zamboulis, Chavaunne T. Thorpe, Helen L. Birch, Hazel R.C. Screen, Peter D. Clegg

Poster No. 1596

WITHDRAWN

Poster No. 1597

Smad4 Regulation of Tendon Elongation

Saundra Schlesinger, Seong Seo, Alice Huang, Brian Pryce, Ronen Schweitzer

PS2 Tendon/Ligament—Progenitors and Stem Cells

Poster No. 1598

Effect of Platelet Derived Growth Factor on Peritenon Derived Stem/Progenitor Cells

Hiroto Kono, Sosuke Imai, Ken Kumagai, Hironori Tanabe, Yasuteru Yamaguchi, Kazuma Miyatake, Tomoyuki Saito

Poster No. 1599

Establishment of a Tendon and Tendon-Bone Attachment Site Regeneration Model in the Zebrafish

Rishita Shah, Marie Noedl, Nandan Nerurkar, Xubo Niu, Jenna Galloway

Poster No. 1600

Incorporation of Adipose Stem Cells into Platelet-Rich Fibrin Scaffolds Promotes Release of Angiogenic Growth Factors

Kelsy R. Siegel, Tracy N. Clevenger, Dennis O. Clegg, Christopher S. Proctor

Poster No. 1601

Altered Fate of Patellar Tendon Derived Stem Cells (tdscs) in Streptozotocin-Induced Diabetic Rats

Liu Shi, Ying Juan Li, Raskin Shakya, Hong Liang Xu, Gang Li, Yun Feng Rui

PS2 Muscle

Poster No. 1602

Muscle Adapts Dynamically Following Acute Achilles Tendon Rupture in a Rat Model

Nabeel S. Salka, Pankti R. Bhatt, Benjamin R. Freedman, Tyler R. Morris, Zakary M. Beach, Joshua A. Gordon, Louis J. Soslowsky

Poster No. 1603

Inhibitory Effect of Febuxostat for Waste of Skeletal Muscles in Tumor-Bearing Mice with Lm8 Osteosarcoma

Tadashi Tsukamoto, Masaya Tsujii, Takahiro Iino, Akihiko Matsumine, Akihiro Sudo

Poster No. 1604

The Expression Level of Cyclin-Dependent Kinase Differs Between Young and Old Muscle-Derived Stem Cells: Implications for Cell Cycle Regulation During Aging

Haizi Cheng, Aiping Lu, Xueqin Gao, Johnny Huard

Poster No. 1605

Enhancing Plasmin Activity Prevents Diet-Induced Skeletal Muscle Calcification Following Injury

Stephanie N. Moore-Lotridge, Gregory D. Hawley, Breanne H. Gibson, Jonathan G. Schoenecker

POSTERS

Poster No. 1606

Lumbar Paraspinal Muscle Atrophy and Fat Infiltration Following Prolonged Microgravity

Kristine T. Khieu, Robert M. Healey, Douglas Chang, Alan Hargens

Poster No. 1607

Myokine Gene Expression Profiling in Dystrophic Skeletal Muscle and Myoblasts

Shumin Zhou, Baoli Qian, Justin Hicks, MaCalus V. Hogan, Hongshuai Li

Poster No. 1608

Noninvasive Assessment of Lumbar Muscle Architecture in Active-Duty Marines

David B. Berry, Ana E. Rodriguez-Soto, Callan Parra, Jessica Stambaugh, Emily Valaik, Christine Chung, Samuel R. Ward

Poster No. 1609

Transcutaneous Carbon Dioxide Application Inhibits Muscle Atrophy After Femoral Shaft Fracture in Rat

Miho Inoue, Yoshitada Sakai, Keisuke Oe, Takeshi Ueha, Takaaki Koga, Hanako Nishimoto, Shiho Akahane, Risa Harada, Sang Yang Lee, Takahiro Niikura, Ryosuke Kuroda

Poster No. 1610

Pathophysiology of Volumetric Muscle Loss: Perturbations to Muscle Architecture

Stephen M. Goldman, Jonathan P.K. Feng, Benjamin T. Corona

Poster No. 1611

In Vivo Quantification of Multiscale Mechanics in Murine Skeletal Muscle Tissue, Extracellular Matrix, and Nuclei

Soham Ghosh, James Cimino, Adrienne Scott, Frederick Damen, Evan Phillips, Craig Goergen, Corey Neu

Poster No. 1612

The Relationship Between Early Fibrogenic Factors and Quadriceps Strength Following an Anterior Cruciate Ligament Reconstruction

Brian Noehren, Darren L. Johnson, Mary L. Ireland, Christopher Fry

Poster No. 1613

Label-Free, Quantitative Evaluation of Tissue Engineered Skeletal Muscle Using Multiphoton Microscopy

Brian C. Syverud, Marcus H. Lee, Mary-Ann Mycek, Lisa M. Larkin

Poster No. 1614

Volumetric Muscle Loss Injury: Acute Impact on the Motor Unit

Sarah M. Greising, Kate E. Flanagan, Stephen M. Goldman, Christian M. Brining, Benjamin T. Corona

Poster No. 1615

The Use of Serum and Exosomes from Young Animals to Improve the Histopathologies and Muscle Stem Cells of Progeria Mice

Xiaodong Mu, Jia Qiu, Chieh Tseng, Haizi Cheng, Christina Liu, Elizabeth Morris, Andrea Liebowitz, Alex Scibetta, Johnny Huard

Poster No. 1616

Impact of Selective Percutaneous Myofascial Lengthening (SPML) on Quality of Life

Laura Q. Wu, Tracey Isidro, David A. Yngve

Poster No. 1617

Pregnancy Improves Myogenic Differentiation of Myogenic Progenitor Cells

Aiping Lu, Haiying Pan, Charles Huard, Chieh Tseng, Xueqin Gao, Ping Guo, Johnny Huard

Poster No. 1618

RARgamma Agonist Promotes Functional Restoration of Severely Injured Skeletal Muscle in Mouse

Min Liu, Di Rocco Agnese, Lily Wu, Suzu Deie, Motomi Enomoto-Iwamoto, Masahiro Iwamoto, Masatake Matsuoka

Poster No. 1619

Expression of Two Necessary Genes for Cell Reprogramming in Muscle Derived Stem Cells

Matthew J. Fiala, Shanshan Gao, Ping Guo, Johnny Huard

Poster No. 1620

Relationship Between Myosin Heavy Chain Expression and Leg Extension Force Following Anterior Cruciate Ligament Reconstruction

Tetsuo Kobayashi, Kenji Uehara, Satoshi Kishiro, Yuji Ogura, Mitsutoshi Kurosaka, Tomohiro Suzuki, Katsumasa Goto, Hisateru Niki

Poster No. 1621

Difference In Work Output of Lower Limb Muscles During Horizontal and Vertical Jumps

Yuta Suzuki, Yasuto Kobayashi, Megumi Takizawa, Munenori Murata

Poster No. 1622

The Comparison of the Thickness of Abdominal Muscle Between Traditional Motor Control Exercise and Sling Exercise

Yuki Saito

Poster No. 1623

Issue of Thigh Splints Triggered by Squatting Exercise: Focus on the Adductor Magnus

Megumi Takizawa, Yuta Suzuki, Yasuto Kobayashi

Poster No. 1624

Development of a Critically-Sized Ventral Hernia Model in the Pig

Sambit Sahoo, Andrew Baker, Ivy N. Haskins, David M. Krpata, Michael J. Rosen, Kathleen Derwin

Poster No. 1625

Functional Neuronal Differentiation of the Injury Induced Muscle-Derived Stem Cells

Kinga Vojnits, Haiying Pan, Hao Sun, Qingchun Tong, Radbod Darabi, Johnny Huard, Yong Li

POSTERS

Poster No. 1626

The Role of Valproic Acid in Mediating Skeletal Muscle Repair After Injury

Max Feinstein, Lawrence Lee, Chantal Nguyen, Anne Ning, Brian Feeley, Xuhui Liu

PS2 Bone—Musculoskeletal Development and Aging

Poster No. 1627

Superior Regenerative Capacity of Skeletal Muscle in Mrl/MpJ Mice Correlate with a Reduced Inflammatory Responses and Increased Potency of Muscle Progenitor Cells

Chieh Tseng, Haiying Pan, Ping Guo, Aiping Lu, Johnny Huard

Poster No. 1628

Dose-Dependent Differential Response of Male and Female Osteoclasts to Methylphenidate

Sardar M. Uddin, Dennis Fricke, Abisha Vijayashanthar, Courtney Lowinger, Liam Jermyn, Panayotis Thanos, Michael Hadjiargyrou, David Komatsu

Poster No. 1629

WITHDRAWN

Poster No. 1630

Compensatory Roles of Yap And Taz in Skeletal Development, Homeostasis, and Repair

Christopher D. Kegelman, James H. Dawahare, Joel D. Boerckel

Poster No. 1631

Utility of Near Infrared Spectroscopy for Bone Quality Assessment

Ramya Ailavajhala, Rutvin Kyada, Heejin Yang, Erin Carter, Adele Boskey, Cathleen Raggio, Nancy Pleshko

Poster No. 1632

Fracture Healing in Aged Mice Is Characterized by Sustained Inflammation and Decreases in Cell Proliferation

John H. Hebb, Jaimo Ahn, Luke Lopas, Kurt D. Hankenson, Jason W. Ashley, Lee McDaniel

Poster No. 1633

Development of the Mammillary Processes of the Capital Femoral Epiphysis

Ron Perrone, John L. Williams

Poster No. 1634

How Does Tibia Cross-Sectional Roundness in Ambulatory and Non-Ambulatory Children with Myelomeningocele Differ from Typically Developing Children?

Kyle P. Chadwick, Nicole M. Mueske, Rachel E. Horenstein, Djani M. Robertson, Sandra J. Shefelbine, Tishya A.L. Wren

Poster No. 1635

WITHDRAWN

Poster No. 1636

From Precision Medicine to Drug Discovery: Inhibition of Osteoblastic Smurf1 Promotes Bone Formation in Distinctive Aged Individuals with Osteoporosis

Chao Liang, Songlin Peng, Bao-Ting Zhang, Aiping Lu, Ge Zhang

PS2 Bone—Cells

Poster No. 1637

Peripheral Blood Mononuclear Cells with Ex Vivo Quality and Quantity Control Culture Accelerate Fracture Healing

Kenji Mifuji, Masakazu Ishikawa, Naosuke Kamei, Rica Tanaka, Takayuki Asahara, Mitsuo Ochi, Nobuo Adachi

Poster No. 1638

Gpnmb/Osteoactivin Plays a Novel Role in Autophagy-Mediated Osteoblast Differentiation and Function

Fatima Jaber, Greory Sondag, Mohammad Ansari, Fouad Moussa, Asaad Al-Adlaan, Faye F. Safadi

Poster No. 1639

Inhibition of Rho/Rock Signaling in Mechanically Stimulated Estrogen Deficient Bone Cells

Irene Simfia, Jessica Schiavi, Pushpalata Kayastha, Laoise M. McNamara

Poster No. 1640

Effect of Liver X Receptor Activation on Bone Mineralization

Ryan M. Clark, William G. Schroeder, Kayla Maranjian, Andrew Berry, Moshe Levi, Virginia Ferguson, Karen B. King

Poster No. 1641

Do the Daily Activities of the Patients Influence the Tribocorrosion Processes In Bone-Stem (ti) Interfaces of the Hip Implant?

Maria Runa, Joshua Jacobs, Luis Rocha, Mathew Mathew

Poster No. 1642

Hypoxia Induces TGF- β /Smad3 Signaling via HIF-1 α in Osteoblasts

Roy W. Qu, Damian Genetos

Poster No. 1643

Contribution of Implanted, Genetically Modified, Muscle Progenitor Cells to New Bone Formed in a Rat Osseous Defect

Chris Evans, Consuelo Lopez de Padilla, Rodolfo De La Vega Amador, Miguel Trujillo, Ryan Porter, Elisabeth Ferreira

Poster No. 1644

CDK9 Inhibition Prevents Injury-Induced Subchondral Bone Resorption by Targeting Osteoclast Precursors

Jasper Yik, Jason F. Leddy, Dominik Haudenschild

Poster No. 1645

WITHDRAWN

POSTERS

Poster No. 1646

Osteocytes and Their Response to Clinically Relevant Polyethylene and Metal Wear Particles

Renee T. Ormsby, Lucian B. Solomon, Dongqing Yang, Tania N. Crotti, David R. Haynes, David M. Findlay, Gerald J. Atkins

Poster No. 1647

Sensory Neurotransmitters Substance P and Alpha-Calcitonin Gene-Related Peptide Modulate Osteoblast Metabolism

Tanja Niedermair, Raphael Seebröcker, Stephan Schirner, Anja Pasoldt, Joachim Grifka, Susanne Grässel

Poster No. 1648

WITHDRAWN

PS2 Bone—Osteocytes and Mechanobiology

Poster No. 1649

WITHDRAWN

Poster No. 1650

Mechanical Regulation of Breast Cancer Bone Metastasis via Osteocytes

Yu-Heng Ma, Candy Lam, Shreyash Dalmia, Peter Gao, Jacob Young, Chao Liu, Chao Liu, Kevin Middleton, Lidan You

Poster No. 1651

Calcium Binding to Key Osteocyte Ciliary Proteins Initiates Mechanotransduction

Emily R. Moore, Yuchen Yang, Han Seul Ryu, Christopher R. Jacobs

Poster No. 1652

Identification of the Mechanisms by Which Skeletal Maturity Reduces the Mechanosensitivity of Mesenchymal Stem Cells: Implications for Osteogenesis and Angiogenesis During Bone Formation

Sara Barreto, Arlyng Gonzalez-Vazquez, Andrew R. Cameron, Dylan Murray, Fergal J. O'Brien

Poster No. 1653

Alteration of 3D Matrix Stiffness Regulates Intracellular Viscoelasticity of Mesenchymal Stem Cells

Ting-Wei Kao, Yi-Chang Wu, Arthur Chiou, Keng-Hui Lin, Yi-Shiuan Liu, Oscar K. Lee

Poster No. 1654

Creating Novel High-Throughput Microfluidic Platform for Osteocyte Mechanotransduction Studies

Liangcheng H. Xu, Lidan You

Poster No. 1655

Microfluidic Platform to Investigate the Role of Osteocytes on the Mechanical Regulation of Bone Metastasis

Kevin Middleton, Dongsub Shim, Xueting (Christina) Mei, Deepika Devadas, Yu-Heng Ma, Edmond Young, Lidan You

Poster No. 1656

Quantification of 3D Osteocyte Lacunar Geometries Using a Novel Open-Source Tool Based on Confocal Microscopy

Adam Rauff, Chelsea Heveran, Karen B. King, Virginia Ferguson, Dana Carpenter

PS2 Bone—Progenitors and Stem Cells

Poster No. 1657

Common Transcript Factors Identified in Multiple Post-Natal Endochondral Bone Formations

Beth Bragdon, Alexandra Femia, Kyle Lybrand, Andrew Bennie, Louis Gerstenfeld

Poster No. 1658

Hematopoietic Bone Marrow Cells Induce Osteoclast Differentiation in Response to Supraphysiological Loading

Cornelia Bratengeier, Teresa Helena Jungwirth, Astrid Diana Bakker, Anna Fahlgren

Poster No. 1659

Importance of Cellular Localization Of Nrf2 for Determining the Self-Renewal and Osteogenic Differentiation Potential in Human Mesenchymal Stem Cells

Tae Hun Kim, Dong Suk Yoon, Yoorim Choi, Jin Woo Lee

Poster No. 1660

Differentiation Potential of Bone Marrow-Derived Stem Cells and Adipose-Derived Stem Cells from Same Donors

Jeong Joon Yoo, Jinwoo Nam, Won Young Seo, Hee Joong Kim

Poster No. 1661

RUNX2 Overexpression Mediates Osteogenic Differentiation of Human iPSCs

Shaunak Adkar, Vincent Willard, Jonathan Brunger, Kenneth Shiao, Charles Gersbach, Farshid Guilak

Poster No. 1662

Characterization of Human Bone and Adipose Tissue Derived Primary and Culture Expanded Cells

Maha A. Qadan, Cynthia Boehm, Wesley Bova, Nicolas Piuze, Ronald Midura, Vincent Hascall, George F. Muschler

Poster No. 1663

Pluripotent Cells from Mouse Peripheral Nerves after BMP-2 Challenge Can Be Induced into Osteoblastic Cells

Shang-You Yang, Zheng Song, Michael H Heggeness

Poster No. 1664

WITHDRAWN

Poster No. 1665

Impact of Tiludronate on Osteoprogenitor Cells and Cortical Bone Repair on Osteoprogenitor Cells and Cortical Bone Repair

Kalyn Herzog, Michelle Piccione, Marta Bianchessi, Matthew Stewart

POSTERS

Poster No. 1666

Effect of High Glucose Treatment on Proliferation and Osteogenic Differentiation Potentials of Human Bone Derived Connective Tissue Progenitors

Maha A. Qadan, Aimin Wang, Cynthia Boehm, Wesley Bova, Ronald Midura, Vincent Hacall, George Muschler

PS2 Bone—Osteoporosis, Metabolic Bone Disease, Biomarkers

Poster No. 1667

Stem Cells Are Crucially Involved in Ovariectomy-Induced Bone Loss in Mice

Jochen S. Kroner, Anna Kovtun, Sebastian Seitz, Thorsten Schinke, Michael Amling, Anne Dudeck, Anita Ignatius

Poster No. 1668

Limited Field Radiotherapy Induces Local and Abscopal Effects on Bone Structure and Marrow Adiposity

Lisbeth Reyes-Fondeur, Megan Elizabeth Oest, Nicholas D. Zimmerman, Jason Horton

Poster No. 1669

Bone Chemistry from Raman Spectroscopy Worsens Early in the Progression of Chronic Kidney Disease

Chelsea Heveran, Geya Kairamkonda, Yifu Fang, Keith Hruska, Virginia L. Ferguson

Poster No. 1670

Optimizing Pulsed Electromagnetic Field (PEMF) Signals to Reduce Bone Loss Associated with Osteoporosis

Caroline Androjna, Erik I. Waldorff, James T. Ryaby, Maciej Zborowski, Ronald J. Midura

Poster No. 1671

Gender-Dependent Effects of ER α Deletion from Mature Osteoblasts on Bone Adaptation in Adult Mice

Amanda M. Rooney, Olufunmilayo O. Adebayo, Natalie H. Kelly, John C. Schimenti, F. Patrick Ross, Marjolein C.H. van der Meulen

Poster No. 1672

Short-Range Ultraviolet Irradiation with Led Device Effectively Increases Serum Levels Of 25(OH)D

Daigo Morita, Yoshihiro Nishida, Yoshitoshi Higuchi, Taisuke Seki, Kunihiro Ikuta, Naoki Ishiguro

Poster No. 1673

Effects of Perlecan/HSPG2 Deficiency on mRNA Changes in Mechanically Loaded Bone

Sucharitha Parthasarathy, Ashutosh Parajuli, Jerahme Martinez, Catherine Kirn-Safran, Liyun Wang

Poster No. 1674

Association Between In Vivo Impact Microindentation and Clinical Characteristics in Pre- and Post-Menopausal Women

Mary Bouxsein, Joy Tsai, Adriana Martinez-Betancourt, Nicholas Derrico, Signe Caska, Elaine Yu

Poster No. 1675

Evaluation of Bone Quality and Bone Density in Athletes and Non-Athletes Using Ultrasound: Second Report

Shotaro Tsuji, Akira Okayama, Ryoichi Suetoshi, Kosei Yoh, Shinichi Yoshiya

Poster No. 1676

Development of a Forelimb Compression Model in Ovariectomized Rabbits

Brandon A. Coates, Matthew Silva

Poster No. 1677

The Musculoskeletal Phenotype of the A α 2/+ Mutant Mouse Model of Osteogenesis Imperfecta

Tarek Taha

Poster No. 1678

Effects of Teriparatide for Bone Loss and Pain-Related Behavior in the Hind Limb-Unloaded Mouse Model of Disuse Osteoporosis

Gaku Miyamura, Hiroki Wakabayashi, Taro Nakagawa, Sho Kato, Yohei Naito, Akihiro Sudo

Poster No. 1679

Effect of Ovariectomy and High Fat Diet on the Murine Femur

Meghan Kelly, Jun Zhang, Cheryl L. Ackert-Bicknell, Michael Zuscik

Poster No. 1680

Fracture Resistance of Bone Does Not Change with Duration in the TallyHO Model of Type 2 Diabetes

Amy Creecy, Sasidhar Uppuganti, Chiedza Chauruka, Jeffrey Nyman

Poster No. 1681

MiRNAs Correlate to Bone Mineral Density and Are Not Gender Dependent in Osteoporosis—Osteoblasts and Osteoclasts as Possible Sources

Sarah Kelch, Elizabeth Rosado Balmayor, Helen Vester, Jan S. Kirschke, Martijn van Griensven

Poster No. 1682

Single Hindlimb Irradiation Results in Diminished Bone Strength in Both Irradiated and Contralateral Femurs

Megan E. Oest, Kenneth A. Mann, Connor G. Policastro, Nicholas D. Zimmerman, Timothy A. Damron

Poster No. 1683

Mtf-1 Inhibition Suppressed Osteoclast Differentiation and Function Through NF- κ B Signaling Pathway

Tan Peng, Song Chao, Guan Hanfeng, Li Feng

POSTERS

Poster No. 1684

A Novel Bone Targeting Delivery System with Osteogenic Phytomolecule of Traditional Chinese Herb Epimedium for Prevention of the Estrogen-Depletion Induced Osteoporosis in Mice

Le Huang, Xinluan Wang, Nan Wang, Heng Wu, Jiayong Zhang, Zhijun Yang, Ling Qin

Poster No. 1685

Measuring Bone Biomarkers with Nano-Well Array Electrochemical Sensors

Ju-Kyung Lee, Jonghang Kim, Ahmed Busnaina, HeaYeon Lee, Sandra Shefelbine

Poster No. 1686

Plum Diet Mitigates Osteopenia Following Spinal Cord Injury

Xuhui Liu, Lawrence Lee, Mengyao Liu, Alexis Dang, Robert Nissenson, Hubert Kim, Bernard Halloran

Poster No. 1687

Investigating Percutaneous Femoroplasty to Optimize Polymethylmethacrylate Injection Volume and Configuration

Brandon L. Roller, Pdraig Pearse Morris, Christopher T. Whitlow

Poster No. 1688

Super-Healer Mice Exhibit Superior Bone Quality

Xuying Sun, Aiping Lu, Sarah Amra, Ping Guo, Charles Huard, Xueqin Gao, Johnny Huard

Poster No. 1689

Absence of Complement Component 3 Yields Temporally Distinct Skeletal Responses to Ovariectomy

Danielle L. MacKay, Thomas J. Kean, Feng Lin, James E. Dennis

Poster No. 1690

Incidence of Severely Suppressed Bone Turnover Markers in Patients with Osteoporosis Undergoing Long-Term Bisphosphonate

Koji Nozaka, Naohisa Miyakoshi, Yoichi Shimada

Poster No. 1691

Cystathionine- β -Synthase Promotes Osteogenesis to Angiogenesis in Osteoblast Derived Exosomes During Bone Development

Jyotirmaya Behera

Poster No. 1692

Bone Mineral Density Sensitivity to Axial Rotation and Region-of-Interest Selection at the Lateral Distal Femur

Christina Salas, Jodie Gomez, Rachel Tufaro, Ashkan Pourkand, David Grow, Selina Silva

Poster No. 1693

TWIST1 Promotes Cell Viability and Migration in MC3T3 Cells via Regulating PI3K and p16 Pathways

Yi-Jie Kuo, Chia-Hsien Chen, Chih-Hwa Chen, Yang-Hwei Tsuang

PS2-111 Bone—Mechanics and Computational Modeling

Poster No. 1694

Mechanical Characterization of Human Mandibular Condyle

Do-Gyoon Kim, Arman Haghghi, Hyun-Jung Kwon, Jessica S. Coogan, Daniel P. Nicoletta, Gregory M. Ness, Jungha Cho, Trenton Johnson, Hwan Kim, Nari Kim, Amanda M. Agnew

Poster No. 1695

Anisotropic Effect of Collagen Removal on Bovine Cortical Bone

Andrew D. Clelland, Robert J. Wallace, Hamish Simpson

Poster No. 1696

Evaluation and Prediction of Human Lumbar Vertebral Endplate Mechanical Properties Using Indentation and Computed Tomography

Ravi Patel, Andriy Noshchenko, R. Dana Carpenter, Todd Baldini, Carl P. Frick, Vikas V. Patel, Christopher M. Yakacki

Poster No. 1697

Damage Accumulation Can Increase Femoral Fracture Strength: A Finite Element Study

Ifaz Haider, Hanspeter Frei

Poster No. 1698

A Comparison of the Biomechanics of Two External Fixator Devices and a Validated Finite Element Model

Liza Osagie-Clouard, Joshua Kaufmann, Melanie Coathup, Gordon Blunn, Catherine Pendegrass, Timothy Briggs, Mehran Moazen

Poster No. 1699

Diet-Induced Obesity Deteriorates Cancellous Bone Structure Despite Increased Blood Perfusion

Nicholas J. Hanne, Andrew J. Steward, Elizabeth D. Easter, Sriharsha V. Pinnamaraju, Jacqueline H. Cole

Poster No. 1700

3D Deformation Measurements of the Mouse Tibia in Preclinical Studies by Means of MicroCT Based Digital Volume Correlation

Mario Giorgi, Enrico Dall'Ara

Poster No. 1701

Cyclic Fatigue Testing Protocols of Fixation Implants

Serkan Inceoglu, Yusuf T. Akpolat

Poster No. 1702

Viscoelastic Contribution of Calcified and Collagen Matrices in Trabecular Bone in Nanoindentation

Petri K. Tanska, Xiaowei Ojanen, Sami P. Väänänen, Markus K. Malo, Mikael J. Turunen, Juha Töyräs, Hanna Isaksson, Rami K. Korhonen, Jukka S. Jurvelin

Poster No. 1703

Pain During Murine Tibial Loading Impacts Quality-Based Improvements to the Bone Tissue

Alycia G. Berman, Joseph M. Wallace

POSTERS

Poster No. 1704

Distinct Plate and Rod Distribution in Human Subchondral Trabecular Bone

Yizhong Jenny Hu, Yan Chen, Y. Eric Yu, Xingjian Zhang, Tezita Watts, William W Lu, X. Edward Guo

Poster No. 1705

Mechanical Response of Femoral Cortical Bone from Soft Cure and Fresh Frozen Specimens

Jacek Toczyski, Zhaonan Sun, Kishan Mathur, Sara B. Heltzel, Richard R. Sikon, Dana D. Sikon, Shepard Hurwitz, Seth R. Yarboro, Jason R. Kerrigan

Poster No. 1706

Tissue Yielding and the Accuracy of QCT-Based FE Models of Vertebral Failure

Yuanqiao Wu, Timothy Jackman, Elise Morgan

Poster No. 1707

Optimizing Spinal Fusion Implants Using Bone Healing Simulations

Frank Niemeyer, Frank Trautwein, Hans-Joachim J. Wilke, Ulrich Simon

Poster No. 1708

A Study of the Humeral Geometry—Its Centerline and Cross-Section

Suraya Zainul Abidin, Alex C.T. Choh, Andy K.S. Yew, Joyce S.B. Koh, T.S. Howe, M.H. Tan

Poster No. 1709

A Two-Way FEA Validation of the Human Femur by Optical Scan Data and Strain Measurement

Ehsan Soodmand, Maeruan Kebbach, Andreas Geier, Rainer Bader, Daniel Kluess

Poster No. 1710

Optimizing Axisymmetric Radial Head Hemiarthroplasty Contact Mechanics

Jakub Szmit, Graham J.W. King, James A. Johnson, Gordon D.G. Langohr

Poster No. 1711

Osteon Size and Lamellar Number Affect Cortical Tissue Fatigue Life

George V. Pellegrino, Max Roman, J.C. Fritton

Poster No. 1712

Cross Sectional Cortical Bone Response to Dynamic Loading

Rebecca Chung, Rachel Hjerpe, Antonio Valdevit

Poster No. 1713

MicroFE Models of Bone Can Predict Local Displacements at Two Different Dimensional Scales: A Validation Study Using Digital Volume Correlation

Enrico Dall'Ara, Maria C. Costa, Gianluca Tozzi, Yuan Chen, Luca Cristofolini, Pankaj Pankaj, Marco Viceconti

PS2

Bone—Tissue Engineering and Repair

Poster No. 1714

Theranostic Nanoparticles to Promote Osteogenesis and Photoacoustic Imaging of Mesenchymal Stem Cells

Isaac M. Adjei, Hao Yang, Lorena Maldonado-Camargo, Jon Dobson, Carlos Rinaldi, Huabei Jiang, Blanka Sharma

Poster No. 1715

Combinatorial MicroRNA-Therapy Using Collagen-Nanohydroxyapatite Scaffolds: Coupling Angiogenesis and Osteogenesis for Enhanced In Vivo Bone Repair

Irene Mencía Castaño, Caroline M. Curtin, Rosanne M. Rafferty, Gang Chen, Brenton Cavanagh, Brian Quinn, Garry P. Duffy, Fergal J. O'Brien

Poster No. 1716

Polarized Macrophages Enhance Osteogenesis of MSCs via Early Prostaglandin E2 Production

Laura Y. Lu, Florence Loi, Luis Cordova, Jukka Pajarinen, Tzu-Hua Lin, Emmanuel Gibon, Akira Nabeshima, Karthik Nathan, Zhenyu Yao, Stuart B. Goodman

Poster No. 1717

Engineering MSC to Overexpress bFGF to Accelerate Fracture Healing

Alexander Kot, HongLiang Zhang, Yu-An Evan Lay, Wei Yao

Poster No. 1718

SDF-1 Accelerates Cartilage Defect Repairing by Recruiting BMSCs and Promoting Chondrogenic Differentiation

Wang Yuze, Wei Xiaochun, Wei Dennis, Wei Lei

Poster No. 1719

Bisphosphonates Prevent the Regression of Fracture Associated Muscle Calcification

Masanori Saito, Stephanie N. Moore-Lotridge, Yael Ihejirika, Breanne H. Gibson, Jonathan G. Schoenecker

Poster No. 1720

Investigating the Interplay Between Stiffness and Ligand Chemistry in Directing Bone Marrow Mesenchymal Stem Cell Differentiation Within Porous Scaffolds

Matthew G. Haugh, Ted J. Vaughan, Laoise M. McNamara, Fergal J. O'Brien, Sarah C. Heilshorn

Poster No. 1721

Development and Optimisation of a Novel Thermoresponsive Collagen Hydroxyapatite Hydrogel as an Injectable Biomaterial for Bone Repair

Caitriona A. Tiernan

POSTERS

Poster No. 1722

Cyclic Tensile Strain Directs Both Intramembranous and Endochondral Ossification of MSCs

Simon F. Carroll, Binulal N. Sathy, Conor T. Buckley, Daniel J. Kelly

Poster No. 1723

Local Bis(maltolato)oxovanadium(IV) Treatment Enhances Fracture Healing

Suleiman Sudah, Jessica Cottrell, Philip Lim, Maximilian Muñoz, Anthony Lin, Joseph A. Ippolito, Joseph Benevenia, Sheldon Lin, Ethan Krell

Poster No. 1724

Multi-Scale Mineralized Collagen-Polycaprolactone Composites Improve Craniofacial Bone Repair

Daniel Weisgerber, Rebecca Hortensius, Colleen Flanagan, Xiaoyan Ren, Scott Hollister, Justine C. Lee, Matthew Wheeler, Brendan Harley

Poster No. 1725

Mineralized Allograft from Donors Who Use Bisphosphonates Exhibit Reduced Osteoconductive Ability

David J. Cohen, Lucas C. Olson, Christoph H. Lohmann, MoonHae Sunwoo, Barbara D. Boyan, Zvi Schwartz

Poster No. 1726

Gene Therapy for Bone Repair Using Human Cells: A Comparison of the In Vitro Osteogenic Potential of BMP-2 Transduced Mesenchymal Stem Cells Derived from Bone Marrow and Adipose Tissue

Sofia Bougioukli, Osamu Sugiyama, William Pannell, Brandon Ortega, Matthew Tan, Amy Tang, Jay Lieberman

Poster No. 1727

Bone Defect Healing Differs Between Skull and Long Bone in the Dystrophin/Utrophin Double Knockout Mice

Xueqin Gao, Xuying Sun, Sarah Amra, Haizi Cheng, Charles Huard, David G. MoraBoellstorff, Bing Wang, Johnny Huard

Poster No. 1728

Co-Application of Systemic Zoledronate Promotes the Osteogenesis in the Bone Marrow Environment of the Femur Induced by Local Recombinant Human Bone Morphogenetic Protein-2 with β -tricalcium Phosphate in a Rabbit Model

Kenji Mamoto, Yoichi Ohta, Hdeki Ueyama, Koichi Ichikawa, Yuuki Imai, Yukihide Minoda, Kunio Takaoka, Hiroaki Nakamura

Poster No. 1729

Plasmids Expressing Equine BMP-2 Stimulate Cortical Bone Repair

Kalyn Herzog, Marta Bianchessi, Michelle Piccione, Matthew Stewart

Poster No. 1730

The Foreign Body Response to Cell-laden MMP-Sensitive Poly(ethylene glycol) Hydrogels for Bone Tissue Engineering

Leila Saleh, Luke D. Amer, Stephanie J. Bryant

Poster No. 1731

Hypoxic Preconditioning of Mesenchymal Stem Cell Spheroids Stimulates Segmental Bone Defect Repair

Steve S. Ho, Nasser Heyrani, Ben P. Hung, Mark A. Lee, J. Kent Leach

Poster No. 1732

Delivery of Vegf, Bmp-6 and Mesenchymal Stem Cells Through 3D Piga Scaffolds Enhances Bone Regeneration in Chicken Femur

Jae Sung Suh, Ching Ju Li, Vedavathi Madhu, Te Feng A. Chou, Weitao Wang, Adam Wilson, Abhijit Dighe, Qunjun Cui

Poster No. 1733

Controlled Presentation of Growth Factors to MSC/HUVEC Co-Culture Aggregates with Incorporated Gelatin Microparticles for Enhanced Microvascularized Tissue Engineering

Daniel Alt, V. Ivy Petsinger, Eben Alsberg

Poster No. 1734

Prosthetic Implantation In High Risk Patients

Don Brancato

Poster No. 1735

Modelling the Initial Phase of Fracture Healing In Vitro 3D Bone-Like Models Of Endochondral Ossification

Moritz Pfeiffenberger, Igor Ponomarev, Dirk Barnewitz, Frank Buttgerit, Timo Gaber, Annemarie Lang

Poster No. 1736

Mechanical Integrity of Unseeded, BMP-2 and Canine BMSC Seeded HA-PCL Scaffolds Compared to Allografts in Critical Size Defects in a Canine Model

Thomas R. Gardner, Hanying Bai, Saqib Nizami, Jung-Ho Back, George C. Vorys, Chang H. Lee, Jeremy J. Mao, Francis Y. Lee

Poster No. 1737

Enhanced Osteoblast Proliferation and Hydroxyapatite Formation on Surface Modulated Silicon Nitride

Giuseppe Pezzotti, Bryan J. Mcentire, Ryan M. Bock, Wenliang Zhu, Eleonora Vitale, Leonardo Puppulin, Tetsuya Adachi, Toshiro Yamamoto, Narisato Kanamura, B. Sonny Bal

PS2 Bone—Genetics, Transcriptomics and Proteomics

Poster No. 1738

A Reverse Genetic Sweep Study Design Identifies the Gene 4921509C19Rik as Impacting Bone Size and Mass

Cheryl L. Ackert-Bicknell, Seung-Hyun Hong, Renata Rydzik, Li Chen, Zhihua Wu, Caibin Zhang, Gaven Garland, John P. Sundberg, Dong-Guk Shin, David W. Rowe, Douglas J. Adams

Poster No. 1739

Transcriptional Pathway Disturbances Associated with Spinal aBMD in a Baboon Model

Ellen E. Quillen, Anne Shelldrake, Jeremy P. Glenn, Jaydee Foster, Laura A. Cox, Lorena M. Havill, Daniel P. Nicoletta, Todd L. Bredbenner

POSTERS

Poster No. 1740

Validation of a Genetic Risk Score Based on Single Nucleotide Polymorphisms Implicated In Adult Bone Fragility and Associated with Pediatric Bone Density

Samuel Swenson, Jordan Cohen, Andrea Attenasio, Alex Gu, Heather Gordish-Dressman, Marianne Floor, Brennan Harmon, Eric Hoffman, Dustin Hittel, Leticia Ryan, Susan Knoblach, Joseph Devaney, Laura L. Tosi

Poster No. 1741

Influence of Single Polymorphic Nucleotides Known to Affect Pediatric Body Mass Index on Musculoskeletal Phenotypes in Children and Young Adults

Andrea Attenasio, Jordan Cohen, Samuel Swenson, Alex Gu, Marianne Floor, Heather Gordish-Dressman, Brennan Harmon, Eric Hoffman, Dustin Hittel, Leticia M. Ryan, Susan Knoblach, Joseph Devaney, Laura L. Tosi

PS2 Bone—Matrix Degradation and Synthesis

Poster No. 1742

Simulated Space Radiation Sensitizes Bone to the Catabolic Effects of Simulated Microgravity

Andrew Krause

Poster No. 1743

Bone Mineral Density Alterations Significantly Correlate with Longer Term Gross Morphological Changes in the Tibial Plateaus in an Ovine Model of Post Traumatic Osteoarthritis

Kristen I. Barton, Duncan A. Raymond, Andres Kroker, Bryan J. Heard, John L. Sevick, Dhriti Chakravarty, C. Ryan Martin, Cyril B. Frank, Steve K. Boyd, Nigel G. Shrive, David A. Hart

Poster No. 1744

Acute Methamphetamine and Nicotine Administration Adversely Affects Bone Growth but Not Bone Quality

Anthony L. Cappellino, Sardar M. Uddin, Ronald Kim, Peter K. Thanos, David Komatsu

PS2 Spine—Computational Modeling

Poster No. 1745

Image-Based Multiscale Mechanical Modeling Reveals the Importance of Structural Heterogeneity in Mechanical Function of Human Lumbar Facet Capsular Ligament

Vahhab Zarei, Chao Liu, Amy Claeson, Emily A. Bermel, Taner Akkin, Victor Barocas

Poster No. 1746

Biomechanical Effect of Postero-lateral Bone Graft in a Lumbar Spine with Instrumentation

Raghu N. Natarajan, Kazuhiro Hasegawa

Poster No. 1747

Region-Specific Orthotropic Growth of the Pediatric Thoracic Spine Through Finite Element Methods

John Dougherty, James Peters, Sriram Balasubramanian

Poster No. 1748

Advantage of Pedicle Fixation at the Injured Level for Treating Unstable Thoracolumbar Fracture: A Finite Element Analysis

Shady Elmasry, Shihab Asfour, Francesco Travascio

Poster No. 1749

Biomechanical Differences Between Male and Female Sacroiliac Joint: A Finite Element Study

Amin Joukar, Anoli Shah, Cody Crutchfield, Brandon Zakeri, Ali Kiapour, Anand Kumar Agarwal, Hossein Elgafy, Nabil Ebraheim, Vijay Goel

Poster No. 1750

Reduced Computed Tomography Exposure to Predict Vertebral Compression Fracture

Florian Mainemare, Giovanni F. Solitro, Farid Amirouche, Ankit Mehta

Poster No. 1751

Effects of Inflammation on Cellular Deformation of Nucleus Pulposus Cells: A Biphasic Finite Element Model

Quynhhoa T. Nguyen, Nadeen O. Chahine

Poster No. 1752

The Role of Implant Coverage on Vertebral Stresses Following Total Disc Replacement

Noah B. Bonnheim, Jonathan P. McKinley, Tony M. Keaveny

Poster No. 1753

A Finite Element Model of the Human Lumbosacral Spine

Luis Fernando Nicolini, Borja Martinez Yllera, Marcelo Simoni Simões, Carlos Rodrigo de Mello Roesler, Eduardo A. Fancello

PS2 Spine—Scoliosis

Poster No. 1754

Normalcy of Vertebral Morphology for Lenke-Types 1, 2, and 5 Two Years Following Spinal Fusion Surgery

James R. Peters, Robert M. Campbell Jr., Sriram Balasubramanian

Poster No. 1755

How Does Serum Sclerostin Level Correlate with Bone Mass and Bone Quality in Adolescent Idiopathic Scoliosis?

Wayne Y.W. Lee, Huanxiong Chen, Ka-Yee Cheuk, Elisa M.S. Tam, Tsz-Ping Lam, Bobby K.W. Ng, Jack C.Y. Cheng

Poster No. 1756

Gait Analysis Pre- and Post-Surgical Intervention in Patients with Symptomatic Adult Degenerative Scoliosis

Ram Haddas, Shant Aghyarian, Isador H. Lieberman

POSTERS

Poster No. 1757

“Smart” Surgical Instruments: Pedicle Probe for Resident Motor Skills Training and Evaluation

Christina Salas, Steven Nery, Alexander Hamilton, Ashkan Pourkand, Deana Mercer, David Grow

Poster No. 1758

The Transverse Process Trajectory Technique—A New Method for Thoracic Pedicle Screw Implantation in the Deformed Spine

Baron Lonner, Kushagra Verma, Chanland Roonprapunt, Yuan Ren, Amey Kelkar, Manoj Kodigudla, Vijay Goel

Poster No. 1759

Evaluation of Functional and Structural Leg Length Discrepancy in Patients with Adolescent Idiopathic Scoliosis Using the EOS Imaging System: A Prospective Study

Tatsuhiko Sekiya, Yoichi Aota, Katsutaka Yamada, Kanichiro Kaneko, Tomoyuki Katsuhata, Manabu Ide, Kenzo Kanai, Tomoyuki Saito

Poster No. 1760

The Reliability of Pelvic Incidence as Measured from CT Scan

Nathaniel R. Ordway, Michael Danaher, William F. Lavelle

Poster No. 1761

Correlation Between Dynamic Shoulder Balance During Gait and Radiographic Shoulder Balance in Adolescent Idiopathic Scoliosis

Kaoruko Ito, Takeo Nagura, Mitsuhiro Nishida, Nobuyuki Fujita, Mitsuru Yagi, Masaya Nakamura, Morio Matsumoto, Kota Watanabe

Poster No. 1762

A Follow-Up of an In Vivo Animal Experiment of a Self-Adaptive Growing Rods System for Early Onset Scoliosis

Chun-Feng Lai, Ching-Ting Lin, Po-Liang Lai, Po-Chun Yen, Mao-Wei Huang, Jaw-Lin Wang

PS2 Spine—Peripheral Nerve and Spinal Cord Injury

Poster No. 1763

A New Experimental Model to Determine the Efficacy of Grafted Cells on Promoting Axon Regeneration in Peripheral Nervous System

Takeshi Endo, Ken Kadoya, Norimasa Iwasaki

Poster No. 1764

Significance of HLA Matching in Allogeneic Human IPS Cell-Derived Neural Stem/Progenitor Cell In Vitro

Masahiro Ozaki, Narihito Nagoshi, Jun Kohyama, Go Itakura, Hiroki Iwai, Morio Matsumoto, Hideyuki Okano, Masaya Nakamura

Poster No. 1765

Synchrotron Radiation Micro-CT as a Novel Tool to Evaluate the Effect of Agomir-210 in a Rat Spinal Cord Injury Model

Hongbin Lu, Yong Cao, Jianzhong Hu

Poster No. 1766

The Effect of Transcutaneous Carbon Dioxide (co2) Administration on Functional Recovery After Sciatic Nerve Injury in a Rat Model

Atsuyuki Inui, Hanako Nishimoto, Takeshi Ueha, Yutaka Mifune, Takeshi Kokubu, Ryosuke Kuroda, Yoshitada Sakai

Poster No. 1767

Establishment of the Safety Evaluation of Integration-Free Human Ips Cell-Derived Neural Stem/Progenitor Cells as a Source of Cell Therapy for Spinal Cord Injury

Tsuyoshi Iida, Narihito Nagoshi, Jun Kohyama, Morio Matsumoto, Hideyuki Okano, Masaya Nakamura

Poster No. 1768

Quantification of 3D Microarchitecture and Vessel Regeneration by Synchrotron Radiation μ Ct in a Rat Model of Spinal Cord Injury

Hongbin Lu, Yong Cao, Shuangfei Ni, Jianzhong Hu

Poster No. 1769

Effect of Impactor Size and Impact Force on Hemiconfusion Spinal Cord Injury Models for New York University and Infinite Horizon Impactors

Batbayar Khuyagbaatar, Won Man Park, Kyungsoo Kim, Yoon Hyuk Kim

Poster No. 1770

In Vivo Strains of the Human Cervical Spinal Cord

Kirsten E. Stoner, Kingsley O. Abode-Iyamah, Vincent A. Magnotta, Matthew A. Howard, Nicole M. Grosland

Poster No. 1771

Administration of MicroRNA-145 Promotes Spinal Cord Regeneration in Mice

Norifumi Suga

Poster No. 1772

Changes in Forelimb Bones After Body Weight Supported Treadmill Training in Spinal Cord Injury Rats

Anita Singh, Gabrielle Gehron, Shania Shaji, Brittany King, Jaclyn Witko, Jennifer Kadlowec

Poster No. 1773

Lateral Olfactory Tract Usher Substance (LOTUS) Enhanced Axonal Regeneration and Functional Recovery After Spinal Cord Injury in Adult Mice

Shuhei Ito, Narihito Nagoshi, Shinsuke Shibata, Munehisa Shinozaki, Morio Matsumoto, Kohtarō Takei, Masaya Nakamura, Hideyuki Okano

Poster No. 1774

Critical Events Before Spinal Cord Injury in a Porcine Compression Model

Vishal Sarwahi, Etan P. Sugarman, Aviva G. Dworkin, Abhijit Pawar, Marina Moguilevitch, Terry D. Amaral, Beverly Thornhill, Adam L. Wollowick, Alan D. Legatt

POSTERS

Poster No. 1775

In Vivo Tracking of Amniotic Fluid Derived Stem Cells on Axillary Nerve

Xue Ma, Tianyi Luo, Zhongyu Li, Thomas L. Smith, Kerry Danelson

PS2 Spine—Disc Mechanics

Poster No. 1776

Ultrasound is a Reliable Modality for Measuring Cervical Spine Intervertebral Disk Height

Amin Mohamadi, Mingxin Zheng, Brian Snyder

Poster No. 1777

Ranges of Cervical Intervertebral Disc Deformation During In-Vivo Dynamic Flexion-Extension of the Neck

Yan Yu, Haiqing Mao, Jing-Sheng Li, Tsung-Yuan Tsai, Kamran Khan, Liming Cheng, Kirkham B. Wood, Guoan Li, Thomas D. Cha

Poster No. 1778

Herniation and Hydration Alters Quantitative MRI Parameters of the Intervertebral Disc

Grace D. O'Connell, Michael Wendland

Poster No. 1779

Osmotic Swelling Alters Tensile Mechanics in Fiber-Reinforced Tissues

Bo Yang, Min H. Zhou, Grace D. O'Connell

Poster No. 1780

A Method for Repeatable Tensile Total-Life Fatigue Testing of Annulus Fibrosus

Benjamin Werbner, Grace O'Connell

Poster No. 1781

Biomechanics of Allograft Supplementation in Intervertebral Disc Intervention

Jakub Dmochowski, Luis Losada, William Hutton, Stephanie Gonzalez, Shabnam Namin, Timothy Ganey

Poster No. 1782

Load-Sharing of the Intervertebral Discs During Standing Determined by Open-Upright Magnetic Resonance Imaging

Christian I. Weber, Ching-Ting Hwang, Linda Van Dillen, Simon Y. Tang

PS2 Spine—Spine Therapeutics

Poster No. 1789

Establishment of rhBMP-2 Minimum Effective Dose in the Sheep Intertransverse Process Fusion Model

Jeffrey M. Toth, Mei Wang, Jeffrey M. Badura, Steven Peckham

Poster No. 1790

Physical Activity in Spinal Stenosis Patients Is Reduced and Shows a Disease Specific Pattern

Anouk Stoffels, Matthijs Lipperts, Wouter van Hemert, Ide C. Heyligers, Bernd Grimm

Poster No. 1791

Novel Techniques for Physical Activity Evaluation in a Large Animal Intervertebral Disc Degeneration Model

Justin R. Bendigo, Sarah Gullbrand, Brendan D. Stoeckl, Zosia Zawacki, Thomas Schaer, Harvey Smith, Robert Mauck, Neil Malhotra, Feini Qu, Lachlan Smith

Poster No. 1792

Early Clinical Results of Genipin Crosslinking Treatment for Low Back Pain

Tom Hedman, Matt Brown, John Racadio, Harwant Singh

Poster No. 1783

Change in Incidence of Vertebral Fractures Over 12-years: A Population-Based Cohort Study in Japan

Junichi Yamada, Koji Akeda, Kazuma Nakase, Tomohiko Sano, Akinobu Nishimura, Akihiro Sudo

Poster No. 1784

Functional Outcome Following Open Versus Minimally Invasive Transforaminal Lumbar Interbody Fusion in Patients with Degenerative Lumbar Disease

Chih-Hsiu Cheng, Chi-Chien Niu, Meng-Ling Lu, Wen-Chien Chen, Mohammad Nikkhoo, Yung-Chieh Hwang

Poster No. 1785

Surface Analysis of Screw Hole After Bioactive Pedicle Screw Removal in the Dog: Safety Assessment Implications for Clinical Application

Koji Akeda, Seiji Yamaguchi, Tomiharu Matsushita, Kevin Cheng, Koichi Masuda, Kazuma Nakase, Junichi Yamada, Tomohiko Sano, Akihiko Matsumine, Akihiro Sudo

Poster No. 1786

Which Medications Are Effective for Changing Behaviors Induced by Lumbar Facetomy and Repeated Cold Stress in Rats?

Daisuke Fukui, Mamoru Kawakami

Poster No. 1787

Moderate-Vigorous Activity and Sedentary Time Are Indicators of IVD Health

Jennifer A. Bowden, Ulrike H. Mitchell, Anton E. Bowden

Poster No. 1788

Injectable, Settable rhBMP-2 Ceramic Composite: A Posterolateral Fusion Model

Stefanie M. Shiels, Anne Talley, Katarzyna J. Zienkiewicz, Joseph C. Wenke, Scott A. Guelcher

POSTERS

PS2 Spine—Disc, Tissue Engineering and Repair

Poster No. 1793

Tg β 1 Induces a Contractile Cd146+ Phenotype of Human Annulus Fibrosus Cells Showing Affinity to Collagen Scaffold Aimed for Annulus Fibrosus Repair

Rose G. Long, Tomoko Nakai, Daisuke Sakai, James C. Iatridis, Mauro Alini, Sibylle Grad, Zhen Li, Lorin Benneker

Poster No. 1794

Crosslinked Angle-Ply Annulus Fibrosus Repair Patch Resists Enzymatic Degradation While Maintaining Mechanical Properties and Cell Viability

Ryan Borem, Allison Madeline, Henry Mayo, Jeremy Mercuri

Poster No. 1795

Release of Simvastatin to Treat Degenerative Disc Disease Using Nanodroplet Targeted Ultrasound

Eric Mahoney, Hsuan-Yeh Pan, Karla Mercado, Kevin Haworth, Yoonjee Park, Chia-Ying Lin

Poster No. 1796

CRISPR Epigenome Editing to Promote Osteogenic Differentiation in Adipose-Derived Mesenchymal Stem Cells

Hunter Levis, Niloofar Farhang, Xue Yin, Joshua Stover, Brandon Lawrence, Robert Bowles

Poster No. 1797

Cryopreserved Human Discogenic Cells Restore Disc Height and Tissue Morphology in Canine Model

Jordy Schol, Daisuke Sakai, Hiraishi Syunsuke, Nukaga Tadashi, Masahiko Watanabe

Poster No. 1798

Wnt Signals Promote Redifferentiation of Human Nucleus Pulposus Cells Harvested from Herniated Discs

Tyler Pizzute, Ying Zhang, Xiaobing Zhang, Ming Pei

Poster No. 1799

Injectable Cellulosic Hydrogels as Nucleus Pulposus Replacements: Assessment of Herniation Risk, Fatigue Behavior, and In Vivo Biocompatibility

Huizi Anna Lin, Devika M. Varma, Warren W. Hom, Michelle A. Cruz, Phillip R. Nasser, James C. Iatridis, Steven B. Nicoll

Poster No. 1800

Cell-Seeded Adhesive Biomaterial for Repair of Annulus Fibrosus Defects in Intervertebral Discs

Michelle A. Cruz, Warren W. Hom, Robert Merrill, Olivia M. Torre, Huizi A. Lin, Philip Nasser, Andrew C. Hecht, Svenja Illien-Junger, James C. Iatridis

Poster No. 1801

Visualization of the Elastic Network of the Annulus Fibrosus

Javad Tavakoli, Dawn M. Elliott, John J. Costi

Poster No. 1802

NEMO-Binding Domain Peptide Reduces II-1 β and Overloading Induced MMP and Cytokine Expression in Human Nucleus Pulposus Cells

Juliane D. Glaeser, Khosrowdad Salehi, Linda Kanim, Michael Kropf, Hyun Bae

Poster No. 1803

Algorithmic Assessment of Annular Repair in an Ovine Lumbar Spine Model

Stephen R. Sloan Jr., Brenton Pennicooke, Connor Berlin, Yu Moriguchi, Roger Härtl, Lawrence J. Bonassar

Poster No. 1804

Discovery of a Small Molecule Inhibitor of the Wnt Pathway (SM04690) as a Potential Treatment for Degenerative Disc Disease

Charlene Barroga, Vishal Deshmukh, Luis Dellamary, Josh Stewart, Haidi Hu, John Hood, Yusuf Yazici

Poster No. 1805

Intact Composite Intervertebral Disc Scaffolds Developed by Decellularizing Bovine Tail Caudal Discs

Austin P. Hensley, Jess Rames, Clayton Compton, Tim Litzinger, Tyler Watt, Shannon Wood, Arjun Aggarwal, Kendyl Williams, Chris Fernandez, Jeremy J. Mercuri

Poster No. 1806

Intervertebral Disc Regeneration with Adipose Mesenchymal Stem Cell Derived Tissue-engineered Construct in a Rat Model of Disc Transplantation

Hiroyuki Ishiguro, Takashi Kaito, Sadaaki Kanayama, Takahiro Makino, Shota Takenaka, Kazuma Kitaguchi, Kunihiko Hashimoto, Yu Moriguchi, Norimasa Nakamura, Hideki Yoshikawa

Poster No. 1807

Vitrium Bioactive Glass Cervical Interbody Device Biomechanical Study

Janet L. Krevolin, Casey S. Lewis, Robin Parrish, Jeremi Leasure, Howard Seim, Jeremiah Easley

Poster No. 1808

A Tissue Culture Model of Inflammatory Nucleus Pulposus to Test Molecular Regenerative Therapies: Validation with Epigallocatechin 3-gallate

Olga Krupkova, Marian Hlavna, Keita Ito, Stephen J. Ferguson, Karin Wuertz-Kozak

Poster No. 1809

Partially Restored Kinematics of Spinal Units Following the Repair with Novel Annulus Fibrosus and Nucleus Pulposus Biomaterials

Ryan Borem, Joshua Walters, Allison Madeline, Sanjitpal Gill, Jeremy Mercuri

POSTERS

Poster No. 1810

Intervertebral Disc Degeneration: Treatment with a Novel, Photopolymerizable Scaffold Seeded with Mesenchymal Stem Cells

Nicholas J. Vaudreuil, Karl Henrikson, Adam Olsen, Andrew Lee, Hang Lin, Robert Hartman, James Kang, Joon Lee, Nam Vo, Gwendolyn Sowa

Poster No. 1811

The Enhancement of ATP Production of Intervertebral Disc with Novel Polyurethane Mass Transfer Device

Yu-Fu Wang, Chun-Yuh Huang

Poster No. 1812

Difference in Gene Expression in Interbody Spinal Fusion with Two Different Rbmp-2 Release Mode: Rabbit Bone Chamber Model

Tao Hu, Mathanapriya Naidu, Zheng Yang, Raymond Wing Moon Lam, Felly Ng, Xiafei Ren, Ramruttun Amit Kumarsing, Ming Wang, Kim Cheng Tan, Kai Thong Mariner Kwok, Stuart Goodman, James Choh Hong Goh, Hee Kit Wong

PS2 Spine—Disc Biology

Poster No. 1813

Engineered Microenvironments Regulate Nucleus Pulposus Cell Phenotype of the Intervertebral Disc Through Serum Response Factor Signaling

Bailey V. Fearing, Liufang Jing, Michael P. Kelly, Jacob M. Buchowski, Lukas P. Zebala, Munish C. Gupta, Lori A. Setton

Poster No. 1814

TonEBP Maintains Inflammatory Gene Expression in the Hyperosmotic Nucleus Pulposus

Zariel Johnson, Irving Shapiro, Makarand Risbud

Poster No. 1815

Conditional Genetic Mouse Models Targeting Shh Signaling to Study Intervertebral Disc Aging and Disease

Chitra L. Dahia, Raffaella Bonavita, Sarthak Mohanty, Robert Pinelli, Elfie De Jesus

Poster No. 1816

Mast Cells in the Pathogenesis of Painful Intervertebral Disc Degeneration

Matthew G. Wiet, Andrew M. Piscioneri, Benjamin A. Walter, Naji Chaar, Safdar N. Khan, Judith A. Hoyland, Sarah Moore, William S. Marras, Devina Purmessur

Poster No. 1817

Hyperosmolar Overloading in a Mouse Organ Culture Model Induces Notochordal Cell Differentiation with Osmoregulatory Aquaporin3 Upregulation and Altered N-Cad and Connexin-43 Mechanotransduction Expression

Paolo E. Palacio-Mancheno, Thomas W. Evashwick-Rogler, Damien M. Laudier, Devina Purmessur, James C. Iatridis

Poster No. 1818

Temsirolimus Is a Candidate of the Optimal mTOR Inhibitor in Human Intervertebral Disc Nucleus Pulposus Cells

Yuji Kakiuchi, Takashi Yurube, Masaaki Ito, Yoshiki Takeoka, Yoshiki Terashima, Kenichiro Kakutani, Koichiro Maeno, Toru Takada, Ryosuke Kuroda, Kotaro Nishida

Poster No. 1819

The Role of the Cytoskeleton in Structurally Maintaining Vacuoles of Notochordal Cells

Lauren Resutek, Adam Hsieh

Poster No. 1820

Growth Differentiation Factor 6 Signaling Promotes a Non-Degenerate Phenotype and Increases Proteoglycan Production in Human Nucleus Pulposus Cells Through Smad and Smad-Independent Signaling Pathways

Tom Hodgkinson, Aiqun Wei, Bojiang Shen, Joachim Nickel, Lisa Williams, Walter Sebald, Ashish Diwan, Stephen M. Richardson, Judith A. Hoyland

Poster No. 1821

TonEBP-COX2 Axis Promotes Nucleus Cell Survival Under Hyperosmotic Conditions

Hyowon Choi, Weera Chaityamngkol, Alexandra C. Doolittle, Zariel I. Johnson, Shilpa S. Gogate, Zachary R. Schoepflin, Irving M. Shapiro, Makarand V. Risbud

Poster No. 1822

Comparison of Preservation Strategies for Intervertebral Disc Whole Organ Tissues

James T. Stannard, Nicole L. Walden, Aaron M. Stoker, Theodore Choma, James L. Cook

Poster No. 1823

Expression of RANK/RANKL/OPG System in Human Intervertebral Disc Tissues in Early and Advanced Stages of Degeneration

Jenny Huang, Koji Akeda, Tomohiko Sano, Junichi Yamada, Kazuma Nakase, Kevin Cheng, Veronica Khauv, Koichi Masuda, Akihiro Sudo

Poster No. 1824

Physicochemical Stresses Alter Notochordal Cell Lineage and Maintenance

Shuichi Mizuno, Mark Erwin, Ajay Matta, James D. Kang

Poster No. 1825

Can Quantitative MRI and Matrix Composition of Nucleus Pulposus Predict Calcium and Phosphate Levels in Degenerative Intervertebral Discs?

Fackson Mwale, Ahmed Habis, Laura M. Epure, Michael Philip Grant, Husam Almajed, John Antoniou

Poster No. 1826

WITHDRAWN

POSTERS

Poster No. 1827

Ccaat/enhancer Binding Protein β Regulates the Expression of Tumornecrosis Factor- α Through the Mapk Pathways in the Rat Nucleus Pulposus Cells

Akihiko Hiyama, Tadashi Nukaga, Daisuke Sakai, Masahiko Watanabe

Poster No. 1828

HIF-1 α -Carbonic Anhydrase Axis Controls Acid-Base Metabolism in Hypoxic Nucleus Pulposus Cells

Elizabeth Silagi, Zachary Schoepflin, Erin Seifert, Ernestina Schipani, Irving Shapiro, Makarand Risbud

Poster No. 1829

Development of an In Vivo Model of Neonatal Intervertebral Disc Injury and Regeneration

Olivia M. Torre, Grace E. Mosley, Rohit Das, Alice H. Huang, James C. Latridis

Poster No. 1830

Caspase-3 Gene Knockout and Intervertebral Disc Degeneration in Genetically Modified Mice

Takashi Ohnishi, Hideki Sudo, Takeru Tsujimoto, Norimasa Iwasaki

Poster No. 1831

Effect of Growth and Differentiation Factor-5 on Cultured Human Annulus Cells: Measurement of GDF-5 Levels in Conditioned Media, Influence on Cell Proliferation, and Downregulation by Exposure to Proinflammatory Cytokines

Helen E. Gruber, H. James Norton, Edward N. Hanley

Poster No. 1832

A Novel In Vitro Organ Co-Culture System of Intervertebral Discs and Dorsal Root Ganglions

Kaixi Wang, Simon Y. Tang

Poster No. 1833

Involvement and Roles of Autophagy in Maintaining Notochordal Cell Homeostasis of the Intervertebral Disc Nucleus Pulposus

Takashi Yurube, Masaaki Ito, Yuji Kakiuchi, Yoshiki Terashima, Yoshiki Takeoka, Kenichiro Kakutani, Koichiro Maeno, Toru Takada, Ryosuke Kuroda, Kotaro Nishida

Poster No. 1834

Iapp Modulates Cellular Autophagy, Apoptosis, and Extracellular Matrix Metabolism in Human Intervertebral Disc Cells

Xinghuo Wu, Yu Song, Wei Liu, Kun Wang, Yukun Zhang, Zhenfeng Duan, Cao Yang

Poster No. 1835

Correlation between Interlukin-6 Serum Levels and Pre-Operative Health Related Quality of Life Outcome Metrics in Patients Undergoing an Anterior Cervical Discectomy and Fusion for Cervical Radiculopathy.

Gregory D. Schroeder, Dessislava Z. Markova, Paul W. Millhouse, John D. Koerner, Mayan Lendner, Jeffery A. Rihn, Greg Anderson, Alan S. Hilibrand, Alexander R. Vaccaro, Christopher K. Kepler

Poster No. 1836

The Fate of Allogeneic Injected Angiopoietin-1 Receptor Tie2+ Cells in Intervertebral Disc Organ Culture

Daniela A. Frauchiger, Adel Tekari, Lorin M. Benneker, Daisuke Sakai, Benjamin Gantenbein

Poster No. 1837

Reproducing Physicochemical Environment in Nucleus Pulposus In Vitro

Shuichi Mizuno, Hideaki Fukuda, Kenichi Maeda, James D. Kang

Poster No. 1838

Modelling the Degenerate Niche to Investigate Efficacy of Mesenchymal Stem Cell Therapies for Intervertebral Disc Degeneration

Louise Vickers, Abbey A. Thorpe, Chris Sammon, Christine Le Maitre

Poster No. 1839

A Potential Safe and Novel Drink for Preventing Pain Associated with Disc Degeneration—An In-Vivo Rat Model

Alon Lai, Thomas W. Evashwick-Rogler, Jonathan M. Salandra, Lap Ho, Damien M. Laudier, Samuel K. Cho, Andrew C. Hecht, Beth A. Winkelstein, Giulio M. Pasinetti, James C. Latridis

Poster No. 1840

Genomic Analysis of Pax1 and Pax9 in Embryonic Intervertebral Disc Development

Thomas Lufkin

Poster No. 1841

A Mouse Intervertebral Disc Degeneration Model by Surgically-Induced Instability

Takeshi Oichi, Yuki Taniguchi, Kazuhito Soma, Song Ho Chang, Fumiko Yano, Sakae Tanaka, Taku Saito

Poster No. 1842

Investigation of Aquaporin Expression in the Human and Canine Intervertebral Disc

Joseph W. Snuggs, Rebecca Day, Neil Chiverton, Ashley Cole, Rowena Bunning, Matthew Conner, Marianna Tryfonidou, Christine Le Maitre

PS2 Spine—Mechanics

Poster No. 1843

Assessing the Biofidelity of In-Vitro Spine Biomechanical Studies

Forbes Howington, William Anderst, William Donaldson, Joon Lee, Kevin Bell

Poster No. 1844

Biomechanical Contributions of Upper Cervical Ligamentous Structures in Type II Odontoid Fractures

Nicholas J. Vaudreuil, Robert Tisherman, Rahul Ramanathan, Robert Hartman, Joon Lee, Kevin Bell

POSTERS

Poster No. 1845

Application of Lateral Bending Range of Motion Measurement to Improve Diagnosis Sensitivity of Cervical Spine Ligamentous Injuries

P. Devin Leahy, Christian M. Puttlitz

Poster No. 1846

Resonance Frequency Analysis of Pedicle Screw Stability: A Cadaveric Study with Micro-CT

Daisuke Nakashima, Takeo Nagura, Ken Ishii, Masahiro Jinzaki, Morio Matsumoto, Masaya Nakamura

Poster No. 1847

Prolonged Hindlimb Suspended Induced Calcified Hypertrophy of Endplate Structure in Rat Lumbar Spine

Yueli Sun, Xiaofei Li, Zhulun Zhou, Jian Jiao, Dongye Zhang, Minyi Hu, Yi-Xian Qin

Poster No. 1848

Lag Screws Placed Across Adjacent Vertebral Bodies Stabilize the Segment Similar to Traditional Pedicle Screws

Manoj Kodigudla, Sushil Sudershan, Amey Kelkar, Vijay Goel, Anand Agarwal, Deniz U. Erbulut, Cengiz Gomeksiz

Poster No. 1849

The Relationship of Whole Human Vertebral Body Creep to Geometric, Microstructural and Material Properties

Daniel Oravec, Michael J. Flynn, Yener N. Yeni

Poster No. 1850

Bending of Lumbar Posterior Fixation Systems in Tension: A Large Database of Bending Stiffness for ASTM F1717

Amir Hooshidar, Mohammad Javad Ein-Afshar, Naghmeh Mohammadi Bandari, Seyed Ali Hooshidar Ahmadi, Javad Dargahi

Poster No. 1851

28-Day Recovery After Microgravity Conditions Restored Rodent Bone Quality but Not Intervertebral Disc Height

Jenny Huang, Kevin Cheng, Kenji Kato, Robert Sah, Koji Akeda, Brandon Macias, Nozomu Inoue, Alan Hargens, Koichi Masuda

Poster No. 1852

The Effect of Removing Vertebral Dorsal Bone on Pedicle Screw Pullout Strength

Yi Yang, Megan E. Jeffords, Christine Farnsworth, Peter Newton

Poster No. 1853

Regional Characteristics of 3D-Printed PLA Scaffolds and Lumbar Vertebral Bodies Under Fatigue Loading

Constance Maglaras, Victoria Maglaras, Antonio Valdevit

Poster No. 1854

The Effect of Facet Capsular Ligaments on Guiding Spinal Motion

Emily A. Bermel, Victor H. Barocas, Arin M. Ellingson

Poster No. 1855

Lumbopelvic Kinematics During Forward Bending in People with and Without Low Back Pain

Brittney Mazzone, Julianne Stewart, Sara Gombatto

Poster No. 1856

Development of a Fatigue Testing Method for Vertebral Fracture Therapies

Ruth H. Coe, Sebastien N.F. Sikora, David C. Barton, Ruth K. Wilcox

Poster No. 1857

The Rib Cage Has a Strong Stabilizing Effect on the Human Thoracic Spine: An In Vitro Study Using Stepwise Reduction of the Single Rib Cage Structures

Christian Liebsch, Nicolas Graf, Konrad Appelt, Hans-Joachim Wilke

Poster No. 1858

WITHDRAWN

Poster No. 1859

Quantitative Computed Tomography Evaluation of Bone Density of the Vertebral Bodies Compared to Along Pedicle Screw Path

Tara Funk, Steven Marincel, Tomas Kuprys, Muturi Muriuki, Leonard Voronov, Robert Havey, Avinash Patwardhan

Poster No. 1860

Relationship Between Facet Joint Osteoarthritis and Segmental Motion in Lumbar Canal Spinal Stenosis with Spondylolisthesis Using In Vivo Three-Dimensional Image Analysis

Shigeyuki Kitanaka, Ryota Takatori, Yuji Arai, Masateru Nagae, Hitoshi Tonomura, Atsushi Makinodan, Nozomu Inoue, Taku Ogura, Toshikazu Kubo

PS2 Spine—Biology

Poster No. 1861

WITHDRAWN

Poster No. 1862

Lumbar Multifidus Muscle Inflammation and Degeneration in Individuals with Chronic Lumbar Spine Pathology

Bahar Shahidi, Michael C. Gibbons, James C. Hubbard, Vinko Zlomislic, Richard T. Allen, Steven R. Garfin, Samuel R. Ward

Poster No. 1863

Autograft Volume but Not Instrumentation Affects Fusion Results in the Sheep Intertransverse Process Fusion Model

Jeffrey M. Toth, Mei Wang, Steven M. Peckham, Jeffrey M. Badura, Jeffrey L. Scifert

Poster No. 1864

NFAT1 Deficiency Causes Chondrocyte Dysfunction and Ectopic Ossification in Murine Intervertebral Joints

Yi Feng, Qinghua Lu, Brian M. Egan, Kenneth D. Brandt, Jinxi Wang

POSTERS

Poster No. 1865

Normal Values of Craniometry in the Craniocervical-Junction Using Computed Tomography

Hirokazu Inoue

PS2 Knee—Kinematics and Gait

Poster No. 1866

Biomechanical Function on Anterolateral Structure of Knee: Quantitative Evaluation Using the Electromagnetic Measurement System

Daisuke Araki, Takehiko Matsushita, Yuichi Hoshino, Kanto Nagai, Kyohei Nishida, Hideyuki Koga, Tomomasa Nakamura, Mai Katakura, Takeshi Muneta, Ryoosuke Kuroda

Poster No. 1867

Effect of Medial Collateral Ligament Release in High Tibial Osteotomy on Medial and Lateral Contact Forces

Tserenchimed Purevsuren, Won Man Park, Kyungsoo Kim, SuKyoung Lee, Yoon Hyuk Kim

Poster No. 1868

Knees Exhibit Two Distinct Patterns of Instability in Response to Pivoting Loads

Robert N. Kent, Brendan M. Hardy, Thomas L. Wickiewicz, Andrew D. Pearle, Carl W. Imhauser

Poster No. 1869

Evaluation of Contact Area and Pressure on Total Surface Bearing and Patellar Tendon Bearing Sockets During Gait and Sit-to-Stand and Stand-to-Sit Movements

Koji Totoribe, Etsuo Chosa, Go Yamako, Xin Zhao, Hiroaki Hamada, Koki Ouchi, Gang Deng

Poster No. 1870

In Vivo Three-Dimensional Kinematics of Normal Knees During Deep Bending Activities

Kenichi Kono, Tetsuya Tomita, Takaharu Yamazaki, Toshitaka Fujito, Kazuma Futai, Sakae Tanaka, Hideki Yoshikawa, Kazuomi Sugamoto

Poster No. 1871

Evaluating Joint Kinematics in Humans and Large Animals via a Wearable Magnet-Based System

Feini Qu, Brendan D. Stoeckl, Peter M. Gebhard, Todd J. Hullfish, Josh R. Baxter, Robert L. Mauck

Poster No. 1872

Knee Gait and Quantitative Cartilage Imaging Variables After Anterior Cruciate Ligament Reconstruction

Ashutosh Khandha, Jacob J. Capin, Kevin McGinnis, Kurt Manal, Lynn Snyder-Mackler, Thomas S. Buchanan

Poster No. 1873

A Novel Method for Remotely Monitoring Knee Function Using Inertial Measurement Units

Ryan M. Chapman, Wayne Moschetti, Douglas Van Citters

Poster No. 1874

The Optimal Reference Line for Tibial Rotation in Total Knee Arthroplasty: The Takashiba-Line

Kenichiro Takashiba, Gen Uehara, Eunhee Chung, Kei Osano, Hiroki Kaneko

Poster No. 1875

Changes in Knee Adduction Rotation and Not Adduction Moment Influence Joint Compartmental Load Partitioning

Hafedh Marouane, Saeed Shirazi-Adl

Poster No. 1876

An Approach to Benchmark Automated Markerless Tracking of Biplanar Videoradiography Data

Christopher M. Saliba, Allison Clouthier, Myles Ashall, Darryl G. Thelen, William S. Selbie, Peter Loan, Kevin J. Deluzio, Lionel Reveret, Michael J. Rainbow

Poster No. 1877

The Contributions of Pathological Volume and Kinematics to the Etiology of Adolescent Patellofemoral Pain

Richard M. Smith, Natalia Alexandridi, Katharine E. Alter, Barry P. Boden, Frances T. Sheehan

Poster No. 1878

Does Knee Hyperextension Affect Dynamic In Vivo Kinematics After Anterior Cruciate Ligament Reconstruction?

Kanto Nagai, Tom Gale, Yasutaka Tashiro, Elmar Herbst, James J. Irrgang, William Anderst, Freddie H. Fu, Scott Tashman

Poster No. 1879

Lower Extremity Joint Power Differs Between Lead and Trail Limbs Among Female Adolescent Fast-pitch Softball Pitchers During Box Drop Activity

Donna Moxley Scarborough, Shannon Linderman, Taylor Flaxington, Alex Lo, Luke S. Oh

Poster No. 1880

Recovery Process of the Muscle Activities During Ambulation After Total Knee Arthroplasty.

Takao Yoshida, Hideji Kura, Eiichi Uchiyama, Kazuhiro Sasaki, Jun Ebiko

Poster No. 1881

Does the Total Knee Arthroplasty with a Medial Ball in Socket Design Induce Medial Pivot Motion?

Kouta Miura, Yasumitsu Ohkoshi, Takumi Ino, Yuhei Ohsumi, Satoshi Kotake, Kengo Ukishiro, Keiji Ohmori, Toshinori Yoshida, Kensaku Kawakami, Sho'ji Suzuki, Tatsunori Maeda, Ko Suzuki

Poster No. 1882

Posterior Tibial Subchondral Bone and Meniscal Slope Correlate with In Vivo Internal Tibial Rotation

Elmar Herbst, Tom Gale, Kanto Nagai, Yasutaka Tashiro, James Irrgang, William J. Anderst, Scott Tashman, Freddie H. Fu

POSTERS

Poster No. 1883

Radiographic Analysis of the Lower Limbs Using the True Mechanical Axis in Healthy Individuals and in Patients with Osteoarthritis

Toshikazu Tanaka, Tomoyuki Matsumoto, Koji Takayama, Noriyuki Kanzaki, Shinya Hayashi, Shingo Hashimoto, Ryosuke Kuroda

Poster No. 1884

Errors in Computing A-P Tibial Contact Locations Using Single-Plane Fluoroscopy: An In Vitro Validation Study of Two Methods

Derrick Ross, Stephen Howell, Maury Hull

Poster No. 1885

Muscle Activities During Nordic Walking in Patients with Osteoarthritis of the Knee

Kurumi Ueno, Namiko Sugai, Kazuhiro Sasaki, Hideji Kura, Eiichi Uchiyama

PS2 Knee—Mechanics

Poster No. 1886

Side-to-Side Asymmetry During Recovery Following Anterior Cruciate Ligament Reconstruction

Robin M. Queen, Christopher T. Franck

Poster No. 1887

Knee Joint Stability and Muscle Coactivation: A Novel Hybrid Musculoskeletal Model Study in Gait

Masoud Sharifi, Saeed Shirazi-Adl, Hafedh Marouane

Poster No. 1888

The Association Between Subjective Feelings of Instability and Accelerations of the Knee Joint in Total Knee Arthroplasty During Walking

Tatsuya Soeno, Tomoharu Mochizuki, Osamu Tanifuji, Hiroki Hijikata, Takashi Sato, Satoshi Watanabe, Takayuki Murayama, Naoto Endo

Poster No. 1889

The Influence of a Functional Knee Brace and Orthopaedic Tights on Lower Extremity Mechanics During Land and Cut Maneuvers

Michael D. Harris, Ke Song, Bradley S. Davidson, Michael J. Decker, Kevin B. Shelburne

Poster No. 1890

The Effects of the General and Local Geometric Characteristics of Cartilage and Meniscus on Knee Mechanics

Qingen Meng, John Fisher, Ruth K. Wilcox

Poster No. 1891

Computational Muscle Force Prediction in Complexly Shaped Joints by Means of Instantaneous Screw Axes

Andreas Geier, Christoph Woernle, Rainer Bader

PS2 Knee—Computational Modeling

Poster No. 1892

Dynamic Simulation to Characterize the Influence of Surgical Stabilization on Patellar Tracking

John J. Elias, Molly K. Lalonde, Ali Alshehri, Andrew J. Copa, Andrew J. Cosgarea, Kerwyn C. Jones

Poster No. 1893

The Influence of Modeling Choices on the Predictive Capability of the Human Knee Joint Finite Element Models

Hamid Naghibi Beidokhti, Dennis Janssen, Sebastian van de Groes, Ton van den Boogaard, Nico Verdonsocht

Poster No. 1894

The Anteroposterior Axis of the Proximal Tibia Can Change After Tibial Resection in Total Knee Arthroplasty: Computer Simulation Using Asian Osteoarthritis Knees

Tetsuro Ushio, Hideki Mizu-Uchi, Ken Okazaki, Satoshi Hamai, Yukio Akasaki, Yuan Ma, Umito Kuwashima, Koji Murakami, Yasuharu Nakashima, Darryl D'Lima

Poster No. 1895

Effect of Statistical Shape Modelling Features of the Knee Joint on Alignment

Allison L. Clouthier, Colin R. Smith, Michael F. Vignos, Kevin J. Deluzio, Darryl G. Thelen, Michael J. Rainbow

Poster No. 1896

Determination of Muscle Force and Joint Loading in a Simulated Jump Landing Task Using AnyBody

Rodney Summers, Venkat Vaddamani, Tim Hewett, Vijay Goel

Poster No. 1897

Clinical Validation of Forward Dynamic Knee Kinematic Model to Predict TKA Kinematics

Xiangyi (Cheryl) Liu, Damon Servidio, Ronald Ehlert, Amanda Kirk, Walter Schmidt, Joseph Racanelli

Poster No. 1898

Biomechanical Effect of PL Tunnel Positioning in Double-Bundle Reconstruction—A 3D Computational Study

Nathan Varady, Willem A. Kernkamp, Jing-Sheng Li, Lianxin Wang, Hiroshi Koga, Peter D. Asnis, Guoan Li

Poster No. 1899

Comparing the Form and Volume of IPFP Between 30 and 0 Degrees of Knee Flexion in Normal Knees: Cross-Sectional Study Using Three-Dimensional Models

Yuriko Okita, Hiroyuki Oba, Masashi Morimoto, Yusuke Takefuji, Ryohei Miura, Kento Shirai, Kei Sato, Kazuya Ito, Kazuyoshi Gamada, Toshihiro Sadamatsu

POSTERS

Poster No. 1900

Length Change Sensitivity of the Atlas™ Knee System: A Novel Joint-Unloading Prosthesis for the Treatment of Medial Knee Osteoarthritis

Oliver J. Morgan, Howard J. Hillstrom, David Lowe, Anil Ranawat, Austin T. Fragomen, S. Robert Rozbruch, Rajshree Mootanah

Poster No. 1901

A Novel Computational Model of a Total Knee Replacement Implant with Synthetic Ligaments

Taylor Gambon

Poster No. 1902

Altered In Vivo Patellofemoral Kinematics in Anterior Cruciate Ligament Deficiency: A Comparative Study with Healthy Knees During a Step-Up Activity

Seung-Hoon Baek, Jing-Sheng Li, Willem A. Kernkamp, Peter Asnis, Thomas J. Gill, Guoan Li

Poster No. 1903

Effect of Fixation Wire's Diameter on the Damage of Transplanted ACL Graft Under Repetitive Loads

Tae Soo Bae, Han Wool Seo, Joon Ho Wang

PS2 Knee—Surgical Repair and Rehabilitation

Poster No. 1904

Fibroblast and Synovocyte Adhesion and Viability on Polyethylene and Polyester Suture Materials

Eli L. Pratte, Aaron M. Stoker, James L. Cook

Poster No. 1905

Factors Affecting the Postoperative Malalignment in an Opening-Wedge High Tibial Osteotomy

Kei Osano, Takenori Akiyama, Shunsuke Nakamura, Ryuji Nagamine, Kenichiro Takashiba

Poster No. 1906

Intraoperative Outcomes of ACL-Reconstruction: A Probabilistic Simulation of the Surgery

Yasin Dhaher, Shahab Salehghaffari, Malek Adouni

Poster No. 1907

Longitudinal Investigation of In Vivo Tibiofemoral Kinematics Following ACL Injury and Reconstruction

Michael F. Vignos, Jarred Kaiser, Richard Kijowski, Geoffrey S. Baer, Darryl G. Thelen

Poster No. 1908

The Influence of Graft Diameter and Depth on Force Requirements During Osteochondral Allograft Transplantation

Brian Walczak, Darrin Trask, Matthew Squire, Geoffrey Baer

Poster No. 1909

Alignment Reference Impacts the Accuracy of Tibial Resection Planning During TKA

Laurent Angibaud, Yifei Dai, Matthew Rueff, Michael Cross, Kyle Swanson, Matthew Crozier, Brendan Williams, Amaury Jung

Poster No. 1910

The Biomechanical Influence of the Lateral Hinge Fracture on Opening Wedge High Tibial Osteotomy

Kentaro Shinohara, Naoto Mitsugi, Naoya Taki, Hirohiko Ota, Yohei Sasaki, Tomoyuki Saito

Poster No. 1911

Influence of Bone Mineral Density and Insertion Torque on ACL Soft Tissue Graft Fixation with Interference Screws

Chris J. Como, Elmar Herbst, Thomas R. Pfeiffer, Jan-Hendrik Naendrup, Volker Musahl, Richard E. Debski

Poster No. 1912

Steroid Injection in Total Knee Arthroplasty—Study with Different Procedure

Takao Yamamoto, Atsushi Narita, Akemi Suzuki, Sadami Toyoshima, Tamon Asano, Taku Nakajima, Shuji Toyono, Yoshihiro Wanezaki, Michiaki Takagi

Poster No. 1913

Is a High Tibial Osteotomy Superior to Non-Surgical Treatment or Valgus Unloader Bracing in Patients with Varus Malaligned Medial Knee Osteoarthritis? A Propensity Matched Study Using 2 RCT Datasets

Mark Van Outeren, Erwin Waarsing, Max Reijman, Reinoud Brouwer, Susanne Eijgenraam, Jan Verhaar, Sita Bierma-Zeinstra

PS2 Knee—Knee Ligament

Poster No. 1914

Effects of Remnant Tissue Preservation on Tunnel Enlargement and Coalition After Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction using Hamstring Tendon Autografts

Tetsuro Masuda, Eiji Kondo, Jun Onodera, Nobuto Kitamura, Hiroshi Mizuta, Norimasa Iwasaki, Kazunori Yasuda

Poster No. 1915

Sensitivity of ACL Volume and MR T2* Characteristics To MR Scan Parameters

Jillian E. Beveridge, Edward G. Walsh, Martha M. Murray, Braden C. Fleming

Poster No. 1916

Gait Mechanics Differ After ACL Reconstruction Based On Medial Meniscal Pathology and Surgical Treatment

Jacob J. Capin, Ashutosh Khandha, Kurt Manal, Thomas S. Buchanan, Lynn Snyder-Mackler

Poster No. 1917

Does Triple Semitendinosus Autograft Tendon Have the Same Thickness as Quadrupled Semitendinosus and Gracilis Autograft Tendons in ACL Reconstruction?

Mohammad Ghorbanhoeseini, Tanishq Suryavanshi, Daniel Copeland, Patrick Williamson, Jonathan Z. Egan, Poopak Hafezi, Hamidreza Yazdi, Ara Nazarian

POSTERS

Poster No. 1918

Patient's Age and Condition of ACL Remnant Tissue Influence the Stability of ACL Injured Knee

Tsuneari Takahashi, Takashi Ohsawa, Masashi Kimura, Katsushi Takeshita

Poster No. 1919

Biomechanics of Drop Vertical Jump Depends on the Characteristics of the Sport Activities

Yutaro Morishige, Kengo Harato, Reika Uchiyama, Masayoshi Kurosawa, Aiko Sakurai, Toshiro Otani, Hideo Matsumoto, Satoshi Imai, Shu Kobayashi, Yasuo Niki, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

Poster No. 1920

Investigation of the Effect of the Anterolateral Capsule Injury on the Rotational Laxity in the Anterior Cruciate Ligament Injured-Knees Using Quantitative Measurement of the Pivot-Shift Test in Clinical Cases

Nobuaki Miyaji, Yuichi Hoshino, Toshikazu Tanaka, Kazuyuki Ibaraki, Kyohei Nishida, Yuichiro Nishizawa, Daisuke Araki, Noriyuki Kanzaki, Takehiko Matsushita, Ryoosuke Kuroda

Poster No. 1921

Age-Related Changes in Ligament and Cartilage Composition Are Altered With Exercise

Yalda Ashraf Kharaz, Gareth Nye, Anne McArdle, Jane Hurst, Eithne Comerford

Poster No. 1922

Features of Human Autologous Hamstring Graft Elongation After Pretensioning in Anterior Cruciate Ligament Reconstruction

Masataka Fujii, Takayuki Furumatsu, Shinichi Miyazawa, Takaaki Tanaka, Hiroto Inoue, Yuya Kodama, Toshifumi Ozaki

Poster No. 1923

Maximum ACL Strain Location Is Sensitive to Loading Mechanism: A Finite Element Investigation

Sara Sadeqi, Marcel Ingels, Rodney Summers, Ali Kiapour, Timothy Hewett, Vijay K. Goel

Poster No. 1924

The Relationship of the Posterior Cruciate Ligament Insertion Site to the Proximal Tibia Growth Centers: An MRI study

Molly Khoury, Vincent Staggs, Amie Robinson, Brian Dunoski, Donna Pacicca

Poster No. 1925

Quantitative Anatomy of the Proximal Tibiofibular Joint

Jack Anavian, Daniel Marchetti, Gilbert Moatshe, Erik Slette, Jorge Chahla, Alex Brady, David Civitarese, Robert F. LaPrade

Poster No. 1926

The Anterolateral Structures Control Knee Rotational Instability: Quantitative Evaluation of the Knee Stability Using an Inertial Sensor

Sanshiro Yasuma, Masahiro Nozaki, Atsunori Murase, Masaaki Kobayashi, Hideyuki Goto, Yuko Nagaya, Hirotaka Iguchi, Takanobu Otsuka

Poster No. 1927

Geographic Incidence of Second Anterior Cruciate Ligament Tears (2001–2010) and Associated Risk Factors

Nathan D. Schilaty, Nathaniel A. Bates, Christopher Nagelli, Aaron J. Krych, Timothy E. Hewett

Poster No. 1928

3DCT Evaluation of Morphological Changes in the Femoral Tunnel After MPFL Reconstruction Using Hamstring Tendon Graft for Recurrent Patellar Dislocation

Keisuke Kita, Yoshinari Tanaka, Hiroshi Amano, Yuki Yoshi Toritsuka, Ryohei Uchida, Yoshiki Shiozaki, Shuji Horibe

Poster No. 1929

The Position of the Anterior Cruciate Ligament Graft During Reconstruction Affects the Failure Load

Soheil Sabzevari, Amir Ata Rahnama-Azar, Brandon Marshall, Junjun Zhu, Monica A. Linde, Patrick Smolinski, Freddie H. Fu

Poster No. 1930

Restoration of the ACL Footprint Can Prevent Tibial Tunnel Enlargement After ACL Reconstruction Surgery

Amir Ata Rahnama-Azar, Soheil Sabzevari, Humza Shaikh, Volker Musahl, James J. Irrgang, Freddie H. Fu

Poster No. 1931

The Correlation of Femoral Tunnel Length and the Shape of the Lateral Wall of Femoral Intercondylar Notch in the Anatomical Single Bundle ACL Reconstruction

Takanori Iriuchishima, Keinosuke Ryu, Makoto Suruga

Poster No. 1932

Effect of Graft Fixation Protocol on Graft In-Situ Forces in One-Stage Anterior Cruciate Ligament and Posterior Cruciate Ligament Reconstruction

Li-Bin Zheng, Soheil Sabzevari, Brandon Marshall, Junjun Zhu, Monica A. Linde, Patrick Smolinski, Freddie H. Fu

PS2 Hip—Mechanics

Poster No. 1933

Sciatic Nerve Biomechanics During Hip Abduction and Terminal Hip Flexion

Anthony N. Khoury, Ricardo Schroder, Juan Gomez-Hoyos, Manoj Reddy, Ian Palmer, Hal Martin

Poster No. 1934

Regional Mechanical Characterization of Femoral Head Cartilage

Rebecca Chung, Rachel Hjerpe, Antonio Valdevit

POSTERS

Poster No. 1935

Capsular Laxity Increases Micro-Instability of the Hip During Axial Rotation

Shuyang Han, Jerry Alexander, Vijai Thomas, Joshua Choi, David Doherty, Joshua Harris, Jonathan Jeffers, Philip C. Noble

Poster No. 1936

The Difference in the Stress Distribution on the Non-Collapsed Femoral Head Between Osteonecrosis with/Without Sclerotic Boundary of the Necrotic Lesion: Biological-Data-Based Finite Element Study

Takeshi Utsunomiya, Goro Motomura, Satoshi Ikemura, Kazuhiko Sonoda, Yusuke Kubo, Hiroyuki Hatanaka, Shoji Baba, Takuaki Yamamoto, Yasuharu Nakashima

Poster No. 1937

Influence of Bone Pathology on Strength Assessed by MRI-Based Finite-Element Modeling

Malika Shukurova, Hamza Alizai, Abigail L. Hong, Keren De Jesus, Chamith S. Rajapakse, Gregory Chang

PS2 Hip—Kinematics and Gait

Poster No. 1938

How Does Transtrochanteric Rotational Osteotomy Change the Dynamic Three-Dimensional Intact Ratio in Hips with Osteonecrosis of the Femoral Head? A New Method and Pilot Study

Daisuke Hara, Yasuharu Nakashima, Satoshi Hamai, Goro Motomura, Kensei Yoshimoto, Keisuke Komiyama, Kyohei Shiimoto, Scott A. Banks

Poster No. 1939

Hip Braces for Conservative Femoroacetabular Impingement Treatment Reduce Injury Inducing Motions During Activities of Daily Living

Savan Patel, Grant Drewelow, Joshua Green, Jonathan Rylander

Poster No. 1940

Periarticular Muscle Damage Impacts In Vivo Joint Forces After Total Hip Arthroplasty

Tobias Winkler, Sophie Brackertz, Carsten F. Perka, Georg N. Duda, Georg Bergmann, Philipp Damm

Poster No. 1941

Does Gait Become Slower and More Asymmetrical with Age?

Erik Kowalski, Mario Lamontagne

Poster No. 1942

Dynamic In Vivo Measurement of Ischiofemoral Space in Recreationally Active Subjects During Activities of Daily Living: A High-Speed Dual-Fluoroscopy Study

Penny Atkins, Niccolo Fiorentino, Sara Fauver, Stephen Aoki, Christopher Peters, Travis Maak, Andrew Anderson

Poster No. 1943

Going Beyond Patient Reported Outcome Measures (PROMs) in Assessing Surgical Management of Femoroacetabular Impingement

Erik Kowalski, Danilo Catelli, Paul Beaulé, Mario Lamontagne

PS2 Hip—Computational Modeling

Poster No. 1944

Comparative Simulation Study of Iliac and Transverse Fixations for Periacetabular Osteotomy

Mahsan Bakhtiarinejad, Amirhossein Farvardin, Ryan J. Murphy, John Edgar Tis, Amit Y. Merchant, Mehran Armand

Poster No. 1945

Effects of Biphasic Parameters and Fiber Orientation on Transient Cartilage Mechanics in the Hip

Jocelyn Todd, Huashan Zou, Travis Maak, Jeff Weiss

Poster No. 1946

Evaluation of the Effect of Total Hip Arthroplasty on Spine-Hip-Knee Alignment and Pain Using EOS System

Daigo Kobayashi, Yutaka Inaba, Hyonmin Choe, Naomi Kobayashi, Taro Tetsuka, So Kubota, Takashi Sakai, Tomoyuki Saitou

Poster No. 1947

Femoral Offset Effect on Abductor and Hip Forces in Total Hip Arthroplasty

Alexandre Terrier, Maïka Guilemin, Adeliya Latypova, Hannes A. Rüdiger

PS2 Hip—Joint Morphology

Poster No. 1948

Reliability of Dorr Classification and Its Reliable Radiographic Index

Ryota Nakaya, Masaki Takao, Hidetoshi Hamada, Takashi Sakai, Nobuhiko Sugano

Poster No. 1949

Anterior Inferior Acetabular Horn Morphology: A Factor in Hip Instability

Asadullah Helal, Munif A. Hatem, Ricardo G. Schroder, Anthony Khoury, Ian J. Palmer, Hal D. Martin

Poster No. 1950

Factors Influencing Progressive Collapse of the Transposed Necrotic Lesion After Transtrochanteric Anterior Rotational Osteotomy for Osteonecrosis of the Femoral Head

Yusuke Kubo, Goro Motomura, Takuaki Yamamoto, Satoshi Ikemura, Kazuhiko Sonoda, Hiroyuki Hatanaka, Takeshi Utsunomiya, Shoji Baba, Yasuharu Nakashima

Poster No. 1951

Differences in Acetabular Rim Thickness Between the Symptomatic and Asymptomatic Hip in Patients with Unilateral Femoroacetabular Impingement

Gift C. Ukwuani, Alexander Weber, Benjamin Kuhns, Nozomu Inoue, Asheesh Bedi, Michael Salata, Shane J. Nho

POSTERS

Poster No. 1952

Assessment of Lower Extremity Bilateral Symmetry

Tyler Saunders, Sally LiArno, Walter Schmidt

Poster No. 1953

Femoral Asymmetry of Dysplastic Hip and Its Implication for Total Hip Arthroplasty

Kazunori Tamura, Masaki Takao, Takashi Sakai, Hidetoshi Hamada, Nobuhiko Sugano

Poster No. 1954

3D Acetabular Changes Following Ischemic Osteonecrosis of the Femoral Head in a Piglet Model

Vidyadhar V. Upasani, Megan Jeffords, Christine Farnsworth, David Padilla, Nick Lopreiato, Olumide Aruwajoye, Harry K.W. Kim

Poster No. 1955

Femoral Head Coverage Is Affected by Acetabular Retroversion in Dysplastic Hips: A Novel Ct-based Technique

Yusuke Kohno, Yasuharu Nakashima

PS2 Hip—Surgical Repair and Rehabilitation

Poster No. 1956

Testing the Hip Labrum: Cut-Through, Delamination and Circumferential Strength

Matthew Schessler, John J. Christoforetti, Michael Maher, Alexander Kharlamov, Alkhila Veerubhotla, Mark Carl Miller

Poster No. 1957

An Evaluation of the Interportal Capsulotomy Made with the Modified Anterior Portal: Comparable Utility with Decreased Capsule Morbidity

Gift C. Ukwuani, Alexander E. Weber, Benjamin D. Kuhns, Eric Makhni, Shane J. Nho

Poster No. 1958

Natural History of Asymptomatic Hips in Patients with Bilateral Osteonecrosis of the Femoral Head

Kenyu Iwasaki, Satoshi Ikemura, Goro Motomura, Takuaki Yamamoto

Poster No. 1959

Developing an In Vivo, X-ray Detectable Strain Sensing Device for Use in Dynamic Hip Screws

Nathan Carrington, Bryce Kunkle, Jeffrey Anker, John DesJardins, Caleb Behrend, Tom Pace

Poster No. 1960

Does Corrective Surgery in Femoroacetabular Impingement Improve Joint Kinematics During Squatting?

Danilo Catelli, Erik Kowalski, Mario Lamontagne, Paul Beaulé

Poster No. 1961

The Effect of Limb Position on Radiographic Assessment of Limb Length Inequality During Anterior Total Hip Arthroplasty: A Quantitative Analysis

Philip C. Noble, Charles Lawrie

PS2 Hip and Knee Arthroplasty—Kinematics and Gait

Poster No. 1962

Anteroposterior Translation and Range of Motion After Total Knee Arthroplasty using Posterior Cruciate Ligament-Retaining vs. Substituting Prostheses

Yoshinori Ishii, Hideo Noguchi, Junko Sato

Poster No. 1963

Polyethylene Insert Subluxation in Rotating Platform Total Knee Arthroplasty: The Role of Flexion/Extension Gap Laxity

Nicole E. Durig, Yongren Wu, Vincent Pellegrini

Poster No. 1964

Effects of Total Knee Replacement Material Pairing on Implant Kinematics and Stability

Melissa M. Mansfield, Peter S. Walker, Ryan T. Willing

Poster No. 1965

Do Neuromuscular Synergies Modify Knee Functionality in Patients with Total Knee Arthroplasty?

Marzieh Ardestani, Aaron Resenberg, Markus A. Wimmer

Poster No. 1966

The Influence of Implant Orientation on Hip Torques During Chair Rise Among Patients with Unilateral Total Hip Arthroplasty

Donna Moxley Scarborough, Javier E. Sanchez, Shannon Linderman, Tsung-Yuan Tsai, Young-Min Kwon

Poster No. 1967

How Sensitive Are the Contact Force Imbalance and Varus-Valgus Laxity to Varus-Valgus Adjustments of the Tibial Component in Total Knee Arthroplasty?

Joshua D. Roth, Stephen M. Howell, Maury L. Hull

Poster No. 1968

Knee Joint Deficits Of Patients With Total Knee Arthroplasty During Stair Descent

Songning Zhang, Tyler Standifird, Harold E. Cates

Poster No. 1969

Conventional and Original Methods for Measuring Leg Length Discrepancy After Robot-Assisted Total Hip Arthroplasty

Giovanni F. Solitro, Tanner Norris, Farid Amirouche, Mark Gonzalez, Benjamin Domb

POSTERS

PS2 Hip and Knee Arthroplasty—Computational Modeling and Finite Element Analysis

Poster No. 1970

Comparison of Knee Joint Mechanics and Kinematics in Normal Knee, Patient-Specific and Standard Total Knee Arthroplasty Using Finite Element Analysis

Kyoung-Tak Kang, Juhyun Son, Oh-Ryong Kwon, Sae-Kwang Kwon, Changhyun Baek, Yong-Gon Koh

Poster No. 1971

Mechanical Properties Characterization of Polyurethane Foam Bone Analogs

Tyler Saunders, Sally LiArno, Cheryl Liu, Walter Schmidt, Joseph Racanelli

Poster No. 1972

Subcutaneous Fat Thickness as Predictor of Lower Extremity Variance in Obese Patients

Kevin Simoens, Jacob Elkins, John Callaghan

Poster No. 1973

Effects of Component Alignment Using a Medially Stabilized Knee Design: An Oxford Rig Simulation

Rachel K. Baker, Joseph A. Ewing, David W. Manning, Matthew D. Beal, Stephen J. Piazza, Robert A. Siston

Poster No. 1974

Verification of CT Based Anthropometric Measurements of Human Femora

Sally LiArno, Ron Ehlert

Poster No. 1975

Distal Femoral Morphology and Its Correlation with Two Contemporary TKA Designs

Yifei Dai, Weimin Yue, Julien Deckx, Mike Lawrenchuk, Laurent Angibaud

Poster No. 1976

Combined Hip Rotations Can Lead to Erroneous Pre-Operative Planning Measurements in Total Hip Arthroplasty

John O'Connor, Megan Rutherford, Janet Hill, Nicholas Dunne, David Beverland, Alex Lennon

Poster No. 1977

The Risk of Periprosthetic Fracture with a Single Wedge vs. Double Wedge Metaphyseal Filling Stems in Total Hip Arthroplasty: A Finite Element Analysis

Sumon Nandi, Anoli A. Shah, Amin Joukar, Kevin Becker, Cody Crutchfield, Nidhi Shah, Vijay Goel

Poster No. 1978

Effects of Kinematically Aligned TKA on Stress at the Medial Tibia

Shinichiro Nakamura, Yi Tian, Yoshihisa Tanaka, Shinichi Kuriyama, Hiromu Ito, Moritoshi Furu, Shuichi Matsuda

Poster No. 1979

Acetabular Cup Rigidity and Rim Geometry

Nick Dong, Jiang Wang, Changsheng Chen, Aiguo Wang, Yixin Zhou

Poster No. 1980

Using Dual-Energy X-Ray Absorptiometric Region-free Analysis to Assess the Effect of a Rifampicin-fosfomycin Prosthetic Coating on Bone Mineral Density at the Implant-Bone Interface

Andrew Parker, Mohsen Farzi, Jose Pozo, Alejandro Frangi, John-Paul Whittaker, Patrick Gregson, Niall Graham, Sudheer Karlakki, J. Mark Wilkinson

Poster No. 1981

The Effect of Tibial Slope on the Biomechanics of Cruciate Retaining TKA: A Musculoskeletal Simulation Study

Marco Marra, Marta Strzelczak, Petra Heesterbeek, Sebastiaan van de Groes, Dennis Janssen, Bart Koopman, Ate Wymenga, Nico Verdonshot

Poster No. 1982

Biomechanical Analysis of Different Post-cam Designs and Materials Properties in Posterior-Stabilized Total Knee Replacements

Chang-Hung Huang, Lin-I Hsu, Cheng-Yu Wu, Shu-Ting Yeh, Ting-Kuo Chang, Yung-Chang Lu, Chun-Hsiung Huang

Poster No. 1983

Supine Position Increased the Risk of Outliers of the Cup Alignment in THA Using the Muscle Sparing Modified Watson-Jones Approach

Yuichi Kishimura, Yukihide Minoda, Shigekazu Mizokawa, Ryo Sugama, Yoichi Ohta, Kazumasa Yamamura, Suguru Nakamura, Hideki Ueyama, Hiroaki Nakamura

Poster No. 1984

Improving Stress Shielding of Ti-33.6Nb-4Sn Femoral Stem with Gradation of Young's Modulus

Go Yamako, Dennis Janssen, Shuji Hanada, Koji Totoribe, Etsuo Chosa, Nico Verdonshot

PS2 Hip and Knee Arthroplasty—Implant Wear

Poster No. 1985

How Does Increased Body Weight Affect Polyethylene Wear?

Jason A. Longaray, David Rodriguez, Ananthkrishnan Gopalakrishnan, Lizeth Herrera, Aaron Essner, Melvin Harrington, Brian Parsley

Poster No. 1986

The Effect of Cyclic Loading on Taper Disassembly Strength and Fretting Corrosion in Revision Tibial Implant Constructs

Laura Gazza, Aeshan Ali, Satya Nambu, Irina Timmerman

Poster No. 1987

Wear of Highly Crosslinked UHMWPE Against Various Femoral Head Materials Damaged by Simulated Dislocation

Amit Parikh, Vivek Pawar

POSTERS

Poster No. 1988

The Histology of Titanium and CoCr Stained Tissues Is Similar

Patricia Campbell, Ahmad Al-Shihabi, Edward Ebramzadeh, Nathaniel Yuan, Ma. Cristina D.C. Briones, Sidney Ortega, Power Lee, Scott D. Nelson

Poster No. 1989

Smart Sensors for the Detection of Metal Ions in Orthopedic Patients: Initial Outcome

Irene O'Hara, Dmitry Royhman, Divya Bijukumar, Asimina Kiourti, Shalini Prasad, Joshua Jacobs, Mathew Thoppil Mathew

Poster No. 1990

Development of a "2-D" Test System for Visualizing Fretting Corrosion: A Study of the Fretting Corrosion Behavior of CoCrMo Alloy

DongKai Zhu, Jeremy L. Gilbert

Poster No. 1991

The Effects of Chronic Cobalt and Chromium Exposure After Metal-on-Metal Hip Resurfacing on DNA Methylation: An Epigenome-Wide Association Study

Julia Steinberg, Karan M. Shah, Alison Gartland, Eleftheria Zeggini, J. Mark Wilkinson

Poster No. 1992

How Much CoCr Is Lost During Wear After TKA? An Analysis of Scratched CoCr Femoral Components

Kevin L. Ly, Matthew J. Gauvain, Marie Emily Roy, Leo A. Whiteside

Poster No. 1993

Do Taper Design and Impaction Load Affect Micromotion and Pulloff Strength of the Head-Neck Junction in Total Hip Arthroplasty?

Caroline Brial, Chelsea N. Koch, Timothy M. Wright, Geoffrey H. Westrich

Poster No. 1994

Articulation and Edge Loading Affects Taper Wear and Corrosion in Total Hip Replacement

Mazen Al-Hajjar, Dawn Groves, Sophie Williams, John Fisher, Jonathan Thompson, Graham H. Isaac, Jeremy Gilbert

Poster No. 1995

Effect of High Demand Deep Knee Flexion on HXLPE Tibial Inserts

Joseph Mummert, Ron Quam, Lizeth Herrera, Melvyn Harrington, Brian Parsley

Poster No. 1996

Dual Mobility vs. Fixed Hip Bearings: Effects of Femoral Head Material Type on the UHMWPE Wear of Dual Mobility Hip Bearings

Danny Chang, Satya Nambu, Gary Hines, Eleonora Delvecchio, Irina Timmerman

Poster No. 1997

Highly Cross-Linked Polyethylene Wear: Retrieval Analysis Technique Offers High Precision and Accuracy

Lindsay A. Holdcroft, Douglas W. Van Citters

Poster No. 1998

Wear Testing of an Innovative Design for Canine Hip Resurfacing with Implications for Human Medicine

Kevin J. Warburton, John B. Everingham, Jillian L. Helms, Katherine A. Hollar, Andrew J. Kazanovicz, Jeff Brouman, Steven Fox, Trevor J. Lujan

Poster No. 1999

Long-Term Wear Reliability of Crosslinked Vitamin E Grafted Polyethylene (VE-HXPE) Knee Articular Surfaces

Kim Mimnaugh, Oludele Popoola

Poster No. 2000

Influence of Taper Surface Finish on the Relative Motion Between Ball Head and Stem in Total Hip Arthroplasty

Henning Haschke, Gerd Huber, Michael M. Morlock

PS2 Hip and Knee Arthroplasty— Clinical Outcomes Research

Poster No. 2001

Opioid Use Following UKA—Trends and Risk Factors for Prolonged Use

Nicholas Bedard, Robert Westermann, Andrew Pugely, David DeMik, Kyle Duchman, Steve Liu, John Callaghan

Poster No. 2002

Comparison of Early Revision Rates with Inlay Versus Onlay Patellofemoral Arthroplasty: A Systematic Review

Chaitu S. Malempati, Cale Jacobs, Jeremy M. Burnham, Terrance J. Barrett, Christian Lattermann

Poster No. 2003

Intraoperative Femur Fracture Risk During Primary Direct Anterior Approach Cementless Total Hip Arthroplasty with and Without a Fracture Table

Eric Cohen, Scott Ritterman, Joshua Vaughn, Daniel Eisenson, Valentin Antoci, Lee Rubin

Poster No. 2004

Outcomes of a New 3D Porous Metal Acetabular Component

Tyler D. Goldberg, Andrea Torres

Poster No. 2005

Insurance Status Affects Postoperative Morbidity and Complication Rate After Hip Arthroplasty

Xinning Li, David Veltre, Paul Yi, David Sing, Emily J. Curry, Eric L. Smith

Poster No. 2006

Short Term Results of ACL Augmentation in Professional and Amateur Athletes

Ara Nazaraian, Mohammad Ghorbanhoseini, Tanishq Suryavanshi, Patrick Williamson, Lori Sahakian, Poopak Hafezi, Hamidreza Yazdi, John Kwon

POSTERS

Poster No. 2007

Influence of Comorbid Conditions and Low Back Pain on Patient Reported Outcomes Following Total Hip Arthroplasty

David F. Hamilton, Fanny Loth, Johannes M. Giesinger, Karlmeinrad Giesinger, Deborah J. MacDonald, Hamish Simpson, Colin R. Howie

Poster No. 2008

Osseous Response of Three Different Types of Zweymüller Stems in Total Hip Arthroplasty

Taro Tezuka, Yutaka Inaba, Naomi Kobayashi, Choe Hyonmin, So Kubota, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

Poster No. 2009

The Balance of Patient Satisfaction and Residual Hip Symptoms: THA vs. Age and Sex Matched Controls

Uche Osadebe, Adam Brekke, Sabir Ismaily, Krissett Loya-Bodiford, Jasmine Gonzalez, Gregory Stocks, Ryan Nunley, Kenneth Mathis, Philip C. Noble

Poster No. 2010

Does Acetabular, Femoral and Combined Hip Anteversion in Standing Position Reside Within the Proposed Safe Zone in Most Patients After Primary Total Hip Arthroplasty?

Aidin Eslam Pour, Jean Yves Lazennec, Christopher Robbins

Poster No. 2011

Preliminary Analysis of TKA Revisions Risks Among Hispanics

Jennifer Nordhauser, John Boxberger, Ventrice Shillingford-Cole, Chance Moore, Kathleen Harnois, Joel Michalek, Roberto Fajardo, Matthew Morrey

Poster No. 2012

Empiric Treatment Less Costly Than S. Aureus Screening and Decolonization in Hip and Knee Arthroplasty Patients

Jacob Stirton, Joseph S. Herron, Sumon Nandi

Poster No. 2013

Residual Varus Alignment Does Not Increase Varus Laxity at a Minimum of Five Years After Total Knee Arthroplasty.

Kazuhsa Hatayama, Masanori Terauchi, Kenichi Saito, Hiroshi Higuchi

Poster No. 2014

Intraoperative Comparison of Patient Specific Instrument Position Between Two Different Designs Using Navigation System

Kohei Yabuno, Noriyoshi Sawada, Atushi Goshima, Motonori Kanazawa

Poster No. 2015

Minimum 8-year Results of Modular Metal-on-Metal Total Hip Arthroplasty

Hiroki Wakabayashi, Masahiro Hasegawa, Toshio Yamaguchi, Yohei Naito, Akihiro Sudo

Poster No. 2016

Short-Term Morbidity and Readmissions Are Increased with Skilled Nursing Facility Discharge Following TJA

Jesse Otero, Kyle Duchman, Nicholas Bedard, James Gholson, Yubo Gao, John Callaghan

Poster No. 2017

No Difference in Events After Total Joint Arthroplasty Between Dabigatran and Warfarin for Thromboprophylaxis

Katharine Hollnagel, Rachel Michael, Jeffrey Devitt, Sumon Nandi

Poster No. 2018

Proximal Migration Within Two Years Correctly Predicted 80% of Acetabular Components to Be Loose or Not Loose After Revision Total Hip Arthroplasty: The First Case Control Study with Confirmed Intraoperative Outcomes

John Abrahams, Young S. Kim, Stuart A. Callary, Carmine De Ieso, Kerry Costi, Donald Howie, Lucian Solomon

Poster No. 2019

Prediction of Thigh Pain and Femoral Periprosthetic Fracture After Cementless Total Hip Arthroplasty Using 3D Preoperative Planning

Elhadi Sariali, Florian Legjny

Poster No. 2020

Computer Navigated Total Knee Arthroplasty: Rates of Adoption and Early Complications

J. Joseph Gholson, Andrew Pugely, Kyle Duchman, Yubo Gao, John Callaghan

Poster No. 2021

Proximal Sleeve Deformation of S-ROM Stem

Hirosama Tanino, Tatsuya Sato, Yasuhiro Nishida, Ryo Mitsutake, Hiroshi Ito

Poster No. 2022

Patient Related Factors Affecting a Surgical Time in Total Knee Arthroplasty: A Comparative Study Between High and Non-High Volume Surgeons in a Multicenter Study

Kengo Harato, So Nomoto, Hidenori Tanikawa, Shu Kobayashi, Masaya Nakamura, Morio Matsumoto, Yasuo Niki

Poster No. 2023

What Is the Impact of a Spinal Fusion on Acetabular Implant Orientation in Functional Standing and Sitting Positions?

Aidin Eslam Pour, Jean Yves lazennec, Christopher Robbins

Poster No. 2024

Potential Damage to the Femoral Neurovasculature During Approach to the Hip

Vincent M. Moretti, Sean M. Mitchell, Brian E. Schwartz, Samuel J. Chmell

Poster No. 2025

Hip Fractures: Appropriate Timing to Operative Intervention

Christopher Anthony, Kyle Duchman, Nicholas Bedard, Andrew Pugely, Yubo Gao, John Callaghan

POSTERS

Poster No. 2026

Preliminary Feasibility of a Wireless Implantable Infection Sensor

Elizabeth A. Capogna, Jena Nawfel, Josh Erndt-Marino, Mariah Hahn, Nathaniel Cady, Eric H. Ledet

Poster No. 2027

History of Beta-Lactam Allergy in Total Joint and Spine Patients: Are These Patients Really Allergic?

Nicolas Noiseux, Deanna McDanel, Ambar Haleem, Amy Dowden, Melissa Willenborg, Charles Clark, John Callaghan

Poster No. 2028

Comparison of Postoperative Three Dimensional and Two Dimensional Evaluation of Tibial Component Alignment for Total Knee Arthroplasty

Osamu Tanifuji, Tomoharu Mochizuki, Takashi Sato, Satoshi Watanabe, Naoto Endo

PS2 **Hip and Knee Arthroplasty— Polyethylene and Biomaterials**

Poster No. 2029

The Poor Dimensional Control of Acetabular Liner May Contribute to the Large Wear Rate of the Metal Polyethylene Pair in Hip Implants

Patricia Ortega Cubillos, Vinicius Oliveira Santos, André Luiz Pizzolatti, Edison da Rosa, Carlos Rodrigo Roesler, Ari D.O. Moré

Poster No. 2030

Vitamin E Blended Highly Cross-linked Polyethylene Liner Compared to Standard Liners in Total Hip Arthroplasty

Hiromasu Tanino, Tatsuya Sato, Yasuhiro Nishida, Ryo Mitsutake, Hiroshi Ito

Poster No. 2031

Does Gait Profile Cyclic Deformation Behavior Cause Morphological Changes in Highly Cross-Linked Polyethylene?

Matthew Kolevar, Krista Parran, Fazeel Khan, Clare Rimnac

Poster No. 2032

The Effect of Irradiation Dosage on Aged and Non-Aged Vitamin E Blended Highly Cross-Linked UHMWPE

Danny Chang, Ashley C. Parker, Julia Crabtree, Satya Nambu, Irina Timmerman

Poster No. 2033

The Effect of Accelerated Aging on Vitamin E Blended Highly Crosslinked UHMWPE

Ashley C. Parker, Danny Chang, Julia Crabtree, Satya Nambu, Irina Timmerman

Poster No. 2034

Blended and Warm Irradiated vs. Infused: Mechanical Properties of Vitamin E Crosslinked UHMWPEs

John C. Knight, William P. Rodgers III, Jordan Freedman

Poster No. 2035

Localized Degradation at the Surface of Ultra-High Molecular Weight Polyethylene Used for Hip Prostheses Detected by the Evaluation of Mechanical Strength

Hideyuki Sakoda, Yoshihiro Okamoto, Yuji Haishima, Nobuhiko Sugano

Poster No. 2036

In-Vivo Oxidative Degradation of 4 Different Types of Commercially Available Tibial Inserts for Total Knee Arthroplasty: A Comparative Clinical Study

Shine Tone, Masahiro Hasegawa, Leonardo Puppulin, Giuseppe Pezzotti, Akihiro Sudo

Poster No. 2037

Consistent Corrosion Progression Preceding Gross Taper Failure in THR of a Single Design

Audrey Martin, Derek Jenkins, Rui Zhang, Christopher Dalldorf, Douglas Van Citters

Poster No. 2038

Surface Grafting of Biocompatible Phospholipid Polymer MPC and Vitamin E Blending Provides Wear and Oxidation Resistance of Tibial Insert in Artificial Knee Joints

Toru Moro, Yoshio Takatori, Masayuki Kyomoto, Kazuhiko Ishihara, Shihori Yamane, Kenichi Watanabe, Shuji Taketomi, Sakae Tanaka

PS2 **Hip and Knee Arthroplasty— Surgical Navigation Outcomes and Robotics**

Poster No. 2039

Geographic Variations in the Surgical Profiles of Computer-Assisted Total Knee Arthroplasty

Laurent Angibaud, Yifei Dai, Amaury Jung, Cyril Hamad, Fabrice Bertrand, James Huddleston, Bernard Stulberg, David Liu

Poster No. 2040

Navigated Total Knee Arthroplasty Has Lower Rates of Peri-Operative Complications Compared to Conventional Total Knee Arthroplasty

Jonathan Yin, Robert L. Parisien, David Sing, Emily J. Curry, Josef K. Eichinger, Eric L. Smith, Xinning Li

Poster No. 2041

Midflexion Instability Affects Patient Expectations After Total Knee Arthroplasty

Masahiro Hasegawa, Yohei Naito, Toshio Yamaguchi, Shine Tone, Tetsuya Hattori, Takashi Hosoi, Hiroki Wakabayashi, Akihiro Sudo

Poster No. 2042

Validation of Patient Specific Surgical Guide for Pelvic Osteotomy

Takashi Sakai, Hidetoshi Hamada, Masaki Takao, Tsuyoshi Murase, Hideki Yoshikawa, Nobuhiko Sugano

POSTERS

Poster No. 2043

Portable Accelerometer-Based Navigation System for Total Knee Arthroplasty Improved the Prosthetic Alignment in Asian Patients with Marked Femoral Bow

Hideki Ueyama, Yoshio Matsui, Masanori Matsuura, Yukihide Minoda, Yoichi Ohta, Ryo Sugama, Suguru Nakamura, Kazumasa Yamamura, Hiroaki Nakamura

Poster No. 2044

Intersurgeon Variability in the Assembly of Modular Head-Neck Tapers in THR via the Posterior Approach

Elizabeth Foley, Jordan Simpson, Jonathan Gold, Joshua Choi, Sabir Ismaily, Kenneth Mathis, Stephen Incavo, Philip C. Noble

Poster No. 2045

The Accuracy of the Registration Comparing Surface Matching with Bone Morphing in Total Hip Arthroplasty

Yosuke Fujii, Kazuo Fujiwara, Kazuki Yamada, Takamasa Miyake, Tomonori Tetsunaga, Toshifumi Ozaki, Naohiko Sugita, Mamoru Mitsuishi, Takayuki Inoue, Yoshio Nakashima

Poster No. 2046

Knee Stability with a Medially Stabilized Implant Design

Rachel K. Baker, Joseph A. Ewing, David W. Manning, Matthew D. Beal, Robert A. Siston

PS2 Hip and Knee Arthroplasty—Osteolysis and Adverse Soft Tissue Reaction

Poster No. 2047

Total Wear Particle Burden in Total Joint Replacement: A Novel Method for the Isolation of High and Low Density Wear Particles from the Periprosthetic Tissue of THR, TKR and TAR.

Ashley A. Stratton-Powell, Sophie Williams, Anthony C. Redmond, Joanne Tipper, Claire L. Brockett

Poster No. 2048

Femoral Stem Neck Angle Effect on Taper Performance

Justin Grostefon, William Nelson

Poster No. 2049

A Prospective, Longitudinal Assessment of Adverse Local Tissue Reactions in Resurfacing Hip Arthroplasty vs. Primary Total Hip Arthroplasty

Owen J. Drinkwater, Matthew Koff, Danyal H. Nawabi, Edwin Su, Douglas Padgett, Hollis G. Potter

Poster No. 2050

Local II-4 Delivery Reverses Wear Particle Induced Osteolysis in a Novel Murine Model

Jukka Pajarinen, Akira Nabeshima, Tzu-Hua Lin, Taishi Sato, Luis Cordova, Emmanuel Gibon, Florence Loi, Laura Lu, Karthik Nathan, Zhenyu Yao, Stuart Goodman

Poster No. 2051

Does Increased Reactivity to Metals Correlate with Increased Pain Levels in People with TKAs?

Marco Caicedo, Edward Solver, Latasha Coleman, Alicia Padilla, Nadim Hallab

PS2 Hip and Knee Arthroplasty—Implant Fixation

Poster No. 2052

The Effect of Femoral Component Sizing and Rotation on Anterior Femoral Notching

Luis Grau, Ali Alhandi, Evan Trapana, Samara Vasquez, Charles Lawrie, Jaime Carvajal, Michaela Schneiderbauer

Poster No. 2053

Adhesion-Promoting Monomers and Tin: A Solution to Increase and Sustain Cement Bond Strength to Implant Alloys?

Eike Jakobowitz, Louisa Liehn, Alexander Jahnke, Bernd Wöstmann, Markus Rickert, Bastian Welke, Thomas Niem

Poster No. 2054

Accuracy of Femoral Component Sizing and the Effect of Sizer Rotation

Luis Grau, Ali Alhandi, Charles Lawrie, Evan Trapana, Yesenia Brito, Jaime Carvajal, Michaela Schneiderbauer

Poster No. 2055

Compression Forces Generated During Tightening of Locking and Non-Locking Cancellous Screws

Erik Woodard, Abraham Salehi

Poster No. 2056

Effects of Seating Load Magnitude on Incremental Cyclic Fretting Corrosion of 5 deg 40' Modular Taper Junction

David Pierre, Jeremy L. Gilbert

Poster No. 2057

Regional Distribution of Fixation in Tibial Components from Total Knee Arthroplasties

Kenneth Mann, Mark Miller, Jacklyn Goodheart

Poster No. 2058

A Biomechanical Comparison of Four Hip Arthroplasty Designs in a Canine Model

Nathaniel R. Ordway, Kristian J. Ash, Mark A. Miller, Alex Rodriguez, Kenneth A. Mann, Kei Hayashi

Poster No. 2059

Initial Stability of Cemented vs. Cementless Tibial Components Under Cyclic Load in Total Knee Arthroplasty

Paul D. Crook, John R. Owen, Shane R. Hess, Samer M. Al-Humadi, Jennifer S. Wayne, William A. Jiranek

Poster No. 2060

Effects of Seating Load Orientation on Incremental Cyclic Fretting Corrosion in 5 deg 40' Modular Taper Junctions

David Pierre, Jeremy L. Gilbert

POSTERS

Poster No. 2061

Subsidence and Local Micromotion Around Cementless Collared and Collarless Femoral Stems

Valérie Malfroy Camine, Hannes A. Rüdiger, Dominique P. Pioletti, Alexandre Terrier

PS2 **Shoulder and Elbow**

Poster No. 2062

Biomechanical Comparison of Three Augmented Rotator Cuff Repair Techniques

Geoffrey Higgs, Kevin Collon, David Kaimrajh, Edward Milne, Lars Peterson, Marcus Smith, Julio Madrid, Loren Latta

Poster No. 2063

Changes in COMP, Shoulder Strength, and Pitching Kinematics Following A Doubling of Consecutive Throws

Timothy E. Cooney, Bradley Jacobson, Kevin M. Cooney, Zachary Jacobson, Vince Lai, Dustin Bruening, Christopher Rial, Alek Diffendaffer

Poster No. 2064

Biomechanical Advantage of Superior Subscapularis Sparing Approach for Anatomic Total Shoulder Arthroplasty

Jason Scalise, Aniruddh Kayak, Robert Boudreaux, Neil Olmscheid, Kellen Worhacz, Marc Jacofsky, Thomas M. Vanasse, Chris Roche, Ryan W. Simovtich

Poster No. 2065

The Influence of Stride Length on Injury Risk and Pitching Performance

Tomoyuki Muto, Hiroshi Tanaka, Hiroaki Inui

Poster No. 2066

Advantages of Glenoid Implant with Adaptable Backside Radius for Anatomic Total Shoulder Arthroplasty: A Finite Element Analysis

Alexandre Terrier, Raphaël Obrist, Fabio Becce, Alain Farron

Poster No. 2067

Minimum Safety Distance of Suture Anchors Used for Rotator Cuff Repair

Jun Kawakami, Nobuyuki Yamamoto, Hideaki Nagamoto, Eiji Itoi

Poster No. 2068

Shear Wave Elastography of the Supraspinatus Muscle and Tendon: Repeatability and Preliminary Findings

Timothy G. Baumer, Leah Davis, Jack Dischler, Daniel S. Siegal, Marnix van Holsbeeck, Vasilios Moutzourous, Michael J. Bey

Poster No. 2069

Rotator Cuff Repair: What are the Surgical Technique Trends?

Sarav S. Shah, Aalok Shah, Vivek Chadayammuri, Nicole Wei, Jeffrey Goldstein, Marlena McGill, David V. Tuckman

Poster No. 2070

Fracture Risk After Ulnohumeral Arthroplasty: A Biomechanical Study

Michael Rozell, Salvatore M. Cavallaro, Frederick W. Werner, Michael Yip, Matthew Scuderi

Poster No. 2071

Lifting and Lowering Boxes: Is It Always Better to Use the Box's Handles?

Steven A. Lavender, Puze He, Carolyn M. Sommerich

Poster No. 2072

Development of Three-Dimensional Rotator Cuff Tendon Magnetic Resonance Imaging System

Tomoyuki Muto, Hiroaki Inui, Hiroshi Tanaka, Katsuya Nobuhara

Poster No. 2073

Biomechanical Comparison of a Conventional and Augmented Rotator Cuff Tear Repair

Geoffrey Higgs, Kevin Collon, David Kaimrajh, Edward Milne, Lars Peterson, Julio Madrid, Marcus Smith, Loren Latta

Poster No. 2074

Determining Return of Scapulohumeral Rhythm in Patients After Reverse Total Arthroplasty

James R. Hall, Vijay N. Permeswaran, Andrea P. Caceres, Don D. Anderson, Jessica E. Goetz, Carolyn M. Hettrich

Poster No. 2075

The Effect of Shoulder Muscle Forces on Labrum Biomechanics: A Finite Element Study

Amin Joukar, Ryan O'Connell, Anil Gupta, Vijay Goel

Poster No. 2076

High Mobility Group Box 2 Is a New Candidate for Regulating Fatty Infiltration in Ruptured Rotator Cuff

Deokcheol Lee, Noboru Taniguchi, Tsuyoshi Fukushima, Hiroaki Kataoka, Martin Lotz, Etsuo Chosa

Poster No. 2077

Effect of Version Correction on Glenoid Fixation in Reverse Shoulder Arthroplasty on Biconcave Glenoids

Xiang Chen, Andreas Kontaxis, Jonathan Glenday, Daniel Choi, Lawrence Gulotta

Poster No. 2078

Rtsa Clinical Outcomes with Standard and Constrained Humeral Liners: An Age, Gender, BMI, Follow-Up Matched Comparison Study

Christopher P. Roche, Pierre Henri Flurin, Thomas Wright, Joseph Zuckerman, Richard Jones

Poster No. 2079

Loaded and Unloaded Details of the Morphology of the Ulnar Collateral Ligament

Christopher Wilhelm, Muturi Muriuki, Andre Martin, Edward Snell, Patrick J. DeMeo, Patrick J. Schimoler, Mark Carl Miller

POSTERS

Poster No. 2080

Validation of MOPSTM Preservation for Glenoid Osteochondral-Labral Allografts

Charles Baumann, Aaron M. Stoker, Matthew Smith, James L. Cook

Poster No. 2081

In Vivo Kinematic Analysis of the Glenohumeral Joint During Dynamic Full Axial Rotation and Scapular Plane Full Abduction in Healthy Shoulders

Naoya Kozono, Takamitsu Okada, Naohide Takeuchi, Satoshi Hamai, Hidehiko Higaki, Yefeng Wang, Takeshi Shimoto, Go Miake, Yoshitaka Nakanishi, Takahiro Senju, Yasuharu Nakashima

Poster No. 2082

Measurement of Reverse Total Shoulder Glenoid Baseplate Stability with Superior Glenoid Bone Loss

Elise J. Martin, Thomas R. Duquin, Mark T. Ehrensberger

Poster No. 2083

Location of the Hill Sachs Lesion—A CT Surface Matching Analysis

Mariko Morioka, Satoshi Oki, Kamikawa Yoshihiko, Ryunosuke Sugimoto, Noboru Matsumura, Yoshimori Kiriyama, Masaya Nakamura, Morio Matsumoto, Takeo Nagura

Poster No. 2084

Gene Expression in Human Rotator Cuff Muscle Is Driven by Tissue Composition After Tear

Michael C. Gibbons, Timothy Cheng, Okechukwu Anakwenze, Simon Schenk, John Lane, Anshuman Singh, Samuel R. Ward

Poster No. 2085

Quantification of Cellularity and Lipoid Degeneration to Assess Localized Degeneration in Rotator Cuff Tendons

Jackie A. Schauble, R. Matthew Miller, Volker Musahl, Richard E. Debski

Poster No. 2086

Anatomical Analysis of the Whole Articular Capsule from the Glenoid and the Humeral Attachment

Dausuke Momma, Akimoto Nimura, Tadanao Funakoshi, Tomoyuki Mochizuki, Keiichi Akita, Norimasa Iwasaki

Poster No. 2087

Electromyographic Characteristics of Shoulder Muscles in Patients with Suprascapular Tear

Yoshinari Sakaki, Eiichi Uchiyama, Hideji Kura, Masaki Katayose, Kenji Okamura

Poster No. 2088

Intermediate to Long Term Outcomes Following Proximal Humerus Fractures in Ontario, Canada

Lauren L. Nowak, Michael McKee, Marissa Bonyun, Milena Vicente, Aaron Nauth, Emil H. Schemitsch

Poster No. 2089

Ulnohumeral Articular Contact in Distal Humeral Hemiarthroplasty: What Role Does Implant Positioning Play? An In Vitro Study

Roxanna E. Abhari, Ryan Willing, Graham J.W. King, Jim Johnson

Poster No. 2090

Comparison of In Vivo Glenohumeral Kinematics During Simulated Cocking Motion Between Baseball Players with Throwing Disorder and Matched Healthy Controls Using a 3D-to-2D Registration Technique

Hiroki Yamauchi, Masayuki Saka, Jun-Ya Miyazaki, Kazuya Ishikawa, Toru Yoshioka, Hiroshi Ohuchi, Ken-Ichi Hyakutake, Kazuyoshi Gamada

Poster No. 2091

Calibrating a Computational Framework for Determining Wear Rates of Total Elbow Replacement Implants

Danial Sharifi Kia, Ryan Willing

Poster No. 2092

Equivalent Outcomes Are Observed for Surgical Treatment Following Rotator Cuff Tears with Adhesive Capsulitis vs. Rotator Cuff Tears Without Adhesive Capsulitis: A Systematic Review

Soheil Sabzevari, Amir Reza Kachooei, Juan Giugale, Albert Lin

Poster No. 2093

Glenohumeral Joint Evaluation Using Four-Dimensional Computed Tomography

Kaori Endo, Tadanao Funakoshi, Takayoshi Yamaguchi, Daisuke Momma, Takashi Ijiri, Yasuhiro Shono, Norimasa Iwasaki

Poster No. 2094

Intramuscular Fat Infiltration Evaluated by Magnetic Resonance Imaging Predicts the Extensibility of the Suprascapular Muscle

Hugo Giambini, Taku Hatta, Krzysztof Gorny, Per Widholm, Anette Karlsson, Olof Dahlqvist Leinhard, Mark Adkins, Kai-Nan An, Chunfeng Zhao

Poster No. 2095

Forces in the Residual Humerus of Amputees During Activities of Daily Living

Morgan T. Izykowski, Alex J. Drew, K. Bo Foreman, Kent N. Bachus, Heath B. Henninger

Poster No. 2096

Does Presence of Triceps Tendon Engaging Plate Tines and Posterior Screw Type Affect Fixation of Mayo Type II-A Olecranon Fractures? A Cadaveric Biomechanical Study

Aniruddh Nayak, Robert Boudreaux, Saaranish Jain, Neil Olmscheid, Kellen Worhacz, Madu Sathia, Marc Jacofsky, Arash Araghi, Paul Tornetta III

Poster No. 2097

Single Plane Fluoroscopy for Quantifying Shoulder Complex Kinematics and Subacromial Proximities

Rebekah L. Lawrence, Arin M. Ellingson, Paula M. Ludewig

POSTERS

Poster No. 2098

Influence of Asymptomatic Rotator Cuff Pathology on In-Vivo Shoulder Motion and Clinical Outcomes

Timothy G. Baumer, Jack Dischler, Veronica Mende, Roger Zael, Marnix van Holsbeeck, Daniel S. Siegal, Vasilios Moutzouros, Michael J. Bey

Poster No. 2099

The Influence of Reverse Shoulder Lateralization on Deltoid Activation and Scapular Fracture: A Modeling Study

Kathleen Lewicki, John-Erik Bell, Douglas Van Citters

Poster No. 2100

Influence of the Kinematics-Only Combination on Elbow Load in High School Baseball Pitchers

Hiroshi Tanaka, Toyohiko Hayashi, Hiroaki Inui, Tomoyuki Muto, Katsuya Nobuhara, Hiroki Ninomiya, Koji Shibano

Poster No. 2101

Glenoid Lateralization and Neck-Shaft Angle Have Complex Relationships with Maximum Allowable Range of Motion of Reverse Total Shoulder Arthroplasty

Josie Elwell, George S. Athwal, Ryan Willing

Poster No. 2102

Accuracy of Glenoid Version and Inclination Determination Using Computer Navigated vs. Non Navigated Shoulder Arthroplasty Techniques

Alexander T. Greene, Richard B. Jones, Matthew A. Hamilton, Sandrine V. Polakovic, Richard E. Andrews, Pierre H. Flurin, Ira M. Parsons, Paul D. Saadi, Emilie V. Cheung

Poster No. 2103

Corrosion Frequency and Severity in Total and Reverse Shoulder Arthroplasty Is Low

Audrey Martin, Kathleen Lewicki, John-Erik Bell, Douglas Van Citters

Poster No. 2104

Quantitative Assessment of Fatty Infiltration and Muscle Volume of the Rotator Cuff Muscles Using Three-Dimensional Magnetic Resonance Imaging

Mariko Morioka, Noboru Matsumura, Yoshihiko Kamikawa, Ryunosuke Sugimoto, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

Poster No. 2105

Comparison of Midterm aTSA Clinical Outcomes with Keeled and Pegged Glenoids of Equivalent Radial Mismatch

Christopher P. Roche, Pierre Henri Flurin, Sean Grey, Thomas Wright, Joseph Zuckerman

Poster No. 2106

Comparison of Humeral Head Version by Sex and Measurement Technique

Emily A. West, Nikolas K. Knowles, George S. Athwal, Louis M. Ferreira

Poster No. 2107

The Evaluation of Shoulder Abduction with and Without Rotation on the Supraspinatus Tendon and Labrum: A Finite Element Study

Amin Joukar, Ryan O'Connell, Anil Gupta, Vijay Goel

Poster No. 2108

Humeral Component Lateralization Optimizes Tendon Transfer Strength After Reverse Shoulder Arthroplasty

G. Daniel G. Langohr, Kevin T. Chan, Matthew Mahaffy, James A. Johnson, George S. Athwal

Poster No. 2109

Analysis of the Change in Radius of Retrieved Reverse Total Shoulder Humeral Cups

Matthew Kryder, Louis Malito, Melody Jung, Stephen Gunther, Tom Norris, Lisa Pruitt

Poster No. 2110

Development of a Novel Supination Strength Testing Method for the Upper Extremity

Brandon T. Brown, Christopher C. Schmidt, Tyler J. Madonna, Thomas Kotsonis, Patrick Smolinski, Mark Carl Miller

Poster No. 2111

Gender Differences in the Rate of Clinical Improvement After Total Shoulder Arthroplasty

Emilie Cheung, Richard Friedman, Pierre Henri Flurin, Thomas Wright, Joseph Zuckerman, Ryan Simovitch, Christopher P. Roche

Poster No. 2112

Effect of Ultra-High-Molecular-Weight-Polyethylene Composition on Radius of Curvature and Glenohumeral Conformity in Prosthetic Glenoids: A Retrieval Study

Louis G. Malito, Lulu Li, Taylor Lee, Stephen Gunther, Tom Norris, Lisa Pruitt

Poster No. 2113

Use of a Novel Magnesium-Based Resorbable Bone Cement for Augmenting Anchor and Tendon Fixation

Brandon L. Roller, Keiichi Kuroki, Chantelle C. Bozynski, Ferris Michael Pfeiffer, James L. Cook

Poster No. 2114

The Secretion of ADAMTSs to Articular Cavity and the Morphological Change of Surface Layer on Synovium in Rotator Cuff Injury

Takahiro Iino, Masaya Tsujii, Tadashi Tsukamoto, Takahiro Asano, Masahiro Hasegawa, Akihiro Sudo

Poster No. 2115

A Biomechanical Investigation of the Influence of the Rotator Cuff on Glenohumeral Translation, a Cadaver Study

Yusuke Kawano, Noboru Matsumura, Akihiko Murai, Mitsunori Tada, Morio Matsumoto, Masaya Nakamura, Takeo Nagura

POSTERS

Poster No. 2116

Perfusion of the Rotator Cuff Tendon According to Repair Configuration Using Indocyanine Green Fluorescence Arthroscopy

Sae Hoon Kim, Ho Yun Joung, Min Woong Jung, Young Eun Choi

PS2 **Hand and Wrist**

Poster No. 2117

Prospective Evaluation of Patients Undergoing Carpal Tunnel Release and the Development of Pillar Pain

Ross J. Feller, Kalpit N. Shah, Joseph A. Gil, Heather Gotha, Arnold-Peter C. Weiss, Edward Akelman

Poster No. 2118

Barbed Suture Repair in Zone II Flexor Tendon Injuries: An Ex Vivo Comparison

Jamie L. Engel, Joseph N. Gabra, Andrew R. Esterle, William D. Lanzinger, John J. Elias

Poster No. 2119

Larger Suture Caliber Increases Conduit-Assisted Digital Nerve Repair Strength

Patrick J. Schimoler, Derek Klaus, Alexander Kharlamov, Peter Tang, Mark Carl Miller

Poster No. 2120

Impact of Screw Length and Geometry on Interfragmentary Compression for Simulated Proximal Scaphoid Fracture Fixation

Samik Patel, Juan Giugale, Nathan Tiedeken, Richard E. Debski, Robert Kaufmann, John R. Fowler

Poster No. 2121

Sonographic Measurements of the Epineurium: Comparison of the Thickness of the Epineurium in Carpal Tunnel Syndrome Patients and Healthy Controls

Larissa F. de Groot, Stefanie Evers

Poster No. 2122

The Effect of Dorsal Angulation Deformities of the Distal Radius on Capitulate Contact Mechanics

Clare E. Padmore, Helen L. Stoesser, Dan Langohr, Emily A. Lalone, James A. Johnson, Graham J.W. King

Poster No. 2123

Three Dimensional Digital Pre-Operative Planning for the Osteosynthesis of Distal Radius Fractures

Yuichi Yoshii, Takuya Kusakabe, Wen Lin Tung, Tomoo Ishii

Poster No. 2124

Finite Element Model of a Basal Joint Hemiarthroplasty Device

Darrick Lo

Poster No. 2125

Effect of Sex and Transverse Bone Region on Cortical and Trabecular Bone Mineral Density at the Distal Radius

Martine E. McGregor, Sara Banayan, Nikolas K. Knowles, James A. Johnson, Emily A. Lalone

Poster No. 2126

PDGF Receptor Signaling Activate Mesenchymal Cells Proliferation via PI3K-Akt Signaling Pathway in Idiopathic Carpal Tunnel Syndrome

Yuki Saito, Takako Chikenji, Yasuhiro Ozasa, Takashi Matsumura, Mineko Fujimiya, Toshihiko Yamashita, Kousuke Iba

Poster No. 2127

Biomechanical Analysis of Capsular Versus Transosseous Ulnar Tunnel Repair for Unstable TFCC Tears

Jayson C. Johnson, Ferris M. Pfeiffer, Jill E. Jouret, David M. Brogan

Poster No. 2128

The Effects of Estradiol on Mesenchymal Stem Cells in Subsynovial Connective Tissue of Carpal Tunnel Syndrome In Vitro

Takako Chikenji, Yuki Saito, Yasuhiro Ozasa, Takashi Matsumura, Mineko Fujimiya, Toshihiko Yamashita, Kousuke Iba

Poster No. 2129

T1 ρ and T2 of Articular Cartilage in the Thumb Carpometacarpal Joint

Matthew Koff, Parina H. Shah, Ryan E. Breighner, Darryl B. Sneag, Ogonna K. Nwawka, Hollis G. Potter

Poster No. 2130

Impact of Screw Length on Fixed Proximal Scaphoid Biomechanics: In Vitro Study with Cyclic Loading and Load to Failure

Samik Patel, Juan Giugale, Nathan Tiedeken, Richard E. Debski, Robert Kaufmann, John R. Fowler

Poster No. 2131

Ultrasound-Guided Hydrodissection Decreases Gliding Resistance of the Median Nerve Within the Carpal Tunnel

Stefanie Evers

Poster No. 2132

Changes in Trapezial Articular Surface Morphology with Trapeziometacarpal Osteoarthritis Progression

Briana M. Warschun, Douglas C. Moore, Amy Ladd, Arnold-Peter C. Weiss, Joseph (Trey) Crisco

Poster No. 2133

Immunomodulation Using a Novel Mesenchymal Stem Cell Therapy Following Vascularized Composite Allotransplantation in a Rat Forelimb Model

Zvi Steinberger, Heng Xu, Nikolas H. Kazmers, Chen Chi-Der, Robert J. Caron, Ling Qin, L. Scott Levin

Poster No. 2134

Forces in the Distal Radius During a Pushup or Active Wrist Motions

Jared M. Smith, Frederick W. Werner, Brian J. Harley

POSTERS

Poster No. 2135

Surgical Reconstruction Following Trapeziectomy: Biomechanical Comparison Using an Active Physiologic Wrist Simulator

Darshan S. Shah, Claire Middleton, Sabahat Gurdezi, Maxim Horwitz, Angela Kedgley

PS2 Foot and Ankle

Poster No. 2136

Minimum 20 Year Follow-Up of Semiconstrained Total Ankle Arthroplasty: Benchmark for Future Designs

Samuel W. Carlson, Taylor Den Hartog, Bryan Den Hartog, John J. Callaghan, Gregory F. Alvine, Frank G. Alvine

Poster No. 2137

Evaluating Sources of Error in Ankle Kinematics by Comparing Marker- to Bone-Based Tracking

Joseph Iaquinto, Matthew Kindig, David Haynor, William Ledoux

Poster No. 2138

Extra Osseous Talotarsal Stabilization Reduces Loads on the Ankle and Talonavicular Joints

Rodney Summers, Manoj Kodigudla, Sean Stein, Amey Kelkar, Anand Agarwal, Vijay Goel, Michael Graham

Poster No. 2139

Are Measures of Hindfoot Alignment Sensitive to Pathology and Correction?

Andrew Kern, Christopher Anthony, Jessica Goetz, Ross Schumer, Adam J. Kruze, John E. Femino

Poster No. 2140

Toe Flexor Muscles Have Functional Compensatory Systems by the Tendinous Slip: A Cadaver Study

Kento Hirota, Kota Watanabe, Yuki Saito, Masaki Katayose

Poster No. 2141

Intersegmental Foot Kinematics During Gait in Elderly Females with Symptomatic and Asymptomatic Hallux Valgus

Dong Yeon Lee, Hye Ran Lee, Ji Hye Kim, Doo Jae Lee, Seong Hyeon Kim, Won Joon Yoo

Poster No. 2142

Direction of Dorsal Dislocation of the 2nd Metatarsophalangeal Joint with Hallux Valgus Strongly Relates to the 2nd Metatarsal Torsion

Masateru Kitashiro, Takeo Nagura, Tetsuto Kokubo, Naomichi Ogihara, Yasunori Suda, Morio Matsumoto, Masaya Nakamura

Poster No. 2143

Optimal Position for Screw Insertion into The Talus During Arthroscopic Ankle Arthrodesis

Satoshi Kamijo, Tsukasa Kumai, Kazuhiko Kobayashi, Yasuhito Tanaka

Poster No. 2144

Computed Tomographic Analysis of the Talus in Varus Ankle Osteoarthritis

Hiroyuki Seki, Naomichi Ogihara, Tetsuro Kokubo, Masateru Kitashiro, Yasunori Suda, Takeo Nagura, Hiroko Ikezawa

Poster No. 2145

WITHDRAWN

Poster No. 2146

Significant Increases in Sagittal Translation and Transverse Rotation of the Fibula Occur with Sequential Disruption of the Syndesmosis

Conor Murphy, Thomas Pfeiffer, Patrick Haggerty, Jason Zlotnicki, Volker Musahl, MaCalus Hogan, Richard Debski

Poster No. 2147

Rates and Types of Syndesmotic Fixation in Ankle Fractures: A Retrospective Review

Drew Stal, Zohair Saquib, Meredith Ackerman, Geoffrey Phillips

Poster No. 2148

Stress Distribution Within the Osteochondral Lesions of the Talus with Nonshoulder-Type and Shoulder-Type

Tomonobu Hagio, Ichiro Yoshimura, Kazuki Kanazawa, Akira Maeyama, So Minokawa, Takuaki Yamamoto

Poster No. 2149

Optimal Screw Fixation in Treating Jones Fractures

Pim A.D. van Dijk, Sofie H. Breuking, Bryan Vopat, Daniel Guss, Holly Johnson, Ali Hosseini, Christopher W. DiGiovanni

Poster No. 2150

Extra Osseous Talotarsal Stabilization Reduces Loads on the Medial Knee Joint

Rodney Summers, Manoj Kodigudla, Sean Stein, Amey Kelkar, Anand Agarwal, Vijay Goel, Michael Graham

Poster No. 2151

Hind- and Midfoot Bone Morphology Varies with Foot Type and Sex

Erik S. Moore, Matthew W. Kindig, Daniel McKearney, Scott Telfer, William R. Ledoux, Bruce J. Sangeorzan

Poster No. 2152

Accuracy and Measurement Error of the Medial Clear Space Implications for the Assessment and Management of Ankle Fractures

Oghenechuko Metitiri, Mohammad Ghorbanhoseini, Michael Nasr, Mary Hochman, Ara Nazarian, David Zurakowski, John Kwon

Poster No. 2153

Geometric Comparison of Second Metatarsal Shortening Osteotomy Variations Using 3D Printed Patient-Specific Models

Eric Lukosius, Gregory S. Lewis, Evan Roush, Umur Aydogan

POSTERS

Poster No. 2154

Syndesmotric Stability After Screw vs. Suture Button Fixation

Daniel Guss, Bart Lubberts, Bryan G. Vopat, Jonathon C. Wolf, Daniel K. Moon, Ali Hosseini, Anne H. Johnson, Christopher W. DiGiovanni

Poster No. 2155

Barriers for Remaining Physical Active in Patients with Midportion Achilles Tendinopathy

Patrick Corrigan, Laura Pontiggia, Karin Grävare Silbernagel, Daniel H. Cortes

Poster No. 2156

Effect of Topical Opioid Antagonists for Wound Healing in Diabetic Rat Model

Jarrett D. Cain, Michelle B. Titunick, Ian S. Zagon, Patricia McLaughlin

Poster No. 2157

The Effect of Ankle Distraction on Arthroscopic Evaluation of Syndesmotric Instability

Bart Lubberts, Daniel Guss, Bryan Vopat, Jonathon C. Wolf, Ali Hosseini, Anne Johnson, Umile Giuseppe Longo, Christopher W. DiGiovanni

Poster No. 2158

A Comparison of Conventional and Ground Mechanical Axis Deviation in Surgical Planning for Total Knee Arthroplasty

Maria B. Cubria, Gabrielle M. Paci, Manahil Naqvi, Naven Duggal, Ayesha Abdeen, Ara Nazarian

Poster No. 2159

Implant Selection for Total Ankle Arthroplasty Does Not Substantially Alter Post-Operative Walking Mechanics

Robin M. Queen, Christopher T. Franck, Samuel B. Adams Jr.

Poster No. 2160

Assessment of Morphological Characteristics of Tibial Osteochondral Lesions in Patients with Talar Osteochondral Lesions: A Retrospective Magnetic Resonance Imaging Study

Rebecca M. Irwin, Youichi Yasui, Yoshiharu Shimozone, Timothy Deyer, Robin D. Megill, John G. Kennedy

PS2 Infection and Inflammation

Poster No. 2161

Survey of Shoulder Arthroplasty Surgeons' Methods for Infection Avoidance of Propionibacterium

Stephen A. Parada, K. Aaron Shaw, Josef K. Eichinger, Monica J. Stadecker, Laurence D. Higgins, Jon J.P. Warner

Poster No. 2162

Topical Adjuvants Decrease Staphylococcus Aureus Biofilms on Orthopaedic Metals: But is it Enough?

Matthew J. Dietz, Emily P. Ernest, Anthony S. Machi, Brock A. Karolcik

Poster No. 2163

Acute Kidney Injury Following Local Delivery from Antibiotic Loaded Bone Cement Spacers

Alex C. McLaren, Dale Delkin, Andrew Berry, Blake A. Eyberg, Paulo Castaneda

Poster No. 2164

Immunohistochemical Analysis of Different Inflammatory Synovial Conditions Using Novel Panel of Established Anti-Human Podoplanin Antibodies

Suzuki Tomoto, Liu Xing, Oki Hiroharu, Takakubo Yuya, Takagi Michiaki

Poster No. 2165

Testing of an Antimicrobial Peptide for Prophylactic Use

Nicole Bormann, Anna Koliszak, Stefanie Kasper, Larissa Schoen, Kai Hilpert, Rudolph Volkmer, Annette Moter, Britt Wildemann

Poster No. 2166

Development of an Antibacterial Polymer Incorporated Calcium Phosphate Based Cement for Surgical Prophylaxis

Boren Lin, Ciara Caldwell, Sarit Bhaduri, Vijay Goel, Anand Agarwal

Poster No. 2167

A Unique Synthetic Peptide Presents Potent Antimicrobial Properties Along with Low Toxicity Toward Human Cells

Bingyun Li, Qifei Wang, Samantha Bleull, Jabeen Noore, Junlin Yang

Poster No. 2168

The Elution Characteristics of Vancomycin from Simplex Cement

Zhiwei Wang, Alberto Carli, Sam Bhimani, Marjolein C.H. van der Meulen, Xu Yang, Mathias P.G. Bostrom

Poster No. 2169

In-Vitro Study of Local Antibiotics Delivery System Using 3D Printed Metal-Polymer Hybrid Scaffolds for Treating Periprosthetic Joint Infection

Junyoung Kim, Geunseon Ahn, Jae-Hun Kim, Sang-Hyun An, Young Cheol Kim, Anna Seo, Won-Soo Yun, Jin-Hyung Shim, Shin-Yoon Kim

Poster No. 2170

The Property of Presepsin in Rheumatoid Arthritis

Yushi Miyamae, Yuichi Mochida, Katsushi Ishii, Naoto Mitsugi, Tomoyuki Saito

Poster No. 2171

Foxo4 and Stat3 Dependent IL-10 Production by Progranulin in Regulatory T Cells Restrains Inflammatory Arthritis

Wenyu Fu, Wenhao Hu, Jyoti Joshi Mundra, Chuan-Ju Liu

Poster No. 2172

Fast and Facile Anti-infection Orthopaedic Implant Coating Through Photo-Click Chemistry

Weixian Xi, Tatiana Segura, Nicholas Bernthal

POSTERS

Poster No. 2173

Efficacy and Safety of Berberex Wound Cleanser on Post-Operative Surgical Incisions

Timothy Spencer, Boris Gorinshteyn, Timothy Ganey

Poster No. 2174

Point of Application Polymer Coating Prevents Implant Infection in an Established In Vivo Murine Model

Weixian Xi, Vishal Hedge, Yan Hu, Amanda Loftin, Daniel Johansen, Christopher Hamad, Stephen Zoller, Howard Park, Tatiana Segura, Nicholas Bernthal

Poster No. 2175

Risk of Magnesium Implant Infections: Mg2Sr Supporting MRSA Growth

Emily K. Brooks, Mary Canty, Richard Ahn, Menachem Tobias, Craig Howard, Lisa Hufnagel, Nicole Luke-Marshall, Anthony Campagnari, Mark Ehrensberger

Poster No. 2176

Assessment of Minimum Inhibitory Concentration of Staphylococcus Species in Orthopaedics Infect

Akito Tomoyama, Naomi Kobayashi, Yutaka Inaba, Masaki Kawamura, Hyonmin Choe, Taro Tezuka, So Kubota, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

Poster No. 2177

Developing a Preclinical Model of Hematogenous Implant Infection

Rebecca J. Mills, Tegan L. Cheng, Kathy Mikulec, Lauren Peacock, David G. Little, Aaron Schindeler

Poster No. 2178

The Usefulness of Synovial Fluid C-reactive Protein for Periprosthetic Hip Joint Infection

Masaki Kawamura, Naomi Kobayashi, Yutaka Inaba, Hyonmin Choe, Akito Tomoyama, Taro Tezuka, So Kubota, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

Poster No. 2179

Antimicrobial Loaded Phosphatidylcholine Coatings Support Cell Viability

Michael Harris, J. Amber Jennings

Poster No. 2180

Chikungunya Virus Infection Alters New Bone Formation Associated with Pre-existing Post-traumatic Osteoarthritis

Margaret A. McNulty, Brad A. Goupil, Amber Moses, Christopher N. Mores

Poster No. 2181

Application of Bioactive Glass Proven Cost-Effective in Treatment of Patients with Chronic Osteomyelitis

Jan Geurts, Tom A. van Vugt, Jacobus J.C. Arts

Poster No. 2182

Oral-Only Linezolid-Rifampin Combinatorial Therapy Is Highly Effective Compared with Parenteral Antibiotics in Eradicating Infection and Minimizing Bone Changes in a Mouse Model of Prosthetic Joint Infection

John M. Thompson, Vikram Saini, Alyssa G. Ashbaugh, Robert J. Miller, Alvaro A. Ordonez, Robert S. Sterling, Sanjay K. Jain, Lloyd S. Miller

Poster No. 2183

Do Teriparatide or Zoledronic Acid Show Beneficial Effect on Destructive Bone Lesion in an Experimental Staphylococcus Aureus-Induced Osteomyelitis

Shigeto Hiratsuka, Masahiko Takahata, Tomohiro Shimizu, Hiroki Hamano, Masahiro Ota, Dai Sato, Norimasa Iwasaki

Poster No. 2184

Synergistic Effects of Combination Antibiotic and Immunotherapy Demonstrated in a Novel Murine One-Stage Exchange Model of Methicillin-Resistant Staphylococcus Aureus Implant-Associated Osteomyelitis

Noriaki Yokogawa, Masahiro Ishikawa, Kohei Nishitani, Karen L. de Mesy Bentley, Ben Smith, Addisu Mesfin, Stephen L. Kates, John L. Daiss, Edward M. Schwarz

Poster No. 2185

Elution and Bioactivity of Vancomycin Are Reduced with the Increase of the Interval Between Spacer Production and Use

Gang Ji, Andrew J. Sama, Kevin Nishida, Zhiwei Wang, Arvinth Sethuraman, Alberto Carli, Samrath Bhimani, Marjolein C.H. van der Meulen, F. Patrick Ross, Xu Yang, Mathias P.G. Bostrom

Poster No. 2186

Effect of Biofilm on CoCrMo Tribocorrosion

Philip J. Chuang, Viswanathan Swaminathan, Leonid Pavlovsky, Ligaya Marquez-Catral, David Jones, Lin Song

Poster No. 2187

Application of Granulocyte Elastase Swab Stick Test in Diagnosing Orthopedic Infection

Masaki Kawamura, Naomi Kobayashi, Yutaka Inaba, Hyonmin Choe, Taro Tezuka, So Kubota, Daigo Kobayashi, Takashi Sakai, Tomoyuki Saito

POSTERS

PS2 Trauma and Fracture—Biology

Poster No. 2188

Osteopontin Induces Cox2 In Osteoclasts Through an Integrin Mediated Signaling Pathway

James P. O'Connor, Hsuan-Ni Lin

Poster No. 2189

The Mechanism Responsible for the Promotive Effects of Vibration Acceleration on Fracture Healing in a Rat Model

Hiroyuki Yokoi, Yasuhiro Take, Takuya Magome, Tatsuhiro Hanai, Kazunori Shimomura, Tatsuo Mae, Tomoko Okamoto, Yang Chong, Tomoki Ohori, Ken Nakata

Poster No. 2190

Novel Mouse Model of Spontaneous Ho Following Spinal Cord Injury

Allison Sheu, Lawrence Lee, Alexis Dang, Bernard Halloran, Robert Nissenson, Hubert Kim, Xuhui Liu

Poster No. 2191

Effects Of Dietary Calcium And Vitamin D On Fracture Healing And Posttraumatic Bone Turnover In Mice

Verena Heidler, Melanie Haffner-Luntzer, Katja Prystaz, Thorsten Schinke, Michael Amling, Anita Ignatius

Poster No. 2192

Patterns of Expression of Collagen-Modifying Proteins in a Rabbit Model of Post-Traumatic Fibrosis of Peripheral Nerves

Michael Rivlin, Andrew Miller, Jacob Tulipan, Pedro Beredjikian, Mark Wang, Andrzej Stepiewski, Jolanta Fertala, Cheryl Hou, James Kostas, Andrzej Fertala

Poster No. 2193

Battlefield Acquired Indwelling Metal Fragment Induced Immunogenicity

Joseph Petfield, Lauryn Samelko, Joseph Hsu, Kyron McAllister, Joshua J. Jacobs, Nadim J. Hallab

Poster No. 2194

A Quantitative μ CT & Histomorphometry Analysis of Preferential Radiation Effect on the Endochondral Bone Ossification

Yongren Wu, Zilan Lin, Evan L. Hanna, Robert Holmes, Daniel G. McDonald, Kenneth N. Vanek, Hai Yao, William R. Barfield, Vincent D. Pellegrini, Jr.

Poster No. 2195

The Absence of IL-17F Impairs Fracture Healing In Mice Femora

Yufa Wang, Ayelet Atkins, Kathak Vachhani, Cari Whyne, Diane Nam

Poster No. 2196

Lack of Collagen Binding Integrin α 2 β 1 Leads to Faster Fracture Healing Due to Increased Matrix Generation, Faster Differentiation and Increased Remodelling

Daniel Kronenberg, Melanie Timmen, Jens Everding, Heriburg Hidding, Beate Eckes, Louisa Wendler, Thomas Pap, Michael Raschke, Richard Stange

Poster No. 2197

Reproducible Model of Murine Fracture Healing Using an Open Femoral Osteotomy

Christopher D. Collier, Bryan S. Hausman, Hamzah Zulqadar, James M. Anderson, Ozan Akkus, Edward M. Greenfield

PS2 Trauma and Fracture—Biomechanics/Clinical

Poster No. 2198

Effect of Screw Angle on Oblique Fracture Stability

Charles Lawrie, David Kaimrajh, Edward Milne, Loren L. Latta, Stephen Quinnan

Poster No. 2199

A Newly Designed Locking Plate with Rafting Screws for the Fixation of Posteromedial Tibial Plateau Split Fracture: A Biomechanical Evaluation

Pei-Yuan Lee, Kun-Jih Lin, Jian-Chih Chen, Hung-Wen Wei

Poster No. 2200

Less Energy Is Absorbed in Fracturing the Distal Radius Than in Lower Extremity Fractures

Kevin N. Dibbern, Lindsey Caldwell, Ericka Lawler, Donald D. Anderson

Poster No. 2201

Relationship Between Radiographic Methods of Scoring of Fracture Healing and the Structural, Biomechanical Progression of Healing

Amira I. Hussein, Margaret E. Cooke, Kyle E. Lybrand, Jeffrey H. Choi, Jody Litrenta, William M. Ricci, Jason W. Nascone, Robert V. O'Toole, Elise F. Morgan, Paul Tornetta III, Louis C. Gerstenfeld

Poster No. 2202

The Effect of Surgeon Controlled Factors on Fixation Stiffness in Lateral Locked Plating of Distal Femoral Fractures

Amin Mohamadi, Aidin Masoudi, George W. Chaus, Mark S. Vrahas, Edward Rodriguez, Ara Nazarian, Michael J. Weaver

Poster No. 2203

A Comparison of Plate vs. Screw Fixation for Segmental Scaphoid Fractures: A Biomechanical Study

Jill Goodwin, Paulo Castaneda, Ryan Shelhamer, Liam Bosch, Scott Edwards

Poster No. 2204

Superior Biomechanical Constructs Do Not Lead to Improved Clinical Results: A Systematic Review of the Literature

Jason R. Kang, Grace Xiong, Julius A. Bishop

Poster No. 2205

Does Radial Stem Implant Design Affect Aseptic Loosening Risks Following Radial Head Arthroplasty? A Finite Element Investigation

Emmanuel Eghan-Acquah, Wen-Ming Chen, Sung Jae Lee

POSTERS

Poster No. 2206

One vs. Two Screw Fixation for Medial Malleolus Fractures: Evaluation Using a More Realistic Biomechanical Model

Jay H. Patel, Berton R. Moed, J. Gary Bledsoe

Poster No. 2207

Evaluation of an Orthopedic Screw Retention Device Using an In Vivo Ovine Metatarsal Fracture Model

Jeremiah Easley, Kenzie Baer, Lucas Nakamura, Ross Palmer, Christian Puttlitz, Kirk McGilvray

PS2

Trauma and Fracture— Clinical Outcome/Methodologies

Poster No. 2208

National Epidemiology of Septic Arthritis in the Pediatric Population

Nathan P. Thomas, Justin Kleiner, Alexandre Boulos, Jonathan R. Schiller, Craig P. Ebersson

Poster No. 2209

Needlestick and Sharps Injuries in Orthopaedic Surgery Residents and Fellows

Joseph E. Snavely, Benjamin C. Service, Daniel Miller, Kenneth J. Koval, Joshua R. Langford

Poster No. 2210

The Patient Experience: A Review of Orthopaedic Surgeon Quality on Physician-Rating Sites Orthopaedic Surgeons on Rating Sites

Sergio M. Navarro, T.J. La, Evan Fisch, Prem N. Ramkumar

Poster No. 2211

Preoperative Prevalence and Risk Factors of Venous Thromboembolism in Patients with Hip Fracture: An Indirect Multidetector CT Venography Study

Won Chul Shin, Seung Hun Woo, Nam Hoon Moon, Kuen Tak Suh

Poster No. 2212

There's No Unreliable Way to Measure a Posterior Wall Acetabular Fracture: An Inter- and Intra-Rater Reliability Analysis of Three Methods

Avi D. Goodman, Joshua Vaughn, Joseph A. Gil, Eren O. Kuris, John Tuttle

Poster No. 2213

Gait Assessment in the Clinic Using Patient Reported Outcomes and Electronically Augmented Performance Based Measures

Richard Peindl, Eric Swart, Naiquan Zheng, Nahir Habet, Christine Churchill, John Ruder, Rachel Seymour, Madhav Karunakar, James Kellam, Stephen Sims

PS2

Trauma and Fracture— Mechanics and Computational Modeling

Poster No. 2214

Eccentric Near Cortical Overdrilling Reduces Locked Plating Construct Stiffness While Allowing Controlled Fracture Collapse

Renyi Benjamin Seah, Joyce Koh, Andy Yew, Siaw Meng Chou, Jerry Chen, Tet Sen Howe

PS2

Trauma and Fracture—Pathophysiology

Poster No. 2215

Vitamin D Insufficiency and Deficiency in Fracture Patients of Young and Middle-Aged Adults

Takahiro Niikura, Keisuke Oe, Takashi Iwakura, Atsushi Sakurai, Sang Yang Lee, Kenta Kishimoto, Yukihisa Yagata, Akihiro Maruo, Yoshitada Sakai, Ryosuke Kuroda

Poster No. 2216

Ischemic Reperfusion Injury Blocks Bmp-2 Mediated Heterotopic Ossification

Zara Butte, Lawrence Lee, Alfred Li, Xuhui Liu, Alexis B.C. Dang

PS2

Trauma and Fracture—Repair/Therapeutics

Poster No. 2217

Near Infrared Light Enhances the Rate of Fracture Healing

James T. Ninomiya, Derrick E. Wendler, Janine A. Struve, Scott A. Marshall, Dorothee Weihrauch, Rick Davidson

Poster No. 2218

Female Cadherin 11 Deficient Mice Show Impaired Fracture Healing

Kaitlyn M. Tracy, Debbie Y. Dang, Alfred Li, Jaewon Yoon, Sanjay Reddy, Alfred C. Kuo

Poster No. 2219

Clinical Performance of BMP-like Surface Modified Allograft Matrix

Helen Newman, Larry Shimp

Poster No. 2220

Effects of Altering Spacer Material and Topography on Membrane Formation in the Masquelet Technique

Zachary Toth, Alice Martino, Matt Roi, Katherine Gnanarajah, Emily Evans, Tracy Watson, Daemeon Nicolaou, Sarah McBride-Gagyi

Poster No. 2221

Efficacy of Low-Magnitude High-Frequency Vibration on Osteoporotic Fracture Healing in the Presence of Sarcopenia—Senescence Accelerated Mouse Model

Ning Zhang, Kwok-Sui Leung, Simon Kwoon-Ho Chow, Wing-Hoi Cheung

Poster No. 2222

Effect of Aminocaproic Acid on Endochondral and Intramembranous Bone Formation During Fracture Healing in Mice

Dalibel Bravo, Anne M. Josephson, Vivian Bradaschia-Correa, Jason Huo, Shane Neibart, Philipp Leucht

POSTERS

Poster No. 2223

Systemic Mesenchymal Stem Cell Administration and Parathyroid Hormone Therapy Repair Multiple Rib Fractures

Doron Cohn Yakubovich, Dmitriy Sheyn, Galina Shapiro, Wafa Tawackoli, Xiaoyu Da, Sandra Ann De Mel, Maxim Bez, Eran Yalon, Yeshai Schary, Afeef Sirhan, Eric J. Ley, Gadi Pelled, Zulma Gazit, Dan Gazit

Poster No. 2224

TPO Augments Bone Regeneration in a Large Animal Critical Sized Defect Model

Paul J. Childress, Jeff D. Rytlewski, Liming Zhao, Jeffrey O. Anglen, Karl D. Shively, Tien-Min G. Chu, Todd O. McKinley, Melissa A. Kacena

Poster No. 2225

Does the Timing of Cell Application Augment Bone Repair in a Rat Model of Distraction Osteogenesis?

Joanie Columbia, Zachary Toth, Tracy Watson, Sara McBride-Gagy

Poster No. 2226

Launch Simulation Does Not Impact Mouse Bone Healing of Femoral Segmental Bone Defects

Paul J. Childress, Alex Brinker, Mashuq Bhuya, Cynthia Gong, Sungshin Choi, Yasaman Shirazi-Fard, Nabarun M. Chakraborty, Yinghua Chen, Rasha Hammamieh, Tien-Min G. Chu, Melissa A. Kacena

Poster No. 2227

Effects of Pregnancy on Bone Healing in a Sheep Tibia Model

Gretchen Hinton, Evan Goldberg, Ashley Strong, Tamas Nagy

Poster No. 2228

Rapamycin Synergies with IL-2-anti-IL-2 Complex to Promote Vascularized Composite Allograft Survival

Heng Xu, Zvi Steinberger, L. Scott Levin

Poster No. 2229

Creation of Dual Cassette Vectors for Inducible Expression of SOX2 with Fluorescence Reporting

Wenzhong Wei, Thomas Lozito, Rocky Tuan, Bing Wang

Poster No. 2230

Biomechanical Properties of a New Intramedullary Suture Anchor Fixation Compared to Tension Band Wiring In Osteoporotic Olecranon Fractures

Arvind von Keudell, Amirreza Kachooei, Michael Nasr, Amin Mohamadi, Stephen Okajima, George Dyer, Ara Nazarian

PS2 Diagnostic Imaging

Poster No. 2231

The Utility of Contrast-Enhanced MR Imaging for Precise Assessment of Necrotic Area in Patients with Osteonecrosis of the Femoral Head

Satoshi Ikemura, Takuaki Yamamoto, Goro Motomura, Takeshi Utsunomiya, Yasuharu Nakashima

Poster No. 2232

Comparison and Calibration of Gray Values from Different Cone Beam Computed Tomography Scanning Conditions

Gregory M. England, Cheol-Min Han, Eun-Sang Moon, Jordan Roth, Toru Deguchi, Allen R. Firestone, F. Michael Beck, Do-Gyoon Kim

Poster No. 2233

Potential Errors in Tibial Tubercle-Trochlear Groove Measurements Associated with Valgus and Rotational Alignment Are Not Clinically Meaningful

Chaitu S. Malempati, Cale Jacobs, Jeremy Burnham, Christian Lattermann

Poster No. 2234

Quantitative Mapping of Glenohumeral Cartilage in Asymptomatic Subjects Using 3.0 T Magnetic Resonance Imaging

Carly A. Lockard, Katharine J. Wilson, Charles P. Ho, Richard C. Shin, J. Christoph Katthagen, Peter J. Millett

Poster No. 2235

MRI Using a Double-contrast Agent for Detection of Rabbit Knee Cartilage Degeneration

Okhiro Onishi, Kazuya Ikoma, Masamitsu Kido, Shigeki Hayashi, Yukichi Kabuto, Ken-Ichi Matsuda, Masaki Tanaka, Toshikazu Kubo

Poster No. 2236

Bone Strength Change of the Lumbar Spine in Osteoporosis Patients Treated with Denosumab Assessed by Finite Element Analysis of Clinical Computed Tomography Scans

Satoru Ohashi, Kumiko Ono, Hiroyuki Oka, Yoh Kumano, Mitsuyasu Iwasawa, Hiroshi Takamura, Toshihito Mori, Sakae Tanaka

Poster No. 2237

Femoral Anteversion: Assessment of Imaging Modalities

Vidyadhar V. Upasani, Corey B. Fuller, Christine Farnsworth, James D. Bomar, Megan Jeffords, Joshua Murphy, Eric W. Edmonds, Andrew T. Pennock, Dennis W. Wenger

Poster No. 2238

Femoral Perfusion After Simultaneous Initiation of Electrical Stimulation and Steroid in Osteonecrosis Model

Hiroki Yamamoto, Keiichirou Ueshima, Kazuya Ikoma, Masashi Ishida, Tsuyoshi Goto, Masazumi Saito, Shigeki Hayashi, Akira Ikegami, Mikihiro Fujioka, Osam Mazda, Toshikazu Kubo

POSTERS

Poster No. 2239

Four-dimensional CT Analysis of Recurrent Patellar Dislocation—A 3D-3D Registration Technique

Yuki Hoshi, Satoshi Oki, Ryuto Yoshida, Yutaro Morishige, Kengo Harato, Masahiro Jinzaki, Masaya Nakamura, Morio Matsumoto, Takeo Nagura

Poster No. 2240

Establishment of a Novel Monoclonal Antibody Pmab-32 Against Rabbit Podoplanin for Regenerated Cartilage and Inflammatory Synovitis

Ryusuke Honma, Masahiro Maruyama, Hiroharu Oki, Xing Liu, Yuki Fujii, Satoshi Ogasawara, Mika K. Kaneko, Yukinari Kato, Michiaki Takagi

Poster No. 2241

In Situ Imaging of Rat Median Nerve Damage Using Second Harmonic Generation Microscopy: Advancing Towards an In Vivo Application

Matthew J. Gluck, Christina M. Beck, Surabhi Vijayaraghavan, James C. Iatridis, Michael R. Hausman

Poster No. 2242

Surgical Correction of Hip Deformities and Its Impact on the Degenerative Process Within the Hip Joint

Paul E. Beaulé, Andrew D. Speirs, Helen Anwander, Gerd Melkus, Kawan Rakhra, Hanspeter Frei, Mario Lamontagne

Poster No. 2243

Bone-Implant Contact Can Now Be Evaluated Non-Destructively with μ CT in a Rat Model

Matthew Meagher, Rachna N. Parwani, Amarjit Viridi, D. Rick Sumner

Poster No. 2244

Influence of Knee Flexion Angle on Patellar Tendon Structure and Mechanical Properties

Andrew L. Sprague, Courtney T. Cox, Daniel H. Cortes, Karin G. Silbernagel

Poster No. 2245

Methods for Post-Hoc Quantitative CT Bone Scan Calibration: Empty Chamber and Regression

Jacob M. Reeves, Nikolas K. Knowles, Louis Ferreira, George S. Athwal, James A. Johnson

Poster No. 2246

Cartilage Endplate Thickness Measured by Ultrashort Echo-Time MRI Associated with Disc Degeneration

Misung Han, Aaron J. Fields, Britta Berg-Johansen, Peder E.Z. Larson, Roland Krug, Jeffrey C. Lotz

PS2

Tumors—Metastatic Tumors

Poster No. 2247

Breast Cancer Cells Expressing Cancer-Associated Sialyl-tn Antigen Have Less Ability to Develop Metastatic Bone Lesions in a Mouse Model of Bone Metastasis

Hiroki Hamano, Masahiko Takahata, Dai Sato, Masahiro Ota, Shigeto Hiratsuka, Tomohiro Shimizu, Yusuke Kameda, Ryuta Arai, Norimasa Iwasaki

Poster No. 2248

TNF Receptor Associated Factor 6 (TRAF-6) Promotes ICAM-1 Dependent Cell Migration in Human Osteosarcoma Cells

Ju-Fang Liu, Sheng-Mou Hou, Chun-Han Hou

Poster No. 2249

Dissecting Out Multiple Mechanisms of Breast Cancer-Induced Bone Destruction

Jungho Back, Yoon Kyung Lee, Saqib Nizami, Do Yu Soung, Lee Song, Francis Y. Lee

Poster No. 2250

The Improvement of Hypoxia Blocks the Progressive Bone Destruction in a Metastatic Bone Tumor Model

Toshiyuki Takemori

Poster No. 2251

Prediction of Pathologic Femoral Fractures in Patients with Lung Cancer Using Machine Learning Algorithms: Comparison of Computed Tomography (CT)-based Radiological Features with Clinical Features vs. Without Clinical Features

Eunsun Oh, Sung Wook Seo

PS2

Tumors—Primary Tumors

Poster No. 2252

A Combined Retrospective and Prospective Case Series Evaluation of Ultraporous Beta Tricalcium Phosphate for Cured Benign Cavitary Bone Lesions in Adults

Timothy A. Damron, Tina Craig, Joseph Inzinna, Hal Cohen

Poster No. 2253

Targeting Mitochondrial Function Using Transcutaneous CO₂ Application for the Sarcoma Treatment

Teruya Kawamoto, Takeshi Ueha, Hitomi Hara, Naomasa Fukase, Masayuki Morishita, Etsuko Katayama, Toshiyuki Takemori, Ryosuke Kuroda, Toshihiro Akisue

Poster No. 2254

MicroRNA-21 in Proliferation, Metastasis, and Transformation of Osteosarcoma Cells

Bo Miao, Xuan Gong, Shang-You Yang

POSTERS

Poster No. 2255

Exploring the Role of CXCR4 Expression on Osteosarcoma Cells Chemotherapy Resistance

Gabriele O. Ribeiro, Juliana Lima Souza, Ana Cristina Sá, Walter Meohas, Maria Eugênia Leite Duarte, Anneliese Fortina Costa, Amanda Santos Cavalcanti

Poster No. 2256

The Prophylactic Antibiotic Regimens in Tumor Surgery (PARITY) Randomized Controlled Trial: International Expansion of the Collaborative Network

Michelle Ghert

Poster No. 2257

PTH Protection of Trabecular Bone Mass Post-Irradiation Is Extended by Bisphosphonate Augmentation

Megan E. Oest, Nicholas D. Zimmerman, Kenneth A. Mann, Timothy A. Damron

Poster No. 2258

Targeting DYRK1B Protein Kinase Suppresses the Proliferation and Migration of Human Liposarcoma Cells

Zhenfeng Duan, Hua Chen, Jacson Shen, Edwin Choy, Francis J. Hornicek

Poster No. 2259

Characterization of Doxycycline-Loaded Calcium Phosphate Cement for Treatment of Aneurysmal Bone Cysts

Erika Daley, Denise Koueiter, Michael Kurdziel, Drew Moore

Poster No. 2260

Five-Aminolevulinic Acid Photodynamic Therapy for Myxofibrosarcoma

Shachar Kenan, Haixiang Liang, Howard Goodman, Daniel A. Grande, Adam Levin

Poster No. 2261

Disruption of TET Mediated 5hmC Deposition and Differentiation in Osteosarcoma

Fiorella C. Grandi, Shin Mei Chan, Amanda Koehne, Eric A. Sweet-Cordero, Nidhi Bhutani

Poster No. 2262

Inhibitors of the Irf1- α -xbp1 Pathway Reveals Cytotoxic to Ewing's Sarcoma Cells

Yu Tanabe

Poster No. 2263

Antitumor Effects by Combined Therapy of Smac Mimetic and Doxorubicin on Human Osteosarcoma Cells

Naomasa Fukase, Teruya Kawamoto, Hitomi Hara, Etsuko Katayama, Takeshi Ueha, Masayuki Morishita, Toshiyuki Takemori, Ryosuke Kuroda, Toshihiro Akisue

Poster No. 2264

Genome-wide Mistargeting of Oncogenic SWI/SNF(BAF) Complexes in SMARCB1(BAF47)-Deficient Sarcomas

Robert Nakayama, John Pulice, Alfredo M. Valencia, Robert T. Williams, George D. Demetri, Cigall Kadoch

Poster No. 2265

Screening of Synergistic Reagent with Pazopanib Against Osteosarcoma Using Compound Library

Yuki Yada, Kunihiro Asanuma, Tomohito Hagi, Tomoki Nakamura, Takao Matsubara, Akihiko Matsumine, Akihiro Sudo

POSTER SESSION 1

LATE BREAKING POSTERS

Posters will be displayed all day Monday and Tuesday morning.

Paper No. 2275

Design and Evaluation of a Clinically Relevant Challenge Device for Cleaning of Additive Manufacturing Residues

Jorge Hernandez, James Coburn

Paper No. 2276

In Vitro Electrical Stimulation-Mediated Human Mesenchymal Stem Cell Differentiation for Nerve Regeneration

Ohan S. Manoukian, Swetha Rudraiah, Sangamesh G. Kumbhar

Paper No. 2277

Surface Chemistry of a Silicon Nitride Bioceramic Enhances Spinal Fusion: A Case Study

Giuseppe Pezzotti, Naoki Oba, Wenliang Zhu, Elia Marin, Alfredo Rondinella, Francesco Boschetto, Bryan J. McEntire, Kengo Yamamoto, B. Sonny Bal

Paper No. 2278

Cellular Interaction and Mechanical Properties of Electrospun Poly(L-lactic acid)/gelatin Yarns: A Novel Scaffold with Potential Application in Angiogenesis

Elham Rahimtoroghi, Mehran Kasra, Nafiseh Mirabdolhosseini

Paper No. 2279

Local Delivery of SDF-1 beta via Titania Nanotube Surface to Promote Osseointegration

Jonathan O. Wright, Erin A. Baker, Chikezie Okeagu, Mackenzie M. Fleischer, Meagan R. Salisbury, Michael Newton, Tristan Maerz, Paul T. Fortin, Craig Friedrich

Paper No. 2280

Effect of Teriparatide on Subchondral Bone Lesions and Pain in Mono-iodoacetate-induced Osteoarthritis Rat

Koji Aso, Masashi Izumi, Masahiko Ikeuchi

Paper No. 2281

Co-axial Bio-printing of Stem Cells for the Regeneration of Articular Cartilage

Claudia Di Bella, Serena Duchi, Carmine Onofrillo, Romane Blanchard, Peter Pivonka, Cathal O'Connell, Gordon Wallace, Peter Choong

POSTERS

Paper No. 2282

Freeze Dried Chitosan/platelet-rich-plasma Implants Improve Marrow Stimulated Cartilage Repair in Rabbit Chronic Defect Model

Garima Dwivedi, Anik Chevrier, Caroline Hoemann, Michael Buschmann

Paper No. 2283

Novel Interpenetrating Hydrogel Reconstitutes Articular Cartilage Mechanical Properties

Janne T.A. Mäkelä, Benjamin G. Cooper, Rami K. Korhonen, Mark W. Grinstaff, Brian D. Snyder

Paper No. 2284

MRI UTE-T2* Profile Analyses Correlate to Patient Reported Outcomes 2 Years After ACL Reconstruction

Ashley A. Williams, Matthew R. Titchenal, Constance R. Chu

Paper No. 2285

Heat Enhanced Bone Elongation in Growth Plates Is IGF-I Dependent

Maria A. Serrat, Holly L. Racine, Chad A. Meadows, Gabriela Ion

Paper No. 2286

Online Quantitative Monitoring of Live Engineered Cartilage Growth Using Diffuse Fiber-Optic Raman Spectroscopy

Michael Albro, Mads S. Bergholt, Molly M. Stevens

Paper No. 2287

Drilling Effects on Fibrocartilage Regeneration at the Tendon-to-bone Insertion After Rotator Cuff Repair

Toru Morihara, Haruhiko Nakagawa, Yukichi Kabuto, Hiroyoshi Fujiwara, Toshikazu Kubo

Paper No. 2288

Simvastatin Exhibits Pro-differentiation Effects on Chondrocyte Morphology and Biosynthesis

Kenya Terabe, Nobunori Takahashi, Emily B. Askew, Cheryl B. Knudson, Warren Knudson

Paper No. 2289

Intra-articular Injection of MgCl₂ Alleviates the Progression of Osteoarthritis Through a “Double Actions” Property

Hao Yao, Jiankun Xu, Can Cui, Nianye Zheng, Jiang Yue, Jiali Wang, Ling Qin, Kiwai Ho

Paper No. 2290

Gait Adaptations to Pain 12 Months Post Medial Meniscectomy

Jessica L. Asay, Shannon N. Edd, Nicholas J. Giori, Thomas P. Andriacchi

Paper No. 2291

Role of Intra-articular Mast Cells in a Mouse Model of Osteoarthritis

Masashi Izumi, Hiroko Habuchi, Osami Habuchi, Masahiko Ikeuchi, Takahiro Ushida

Paper No. 2292

Temporal Changes in Synovial Fluid Composition and Elastoviscous Lubrication in the Equine Carpal Fracture Model

Elizabeth Feeney, Bridgette Peal, Jacqueline Inglis, Alan Nixon, Lawrence J. Bonassar, Heidi Reesink

Paper No. 2293

Medial Compartment Decompression by Fibular Osteotomy: A Biomechanical Cadaver Study

Jesse Roberts, Todd Baldini, Jiandong Hao, Michael R. Dayton, Kenneth J. Hunt, Craig Hogan

Paper No. 2294

Knee Osteoarthritis Induces Depression-Like Behavior but Not Anxiety in a Mouse Model

Hidetoshi Tsushima, Terese Camp, Samuel Adams

Paper No. 2295

Structural and In Vivo Functional Measures Predict Achilles Tendon Fatigue Mechanics During Healing

Snehal S. Shetye, Benjamin R. Freedman, George W. Fryhofer, Corinne N. Riggan, Joshua A. Gordon, Stephen J. Thomas, Daniel C. Farber, Louis J. Soslowsky

Paper No. 2296

Tensile and Torsional Structural Properties of the Native Scapholunate Ligament and Structural Properties of the Palmaris Longus and Brachioradialis Tendons as Potential Grafts for Scapholunate Ligament Reconstruction

Eric Q. Pang, Nathan Douglass, Anthony Behn, Matthew Winterton, Michael Rainbow, Robin N. Kamal

Paper No. 2297

A Novel Cadaver Model of Simulating Trigger Finger

Yu-Shiuan Cheng, Hsiao-Feng Chieh, Chien-Ju Lin, Li-Chieh Kuo, Fong-Chin Su, Kai-Nan An

Paper No. 2298

T Lymphocyte Deficient Mice Exhibit Increased M2 Macrophages and Improved Healing

Connie S. Chamberlain, Anna E.B. Clements, Ugeun Choi, Ray Vanderby

Paper No. 2299

Tranexamic Acid Toxicity in Human Tenocytes: Caution in Clinical Practice

Michael M. McLean, Susan Kitson, Lindsay A.N. Crowe, Ian Kennedy, Mark Blyth, Innes Smith, Derek S. Gilchrist, Moeed Akbar, Neal Millar

Paper No. 2300

In Vitro and In Vivo Characterization of Human Pluripotent Stem Cell Pericytes in a Murine Model of Massive Rotator Cuff Tear

Gina M. Mosich, Paras Shah, Claire D. Eliasberg, Andrew R. Jensen, Benjamin V. Kelley, Allison Ariniello, Brandon Vu, Bruno Peault, April Pyle, David R. McAllister, Ayelet Dar, Frank A. Petrigliano

POSTERS

Paper No. 2301

Reactive Oxygen Species and Mitochondrial Dysfunction Contribute to the Pathological Changes That Occur Following Rotator Cuff Tear

Jonathan Gumucio, Brian McDonagh, Christopher Mendias

Paper No. 2302

Human Myogenic Precursor Cells Are Multipotent Stem Cells That Inhibit Allogeneic T Cell Proliferation

Thomas Laumonier, Vincent Kindler, Didier Hannouche

Paper No. 2303

Multifunctional Biomaterial to Modulate the Behavior of Mscs and to Enhance Skeletal Muscle Regeneration

Sven Geissler, Taimoor H. Qazi, Matthias Pumberger, Tobias Winkler, Carsten Perka, David J. Mooney, Georg N. Duda

Paper No. 2304

Inorganic Nitrite Promotes Proliferation and Myogenic Differentiation of Myoblasts

Dukens LaBaze, Baoli Qian, Justin Hicks, Wanyan Ma, Jennifer Miller, MaCalus V. Hogan, Hongshuai Li

Paper No. 2305

Fibroblast Growth Factors Receptor 1 and 2 Regulate Periosteal and Trabecular Morphometry in the Murine Tibia

Michael A. Sonnenfeld, Kendra K. Wernlé, Kannan Karuppaiah, David M. Ornitz, Megan L. Killian

Paper No. 2306

Mouse and Human Osteocyte-derived Extracellular Vesicles (EVs) Stimulate Adipocyte and Osteoclast Differentiation In Vitro: A Role for EVs in Cell-Cell Communication in Bones and Joints?

Nicole E.E. Scully, Giorgos Kremastiotis, Robert D. Young, Mike Stone, Bronwen A.J. Evans

Paper No. 2307

Enhanced Bone Formation Using Freeze-dried Allograft Bone with Human Basic Fibroblast Growth Factor Containing a Collagen-bonding Domain from Clostridium Histolyticum Collagenase After Lumbar Posterolateral Fusion Surgery in Rats

Gen Inoue, Kentaro Uchida, Hisako Fujimaki, Wataru Saito, Masayuki Miyagi, Hiroyuki Sekiguchi, Jun Aikawa, Naoshige Nagura, Shotaro Takano, Masashi Takaso

Paper No. 2308

Loss of Murine Gfi1 Causes Neutropenia and Induces Osteoporosis Depending on the Pathogen Load and Systemic Inflammation

Sven Geissler, Martin Textor, Simon Reinke, Sabine Stumpp, Jirko Kuehnisch

Paper No. 2309

Tissue Composition and Material Properties of Lumbar Spine Cortical Bone from Individuals with and Without Type 2 Diabetes

Todd L. Bredbenner, Donald E. Moravits, Jesus W. Hernandez, Brandon May, Zachary Child, Roberto J. Fajardo

Paper No. 2310

Application of 3D Digital Trabecular Bone Model in Validating the Efficacy of DXA in Extracting Information on Trabecular Architectures: A Pilot Study

Xuanliang Neil Dong, Matt Kirby, Xiaodu Wang

Paper No. 2311

Spatiotemporal Interactions of Osteogenic and Angiogenic Cells During Long Bone Repair

Chao Liu, Alesha B. Castillo

Paper No. 2312

Effect of Audible Sound Waves on Human Umbilical Vein Endothelial Cell Response: Application in Wound and Fracture Healing

Nafiseh Mirabdolhosseini, Mehran Kasra, Elham Rahimtoroghi

Paper No. 2313

Gene Expression Differences Underlying Age-related Changes in Human Bone Cells

Eric Y. Chen, Louis Gerstenfeld, Charles Farber

Paper No. 2314

Local Delivery of Calpain Inhibitor Mdl28170-loaded Pcl Film Improves Sci Functional Recovery by Reducing Neuronal Cell Death

Linlin Wang, Dongling Shi, Heyangzi Li, Weijian Tang, Mingzhi Zheng, Yueming Ding, Yueliang Shen, Xiaoming Zhang, Yingying Chen

Paper No. 2315

MicroCT Characterisation of 3D Micro-Structure and Strain in Intervertebral Discs

Catherine Disney, Andrew J. Bodey, Brian K. Bay, Peter D. Lee, Judith Hoyland, Michael J. Sherratt

Paper No. 2316

MRI Quantification of Lumbar Spine Epidural Lipomatosis: Association with Risk Factors

Anuj Patel, Douglas D. Robertson Jr., Marcus Walker, Yara Younan, Catphuong Vu, Michael Gottschalk, John Rhee

Paper No. 2317

What Are the Distractive Forces Applied During Percutaneous Reduction of a Single Level Lumbar Spine Burst Fracture?

Nicholas Sacksteder, Gary Bledsoe, Dirk Alander

Paper No. 2318

An Injectable Hydrogel Composite Scaffold Replacement for Nucleus Pulposus Repair for the Degenerated Intervertebral Disc

Thomas R. Christiani, Tyler Christy, Jennifer Doss, Kyle Grootenboer, Kyle Heckler, Emily Ilic, Quinn Perlstein, Karl Dyer, Jennifer Kadlowec, Cristina Iftode, Jennifer Vernengo

POSTERS

Paper No. 2319

Identification of Potential Novel Biomarkers Associated with the Pathogenesis of Human Intervertebral Disc Diseases: A Pilot Metabolomics Study Reveals Metabolite Differences in Intervertebral Disc Tissue During Aging, Degeneration and Herniation

Xiaohua Zong, Liufang Jing, Sivapriya Ramamoorthy, Elizabeth M. Leimer, Lori A. Setton, Richardson J. William, Robert D. Fitch, Melissa M. Erickson, Brian L. Dial, Jun Chen

Paper No. 2320

The Proinflammatory Cytokines IL-1 β and TNF- α Influence Human Annulus Cell Signaling Cues for Neurite Growth

Helen E. Gruber, Brittany Jones, Emilio Marrero, Edward N. Hanley

Paper No. 2321

Comparison of Quantitative Imaging Techniques for Detecting Degenerative Changes in a Mouse Caudal Intervertebral Disc Injury Model

Matthew Piazza, Sun Peck, Sarah Gullbrand, Justin Bendigo, Harvey Smith, Neil Malhotra, Lachlan Smith

Paper No. 2322

Pre-Operative Cervical Spine Kinematics in Anterior Arthrodesis Patients

Samuel W. Pitcairn, William J. Anderst, Bryan D. Rynearson, Joon Y. Lee, William F. Donaldson

Paper No. 2323

Tibiofemoral Kinematics of Healthy Older Adults During Dynamic Seiza-Style Kneeling: A Pilot Study

Erin M. Mannen, Vasiliki Kefala, Azhar A. Ali, Jonathan P. Walter, Kendra M. Reilly, Melissa K. Jackels, Xiangyi (Cheryl) Liu, Walter Schmidt, Paul J. Rullkoetter, Kevin B. Shelburne

Paper No. 2324

Smart Patellar Implant for Characterization of Patellofemoral Joint Forces—An In Vitro Study

Matthew Dion, Khaled Abdoun, Andree Caruso, Benjamin Beretvas, Reena Dahle, Vishal Desai, Jared Roberts, Nathaniel Cady, Eric Ledet

Paper No. 2325

Biomechanical and Clinical Evaluations of a Novel Fixation System for Medial Open Wedge High Tibial Osteotomy: Comparison with Conventional Locking Plate

Koji Yabuuchi, Eiji Kondo, Jun Onodera, Toshiaki Kameda, Dai Sato, Tomohiro Onodera, Tomonori Yagi, Norimasa Iwasaki, Kazunori Yasuda

Paper No. 2326

The Effect of Positioning Error on the Hilgenreiner Epiphyseal Angle Compared to the Femoral Neck-Shaft Angle

Carly E. Jones, Kishore Mulpuri, David R. Wilson, Agnes G. d'Entremont

Paper No. 2327

Assessing Cam Impingement in Three Dimensions Using Geometric Parameterisation

Robert J. Cooper, Marlène Mengoni, Dawn Groves, Sophie Williams, Marcus J.K. Banks, Philip Robinson, Alison C. Jones

Paper No. 2328

The Influence of Total Knee Replacement Constraint on Frontal Plane Stability and Collateral Ligament Strain

Joshua Slane, Pieter Berger, Orcun Taylan, Ronny De Corte, Hilde Vandenneucker, Lennart Scheys

Paper No. 2329

Total Knee Antibiotic Spacer Outcomes for Periprosthetic Joint Infection

Keely Boyle, Scott Nodzo, Allina Nocon, Andy O. Miller, Geoffrey Westrich

Paper No. 2330

Direct Anterior Approach Total Hip Arthroplasty: Fracture Table vs. Standard Operating Table, Is There a Difference?

Preliminary Results

Erik Zachwieja, William M. Hannay, Samuel Rosas, Charles Lawrie, Luis Grau, Michaela Schneiderbauer

Paper No. 2331

Impact of Obesity on Patient-reported Outcomes Following Total Knee Arthroplasty

David F. Hamilton, Fanny L. Loth, Johannes M. Giesinger, Karlmeirad Giesinger, Deborah J. MacDonald, Hamish Simpson, Colin R. Howie

Paper No. 2332

Robotic-Arm Assisted Total Knee Arthroplasty Demonstrated Soft Tissue Protection

Emily L. Hampp, Manoshi Bhowmik-Stoker, Laura Y. Scholl, Jason K. Otto, David J. Jacofsky, Michael A. Mont

Paper No. 2333

Urinary Biomarkers Differentiate Patients with Osteolysis from Patients With Stable Implants Prior to Radiographic Evidence

Ryan D. Ross, Youping Deng, Joshua Jacobs, D. Rick Sumner

Paper No. 2334

Monocyte Activation, Migration and Functional Differentiation in Response to Mediators released from Aseptic Loosening Revision Surgery Periprosthetic Tissues

Krishnamurthy Genasan, Margaret Roebuck, Valentina Barrera, Amanda Wood, Haiyi Wang, Azhar Mahmood Merican, Azlina Amir Abbas, Chan Chee Ken, Jesús Reiné, Murali Malliga Raman, Azura Mansor, Tunku Kamarul, Simon Frostick

Paper No. 2335

Application of Polycaprolactone Nanofibers and MgO Nanoparticles for a Cemented Implant Surgery

Morshed Khandaker

Paper No. 2336

Uncemented vs. Cemented Cruciate Retaining Total Knee Arthroplasty in Patients with a Body Mass Index Over 30

Keely Boyle, Scott Nodzo, Joseph Ferraro, David Augenblick, Sonja Pavlesen, Matthew Phillips

POSTERS

Paper No. 2337

Contribution of Oxidative Stress in Human Rotator Cuff Tear

Keiichi Yoshida, Yoshiaki Itoigawa, Yuichiro Maruyama, Hidetoshi Nojiri, Kazuo Kaneko

Paper No. 2338

The Positive Correlation Between IL-20 and TNF-alpha Can Be the Biomarker in De Quervain's Disease

Tai-Hua Yang, Tai-I Hsu, Being-Whey Wang, Wei-Jen Su, Chyun-Yu Yang, Cheng-Yo Yen, Yuan-Kun Tu, I-Ming Jou

Paper No. 2339

The Effect of Triangular Fibrocartilage Complex (TFCC) Tear on Wrist Proprioception

Ji Hun Park, Jong Woong Park

Paper No. 2340

Anterior and Posterior Misalignment of the Talar Component in Total Ankle Arthroplasty

Daniel McKearney, Christina Stender, Brian Cook, Erik S. Moore, Lea Gunnell, Bryan Monier, Bruce J. Sangeorzan, William R. Ledoux

Paper No. 2341

Predictive Factors for Diabetic Lower Extremity Amputation in Texas

Molly Jenner, Aurora Kareh, Lei Shi, Daniel Sass, Roberto J. Fajardo

Paper No. 2342

Promis Instrument Responsiveness in Patients with Foot and Ankle Disorders

Man Hung, Tom Greene, Judith Baumhauer, Jerry Bounsanga, Maren Voss, Yushan Gu, Charles L. Saltzman

Paper No. 2343

Diagnostic Potential of Serum Anti-staphylococcus Aureus Iggs to Identify Musculoskeletal Infections

Kohei Nishitani, Sandeep P. Soin, Hiromu Ito, Shuichi Matsuda, Kates L. Stephen, Johan L. Daiss, Edward M. Schwarz

Paper No. 2344

Immune-dysregulation in a Rat Model of Infected Femoral Segmental Bone Defect

Hyunhee Ahn, Mara L. Schenker, Rishin J. Kadakia, Pallab Pradhan, Laura D. Weinstock, Levi B. Wood, Krishnendu Roy, Robert E. Guldborg, Nick J. Willett

Paper No. 2345

Effect of Centrifuging Synovial Fluid on Leukocyte Esterase Test for Periprosthetic Joint Infection

Pakpoom Ruangsombon, Sriprapa Chinprasertsuk, Varanya Khejonit, Keerati Chareancholvanich

Paper No. 2346

Flash Autoclave Does Not Fully Eradicate Well-Established Biofilms on Porous Coated or Smooth Titanium

Dustin L. Williams, Richard T. Epperson, Mattias Nielsen, Nicholas Taylor

Paper No. 2347

Minimum Tensioning of Cerclage Cables to Achieve Pre-Fracture Stability After Intra-operative Periprosthetic Proximal Femoral Fractures: A Cadaveric Model

Joshua Namm, David Kaimrajh, Edward Milne, Ronald Lindsey, Loren Latta

Paper No. 2348

Effects of Tethering on Pediatric Neck Injury During Rear End Collisions

Carrie O'Donel, Jamie Williams

Paper No. 2349

Combination of Measures of Handgrip Strength and Red Cell Distribution Width Can Predict In-Hospital Complications Similar to the ASA Grade After Hip Fracture Surgery in the Elderly

Hyung-Min Ji, Ye-Yeon Won, Jun Han

Paper No. 2350

Health Literacy and Patient Reported Outcomes in Orthopaedic Surgery Patients

Thiran Udawatta, Lance Flesch, Michael Eng, Jane E. Oliphant, Scott Kaar

Paper No. 2351

Bone-targeting Liposome Formulation of Salvianic Acid A Accelerates the Healing of Delayed Fracture Union in Mice

Yanzhi Liu, Zhenshan Jia, Xiang Gao, Mohammed P Akhter, Xiaobei Wang, Xiaoyan Wang, Xin Wei, Gang Zhao, Liao Cui, Dong Wang

Paper No. 2352

Low-dose Lithium Treatment Significantly Improves Fracture Healing in Osteoporotic Rodent Bone

Kathak Vachhani, Cari Whyne, Yufa Wang, Diane Nam

Paper No. 2353

Dynamic Knee Imaging Using 4D Self-Gated MRI with Compressed Sensing Reconstruction

Valentina Mazzoli, Jasper Schoormans, Martijn Froeling, Andre M. Sprengers, Klaas Nicolay, Bram F. Coolen, Aart J. Nederveen, Gustav J. Strijkers, Nico Verdonschot

Paper No. 2354

A SPECT-CT Registration Framework for high Resolution Inter- and Intra-Subject Clinical Evaluation—An Application in Unicondylar Knee Arthroplasty

Félix Dandois, Lucas Beckers, Laura C. Slane, Stijn De Buck, Dirk Ooms, Koen Van Laere, Hilde Vandenneucker, Lennart Scheyls

Paper No. 2355

Bilateral Differences in Patellar Tendon T2* Values Correlate with Differences in Morphologic Grade of Patellar Tendinosis Within Collegiate Basketball Players

Erin C. Argentieri, Parina H. Shah, Ogonna Nwawka, Matthew F. Koff

POSTERS

POSTER SESSION 2

LATE BREAKING POSTERS

Posters will be displayed Tuesday afternoon and all day Wednesday.

Paper No. 2356

Freeze-dried Chitosan-PRP Injectable Surgical Implants for Meniscus Repair: Result from Pilot Ovine Studies

Leili Ghazi Zadeh, Anik Chevrier, Mark B. Hurtig, Jack Farr, Scott Rodeo, Caroline D. Hoemann, Michael D. Buschmann

Paper No. 2357

Dimensional Deviation of Additive Manufactured Test Specimens

Jorge Hernandez, James Coburn

Paper No. 2358

Rapid Heat Treatment for Anatase Conversion of Titania Nanotube Orthopaedic Surfaces

Sachin M. Bhosle, Craig R. Friedrich

Paper No. 2359

Cellular Interaction and Mechanical Properties of Electrospun Poly(L-lactic acid)/gelatin Yarns: A Novel Scaffold with Potential Application in Angiogenesis

Elham Rahimtoroghi

Paper No. 2360

Self-stiffening Degradable Shape Memory Membranes for Stem Cell Delivery to Bone Grafts

Ben Zhang, Tera Filion, Jie Song

Paper No. 2361

Acceleration of Bone Repair During Fracture Healing by Poly(pro-hyp-gly)10 and Basic Fibroblast Growth Factor Containing Collagen-binding Domains from Clostridium Histolyticum Collagenase

Hiroyuki Sekiguchi

Paper No. 2362

Mesenchymal Stem Cells (MSCs) Delivered in a Novel Hydrogel for the Treatment of Chondral Defects in a Rabbit Animal Model

Cecilia Pascual Garrido, Francisco Rodriguez Fontan, Stephanie Bryant, Elizabeth A. Aisenbrey, Jorge Chahla, Karin Payne, Laurie J. Goodrich

Paper No. 2363

Incorporation of Anionic or Zwitterionic Chemical Residues into Photocrosslinked Hydrogel Differentially Modulates Encapsulated Chondrocytes Behavior In Vitro

Henry Huang, David Ayers, Jie Song

Paper No. 2364

Effects of Scaffold Morphology and Cell Co-culture on Tenogenic Differentiation of hAdMSC on Centrifugal Melt Electrospun Poly (L-lactic Acid) Fibrous Meshes

Shaohua Wu, Hao Peng, Philipp N. Streubel, Yong Liu, Bin Duan

Paper No. 2365

A Novel Approach to Detection of Acetabular Cartilage Delamination in Patients with Femoroacetabular Impingement

Michael A. Samaan, Valentina Padoia, Alan L. Zhang, Matthew C. Gallo, Thomas M. Link, Richard B. Souza, Sharmila Majumdar

Paper No. 2366

Evaluation of a Chitosan Drug Delivery System for Endogenous Repair of Growth Plate Injuries

Christopher Erickson, Michael S. Riederer, Yangyi Yu, Francisco R. Fontan, Melissa D. Krebs, Nancy Hadley-Miller, Karin A. Payne

Paper No. 2367

Kappa Opioid Receptor Signaling Protects Cartilage Tissue Against Posttraumatic Degeneration

Denis Evseenko, Ling Wu

Paper No. 2368

Inhibition of the Mechanosensitive Piezo Ion Channels Protects Against Load-induced Chondrocyte Death and Joint Pain

Andrea G. Schwartz, Paul Greenfield, Lauren Votava, Whasil Lee, Wolfgang Liedtke, Farshid Guilak

Paper No. 2369

Effects of Platelet-derived Products on Matrix Turnover by Osteoarthritic Chondrocytes in Collagen Hydrogels

Vivek Jeyakumar, Eugenia Niculescu-Morza, Christoph Bauer, Daniela Kern, Zsombor Lacza, Stefan Nehrer

Paper No. 2370

Enhancing Regenerative Potential of Articular Cartilage with a Novel Regulator of Gp130 Signaling

Denis Evseenko, Ruzanna Shkhyan, Jacob Bogdanov

Paper No. 2371

Inter-tie Coils Revealed by Unfixed Histology in Rabbit and Sheep Meniscus

Colleen Mathieu, Jessica Guzman-Morales, Dongfang Qian, Anik Chevrier, Robert McCormack, Mark Hurtig, Caroline D. Hoemann

Paper No. 2372

Follistatin Gene Therapy Decreases Systemic Inflammation and Pain Sensitivity Following Knee Injury in High-Fat Diet Induced Obese Mice

Ruhang Tang, Kelsey Collins, Chia-Lung Wu, Harasymowicz Natalia, Farshid Guilak

Paper No. 2373

Comparison of PRP, Stromal Vascular Fraction, and Stromal Vascular Fraction Supplemented with a Biodegradable Nanofiber Polymer for the Treatment of Cartilage Pathology in Dogs

Samuel P. Franklin, Aaron Stoker, Chantelle Bozynski, Kei Kuroki, Kevin Clarke, James L. Cook

POSTERS

Paper No. 2374

A Unifying Framework for Understanding the Lubricating Properties and Clinical Efficacy of Injectable Hyaluronic Acid Therapies

Edward D. Bonnevie, Devis Galesso, Cynthia Secchieri, Lawrence J. Bonassar

Paper No. 2375

Metabolic Profiling of Moderate and Severe Osteoarthritic Knee Synovial Fluid

Nidal Khatib, Andreas Papageorgiou, Stephen Fairhurst, Christopher Wilson, Cathy Holt, Deborah J. Mason

Paper No. 2376

Biomechanical Comparison of 2 Variations of Double-Row Suture Tape Rotator Cuff Fixation: Knotless vs. Knot-Tying Medial Row

Andrew D. Hiller, Ali Alhandi, Loren Latta, Michael Baraga

Paper No. 2377

Fibre Torsion in The Achilles Tendon Reduces Stress Concentrations and Improves Tissue Strength

Vickie Shim, Geoffrey Handsfield, Justin Fernandez, David Lloyd, Thor Besier

Paper No. 2378

Silk-Based Sheath for Augmentation of Tendon Graft Anterior Cruciate Ligament Reconstruction Outcome

Thomas K. The, Si-Ning Png, Pujiang Shi, Xiafei Ren, James Hoi Po Hui, Jun Li, James Cho Hong Goh

Paper No. 2379

Tendon to Bone Healing Potential of Fascia Lata Autograft in Rotator Cuff Reconstruction

Daisuke Mori, Masahiko Kobayashi, Yoshikazu Kida

Paper No. 2380

Suppression of Osteogenic Differentiation in Mesenchymal Stem Cells from Patients with Ossification of the Posterior Longitudinal Ligament by a Histamine-2-receptor Antagonist

Xizhe Liu, Gentaro Kumagai, Kanichiro Wada, Toshihiro Tanaka, Ayako Sasaki, Ken-Ichi Furukawa, Yasuyuki Ishibashi

Paper No. 2381

Single-Stem Cell Imaging Analysis and Molecular Dysregulation of Muscle Stem Cells

Elisia Tichy, Nicholas Oyster, Foteini Mourkioti

Paper No. 2382

Promethazine Hydrochloride Inhibits Ectopic Fat Formation in Skeletal Muscle

Takehiro Kasai, Akiyoshi Uezumi, Masashi Nakatani, Naoki Ishiguro, Kinji Ohno, Harumoto Yamada, Kunihiro Tsuchida

Paper No. 2383

Identification of Novel Interstitial Progenitor Cells that Efficiently Contribute to Muscle Regeneration After Rotator Cuff Tears

Ayelet Dar, Andrew R. Jensen, Allison Ariniello, Benjamin V. Kelley, Michael R. Hicks, Majib Jan, Paras Shah, Gina M. Mosich, Brandon Vu, Lain R. Murray, April Pyle, David R. McAllister, Bruno Péault, Frank A. Petrigliano

Paper No. 2384

Co-application of LMHFV and HMB Supplement Improves Muscle Function and Fiber Composition in Sarcopenic SAMP8 Mice

Jinyu Wang, Kwok-Sui Leung, Simon Kwoon-Ho Chow, Wing-Hoi Cheung

Paper No. 2385

CRISPR/Cas9- Mediated Gene Editing of Dystrophic Muscle Progenitor Cells as a Potential Cell Therapy for DMD

Polina R. Matre, Jianbo Wu, Joshua H. Lee, Krishna Sinha, Aiping Lu, Xiaodong Mu, Xueqin Gao, Radbod Darabi, Johnny Huard

Paper No. 2386

Celecoxib Leads to Impaired Cartilage and Bone Extracellular Matrix Formation in the Growth Plate of Skeletally Immature Mice

Marjolein M.J. Caron, Tessy M.R. Castermans, Bert van Rietbergen, Lodewijk W. van Rhijn, Adhiambo M.A. Witlox, Tim J.M. Welting

Paper No. 2387

Differential Responses of T1DM Bone Marrow-Derived Stromal Cells and Periosteum-Derived Cells to Growth Factor Treatments in Normal and High-Glucose Cultures

Tera Filion Potts, Jordan Skelly, Henry Huang, Dale Greiner, David Ayers, Jie Song

Paper No. 2388

Indications of VEGF-A Signaling Impairment in Diabetic Spine Tissue

Roberto J. Fajardo, Jesus W. Hernandez, Brandon May, Todd Bredbenner, Zachary Child

Paper No. 2389

Relation Between Fracture Toughness and Global Phosphorylation of Organic Matrix in Human Bone

Grazyna Sroga, Deepak Vashishth

Paper No. 2390

Anisotropy and Heterogeneity in Finite Element Models of Trabecular Bone Alters Expected Failure Outcomes

Max A. Hammond, Joseph M. Wallace, Matthew R. Allen, Thomas Siegmund

Paper No. 2391

Towards a Robust, Simple, Objective Measure of Bone Healing Using Image Analysis of Plain Radiographs

Jeffrey Duryea, Chris Evans, Vaida Glatt

POSTERS

Paper No. 2392

The Effect of Platelet-Rich Plasma (PRP) on Osseous Healing in Dogs Treated with High Tibial Osteotomy

Samuel P. Franklin, Emily Burke, Shannon P. Holmes

Paper No. 2393

Micromotion Dramatically Changes the Gene Expression Profile of the Bone Healing Response Around Implants

Renan de Barros e Lima Bueno, Rima Wazen, Katia J. Ponce, Jill A. Helms, John B. Brunski, Antonio Nanci

Paper No. 2394

Characterization of Facet Joints in Adolescent Idiopathic Scoliosis

Daniel Bisson, Polly Lama, Derek Rosenzweig, Jean A. Ouellet, Lisbet Haglund

Paper No. 2395

Nanoscale Behavior of Collagen Is Reflected in Whole-Disc Biomechanical Behavior and Is Impaired by Diabetes

Claire Acevedo, Sara Sampson, Eric Schaible, James Graham, Peter Havel, Robert Ritchie, Tamara Alliston, Jeffrey Lotz, Aaron J. Fields

Paper No. 2396

Psychometrics of the PROMIS Pain Interference Instrument in an Orthopaedic Population

Man Hung, Darrel Brodke, Charles L. Saltzman, Tom Greene, Maren Voss, Jerry Bounsanga, Yushan Gu, Bill Wagner, Ryan Spiker, Brandon Lawrence, Richard Kendall

Paper No. 2397

Clinical and Radiographic Outcomes in Single-Level Transforaminal Lumbar Interbody Fusion with Polyetheretherketone or Porous Tantalum Cages

Cheng-Min Shih, Cheng-Hung Lee

Paper No. 2398

Long-term Results of A Prospective Study Of Anterior Decompression with Fusion and Laminoplasty for the Treatment of Cervical Spondylotic Myelopathy

Takashi Hirai, Toshitaka Yoshii, Satoru Egawa, Atsushi Okawa

Paper No. 2399

Vimentin Upregulation in Human Mesenchymal Stem Cells Increases Cell Traction

Zachary T. Bolten, Poonam Sharma, Carlos Luna, Diane R. Wagner, Adam Hsieh

Paper No. 2400

Toll-Like Receptor 4 Inhibition Decreases Degeneration and Pain in a Mouse Model

Emerson Krock, Magali Millecamps, Laura S. Stone, Lisbet Haglund

Paper No. 2401

Microrna-494 Promotes Apoptosis and Extracellular Matrix Degradation in Degenerative Human Nucleus Pulposus Cells by Targeting Sox9

Liang Kang

Paper No. 2402

Sirtuin 6 Prevents Matrix Degradation Through Inhibition of the Nf- κ B Pathway in Intervertebral Disc Degeneration

Liang Kang

Paper No. 2403

Longitudinal Fracture Prediction of Lumbar Vertebrae Affected by Osteoporosis

Marianna L. Oppenheimer-Velez, Hugo Giambini, Asghar Rezaei, Sundeep Khosla, Michael J. Yaszemski, Lichun Lu

Paper No. 2404

Activating the Somatosensory System Can Assist in Restoring Quadriceps Function During Gait

Arielle G. Fischer, Jessica L. Assay, Jennifer C. Erhart-Hledik, Thomas P. Andriacchi

Paper No. 2405

Contact Forces Acting on Large Osteochondral Allografts: Implications for Patient Rehabilitation

Peter Z. Du, Keith L. Markolf, Christopher J. Lama, David R. McAllister, Kristofer J. Jones

Paper No. 2406

Comparison of Adjustable and Fixed Femoral Cortical Suspension Devices in Tendon Bone Healing Observed In Anterior Cruciate Ligament Reconstruction

Sato Yusuke

Paper No. 2407

Revision Total Hip Arthroplasty Using Cementless Cup Supporter and Iliac Autograft: A Minimum of 15-year Follow-Up

Kensuke Yoshino, Tadashi Tsukeoka, Yoshikazu Tsuneizumi

Paper No. 2408

Influence of Post-Cam Design on Dynamic Kinematics of Posterior-Stabilized Knee Replacements

Yung-Chang Lu, Lin-I Hsu, Cheng-Yu Wu, Shu-Ting Yeh, Ting-Kuo Chang, Chun-Hsiung Huang, Chang-Hung Huang

Paper No. 2409

Do Simulated Ligament Releases to Restore Balance After Total Knee Arthroplasty Compromise Knee Stability?

Joshua D. Roth, Colin R. Smith, Darryl G. Thelen

Paper No. 2410

Prehabilitation Using a Novel, Mobile Application Reduces Length of Stay in Patients Undergoing Primary Total Knee Arthroplasty

Emily E. Bogue, Joshua Twiggs, David Liu

Paper No. 2411

Accuracy in Acetabular Cup Placement Using Alignment Guide with Laser Pointer

Yusuke Okanoue, Teruhiko Kawakami, Koji Aso, Yoichi Igarashi, Masashi Izumi, Masahiko Ikeuchi

POSTERS

Paper No. 2412

Robotic-Arm Assisted Total Knee Arthroplasty Demonstrated Greater Accuracy to Plan Compared to Manual Technique

Emily L. Hampp, Laura Y. Scholl, Michael Prieto, Ta-Cheng Chang, Abdullah Z. Abbasi, Manoshi Bhowmik-Stoker, Jason K. Otto, David J. Jacofsky, Michael A. Mont

Paper No. 2413

Continuous Assessment of Ligamentous Tension During Total Knee Replacement Demonstrates an Anatomic Cause for Mid Flexion Instability: A Cadaveric Study

Wayne Moschetti, John Keggi, Leonid Dabuzhsky, Dave Jevsevar, Sami Shalhoub, Christopher Plaskos

Paper No. 2414

Biological Response of Human Myogenic Precursor Cells to Cobalt and Chromium Ions Generated After Metal on Metal Hip Replacement

Etienne Ruffieux, Didier Hannouche, Thomas Laumonier

Paper No. 2415

An Experimental Model of Femoral Stem Loosening and Detection via Strain Sensing

Kevin M. Labus, Kirk C. McGilvray, Hilmi V. Demir, David Kieser, Christian M. Puttlitz

Paper No. 2416

Influence of Clinically Relevant System Compliance on Initial Taper Stability

Sezen Buell, Laura Scholl, Reginald Lee, Gregg Schmidig, Jason Longaray, Raga Rajaravivarma, Ahmad Faizan, Lizeth Herrera, Steven Harwin

Paper No. 2417

Role of Transplanted Bone Marrow Cells in Development of Fatty Degeneration of Rotator Cuff Muscles Following Chronic Rotator Cuff Tear

Naseem Zomorodi, Lawrence V. Klomps, Hyunmin M. Kim

Paper No. 2418

Functional and Histological Anatomy of the Sternoclavicular Joint Anatomy of the Sternoclavicular Joint

Yasushi Shinohara, Tsukasa Kumai, Ichiro Higashiyama, Yasuhito Tanaka, Stefan Milz

Paper No. 2419

Responsiveness of the PROMIS and Legacy Instruments for Upper Extremity Conditions

Man Hung, Charles L. Saltzman, Tom Greene, Maren Voss, Jerry Bounsanga, Yushan Gu, Angela A. Wang, Douglas T. Hutchinson, Don Coleman, Andrew R. Tyser

Paper No. 2420

Leupeptin Aids in Recovery of Rat Nerve and Muscle After Nerve Crush Injury

Mikhail Gurevich, Kerri A. Kulovitz, David E. Komatsu, Marie A. Badalamente, Lawrence C. Hurst

Paper No. 2421

Ankle Kinematics and Resting Length After Achilles Tendon Rupture: A Comparison of Short-Term and Long-Term Assessments

Alison N. Agres, Sebastian Manegold, Tobias Gehlen, William R. Taylor, Adamantios Arampatzis, Georg N. Duda

Paper No. 2422

The Compensatory Correlation Between Knee And Hindfoot Joints in Patients with Rheumatoid Arthritis

Kohei Nishitani, Hiromu Ito, Moritoshi Furu, Masayuki Azukizawa, Shuichi Matsuda

Paper No. 2423

Does the First Metatarsal Bone Twist Itself in Severe Cases of Hallux Valgus? Investigation with CT Scans

Kazunori Maruyama

Paper No. 2424

Synovial Aspiration Cell Counts in Short Term Postoperative Primary Total Knee Arthroplasty

Rishi Dave

Paper No. 2425

Photodynamic Therapy for reducing Pseudomonas Aeruginosa Biofilms in Prosthetic Joint Infections

Rita Ramalhete, Melanie Coathup, Tim Briggs, Simon Hislop, Alex Liddle, Gordon Blunn

Paper No. 2426

Are Molecular Diagnostics as Sensitive As Intraoperative Cultures to Detect the Presence of Infection in Recurrent Total Joint Arthroplasty?

Hilda Kriel, Matthew Igbiginie, Daniel Ortiz, Ronald W. Lindsey, Zbigniew Gugala, Michael Loeffelholz

Paper No. 2427

Transforming Growth Factor Activated Kinase 1 Induces an Inflammatory Response and Neuropathic Pain in Spinal Microglia In Vitro

Hisako Fujimaki, Gen Inoue, Kentaro Uchida, Masayuki Miyagi, Hiroyuki Sekiguchi, Jun Aikawa, Masashi Takaso

Paper No. 2428

pMUCL Reconstruction Recovers Elbow Stability in the Presence of Posteromedial Rotatory Instability: A Cadaveric Study

Matthew J. Gluck, Christina M. Beck, Elan J. Golan, Philip R. Nasser, Dave R. Shukla, Michael R. Hausman

Paper No. 2429

Failure of Depuy Synthes VA-LCP Curved Condylar Plate in the Management of OTA/AO 33-A3.3 Fractures—Does Filling Open Screw Holes Make a Difference?

Luis C. Grau, David Kaimrajh, Kevin W. Collon, Ali A. Alhandi, Loren Latta, Fernando Vilella

POSTERS

Paper No. 2430

Impact of Chronic Analgesic Use on Fracture Nonunion

R. Grant Steen, Robert Zura, Thomas Buchheit, Zhe Wang, Samir Mehta, Gregory Della Rocca

Paper No. 2431

Local Androgen/bisphosphonate Combination Treatment To Enhance Bone Healing: Proof of Principle in Human and Porcine Bone Explants

Nicole Bakker, Cindy van de Ven, Jan A. Gossen

Paper No. 2432

High Fat Diet Leads to Decreased Fracture Healing in Mice Model

David R. Veltre, Eric Chen, Amira I. Hussein, Cassie Huang, Elise Morgan, Jennifer Schlezinger, Louis Gerstenfeld

Paper No. 2433

The Potential of ^{18}F —Fluoride Positron Emission Tomography as a Predictive Indicator of Skeletal Regeneration

Neashan Mathavan, Janine Koopman, Deepak Bushan Raina, Magnus Tägil, Hanna Isaksson

Paper No. 2434

Determine Alterations in Bone Composition with Fragility Fracture by Transcutaneous In Vivo Raman Spectroscopy

Hao Ding, Ping Wang, Andrea L. Baker, Nahid J. Rianon, Philip R. Orlander, William H. Ip, James F. Kellam, Catherine G. Ambrose, Xiaohong Bi

Paper No. 2435

Quantitative Ultrasound Assessment of the Achilles Tendon Under Varied Load

Ogonna K. Nwawka, Daniel R. Sturnick, Meghan Sahr, Theodore T. Miller

Paper No. 2436

Size Dependent Effects of Gold Nanoparticles in Osteosarcoma Cells

Tewodros Mamo