

POSTER SESSION 1 – (PS1)

Exhibit and Poster Hall (West and Central Hall)

Poster displayed Saturday, February 5 and Sunday, February 6

Presenting Authors are asked to be present the following days to discuss posters.

Saturday, February 5 (EVEN Poster numbers) 10:15 AM – 11:15 AM

Sunday, February 6 (ODD Poster numbers) 10:15 AM – 11:15 AM

PS1-001

Biomaterials - Controlled Release

Poster No. 351

Development Of Thermosensitive Nanosomes For Osteoarthritis

Ashley Kim; Brett Field; Karen Hasty; Hongsik Cho

Poster No. 352

Ultrasound-triggered Vancomycin Release From A Novel Prophylactic Spinal Device

Lauren J. Delaney; Selin Isguven; Quezia Lacerda; Priscilla Machado; Noreen J. Hickok; Steve M. Kurtz; Flemming Forsberg

Poster No. 353

Suppression Of Inflammatory Responses Using L-sulforaphane Loaded Poly (lactic-co-glycolic Acid) Nano-drug Delivery System For Rheumatoid Arthritis Therapy

Edidiong Essien; Shreya Vattam; Kai-yuan Cheng; Geoffrey Van Thiel; Mathew Mathew; Divya Bijukumar

Poster No. 354

Injectable Thermosensitive Hydrogel Containing N-terminal Anxa1 A2-26 Peptide For Local Treatment Of Pathological Bone Resorption Associated With Inflammation

Hend Alhasan; Alaa Terkawi; Mahmoud M. Abd Elwakil; Gen Matsumae; Taku Ebata; Yoshio Nishida; Tomohiro Shimizu; Shunichi Yokota; Daisuke Takahashi; Hideyoshi Hideyoshi; Norimasa Iwasaki

Poster No. 355

Micro-thin Hydrogel Coating Integrated In 3D Printing For Spatiotemporal Delivery Of Bioactive Small Molecules

Md Sarker; Zain Siddiqui; Vivek Kumar; Chang H. Lee

Poster No. 356

Application Of Magnetic Particle Imaging To Assess Nanoparticle Localization To Cartilage

Tolulope O. Ajayi; Sitong Liu; Chelsea Rosen; Blanka Sharma; Carlos Rinaldi

Poster No. 357

Efficacy Of Saline Wash Plus Antibiotics Doped Polyvinyl Alcohol (pva) Composite (pva-van/tob-p) In A Mouse Pouch Infection Model

David Markel; Tong Shi; Paula Diets; Bin Wu; Therese Bou-Akl; Weiping Ren

Poster No. 358

Controlled Release Of CD200 To Classically Activated Macrophages In Osteoarthritis

Shreedevi Kumar; Tiffany Conklin; Joseph Ssu-Chieh Hsu; Vijaykumar Meli; Kiara Chan; Wendy Liu; Kyle Allen; Blanka Sharma

Poster No. 359

Erythromycin (EM) -eluting Nanofiber Coating For The Treatment Of Prosthetic Joint Infection

David Markel; Tong Shi; Paula Diets; Bin Wu; Therese Bou-Akl; Weiping Ren

Poster No. 360

Cyclic Potentiodynamic Testing Of 3d Printed Ti6Al4v Gyroid Lattices With Varying Porosity

Rachael Sharp; Matthew H. Pelletier; William Walsh; Cambre Kelly; Kenneth A. Gall

Poster No. 361

Mineral Coated Microparticle Mediated Mrna Co-delivery Of Bone Morphogenetic Protein-2 And R-spondin-2 Increases R-spondin-2 Secretion

Joshua Choe; William Murphy

Poster No. 362

Bacteriophage-containing Biodegradable Microsphere Technology To Treat Osteomyelitis

Analisa J. Narro; Erin Brown; Heidi B. Kaplan; Catherine G. Ambrose

Poster No. 363

Progranulin Derivative Atsttrin Loaded Chitosan & Graphene Oxide Based Hydrogel Stimulates Chondrocyte Differentiation And Cartilage Regeneration

Lida Moradi; Chuanju Liu

Poster No. 364

Immunomodulatory Hydrogels For Bone Regeneration In Response To Bisphosphonate-related Osteonecrosis Of The Jaw

Katherine H. Griffin; Jamal S. Lewis; Kent Leach

PS1-002

Biomaterials - Orthopaedic Implant Materials

Poster No. 365

Semi-quantitative Assessment Of Retrieved Dual Mobility Liners For Total Hip Replacement

Mackenzie Brown; Ruth Wilcox; Graham Isaac; James Anderson; Tim Board; Douglas Van Citters; Sophie Williams

Poster No. 366

The Effect Of Simvastatin On Cobalt-mediated Inflammatory Cytokine Expression

Sami Adam Anjum; John A. Kirby; David J. Deehan; Alison J. Tyson-Capper

Poster No. 367

The Potential Of Scaffold-free Constructs Of Adipose Tissue-derived Mesenchymal Stem Cells On Tendon-bone Healing After Anterior Cruciate Ligament Reconstruction In A Rabbit Model

Kotaro Higa; Hidetoshi Matsuda; Hiroki Yabiku; Fuminari Uehara; Takashi Toma; Chinatsu Azuma; Daiki Murata; Koichi Nakayama; Kotaro Nshida

Poster No. 368

Sex Differences In Response To Recombinant Human Bone Morphogenetic Protein-2 (rhBMP-2) In A Rat Posterolateral Fusion Spine Model

Andrew Furman; Alexander Linton; Nicholas Lanzetta; James Foley; Elianna Fred; Mark Plantz; Jon Yamaguchi; Kenneth Blank; Robert Havey; Muturi Muriuki; Avinash Patwardhan; Stuart Stock; Wellington Hsu; Erin Hsu

Poster No. 369

Activation Of Osteoblast Cells In Response To Orthopaedic Biomaterials Via A TLR4-Mediated Pathway

Shannon Jamieson; Philip Hyde; Alison J. Tyson-Capper; John A. Kirby

Poster No. 370

3d Printable Carboxymethyl Chitosan-amorphous Calcium Phosphate Nanoparticles Enhance Osteogenesis And Regulate Macrophage Polarization

Ming Yan; Hani Awad

Poster No. 371

Comparison Of Bone Cement Abrasion Resistance Of Various Surface Hardening Technologies

Aline Elquist; Mark Hill; Mark Morrison; Vivek Pawar

Poster No. 372

3D-Printed Silicon Nitride-PEEK Composite Promotes In Vitro Osteogenic Activity And Mineralization

Paul DeSantis; Ryan Bock; Sean Ronayne; Bryan McEntire; Noreen J. Hickok; Steve M. Kurtz

Poster No. 373

Osteoconductivity And Neurotoxicity Of Silver-containing Hydroxyapatite Coating Cage For Rat Spinal Inter Body Fusion

Takema Nakashima; Tadatsugu Morimoto; Masastugu Tsukamoto; Akira Hashimoto; Sakumo Kii; Hiroshi Miyamoto; Motoki Sonohata; Masaaki Mawatari

Poster No. 374

Three Million Cycle In Vitro Fretting Corrosion Of Two Commercial Acetabular Modular Taper Designs

Annsley Mace; Jeremy Gilbert

Poster No. 375

Additive Manufactured Peek With An Improved Surface For Medical Application

Rupak Dua; Zuri Rashad; Yue Zhang; Michael Friedman; Henry Donahue

Poster No. 376

Strut Thickness But Not Unit Cell Length Alters Mechanical Properties Of 3d Printed Rib Implants: A Preliminary Study

Richa Gupta; Lauren Judkins; Chritine Gabriele; Charles Tomonto; Guha Manogharan; Michael Hast

Poster No. 377

Nm17 Causes Lower Metal Artifacts Than Conventional Stainless Steels On 7t Magnetic Resonance Images

Sotozono Yasutaka; Kazuya Ikoma; Shimada Junichi

Poster No. 378

Human Imscs-laden Photocurable Hydrogel For Improved Durability Of The Skin/implant Interface - An In Vitro And Ex Vivo Analysis

Isha Mutreja; Kirk Twaroski; Joan Bechtold; Jakub Tolar; Jonathan Forsberg; Conrado Aparicio

Poster No. 379

Plasma Surface Treatment Increasing Hydrophilicity And Promoting Cell Growth On Titanium Alloy - In Vitro Study

Woo-Lam Jo; Young-Wook Lim; Soon-Yong Kwon; Seung-Chan Kim; Yong-Sik Kim; Ji-Hoon Bahk

Poster No. 380

Silicat-TEMPO-Oxidized Sacchachitin (STEMPO-SC) With Biphasic Calcium Phosphate (BCP): Hydroxyapatite (HAp) Composite Biomaterial For Bone Regeneration Application

Meng-huang Wu; Hon-Pan Yiu; Ming-Thau Sheu

Poster No. 381

Alumina Particles Affect The Osteogenic Ability Of Osteoblasts By Suppressing The Wnt Signaling Pathway

Ashish Ranjan Sharma; Buyankhishig Gankhuyag; Altanzul Bat-Ulzii; Sudharshini Nath; Yeon-Hee Lee; Sang-Soo Lee

Poster No. 382

In-situ Mineralized Nanocellulose-alginate Bioink System For Injectable Bone Graft/ 3D Printing Applications

Sumit Murab; William R. Collins; Alexander G. Snyder; Andrew E. Pelling; Patrick W. Whitlock

Poster No. 383

3D Printed PEEK Has Lower High-Cycle Fatigue Life Than Injection Molded PEEK

Leandra Bowsman; Haocheng Du; Ajit Vakharia; Naveen Jasty; Matthew Kraay; Clare Rimnac

Poster No. 384

Spatial And Depth Mapping Of Nascent Mineralization On Ti_6Al_4V Surfaces Demonstrating Hierarchical Macro-micro-nanoscale Surface Features

Vraj B. Shah; Michelle B. Gallagher; Justin L. Brown

Poster No. 385

Keratinocyte-specific Adhesion Peptide Coatings: A Non-antimicrobial And Acellular Strategy To Prevent Infection Of Osseointegrated Prostheses For Amputees And Other Percutaneous Devices

Nicholas Fischer; Alexadra C. Kobe; Jiahe He; John A. Pizarek; David A. De Jong; Isha Mutreja; Conrado Aparicio

Poster No. 386

In Vivo Osteogenesis Around Silicate And Zinc Co-doped Strontium Apatite Peek Disk Bonded By Co_2 Laser

Sachiko Kawasaki; Yusuke Inagaki; Akira Furukawa; Hironori Sugimoto; Hideki Shigematsu; Manabu Akahane; Yasuhito Tanaka

Poster No. 387

Cathodic Bias And Inflammatory Species Critical To Simulating In Vivo Ti-6Al-4V Corrosion

Michael A. Kurtz; Piyush Khullar; Jeremy L. Gilbert

Poster No. 388

Efficacy Of Local Antibiotics Delivery System Using Functionalized Silk Implant In An Acute Osteomyelitis Model

Kaveh Momenzadeh; Chunmei Li; Nadim Kheir; Diana Yeritsyan; Mohammadreza Abbasian; Junqi Wu; David Kaplan; Ara Nazarian

Poster No. 389

Persistent Antibacterial Activity Of Silver-containing Hydroxyapatite Coating

Sakumo Kii; Hiroshi Miyamoto; Akira Hashimoto; Takema Nakashima; Masaya Ueno; Iwao Noda; Motoki Sonohata; Masaaki Mawatari

PS1-003

Biomaterials - Repair/Replacement of Hard Tissues

Poster No. 390

The Effects Of Hydroxyapatite Coating On Poly(caprolactone) Micromechanics And Mesenchymal Stem Cell Behavior

Matthew Fainor; Kerri R. Betz; Sonal Mahindroo; Ryan C. Locke; Harvey E. Smith; Robert L. Mauck; Sarah E. Gullbrand

Poster No. 391

PCL Scaffolds Promote Bone Repair Of Mandibular Defects In Rats With Bisphosphonate-related Osteonecrosis Of The Jaw

Karla Rangel-Berridi; Jose Ramirez-Garcia Luna; Zaher Jabbour; Ore-Oluwa Olasubulumi; Ebrahim Jalali Dil; Basil Favis; Caroline Hoemann; Nicholas Makhoul; Janet Henderson; Derek Rosenzweig; Rahul Gawri

Poster No. 392

3D Bioprinting Of Mechanically Reinforced Hypertrophic Cartilage Templates For Large Bone Defect Regeneration

Pierluca Pitacco; Daniel J. Kelly

Poster No. 393

Strength Of Distal Radius Fracture Fixation From Stand-alone Application Of Bioregenerative Bone Adhesive

Sourabh Boruah; Brittany McDonough; Michael Brown; Michael Weaver; Steven Glickel; Jesse Jupiter; Douglas W. Van Citters

Poster No. 394

Silver-containing Calcium Phosphate Provides Antibacterial Properties To MSC Media Without Impairing Osteogenic Potential Of The MSCs

Masaya Ueno; Hiroshi Miyamoto; Sakumo Kii; Takema Nakashima; Shunsuke Kawano; Motoki Sonohata; Masaaki Mawatari

Poster No. 395

Cortico-cancellous Osseointegration Into Additively Manufactured Titanium Implants Using A Load-bearing Femoral Ovine Model

Amy Kent; Spencer Barnes; Mac Tuncer; Michel Assad; Mark B. Davies; Jitendra Mangwani; Enrique Alabort

Poster No. 396

Mechano-active Therapeutic Release To Preserve Subchondral Bone After Nanofracture In A Large Animal

Hannah M. Zlotnick; Ryan C. Locke; Sanjana Hemdev; Brendan D. Stoeckl; Sachin Gupta; Ana P. Peredo; David R. Steinberg; James L. Carey; Daeyeon Lee; George R. Dodge; Robert L. Mauck

Poster No. 397

Fixation Of Transverse Midshaft Clavicle Fractures With Nitinol Staples Vs. Superior Locked Plating: A Biomechanical Study

Katherine L. Mistretta; Pooyan Abbasi; Thomas Gillin; Melissa Wright; Anand Murthi

Poster No. 398

Quantitative Analysis Of Growth Factors From Cancellous Bone Graft Collected With A Ria System From Native Long Bones Vs Previously Reamed Long Bones

Cesar Cereijo; Samuel R. Johnson; Eric Dilbone; Jonathan G. Schoenecker; Cory A. Collinge; William T. Obremskey; Stephanie N. Moore-Lotridge

Poster No. 399

The Use Of Coacervate Sustained Release System To Identify Most Potent Bmp For Bone Regeneration In Critical Size Calvarial Bone Defect Model

Xueqin Gao; Mintai Hwang; Matthieu Huard; Aiping Lu; Joseph Ruzbarsky; Sudheer Ravuri; Yadong Wang; Johnny Huard

Poster No. 400

Paracrine Effect Of The Stromal Vascular Fraction Containing M2 Macrophages On Human Chondrocytes Through The Smad2/3 Signaling Pathway

Masahiro Fujita; Tomoyuki Matsumoto; Shinya Hayashi; Naoki Nakano; Toshihisa Maeda; Yuichi Kuroda; Yoshinori Takashima; Kenichi Kikuchi; Kensuke Anjiki; Kemmei Ikuta; Yuma Onoi; Syotaro Tachibana; Takehiko Matsushita; Hideki Iwaguro; Satoshi Sobajima; Takafumi Hiranaka; Ryosuke Kuroda

Poster No. 401

Investigation Of The Effect Of Culture Period On The Reference Genes Selection For RT-qPCR Analyses In The Osteogenic Differentiation From Human Induced Pluripotent Stem Cells

Kensuke Okamura; Yusuke Inagaki; Masakazu Okamoto; Yoshinobu Uchihara; Munehiro Ogawa; Yasuhito Tanaka

PS1-004

Biomaterials - Repair/Replacement of Soft Tissues

Poster No. 402

Hydroxyapatite-hybridized Double-network Hydrogel Surface Enhances Differentiation Of Bone Marrow-derived Mesenchymal Stem Cells To Osteogenic Cells

Takuma Kaibara; Lei Wang; Masumi Tsuda; Takayuki Nonoyama; Kurokawa Takayuki; Eiji Kondo; Norimasa Iwasaki; Jian Ping Gong; Shinya Tanaka; Kazunori Yasuda

Poster No. 403

The Effects Of PDGF And IGF-1 In Activation Of Human Schwann Cells By Platelet-rich Plasma

Seiji Sawai

Poster No. 404

Does Allogeneous Dermal Scaffold Augmentation Improve Rotator Cuff Healing And Clinical Outcomes In Large To Massive Rotator Cuff Tear? A Retrospective Case-controlled Study With Arthroscopic Partial Repair On Clinical And Radiologic Evaluation

Seung Jin Yoo; Sungwook Choi; Joseph Rho; Jae Hwang Lee

Poster No. 405

Evaluation Of Force Required And Cortices Thickness Relationship For Direct Suture Passage At The Greater Trochanter: A Biomechanical Study

Shivam H. Patel; Tyler Safgren; Alexander Chong

Poster No. 406

In Vivo Biocompatibility Of Kangaroo Tendon Xenografts Prepared Using Different Decellularization Reagents

Carina Blaker; Dylan Ashton; Yolanda Liu; Nicholas Hartnell; Christopher Little; Elizabeth Clarke

Poster No. 407

Generating Cartilage- And Meniscus-like Anisotropy In Poly(vinyl Alcohol) Hydrogels

Sonia Bansal; Jeffrey W. Hoffman; Kathleen N. Meyers; Suzanne A. Maher; Nikolaos Bouklas; Tony Chen

Poster No. 408

Outcomes Of Surgical Reconstructions In Foot And Ankle Patients Using 3D Printed Porous Titanium Patient-Specific Implants

Bijan Abar; Nicholas Kwon; Trent Lau; Nicholas B. Allen; Lindsey Johnson; Ken Gall; Samuel Adams

Poster No. 409

Notochordal Cell Regeneration Potential Sustained Within Hydrogel Biomaterial

Rebecca J. Williams; Shay Basatvat; Abbie Binch; Marianna Tryfonidou; Chris Sammon; Joseph Snuggs; Christine LE Maitre

Poster No. 410

Hybrid Bioadhesive Strategy For Intervertebral Disc Repair And Regeneration After Nucleotomy

Xuan Li; Yin Li; Li Li; Ran Huo; Farshid Ghezelbash; Zhenwei Ma; Shiyu Liu; Zhen Yang; Lorne Beckmen; Lisbet Haglund; Jianyu Li

Poster No. 411

3D Printed Osteochondral Implants Designed To Support And Preserve Surrounding Cartilage

Kevin N. Eckstein; Sarah Schoonraad; Fernando P.M. Guastaldi; Mark A. Randolph; Asais Uzategui; Robert R. McLeod; Stephanie J. Bryant; Virginia L. Ferguson

Poster No. 412

Prodrug Bmp-7 Alleviates Fibrosis In Bleomycin-induced Localized Scleroderma Animal Model

Cheol-Hee Jeong; Hyun Sil Kim; Yoon Hae Kwak

Poster No. 413

Biocompatible Mechanically-optimized Bioadhesive For Tendon-to Bone Repair

Fei Fang; Roscoe Linstadt; Kollbe Ahn; Guy Genin; Stavros Thomopoulos

Poster No. 414

Tensile Strength Of A Novel Superficial Suture Pattern Compared To Traditional Suture Patterns In A Cadaveric Human Skin Model

Francisco Rodriguez Fontan; Nicole Look; Todd Baldini; Bennie Lindeque

PS1-005

Biomaterials - Scaffolds

Poster No. 415

Characterization Of A Bmp-2bpa Nanofiber—Demineralized Bone Matrix (dbm) Composite Scaffold For Structural Integrity And Osteoinductivity

Nicholas Lanzetta; Andrew Furman; Alexander Linton; Elianna Fred; Charlotte Chen; Nick Sather; Mark McClendon; Wellington Hsu; Samuel Stupp; Erin Hsu

Poster No. 416

Adhesion Prevention In Tendon Repair With Intact Fish Skin Grafts: A Case Series

Ruby N. Huynh; Michael J. Lacqua; Evelyn Quintin; Gunnar Johansson

Poster No. 417

A Library Of Janus Base Nano-matrices For Tissue Engineering

Anne Yau; Libo Zhou; Yupeng Chen; Wuxia Zhang

Poster No. 418

Novel Dragging 3D Printing For Vascular Tissue Engineering In Musculoskeletal Regeneration

Hun Jin Jeong; Hyoryung Nam; Jae-Seok Kim; SungKeon Cho; Hyun-Ha Park; Young-Sam Cho; Chang Lee; Jinah Jang; Seung-Jae Lee

Poster No. 419

In Vitro And In Vivo Characterization Of A Decellularized And Lyophilized Placental Membrane For Potential Orthopedic Applications

Fanwei Meng; Britini Ork; Jennifer Morse; Davorka Softic; Xiaofei Qin

Poster No. 420

A Nanoporous 3D-printed Scaffold For Human Ligament Tissue Engineering Applications

Jean-Gabriel Lacombe; Megan Cooke; Hyeree Park; Suliman Mohammed Alshammari; Rahul Gawri; Showan Nazhat; Paul Martineau; Derek Rosenzweig

Poster No. 421

The Synergistic Effects Of Dictamnine-containing 3D-printed Mesoporous Calcium Silicate/calcium Sulfate/poly- ϵ -caprolactone Scaffolds For The Promotion Of Osteogenesis In Mesenchymal Stem Cells

Chun yao Chang

Poster No. 422

Generation Of Bio-ink Using Chemical Modified Hydrogels For Engineering Cartilage Tissue

Zheyuan Zhou; Fengjie Zhang; Chao Wan

Poster No. 423

What Is The Best Reference Gene Of Rt-qPCR Analyses For The Osteogenic Differentiation Of Human Induced Pluripotent Stem Cells?

Masakazu Okamoto; Kensuke Okamura; Yusuke Inagaki; Yoshinobu Uchihara; Kenichiro Saito; Yasuhito Tanaka

Poster No. 424

Development Of 3D Printed Biodegradable PLGA Implants To Control Loading During Fracture Repair

Anna N. Smith; Ana Peredo; Richa Gupta; Robert Mauck; Sarah Gullbrand; Michael Hast

Poster No. 425

A Prospective Cohort Study To Evaluate Clinical Outcome Of The One Step Autologous Cartilage Repair System(RevoCart) In The Treatment Of Patients With Early To Moderate Stage Osteoarthritis

Chang-Chin Wu

Poster No. 426

Cell Adhesive Peptide-laden Photocurable Hydrogel For Improved Durability Of The Skin/implant Interface

Isha Mutreja; Jiahe He; Conrado Aparicio

Poster No. 427

Poly(lactide (PLA) And Poly-4-hydroxybutyrate (P4HB) Bioabsorbable Textile Scaffolds For Bone Tissue Regeneration

Flavia Caronna; Skander Limem; Said Rizik; Khoa Do; William Ronan; Eimear B. Dolan

Poster No. 428

Metformin-incorporated Gelatin/hydroxyapatite Nano-fiber Scaffold Promoting Critical-sized Bone Defect Regeneration

Yi-Wen Lin; Chih-Hsiang Fang; Jui-Sheng Sun

Poster No. 429

3d Printed Reinforced Collagen Nano-hydroxyapatite Scaffolds For The Regeneration Of Large, Weight Bearing Bone Defects

Katelyn J. Genoud; Mark Lemoine; Daniel J. Kelly; Fergal J. O'Brien

Poster No. 430

Tracking Cell-strain Relationships In 3D Printed Marrow Models

Alexander M. Regner; Kalin Gibbons; Derek Nesbitt; Maximilien DeLeon; Trevor Lujan; Clare Fitzpatrick; Mary C. Farach-Carson; Danielle Wu; Gunes Uzer

Poster No. 431

Mechanical Testing And Histological Analysis Of Bone Growth Into Bioresorbable Porous 3D Printed Composite Scaffolds

Robert Childers; Gerardo Figueroa; David Gonzales; Efren Barron Villalobos; Luis Arciniaga; Douglas Loy; Krishna Muralidharan; Barrett Potter; John Szivek; David Margolis

Poster No. 432

Effect Of Collagen Wrapping For Sciatic Nerve Crush Injury In Rats

Motoki Sonohata; Akira Hashimoto; Sakumo Kii; Kazuyoshi Uchihashi; Atsushi Doi; Takao Inoue; Masaaki Mawatari

PS1-006

Bone - Diseases and Disorders

Poster No. 433

Defects In Bone Quality And Osteocyte Density Are Mitigated By The Systemic Ablation Of RAGE In A T2D Mouse Model

Kaitlyn Broz; Remy Walk; Simon Tang

Poster No. 434

Functional Interactions Of The Long Non-coding (lnc) RNA Casc20 In Heterotopic Ossification

Favour Felix-Ilemhenbho; Sumeet R Deshmukh; Ian Sudberry; Endre Kiss-Toth; J Mark Wilkinson

Poster No. 435

N-ε-(carboxymethyl)lysine Correlates With The Degradation Of Human Cortical Bone Fracture Resistance

Thomas L. Willett; Daniel Dapaah; Jindra Tupy; Sasidhar Uppuganti; Jeffry Nyman

Poster No. 436

Long-term Bone Changes In An Ovine Experimental Model Of Bone Marrow Lesions In The Femoral Condyle

Holly L. Stewart; Jeremiah Easley; Kurt Selberg; Christian Puttlitz; Chris Kawcak

Poster No. 437

Adaptation Of An Experimental Model Of Bone Marrow Lesions Using The Rat Femoral Condyle

Holly L. Stewart; Katie Sikes; Natalie Serkova; Kelly Santangelo; Jeremiah Easley; Chris Kawcak

Poster No. 438

Nε-carboxymethyl-lysine (cml) Alters Gene Expression Of Bone Remodelling, Glycation, And Inflammation Markers In Ocy454-12h Osteocytes

Rachana S. Vaidya; Lamya Karim

Poster No. 439

Effects Of Synovial Mesenchymal Stem Cell-derived Exosomes On In Vitro And In Vivo Osteoarthritic Chondrocytes

Dan Li; Liang Haixiang; Eric Neufeld; Camille Pinpin; Henintsoa Andriamifidy; Kenneth Zaslav; Daniel Grande

Poster No. 440

The Relationship Between Synovial Mesenchymal Stem Cells And Bone Morphology In Patients With Different Types Of Hip Osteoarthritis

Yang Yang; Kazumasa Miyatake; Yusuke Nakagawa; Tomomasa Nakamura; Hiroki Katagiri; Mai Katakura; Kunikazu Tsuji; Ichiro Sekiya; Hideyuki Koga

Poster No. 441

Modulating The Host Environment To Enhance Cell Therapy For Osteogenesis Imperfecta

Sanja Novak; Etem Beskovic; Benjamin Sinder; Ivo Kalajzic

Poster No. 442

The Effect Of Mutant Acvr1 On Monocyte Cell Line Derived From Pluripotent Stem Cells

Hirotsugu Maekawa; Yonghui Jin; Megumi Nishio; Shunsuke Kawai; Sanae Nagata; Takeshi Kamakura; Hiroyuki Yoshitomi; Akira Niwa; Megumu K. Saito; Shuichi Matsuda; Junya Toguchida

Poster No. 443

Impact Of Covid-19 Lockdown And Confinement Measures On Musculoskeletal Health Of The Urban Geriatric Population Of India: A Community-based Survey

Riddhi Gohil; Siddhartha Sharma; Sandeep Patel; Kamal Kishore; Amarjeet Singh; Rajesh Rajnish; Mandeep Singh Dhillon

Poster No. 444

Abnormal Growth Plate Structure In Mouse Model Of Hypophosphatemic Rickets Is Ameliorated By Meclozine Treatment

Yasunari Kamiya; Masaki Matsushita; Kenichi Mishima; Bisei Ohkawara; Shiro Imagama; Kinji Ohno; Hiroshi Kitoh

Poster No. 445

Cardiotrophin Like Cytokine Factor 1 (CLCF1) Alleviates Excessive Bone Loss And Osteoclast Differentiation Through Activating Interferon Signaling And Repressing The Nuclear Factor- κ B Signaling Pathway

Shunichi Yokota; Gen Matsumae; Tomohiro Shimizu; Taku Ebata; Hend Alhasan; Daisuke Takahashi; Alaa Terkawi; Norimasa Iwasaki

Poster No. 446

Post-Radiotherapy Changes In Osteoclast Signaling

Jessica A. Hotaling; Megan E. Oest

Poster No. 447

Hematopoietic Stem Cell Repopulation And Inflammation-associated Osteoclastogenesis Following Murine Limited-field Radiotherapy

Megan E. Oest; Ashley R. Sweeney-Ambros; Timothy A. Damron

Poster No. 448

Lymphatic Secretome Negatively Regulates Bone Cell Differentiation

Ernesto Solorzano; Takhar Kasumov; Michael Kelly; Fayez Safadi

PS1-007

Bone - Growth, Development and Aging

Poster No. 449

Diversity Of Prx1 Stem/progenitor Cells And Their Regulation For Bone Regeneration

Yu Liu; Adrian Ilinski; Louis Gerstenfeld; Beth Bragdon

Poster No. 450

Movement-induced Mechanical Stimuli Determine Joint Shape In Regenerating Axolotl Forelimbs

Ester Comellas; Johanna E. Farkas; Giona Kleinberg; Katlyn Lloyd; Thomas Mueller; Timothy J. Duerr; Muñoz J. Jose; James R. Monaghan; Sandra J. Shefelbine

Poster No. 451

Association Of AKAP11 Polymorphism With Bone And Muscle Phenotypes

Madeline King; Adriana Solis; Brandon Hartmann; Elijah Strong; Pavan Vemulakonda; Austin Gillies; Elmer Rajah; Zachary Larew; Dustin Hittel; Eric Hoffman; Karuna Panchapakesan; Heather Gordish-Dressman; Laura L. Tosi

Poster No. 452

Disrupting Linc Complex Decreases Mesenchymal Stem Cell Proliferation By Impeding Cell Cycle Progression

Sean Howard; Daniel Conway; Gunes Uzer

Poster No. 453

Effects Of Mechanical Challenge And Disruption Of Mechanical Signaling On Nucleotide Excision Repair In Mesenchymal Stem Cells

Anamaria G. Zavala; Gunes Uzer

Poster No. 454

LRP5 Variants Associated With Bone Quality Measures In Young Adults

Pavan Vemulakonda; Adriana Solis; Brandon Hartmann; Elijah Strong; Madeline King; Elmer Rajah; Austin Gillies; Zachary Larew; Dustin Hittel; Eric Hoffman; Karuna Panchapakesan; Heather Gordish-Dressman; Laura L. Tosi

Poster No. 455

ZBTB40 Polymorphisms Associated With Bone Quality And Strength Measures In Young Healthy Adults

Adriana Solis; Brandon Hartmann; Elijah Strong; Elmer Rajah; Pavan Vemulakonda; Austin Gillies; Madeline King; Zachary Larew; Heather Gordish-Dressman; Karuna Panchapakesan; Dustin Hittel; Eric Hoffman; Leticia Bradford; Laura L. Tosi

Poster No. 456

Variation In DAAM2 Single Nucleotide Polymorphism Correlates With Bone And Muscle Phenotypes In Young Adults

Elijah Strong; Pavan Vemulakonda; Adriana Solis; Brandon Hartmann; Madeline King; Elmer Rajah; Austin Gillies; Zachary Larew; Dustin Hittel; Eric Hoffman; Heather Gordish-Dressman; Laura L. Tosi

Poster No. 457

Lgr6 Is Necessary For Attaining Peak Bone Mass And Regulates Osteogenesis Through Differential Ligand Use

Vikram Khedgikar; Julia Charles; Jessica Lehoczkzy

Poster No. 458

A Prospective Analysis Of Skin And Serum Advanced Glycation Endproduct Devices In Healthy Volunteers

Dominik Adl Amini; Manuel Moser; Lisa Oezel; Erika Chiapparelli; Jiaqi Zhu; Ichiro Okano; Jennifer Shue; Andrew A. Sama; Frank P. Cammisa; Federico P. Girardi; Alexander P. Hughes

Poster No. 459

Molecular Regulation Of Fate Decision In Sox9 Skeletal Stem Cells

Stephanie Farhat

Poster No. 460

Deletion Of Phlpp2 In LysM-Cre Expressing Myeloid Lineage Cells Enhances Cortical Thickness

Ismael Y. Karkache; David HH Molstad; Elizabeth W. Bradley; Kim Mansky

Poster No. 461

Senolytic Agents For The Rescue Of Osteogenic Capacity Of Bone Marrow Derived Cells

Robert Gresham; Jon Copp; Mark Lee; Kent Leach

PS1-008

Bone - Injury and Healing

Poster No. 462

Diagnostic Fracture Stiffness Quantification By Direct Electromagnetic Coupling

Jakob G. Wolynski; Kevin M. Labus; Branislav M. Notaroš; Milan M. Ilić; Christian M. Puttlitz; Kirk C. McGilvray

Poster No. 463

Hypophosphatemia Delays Endochondral Bone Formation During Fracture Healing, Down Regulates Aerobic Oxidative Metabolism, And Is Regulated By Hippo And Canonical Wnt Signaling

Louis Gerstenfeld; Darlene Lu; Amira Hussein; Casey Norton; Serkalem Demissie

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Mandy M.F. Steinbusch; Guus G.H. van den Akker; Andy Cremers; Mandy J. Peffers; Lodewijk W. Van Rhijn; Marjolein M.J. Caron; Tim J.M. Welting

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Michael Ziegele; Robert Rowe; Sarag Abhari; Langan S. Smith; Arthur L. Malkani

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Abigail E. Niesen; Anna L. Garverick; Stephen M. Howell; Maury L. Hull

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Banu Bayram; Aaron R. Owen; Jacob J. Bettencourt; Afton K. Limberg; Daniel J. Berry; Mark Morrey; Joaquin Sanchez-Sotelo; Andre J. van Wijnen; Amel Dudakovic; Matthew P. Abdel

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Kota Miura; Yasumitsu Ohkoshi; Koji Iwasaki; Kengo Ukishiro; Tatsuya Mikami; Shuya Chida; Kensaku Kawakami; Sho'ji Suzuki; Tatsunori Maeda; Yoshiaki Hosokawa; Yuki Suzuki; Tomohiro Onodera; Eiji Kondo; Norimasa Iwasaki

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Kylee Rucinski; James P. Stannard; Clayton Nuelle; Corey Crecelius; James L. Cook

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Katsuhisa Fujita; Eiji Kondo; Koji Yabuuchi; Koji Iwasaki; Tomohiro Onodera; Dai Soto; Masayuki Inoue; Kazunori Yasuda; Tomonori Yagi; Norimasa Iwasaki

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Rebecca M. Irwin; Benjamin D. Address; Ishaan Puranam; Brenton D. Hoffman; Amy L. McNulty

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Erin C. Argentieri; Garry Gold; Sharmila Majumdar; Hollis G. Potter; Matthew F. Koff

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Meniscus Allograft Augmentation Combining Meniscus And Mesenchymal Stromal Cells

Caroline Struijk; Katherine Lydon; Leila Bagheri; Allan Dietz; Roman Thaler; Daniel B.F. Saris

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Influence Of Menisci On Tibiofemoral Contact Mechanics In Human Knees: A Systematic Review

Matthias Sukopp; Florian Schall; Steffen P. Hacker; Anita Ignatius; Lutz Duerselen; Andreas M. Seitz

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The In-vitro Test Conditions Influence The Biomechanical Properties Of Degenerated Lateral Menisci - A Comparative Study At Two Laboratories

Luisa de Roy; Oihana Piquet; Graciosa Teixeira; Max F. Weiske; Hermann O. Mayr; Michael Seidenstuecker; Andreas M. Seitz

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Age-dependent Changes To Collagen Cross-links Reduce The Toughness Of Human Meniscus

Derek Nesbitt; Mathew Turner; Xinzhu Pu; Laura Bond; Kali Woods; Julia Oxford; Trevor Lujan

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Comprehensive Volumetric Analysis Of Matrix Structure And Composition In Knee Meniscus

Kun Hee Sim; Solaiman Tarafder; Md Sarker; Chang H. Lee

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A Viscoelastic Rheological Model For Describing Shear Behavior Of The Meniscus

Massimiliano De Rosa; Giovanni Filippone; Thomas M. Best; Alicia Jackson; Francesco Travascio

Poster No. 1028

Imaging With Synchrotron Light Reveals Collagen Crimp Patterns Of Ex Vivo Human Meniscus

Emma Einarsson; Maria Pierantoni; Vladimir Novak; Jonas Svensson; Hanna Isaksson; Martin Englund

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Meniscal Morphology Is Associated With In Vivo Knee Kinematics During Deep Flexion Activities In Healthy Athletes

Toshikazu Tanaka; Kyohei Nishida; Caiqi Xu; Tom Gale; William Anderst; Freddie Fu

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Meniscus - Treatment and Therapeutics

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RNA Sequencing Reveals Donor Variability In Sex- And Age-matched Human Meniscal Fibrochondrocyte Response To Estrogen

Kelsey E. Knewton; Adam Podgorny; Cuncong Zhong; Donna M. Pacicca; Jenny L. Robinson

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Correlation Of Infrapatellar Fat Pad Biomarkers To Functional Outcome Measures After Meniscus Allograft Transplantation Using A Preclinical Canine Model

Shelby Y. Salisbury; Aaron M. Stoker; Chantelle C. Bozynski; Cristi R. Cook; James P. Stannard; James L. Cook

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Biomechanical Analysis Of Inside-out Continuous Meniscal Suture Vs. Traditional Meniscal Repair: A Pilot Study

José Leonardo Rocha de Faria; Douglas Mello Pavão; Arthur Paiva Grimaldi Santos; Mariana Radulski; Anneliese Fortuna; Geraldo Motta Filho; João Antonio Matheus Guimarães; Ari Digiácomo Ocampo Moré; Carlos Rodrigo de Mello Roesler; Rodrigo Salim

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Interference Screw Vs Transosseous Suture Fixation Of The Posterior Horn Of Medial Meniscus Allograft

Rae Tarapore; William Pfaff; Michael Simon; Matthew Nasra; Casey Imbergamo; Jorden Xavier; Jason Yang; Barbara Perry; Andrzej Brzezinski; Charles Gatt

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Differential Regulation Of SDF1/CXCR4 Signaling Arms In Progenitor Cell-mediated Meniscus Repair

Jay Trivedi; Salomi Desai; Chathuraka Jayasuriya

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Stitching Through Mid-substance Region Of Meniscus For The Repair Of Longitudinal Meniscal Tear Prevents Widening Of The Stitched Part After Cyclic Loading

Satoshi Yamakawa; Tatsuo Mae; Issei Ogasawara; Takehito Hirose; Shoji Konda; Ken Nakata

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Shoulder and Elbow - Arthroplasty

Poster No. 1036

Humeral Offset As A Predictor Of Outcomes After Reverse Shoulder Arthroplasty

Leighann C. Panico; Luis Carrazana Suarez; Ryan Blake; Miranda McCroskey; Joshua Sykes; Albert Lin

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Impact Of Joint Reaction Force Magnitude On The Wear Of Reverse Total Shoulder Polyethylene Bearings: An In Vitro Wear Assessment Based On Anatomically Derived Loads And Motions

Diego A. Orozco Villaseñor; Ravikumar Varadarajan; Jeff Bischoff; Kimberly Mimnaugh; April Armstrong

Poster No. 1038

Consistency And Reliability Of The Thumb Press Test For Stemless Anatomical Shoulder Arthroplasty

Courtney Mason; Kimberly Roesler; Michael Amini; Jason Scalise; Marc Jacofsky; Aniruddh Nayak

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Development Of A Predictive Model For A Machine Learning Derived Shoulder Arthroplasty Clinical Outcome Score

Vikas Kumar; Christine Allen; Steven Overman; Ankur Teredesai; Ryan Simovitch; Pierre-Henri Flurin; Thomas Wright; Joseph Zuckerman; Howard Routman; Christopher Roche

Poster No. 1040

Impact Of Tobacco Usage On Readmission And Complication Rates Following Shoulder Replacement Surgery: A Study Of 164,527 Patients

Christopher A. White; Calista Dominy; Justin Tang; Nicholas Pitaro; Akshar Patel; Jun Kim; Samuel Cho; Paul Cagle

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Effect Of Superior Capsular Reconstruction On Muscle Excursion During Glenohumeral Abduction

Farid Amirouche; Michael Labib; Sonia Pradhan; Roberto Leonardo Diaz; Aimee Bobko; Jason Koh

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Effects Of Medialized Vs Lateralized Reverse Shoulder Arthroplasty Constructs With And Without Coracoacromial Ligament Transection On Scapular Spine Strain

Roman Ashmyan; Anand Murthi; Melissa Wright; Peter Johnston; Brian McCormick; Brett Haislup; Thomas Gillin; Pooyan Abbasi

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The Effect Of Oversizing Humeral Short Stems On Implant-Bone Construct Stiffness

Jacob Reeves; Gregory Spangenberg; Josie Elwell; Stewart Ben; Thomas Vanasse; Christopher Roche; Daniel Langohr; Kenneth Faber

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In-vitro Wear Of Cross-linked Polyethylene In Reverse Total Shoulder Arthroplasty

Christopher Millward; Daniel Langohr; John Medley

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Component Characteristics And Surgical Technique Influence Muscle Activation Patterns After Reverse Shoulder Arthroplasty

Steve Bayer; Clarissa LeVasseur; Maria Munsch; Gillian Kane; Ajinkya Rai; Alexandra Gabrielli; Jonathan Hughes; William Anderst; Albert Lin

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Reverse Total Shoulder Arthroplasty Glenohumeral Articular Sliding Distances During Daily Living

Christopher Millward; George S. Athwal; Jim Johnson; Daniel Langohr; John Medley

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Same- And Next-day Discharge Following Shoulder Arthroplasty Are Associated With Decreased Risk Of Postoperative Complications

Matthew Kim; Kenny Ling; Kevin Kashanchi; Alireza Nazemi; David Komatsu; Edward Wang

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Fairness Assessment Of Predictions In Total Shoulder Arthroplasty Outcomes

Christine Allen; Vikas Kumar; Steven Overman; Ankur Teredesai; Ryan Simovitch; Thomas Wright; Pierre-Henri Flurin; Joseph Zuckerman; Howard Routman; Chelsey Simmons; Christopher Roche

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Optimal Insertion Site Of Glenoid Baseplate In Reverse Total Shoulder Arthroplasty - Anatomical Simulation Using 3D Image Processing Software -

Hyeon Jang Jeong; Young Kyu Kim; Myeong Gon Jeong; Sang Woo Kim; Jian Han; Bei Liu; Sung-Min Rhee; Joo Han Oh

Poster No. 1050

Stemless Total Shoulder Arthroplasty Demonstrates Excellent Short-term Outcomes Comparable To Stemmed Total Shoulder Arthroplasty

Leighann C. Panico; Luis Carrazana-Suarez; Derrick Barnagian; Albert Lin

Poster No. 1051

Three-dimensional Strength And Pain In Patients With Glenohumeral Osteoarthritis

Margaret S. Coats-Thomas; Emma M. Baillargeon; Daniel Ludvig; Guido Marra; Eric J. Perreault; Amee L. Seitz

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Shoulder and Elbow - Diagnostics

Poster No. 1052

Biomechanical Study Of Intraarticular Glenohumeral Joint Pressure

Juan S. Salgado; Luis E. Ortega; Gustavo A. Gil; Jairo H. Villa; Christian J. Cifuentes

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Shoulder and Elbow - Injury and Healing

Poster No. 1053

An Anterior Single-Incision Anatomic Distal Biceps Repair With AutoTunneling Restores Native Biomechanics

Patrick Schimoler; Alexander Kharlamov; Victor Greco; Steven Regal; Andrew Wroblewski; Jon Hammarstedt; Mark Carl Miller

Poster No. 1054

Analyzing Clinically Relevant Functional Differences In A Mouse Rotator Cuff Injury Model Using Machine Learning

Daniel A. Hu; David M. Darevsky; Francisco J. Gomez Alvarado; Michael R. Davies; Anthony Nguyen; Hannah M. Chi; Prashant Nuthalapati; Xuhui Liu; Brian T. Feeley

Poster No. 1055

Definition Of Long-toss And Correlation With Symptom In High School Baseball Pitchers

Masataka Minami; Yoshikazu Kida; Shota Hoshika; Hiroyuki Sugaya; Kenji Takahashi; Michael Freehill

Poster No. 1056

Peak Throwing-Arm Joint Loading Is Not Related To Injuries In Collegiate Baseball Pitchers

Hannah L. Stokes; Nigel Zheng; Koco Eaton

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Pitching Mechanics Are Related To Throwing-Arm Injuries In Collegiate Baseball Pitchers

Hannah L. Stokes; Nigel Zheng; Koco Eaton

Poster No. 1058

The Effects Of Hyaluronic Acid On The Proliferation Of Human Dermal Fibroblasts And Their Effects On Tendon-to-bone Healing In A Rabbit Model Of A Chronic Rotator Cuff Tear

Sung-Min Rhee; Saewha Jeon; Jikhyon Han; Ji-Hye Lee; Yun Hee Kim; Hyeon Jang Jeong; Joo Hyun Park; Joo Han Oh

Poster No. 1059

Fragility Of Randomized Controlled Trials For Treatment Of Proximal Humerus Fractures

Austin H. Carroll; Paolo Rigor; Melissa Wright; Anand Murthi

Poster No. 1060

Effect Of Suprascapular Nerve Injury On Muscle And Enthesis In Rat Rotator Cuff Tear Model

Hiroki Ohzono; Masafumi Gotoh; Kenichirou Eshima; Koji Tanaka; Suguru Tanaka; Ryunosuke Abe; Hidehiro Nakamura; Takahiro Okawa; Naoto Shiba

Poster No. 1061

Evaluating The Role Of Subacromial Impingement In Rotator Cuff Tendinopathy: Development And Analysis Of A Novel Rat Model

Yulei Liu; Xiang-Hua Deng; Camila Carballo; Ting Cong; Alexander Piacentini; Arielle Jordan Hall; Liang Ying; Scott A. Rodeo

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Shoulder and Elbow - Structure, Function and Mechanics

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The Posterior Deep Subregion Of The Supraspinatus Muscle And The Middle Subregion Of The Infraspinatus Muscle Distribute Tension Into The Greater Tubercle Via The Rotator Cable And Rotator Crescent

Takuma Yuri; Maria Prado; Jose Trevino; Hugo Giambini

Poster No. 1063

Withdrawn

Poster No. 1064

The Lacertus Fibrosus Assists Initiation Of Elbow Flexion And Hinders Full Flexion

Patrick Schimoler; Alexander Kharlamov; Jon Hammarstedt; Mark Carl Miller

Poster No. 1065

Development And Multi-site Assessment Of A Novel Shoulder Motion Joint Simulator

Aniruddh Nayak; Courtney Mason; Stefan Gabriel; David Spenciner; Marc Jacofsky

Poster No. 1066

The Effect Of The Olecranon Coronoid Notch Angle Of The Ulna In Terminal Elbow Extension In Humans And Baboons

Edward Abraham; Julio Castillo Tafur; Ye Lin; Diego Barragan Echenique; Nickolas Boroda; Lisa Halliday

Poster No. 1067

Four-dimensional Computed Tomography Evaluation Of Glenoid Track In Patient With Hill-sachs Lesion

Keigo Honoki

Poster No. 1068

Analysis Of Scapular Winging During Hand Behind The Back And Forward Elevation With Fatigue Using Moiré Topography

Rifat Ahmed; Nathan S. Lanham; Bryanna Geiger; Hojung Park; Helen Ugulava; Katherine Reuther; Charles Jobin

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Patients With Anterior Shoulder Instability Adopt Compensatory Scapula Motion During Upper Limb Function

Fraser W. Francis-Pester; Lukas Ernstbrunner; Aaron Fox; Karl Wieser; David C. Ackland

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In Vivo Analysis Of Acromioclavicular Joint Kinematics During Multiplanar Humeral Elevation

Jianhua Wang; Siyuan Zhu; Guoan Li

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Strain Distribution In The Intact Rotator Cuff: A Cadaveric Study

Takuma Yuri; Maria Prado; Jose Trevino; Hugo Giambini

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The Posterior Deep Subregion Of The Supraspinatus Muscle Acts As A Stabilizer At The End Range Of Flexion

Takuma Yuri; Jose Trevino; Alex Hooke; Hugo Giambini

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Shoulder and Elbow - Surgical and Non-Surgical Interventions

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Improvement Of Trapezius Muscle Fatigue Using A Wearable Device Generating Heat And Cold Stimulation With A Peltier Element

Shuhei Iwabuchi; Daisuke Nakashima; Shunsuke Minoji; Takashi Morisue; Tomonori Sawada; Hiroki Okawara; Morio Matsumoto; Masaya Nakamura; Takeo Nagura

Poster No. 1074

Analysis Of Frequency, Characteristics, And Reasons For Termination Of Shoulder- And Elbow-related Clinical Trials

Dennis L. Caruana; Michael J. Gouzoulis; William McLaughlin; Jonathan N. Grauer

Poster No. 1075

Structured Exercise Therapy Program Improves Glenohumeral Joint Function In Individuals With Isolated Supraspinatus Tears Without Increasing Tear Size

Luke T. Mattar; Adam J. Popchak; William J. Anderst; Volker Musahl; James J. Irrgang; Richard E. Debski

Poster No. 1076

Biomechanical Comparison Of Two Surgical Repair Techniques Of The Biceps Tendon

Shahram Yari; Ferass Qawasmi; Linda M. McGrady; Steven I. Grindel; Mei Wang

Poster No. 1077

Does Clinical Evidence Reflect Biomechanical Superiority Of Crossed K-wires For The Supracondylar Humerus Fracture?

Jason L. Cummings; Benjamin Escott; Maxwell Cardwell; Xue-Cheng Liu

Poster No. 1078

A Double Cortical Button Technique Yields Similar Biomechanics As The Traditional Docking Technique For Ulnar Collateral Ligament Reconstruction

Richa Gupta; Christine Piper; G. Russell Huffman; Michael Hast

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Skeletal Muscle - Diseases and Disorders

Poster No. 1079

Muscle Mass Evaluation Using Prediction Equation With Validation By DXA To Improve The Accuracy Of Sarcopenia Diagnosis With Bioimpedance Analysis (BIA)

Keith Yu-Kin Cheng; Simon Kwoon-Ho Chow; Vivian Wing-Yin Hung; Ronald Man-Yeung Wong; Wing-Hoi Cheung

Poster No. 1080

The Role Of Sympathetic Innervation In Modulating Muscle Contractures After Neonatal Brachial Plexus Injury

Mason Runkel; Qingnian Goh; Kritton Shay-Winkler; Roger Cornwall

Poster No. 1081

Pregnancy Related Factors Improve Myogenic Differentiation Of Muscle Progenitor Cells In Vitro And Muscle Regeneration In Vivo

Aiping Lu; Ping Guo; Matthieu Huard; Johnny Huard

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Muscle ERR γ Overexpression Mitigates The Muscle Atrophy After ACL Injury.

Aiping Lu; Ping Guo; Matthieu Huard; Xueqin Gao; Scott Tashman; Vihang Narkar; Johnny Huard

Poster No. 1083

Cerebral Palsy May Lead To Muscle Contractures By Differential DNA Methylation Of Muscle Stem Cells And Resulting Transcriptional Dysregulation.

Andrea (Andy) A. Domenighetti; Lydia A. Sibley; Ruqia Bibi; Jaiya Benjamin; Shannon R. Strader; Angela M. Taylor; Vineeta T. Swaroop; Henry G. Chambers; Richard L. Lieber

Poster No. 1084

Myostatin As A Potential Target For Treatment Of Muscle Contractures

Marianne Emmert; Qingnian Goh; Kritton Shay-Winkler; Parul Aggarwal; Roger Cornwall

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Skeletal Muscle - Growth, Development and Aging

Poster No. 1085

Withdrawn

Poster No. 1086

Genetic Variation In Bone Loci Polymorphisms Correlate With Bone And Muscle Phenotypes In Young Adults

Brandon Hartmann; Elijah Strong; Pavan Vemulakonda; Adriana Solis; Elmer Rajah; Austin Gillies; Madeline King; Zachary Larew; Dustin Hittel; Eric Hoffman; Heather Gordish-Dressman; Laura L. Tosi

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Application Of Deep Neural Networks On In Vitro-generated Raman Spectra For Ex Vivo Label-free Myogenesis Detection

Chien Ting Tina Cheng; Huating Wang; Dai Fei Ker

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Transcriptional Profiling Following Optogenetic Activation Of Skeletal Muscle In Young Mice

Syeda N. Lamia; Elahe Ganji; Iman Bhattacharya; Megan L. Killian

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Skeletal Muscle - Injury and Healing

Poster No. 1089

Damaged Neurons Secrete Factors That Influence Myogenic Differentiation

Leah Liu; Haiying Pan; Kinga Vojnits; Xiao Jing Dai; Yong Li

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Muscle Regeneration In Volumetric Muscle Loss Model Of BALBc Nude Mice Using Scaffold-myoblast Complex

Jae Youn Yoon; Hong Seok Kim; Jin Woo Nam; Jeong Joon Yoo

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Human Skeletal Muscle Cell-based Muscle Regeneration In Volumetric Muscle Loss Model Of BALBc Nude Mice

Jae Youn Yoon; Hong Seok Kim; Jin Woo Nam; Jeong Joon Yoo

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Role Of Mechanical Stretching On Differentiation Of Fibro-adipogenic Progenitors In Vitro

Prashant Nuthalapati; Michael Davies; Xuhui Liu; Steven Spusta; Hannah Chi; Francisco Gomez-Alvarado; Mengyao Liu; Daniel Hu; Steven Garcia; Anthony Nguyen; Eric Gao; Brian Feeley

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Mitochondrial Dysfunction Of Supraspinatus Muscle Is Associated With Rotator Cuff Tendinopathy: Evaluation In A Murine Subacromial Impingement Model

Meng Zhang; Xueying Zhang; Xianghua Deng; Scott Rodeo

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The Limb Symmetry Index Of Quadriceps Strength Overestimates Quadriceps Recovery After Anterior Cruciate Ligaments Injuries

Jihong Qiu; Michael Tim-Yun Ong; Xin He; Chi-Yin Choi; Sai-Chuen Fu; Daniel T.P. Fong; Patrick Shu-Hang Yung

Poster No. 1095

Current Definitions Of Failure In Anterior Cruciate Ligament Reconstruction: A Systematic Review

Levi Aldag; Erik Henkelman; Ashley Herda; Jeffrey Randall; Johnathan Dallman; Jacob White; Armin Tarakemeh; Bryan Vopat

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Skeletal Muscle - Structure, Function and Mechanics

Poster No. 1096

Collagen Crosslinking Drives Diaphragm Stiffness In A Dystrophic Mice But Is Not Inhibited By β -aminopropionitrile

Lucas R. Smith; Sarah E. Brashear; Ross P. Wohlgemuth; Linya Hu

Poster No. 1097

Mitochondrial Transfer From Fibro-adipogenic Progenitor Cells Into Mouse Myoblasts

Hannah M.R. Chi; Michael Davies; Sonali Feeley; Steven Garcia; Steve Spusta; Daniel Hu; Prashant Nuthalapati; Hubert Kim; Brian Feeley; Xuhui Liu

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Development Of An In Vitro ECM-mediated Signaling And Muscle-nerve Cross-talk Model

James T. redden; Gloria Kim; Jingyao Deng; Joshua Cohen; Zvi Schwartz; Barbara Boyan; Michael McClure

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Skeletal Muscle - Treatment and Therapeutics

Poster No. 1099

Hypoxia Regulates Histone Methylation In Muscle Cells

Hongwen Xuan; Haiying Pan; Nariaki Nakamura; Keith Kenter; Xiaobing Shi; Yong Li

Poster No. 1100

Low Oxygen Culture Induction Of Increased Pd-l1 Expression In C2c12 Myoblasts

Juliana Overbey; Haiying Pan; Yong Li

Poster No. 1101

Heme Deficiency Decreases Autophagy In Skeletal Muscle.

Takeru Akabane; Koen van Wijk; Shinichi Saitoh; Tomohiro Kimura; Satoshi Okano; Ken Kodama; Kiwamu Takahashi; Motoo W. Nakajima; Michiaki Takagi; Osamu Nakajima

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Spine - Diagnostics

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An Algorithm For Using Deep Learning Convolutional Neural Networks With Three-dimensional Depth Sensor Imaging In Scoliosis Detection - The External Validation Using The Independent Dataset

Terufumi Kokabu; Satoshi Kanai; Noriaki Kawakami; Koki Uno; Toshiaki Kotani; Teppei Suzuki; Hiroyuki Tachi; Yuichiro Abe; Norimasa Iwasaki; Hideki Sudo

Poster No. 1103

Analysis Of Neuropathic Pain With Magnetic Resonance Imaging T2 Mapping Of Intervertebral Disc In Chronic Low Back Pain

Ogon Izaya

Poster No. 1104

Age And Sex Effects On Human Cervical Vertebral Bone Density Distribution And Morphology

Eun-Sang Moon; Seora Kim; Nathan Kim; Minjoung Jang; Toru Deguchi; Fengyuan Zheng; Damian J. Lee; Do-Gyoon Kim

Poster No. 1105

Mri-based Vertebral Bone Quality Score Compared To Quantitative Computed Tomography Bone Mineral Density In Patients Undergoing Anterior Cervical Spinal Surgery

Lisa Oezel; Ichiro Okano; Conor Jones; Stephan Salzmann; Jennifer Shue; Dominik Adl Amini; Manuel Moser; Erika Chiapparelli; Andrew Sama; John Carrino; Frank Cammisa; Federico Girardi; Federico Girardi; Alexander Hughes

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Spine - Growth, Development and Aging

Poster No. 1106

Transforming Growth Factor- β Stimulates Interleukin-6 Secretion From Human Ligamentum Flavum-derived Cells Through Erk And P38 Mapk

Yuta Goto; Kenji Kato; Nobuyuki Suzuki; KIYOSHI YAGI; Hideki Murakami

Poster No. 1107

Decreased MicroRNA-29a Is Associated With Ligamentum Flavum Hypertrophy

Richard Wawrose; Joseph Chen; Stephen Chen; Brandon Couch; Anthony A. Oyekan; Jeremy D. Shaw; William F. Donaldson; Gwendolyn Sowa; Nam Vo; Joon Y. Lee

Poster No. 1108

Tgf β Signaling Is Required For Sclerotome Resegmentation During Development Of The Spinal Column In Gallus Gallus

Sade W. Clayton; Ronisha McCardell; Ostavia Cintron; Rosa Serra

Poster No. 1109

How The Equilibrium Of Adolescent Idiopathic Scoliosis Can Be Explored Using The Minimization Of Total Energy

Baptiste Brun-Cottan; Pauline Assemat; Roxane Compagnon; Franck Accadbled; Jérôme Sales de Gauzy; Pascal Swider

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Spine - Injury, Healing and Pain

Poster No. 1110

Time-Dependent Adaptations Of The IVD Correspond With Low Back Pain Symptoms Induced By Prolonged Standing

Donald A. Aboytes; Christian Weber; Arin Ellingson; Linda van Dillen; Simon Tang

Poster No. 1111

Lumbar Endplate Microfracture Induces Modic-like Changes And Back Pain-related Behavior In Rats

Dalin Wang; Alon Lai; Jennifer Gansau; Alan C. Seifert; Yunsoo Lee; Jazz Munitz; Philip Nasser; Damien M. Laudier; Andrew C. Hecht; James C. Iatridis

Poster No. 1112

Prevalence And Impact Of Cannabinoid Use In Patients With Spinal Disorders

Doorga M. Ghosh; Elizabeth L. Lord

Poster No. 1113

Withdrawn

Poster No. 1114

Impact Of Glucose Depletion On The Nucleus Pulposus Homeostasis

Mathilde Padrona; Manon Maroquenne; Hanane El-Hafci; Hervé Petite; Esther Potier

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Spine - Structure, Function and Mechanics

Poster No. 1115

Breakthrough Electrophysiological Technique: Pressure-clamped Single-fiber Recording From Skin-nerve Preparation

Mayumi Sonekatsu; Jianguo G. Gu; Takashi Shimoe; Seiji Kanno; Yusuke Kido; Yuki Matsuyama; Akimasa Murata; Naoko Nishio; Manabu Yamanaka; Shunji Tsutsui; Hiroshi Iwasaki; Hiroshi Yamada

Poster No. 1116

A Large Animal Model Of Motion Segment Degeneration For Evaluation Of Engineered Disc Replacements

Sarah E. Gullbrand; Sonal Mahindroo; Matthew Fainor; Kyle Meadows; Adriana Barba; Klaus Hopster; Thomas P. Schaer; Dawn M. Elliott; Robert L. Mauck; Harvey E. Smith

Poster No. 1117

Changes In Static And Dynamic Balance In Adolescent Idiopathic Scoliosis Patients Before And After Deformity Correction Surgery: A Prospective Study.

Natsumi Horikita; Takashi Uemura; Fuko Murai; Takayuki Warita; Daisuke Sakai; Hiroshi Yamada; Seiji Miyazaki; Masahiko Watanabe

Poster No. 1118

Muscle Preservation In Anterior Lumbar Interbody Fusion May Prevent Adjacent Segment Degeneration Compared To The Transforaminal Approach: A Finite Element Study

Yogesh Kumaran; Adit Padgaonkar; Akhil Katragadda; Muzammil Mumtaz; Hossein Elgafy; Vijay Goel

Poster No. 1119

Can The Midline Sparing Approach In Spinal Stenosis Procedures Alleviate Adjacent Segment Stresses? A Comparative Finite Element Analysis Of The Laminectomy, Bilateral Laminotomy And Unilateral Laminotomy Procedures

Yogesh Kumaran; Adit Padgaonkar; Muzammil Mumtaz; Vijay K. Goel; Hossein Elgafy

Poster No. 1120

The Association Between Psoas And Paraspinal Muscle Parameters On MRI And Spinal Sagittal Alignment In Patients Undergoing Lumbar Fusion

Manuel Moser; Ichiro Okano; Leonardo Albertini Sanchez; Stephan N. Salzmann; Brandon B. Carlson; Dominik Adl Amini; Lisa Oezel; Erika Chiapparelli; Ek Tan; Jennifer Shue; Andrew A. Sama; Frank P. Cammisia; Federico P. Girardi; Alexander P. Hughes

Poster No. 1121

Preliminary Evidence Of Calcification In Human Lumbar Cartilaginous Endplate: Implications For Disc Degeneration

Vivek P. Shah; Ryan Ross; Rylan A. Martin; Howard S. An; Nozomu Inoue; Alejandro A. Espinoza Orias

Poster No. 1122

Biomechanical Analysis Of Cervical Laminoplasty

Norihiro Nishida; Muzammil Mumtaz; Sudharshan Tripathi; Amey Kelkar; Takashi Sakai; Vijay Goel

Poster No. 1123

Validation Of Analog Impact Tools For Graft And Cage Insertion In A Spine Fusion Mixed Reality Simulator

Sneha Patel; Mark Driscoll

Poster No. 1124

Simulation-based Morphing Of Personalized Models Of The Torso For Scoliosis Brace Design - Preliminary Results

Christos Koutras; Hamed Shayestehpour; Jesus Rodriguez; John Rasmussen; Christian Wong; Miguel A. Otaduy

Poster No. 1125

The Effect Of Conservative And Aggressive Discectomy On Facet Joint Distance And Spine Kinematics: A Finite Element Study

Maria Prado; Caroline Mascoli; Hugo Giambini

Poster No. 1126

Intervertebral Disc And Facet Cross-Talk In A Rabbit Puncture Model Of Spine Degeneration

Matthew Fainor; Sonal Mahindroo; Sachin Gupta; Robert L. Mauck; Harvey E. Smith; Sarah E. Gullbrand

Poster No. 1127

Withdrawn

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Spine - Surgical and Non-Surgical Interventions

Poster No. 1128

The Effect Of Intrathecal Morphine On Postoperative Outcomes In Posterior Spinal Fusions For Adolescent Idiopathic Scoliosis Patients

Kevin Feltz; Nicklaus Hanson; Nathan J. Jacobson; Geoffrey F. Haft

Poster No. 1129

Comparison Of Pedicle Subtraction Osteotomy Perioperative Outcomes: Effect Of First Assistant Level Of Training

Andrew Lee; Emmanouil Grigoriou; Kevin Kohut; James Farrell; Christopher Lucasti; Sonja Pavlesen; Mary Bayers-Thering; Christopher Hamill

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The Predictive Value Of Psoas And Paraspinal Muscle Parameters Measured On MRI For Severe Cage Subsidence After Standalone Lateral Lumbar Interbody Fusion

Manuel Moser; Dominik Adl Amini; Conor Jones; Ichiro Okano; Lisa Oezel; Erika Chiapparelli; Ek T. Tan; Jennifer Shue; Andrew A. Sama; Frank P. Cammisa; Federico P. Girardi; Alexander P. Hughes

Poster No. 1131

A Comparison Of The Inflammatory Host Response To Particulate Debris Adjacent To Unlocked And Locked Screws Of A Growth Guidance System For Early Onset Scoliosis

Jeffrey M. Toth; Felix Ankomah; Noriaki Kawakami; Koki Uno

Poster No. 1132

Evaluation Of 90-day Complications, Reoperations, And Revisions In Patients Who Received A 3d Printed Cellular Titanium Interbody Cage For Lumbar Interbody Fusion

Katherine Corso; Prerna Kothari; Dawn Bowden; Kristin Corrado; Anna Wallace; Annalisa Michielli; Jill Ruppenkamp; John Pracyk

Poster No. 1133

Quantitative Dynamic Wearable Motion-based Metric Compared To Patient-reported Outcomes As Indicators Of Functional Recovery After Lumbar Fusion Surgery

Safdar Khan; Prasath Mageswaran; Jonathan Dufour; Guy Brock; Mariah Eisner; Sue Ferguson; William Marras

Poster No. 1134

Does Primary Tumor Resection In Patients With Advanced Spinal Malignant Osseous Neoplasms Improve The Survival?

Masatake Matsuoka; Tomohiro Onodera; Isao Yokota; Koji Iwasaki; Ryosuke Hishimura; Yuki Suzuki; Iwata Akira; Eiji Kondo; Norimasa Iwasaki

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Height Restoration And Sustainability Using Bilateral Vertebral Augmentation For Vertebral Compression Fractures

Derek T. Holyoak; Thomas G. Andreshak; Thomas J. Hopkins; Allan L. Brook; Mitch Brasher; Demetris Tsitsios; Heather Watson; Michael E. Frohbergh; Kevin L. Ong

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Clinical Validation Of A Novel Musculoskeletal Framework To Predict Postoperative Sagittal Alignment

Riza Bayoglu; Jens-Peter Witt; Grégoire P. Chatain; David O. Okonkwo; D. Kojo Hamilton; Nima Alan; Dominika Ignasiak

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Gender, Racial, And Ethnic Differences In The Utilization Of Cervical Disc Replacement For Cervical Radiculopathy

Joseph B. Wick; Thomas Shen; Katherine D. Wick; Max R. Haffner; Eric O. Klineberg; Yashar Javidan; Rolando F. Roberto; Shaina A. Lipa; Hai V. Le

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Longitudinal Changes In Adjacent Segment Disc Deformation After Cervical Spine Arthrodesis

Clarissa M. LeVasseur; Samuel Pitcairn; Anna C. Martinez; Jeremy Shaw; William Donaldson; Joon Lee; William Anderst

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John T. Sherrill; David B. Bumpass; Erin M. Mannen

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Tyler D. Metcalf; John A. Sielatycki; Nathan Schatzman; Clint Devin; Jeffery Goldstein; Scott Hodges

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Validation Of Non-Instrumented Nicotine Nonunion Spinal Fusion Animal Model

Brian Karamian; Hannah Levy; Goutham Yalla; Nicholas D'Antonio; Alexander Vaccaro; Dessislava Markova; Christopher Kepler

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Tendon and Ligament - Diseases and Disorders

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High Glucose Induces Cell Dysfunction In Tendon Stem/Progenitor Cells

Panpan Lu; Yingjuan Li; Guangchun Dai; Minhao Chen; Yuanwei Zhang; Liu Shi; Yunfeng Rui

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Effect Of Estrogen And Strain On Metabolic Responses Of ACL Fibroblasts

Nicholas Choma; Aaron M. Stoker; Sebastian Cardona Ramirez; Jinpu Li; Emily V. Leary; James L. Cook; Shen-Ying (Richard) Ma

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Sexual Dimorphism Of Relaxin-2 Receptor In Human Anterior Cruciate Ligament

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Genome-wide Signature Of Selection Analysis Reveals Several Genomic Regions Under Positive Selection For Equine Degenerative Suspensory Ligament Desmitis, A Spontaneous Model Of Degenerative Tendon/Ligament Injury

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Influence Of Diabetes-induced Glycation And Oxidative Stress On The Human Rotator Cuff

Tomoya Yoshikawa; Yutaka Mifune; Atsuyuki Inui; Hanako Nishimoto; Takashi Kurosawa; Kohei Yamaura; Shintaro Mukohara; Issei Shinohara; Tatsuo Kato; Takahiro Furukawa; Ryosuke Kuroda

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Altered Methylation Status Of Healthy Ageing Tendon Tissue Shows Differentially Methylated Transcription Factors

Kiran Riasat

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Biomechanical, Pathological, And Gene Expression Alterations In Chronically Degenerated Human Rotator Cuff Tendons

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The Relationship Between Mechanical Change And Morphological Differentiation Of Anterior Cruciate Ligament Development

Yuna Usami; Riku Saitou; Saaya Enomoto; Yukina Aizawa; Hayase Funakoshi; Takanori Kokubun

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Aging Alters Epigenetic And Mechanobiological Status In Murine Tenocytes

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Effects Of Mechanical Force On Postnatal Tendon Development With Sciatic Denervation Model

Yuna Usami; Hayase Funakoshi; Takanori Kokubun

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Muscle Activity Is Essential For Proper Development Of Tendon Multiscale Structure-function Relationships

Benjamin E. Peterson; Spencer Szczesny

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Targeted, Inducible Depletion Of Scx^{Lin} Cells Disrupts Tendon Homeostasis And Accelerates Aging-associated Compositional And Structural Changes In The Extracellular Matrix

Antonion Korcari; Alayna Loiselle

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Tendon and Ligament -Injury and Healing

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Promoting Functional Recovery Of Tendon Injury By A Novel Injectable Fibromodulin-releasing Granular Hydrogel

Zhong Zheng; Xue Xu; Yulong Zhang; Pin Ha; Chenshuang Li; Emily Yen; Benjamin Wu; Andrew Da Lio; Kang Ting; Chia Soo

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Characterizing The Time-dependent Functions Of Adult Scleraxis Lineage Cells During Tendon Healing

Samantha Muscat; Alayna Loiselle

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Spatiotemporal And Microstructural Characterization Of Heterotopic Ossification In Healing Rat Achilles Tendons By 3d Phase-contrast Enhanced Synchrotron Micro-tomography

Maria Pierantoni; Daniel Larsson; Isabella Silva Barreto; Malin Hammerman; Thomas Notermans; Andrew J. Bodey; Pernilla Eliasson; Hanna Isaksson

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Anterior Cruciate Ligament Remnant Preservation Attenuates The Apoptosis And Enhance The Regeneration Of Implanted Hamstring Tendon

Cheng-Chang Lu; Shih-Hsiang Chou; Sung-Yen Lin; Paul Pei-Hsi Chou; Mei-Ling Ho; Yin-Chun Tien

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Achilles Tendon Structure And Mechanical Properties In Adolescents With Heel Pain

Kayla D. Seymore; Shawn Hanlon; Bradley Bley; Karin Gravare Silbernagel

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PAI-1 Is Critical For TGF- β 1-induced mTOR Signaling And Myofibroblast Activation In Murine Tenocytes

Rahul Alenchery; Raquel Ajalik; Firaol Midekssa; Sylvia Zhong; Hani Awad

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Biomechanical Effect Of Floor Sit-to-stand Movement Of Asians On Determination Of The Optimal Surgical Site In ACLR Surgery: A Computational Analysis

Byeongchan Cho; Jaewoong Han; Dai-soon Kwak; Tae Soo Bae

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Il-6 Signaling Mediates Progenitor-induced Tendon Core Breakdown And Is Inhibited By Extrinsic Macrophages

Tino Stauber; Amro Hussien; Greta Moschini; Irina Heggli; Katrien De Bock; Jess Snedeker

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Human Tissue-on-chip (hToC) Platform For Modeling Inflammation, Fibrosis, And Cell Cycle Regulation In Fibrovascular Tendon Healing

Raquel Ajalik; James McGrath; Hani Awad

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Spatial Transcriptomics Defines Key Transcriptional Regulators Driving Fibrotic Tendon Healing

Jessica Ackerman; Chia-Lung Wu; Alayna Loisel

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Relationships For Patient Demographics With Metabolic Profiles Of Tendon Autografts Used For Anterior Cruciate Ligament Reconstruction

Luke Baxter; Aaron M. Stoker; Sebastian Cardona Ramirez; James L. Cook; Shen-Ying (Richard) Ma

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Relationships Among Patient Demographics With Metabolic Profiles Of Injured Anterior Cruciate Ligaments

Luke Baxter; Aaron M. Stoker; Sebastian Cardona Ramirez; James L. Cook; Shen-Ying (Richard) Ma

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Relationships Among Patient Factors And Metabolic Profiles Of Synovial Tissue At The Time Of Anterior Cruciate Ligament Reconstruction

Luke Baxter; Aaron M. Stoker; Sebastian Cardona Ramirez; James L. Cook; Shen-Ying (Richard) Ma

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Gender Differences In The Spontaneous-healing Ability Of The Complete Ruptured Anterior Cruciate Ligament

Yukina Aizawa; Riku Saitou; Kei Takahata; Yuna Usami; Saaya Enomoto; Takanori Kokubun

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Effect Of Exercise And Increased Mechanical Stress On Spontaneous Healed Anterior Cruciate Ligament After Complete Rupture

Riku Saitou; Yukina Aizawa; Yuna Usami; Kohei Arakawa; Saaya Enomoto; Takanori Kokubun

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Tendon Mineralization Requires Hedgehog Signaling In The Model Of Achilles Tenotomy

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Isokinetic Quadriceps Strength Asymmetry Predicts Asymmetry In Running Gait Following ACL Reconstruction

Jordan Snetselaar; Xue-Chen Liu; Fernando Garcia-Ramirez; Scott Van Valin

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Posterior Rotator Cuff Tear: Is Extracorporeal Shockwave Therapy A Risk Factor?

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Conditional Deletion Of Piezo1 In Scleraxis-lineage Cells During Healing Alters Cellular Activation And Impairs Tendon Function

Anne E.C. Nichols; Antonion Korcari; Alayna E. Loiselle

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MRL/MpJ Tendon Explants Maintain Greater Matrix Synthesis In Response To Stress Deprivation

Anthony N. Aggouras; Brianne Connizzo

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The Influence Of Ruptured Scar Pattern On Healing Potential Of Anterior Cruciate Ligament Remnant Cells

Yoshinori Takashima; Tomoyuki Matsumoto; Yuma Onoi; Shotaro Tachibana; Kemmei Ikuta; Kensuke Anjiki; Kenichi Kikuchi; Masahiro Fujita; Yuichi Kuroda; Yuichi Kuroda; Yuichi Kuroda; Toshihisa Maeda; Naoki Nakano; Shinya Hayashi; Ryosuke Kuroda; Ryosuke Kuroda

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Tendon and Ligament - Structure, Function and Mechanics

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Muscle Contraction Type-specific Mechanical Stress And Activation Of The Tgf β Superfamily Are Involved In The Pathogenesis Of Sports-related Enthesopathy

Kaichi Ozone; Yuki Minegish; Yuichiro Oka; Moe Yoneno; Haruna Takahashi; Kei Takahata; Takanori Kokubun; Naohiko Kanemura

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Elastic Fiber Content And Distribution In Human Tendon Varies By Tendon Type And Tendon Compartment

Jeremy Eekhoff; Jennifer Zellers; Spencer Lake

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Age Associated Viscoelastic Property Degradation Of Human Rotator Cuff Tendons Provides Targets For Scaffold Design

James W. Johnson; Devin von Stade; Ben Gadowski; Jeremiah Easley; Kirk McGilvray

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Comparing Knee Instability Following Two Posterior Cruciate Ligament Reconstruction Tensioning Techniques

Roberto Leonardo Diaz; Ye Lin; Julio Castillo Tafur; Justin Castonguay; Justin Deslaurier; Matthew Motisi; Benjamin Mayo; Mark Hutchinson; Jason Koh; Farid Amirouche

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The Effect Of Surgical Timing On New Bone Formation Within And Outside The Bone Tunnel After Anterior Cruciate Ligament Reconstruction: Evaluation In A Mouse Model

Zhe Song; Xiang-Hua Deng; Xueying Zhang; Yake Liu; Susumu Wada; Camila Carballo; Tony Chen; Brett Croen; Scott Rodeo

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Viscoelastic Properties Of Six Regions Of The Human Patellar Tendon

Adam Kositsky; Lauri Stenroth; Ervin Nippolainen; Janne Mäkelä; Petri Paakkari; Jari Torniainen; Heikki Kröger; Isaac Afara; Rami Korhonen

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Ability Of The Posterior Tibial Tendon To Restore Alignment In Flatfoot

Hamed Malakoutikhah; Erdogan Madenci; Daniel Latt

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Histological And Biomechanical Characterisation Of Different Tendons Of The Human Hand

Samantha A. Hefferan; Dylan M. Ashton; Carina L. Blaker; David Chang; Richard Lawson; Nicholas J. Hartnell; Elizabeth C. Clarke; Christopher B. Little

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Three-Dimensional Mouse Tendon Culture To Study The Effects Of Genetic Manipulation On Tendon Maturation

Yeonju Lee; Na Rae Park; Snehal Shetye; Su-Jin Heo; Robert Mauck; David Corr; Nathaniel Dymont; Kyu-Sang Joeng

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Shear Wave Speeds Track Regional Tissue Deformation In Non-uniformly Loaded Tendons

Jonathon Blank; Karthik Yerrapragada; Darryl Thelen; Matthew Allen; Joshua Roth

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The Resident's Ridge, And The Cortical Thickness In The Lateral Wall Of The Femoral Intercondylar Notch Morphology Correlate With The Morphological Variations Of The Blumensaat's Line

Takanori Iriuchishima; Makoto Suruga; Yoshiyuki Yahagi; Genki Iwama; Shin Aizawa

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Adaptive Response To Pregnancy And Lactation Optimizes The Balance Between Calcium Homeostasis And Mechanical Integrity Of The Maternal Humerus Bone And Supraspinatus Tendon Enthesis

Yilu Zhou; Yihan Li; Zachary Davis; Wenzheng Wang; Justin B. Leggin; Ashley K. Fung; Snehal S. Shetye; Xi Jiang; Andrew F. Kuntz; Nathaniel Dymont; Lou J. Soslowsky; X. Sherry Liu

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Defining The Epitenon Cellular Environment Through Single-cell RNA-sequencing

Anne E.C. Nichols; Alayna E. Loiselle

Poster No. 1190

Single Cell RNA-sequencing Of Energy Storing Tendons Reveals Heterogeneity And Complexity Of Interfascicular Cell Populations

Chavaunne T. Thorpe; Luca Lenzi; Neil Marr; Helen L. Birch; Hazel R C Screen; Peter D. Clegg; Danae E. Zamboulis

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Optimizing A Sensor For Measuring Ligament Tension With Maximum Accuracy And Sensitivity

Lesley Arant; Joshua D. Roth

Poster No. 1192

Regional Transcriptomics And Mechanical Properties Of Achilles Tendons

Nathaniel P. Disser; Alexander N. Piacentini; Andrea J. De Micheli; Martin Schonk; Vincent Yao; David J. Oliver; Scott Rodeo

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Tendon and Ligament - Treatment and Therapeutics

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Biomechanical Differences Of 4-strand Versus 5-strand Anterior Cruciate Ligament Grafts

Matthew Nasra; William Pfaff; Michael Simon; Rae Tarapore; Casey Imbergamo; Salim Ghodbane; Barbara Perry; Andrzej Brzezinski; Charles Gatt

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De Novo Tendon Neotissue From Equine Adult Stem Cells

Takashi Taguchi; Mandi Lopez

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Interrogating Bursa-tendon Crosstalk In A Tissue Explant Platform

Brittany P. Marshall; Jennifer A. Kunes; Stavros Thomopoulos

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Effect Of Bioactive Decellularized Tendon-derived Stem Cell Sheet On Early Graft Healing After Anterior Cruciate Ligament Reconstruction

Shiyi Yao; Mingde Cao; Patrick Shu Hang Yung; Pauline Po Yee Lui

Poster No. 1197

The Usefulness Of Platelet-rich Fibrin For Achilles Tendon Injury

Yoshiyuki Senga; Akinobu Nishimura; Daisuke Katoh; Akihiro Sudo

Poster No. 1198

Femoral Tunnel Length In Anatomical Double-bundle ACL Reconstruction Is Correlated With Body Size And Knee Bony Morphology

Yoshiyuki Yahagi; Takanori Iriuchishima; Genki Iwama; Makoto Suruga; Yusuke Morimoto; Kazuyoshi Nkanishi

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Change Of Joint Awareness After Medial Patello-femoral Ligament Reconstruction For Recurrent Patella Dislocation

Masafumi Itoh; Umito Kuwashima; Junya Itou; Ken Okazaki

Poster No. 1200

A Novel Concept In ACL Reconstruction Surgery: An Off-the-shelf Decellularized And Sterilized Bone-ACL-bone Allograft

Jorge Alfredo Uquillas; Janne Spierings; Antonio van der Lande; Aysegül Dede Eren; Manon Bertrand; Huipin Yuan; Rob Janssen; Keita Ito; Jan de Boer; Jasper Foolen

Poster No. 1201

Protective Effects Of Quercetin Administration On Diabetic Tendinopathy

Tomoya Yoshikawa; Yutaka Mifune; Atsuyuki Inui; Hanako Nishimoto; Takashi Kurosawa; Kohei Yamaura; Shintaro Mukohara; Issei Shinohara; Tatsuo Kato; Takahiro Furukawa; Ryosuke Kuroda

Poster No. 1202

Characterization Of Equine Mesenchymal Stem Cell Secretome With Stable Isotope Dynamic Labelling.

Agnieszka J. Turlo; Mandy J. Peffers; Peter D. Clegg; Dean E. Hammond

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Tumors - Genetics

Poster No. 1203

Heritability Of Osteosarcoma In The Irish Wolfhound

Mehdi Momen; Nyah L. Kohler; Emily E. Binversie; Mariellen Dentino; Susannah J. Sample

Poster No. 1204

Elevated Expression Of DEPDC1 Is Crucial In Human Osteosarcoma

Bin Ning; Lin Shen; Morgan Bretches; Ronghan Liu; Aijun Zhang; Shang-You Yang

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Characterizing Glycogen Metabolism's Role In Cartilage Development & In Mutant IDH Chondrosarcomas

Sinthu Pathmanapan; Raymond Poon; Mushriq Al-Jazrawe; Tomasa Barrientos De Renshaw; Puvindran Nadesan; Christopher Newgard; Jay S. Wunder; Benjamin Alman

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Tumors - Metastatic

Poster No. 1206

Mechanical Effects Of Virtual Prophylactic IMN Fixation In Femurs With Metastatic Disease

Joshua E. Johnson; Ana V. Figueroa; Marc J. Brouillette; Benjamin J. Miller; Jessica E. Goetz

Poster No. 1207

Relations Of Nutritional Status With Ambulation And Complications In The Patients With Metastatic Spinal Tumor Surgery

Akira Iwata; Masahiko Takahata; Katsuhisa Yamada; Tsutomu Endo; Ryo Hujita; Hiroyuki Hasebe; Masatake Matsuoka; Hideki Sudo; Keigo Yasui; Tomomichi Kajino; Yuichiro Hisada; Manabu Ito; Junichiro Okumura; Hiroshi Nakayama; Yoshihiro Hojo; Yusuke Menjo; Kentaro Haraya; Shigeto Hiratsuka; Norimasa Iwasaki

Poster No. 1208

Modification To The Location Component Of Mirels Scoring System Improves Impending Pathological Fracture Prediction Of The Proximal Femur

Richard Amendola; Mark Miller; Shannon Kaupp; Timothy Damron; Kenneth Mann

Poster No. 1209

Brain Metastasis In Soft Tissue Sarcoma

Ryo Itoga; Masatake Matsuoka; Tomohiro Onodera; Isao Yokota; Koji Iwasaki; Shinji Matsubara; Ryosuke Hishimura; Yuki Suzuki; Akira Iwata; Eiji Kondo; Norimasa Iwasaki

Poster No. 1210

Fracture Healing In Post-surgical Pathological Fractures Through Metastases In Long Bones

Shinichiro Shimizu

Poster No. 1211

The Regulatory Roles Of MiRNAs 16, 133a, And 223 On Osteoclastic Bone Destruction By Breast Cancer Metastasis

Kazumichi Kitayama; Teruya Kawamoto; Hitomi Hara; Naomasa Fukase; Yohei Kawakami; Toshiyuki Takemori; Shuichi Fujiwara; Shunsuke Yahiro; Tomohiro Miyamoto; Ryosuke Kuroda; Toshihiro Akisue

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Tumors - Primary Tumors

Poster No. 1212

Characterization Of Tartrate-resistant Acid Phosphatase 5b In Patients With Giant Cell Tumor Of Bone

Hirokazu Arakawa; Kenta Hayashida; Yusuke Kawabata; Kato Ikuma; Keiju Saito; Shintaro Fujita; Masanobu Takeyama; Yutaka Inaba

Poster No. 1213

Developing MRI Scoring To Classify Lipoma And Atypical Lipomatous Tumor

Keiju Saito; Yusuke Kawabata; Ikuma Kato; Kenta Hayashida; Hirokazu Arakawa; Shintaro Fujita; Masanobu Takeyama; Yutaka Inaba

Poster No. 1214

Identification Of Slow-cycling Cell In Ewing Sarcoma

Shunsuke Yahiro; Teruya Kawamoto; Hitomi Hara; Naomasa Fukase; Yohei Kawakami; Toshiyuki Takemori; Shuichi Fujiwara; Kazumichi Kitayama; Tomohiro Miyamoto; Takashi Aoi; Michiyo Koyanagi-Aoi; Ryosuke Kuroda; Toshihiro Akisue

Poster No. 1215

Primary Bone Sarcoma In The Hand

Shota Ike; Masatake Matsuoka; Tomohiro Onodera; Isao Yokota; Koji Iwasaki; Ryosuke Hishimura; Yuki Suzuki; Eiji Kondo; Norimasa Iwasaki

Poster No. 1216

Engineered Bone Marrow: A Novel Model To Investigate Early Osteosarcoma Progression

Katherine Griffin; Steven Thorpe; R. Lor Randall; Kent Leach

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Tumors - Treatment and Therapeutics

Poster No. 1217

ASPH Targeted Therapy Inhibits Chondrosarcoma Progression

Xiaojuan Sun; Jose Ramirez; Jesse Hart; Joseph H. Schwab; Janine Molino; Xiaoqun Dong; Rolf Carlson; Jack Wands; Richard M. Terek

Poster No. 1218

Tranilast Reduces The Rate Of Invasive Therapeutic Intervention In Extra-abdominal Desmoid Fibromatosis, A Retrospective Study

Shintaro Fujita; Kenta Hayashida; Yusuke Kawabata; Yutaka Nezu; Masanobu Takeyama; Yutaka Inaba

Poster No. 1219

Eribulin Induces Tumor Vascular Remodeling Through Intussusceptive Angiogenesis In Synovial Sarcoma

Eiko Taguchi; Keisuke Horiuchi; Michiro Susa; Kazuhiro Chiba

Poster No. 1220

Preoperative Venous Thromboembolism In Patients With Musculoskeletal Tumor: A Screening By Combination With D-dimer, Ultrasonography And Contrast Enhanced CT Scan

Kenta Hayashida; Yusuke Kawabata; Hirokazu Arakawa; Keiju Saito; Masanobu Takeyama; Yutaka Inaba; Shintaro Fujita

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Late Breaking Poster Session 1

Poster No. 2101

Human Anterior Cruciate Ligament (hACL) Cellular Responses Upon Seeding On pNaSS-grafted Poly(epsilon-caprolactone) Film-guided rAAV Tgf-beta Gene Delivery

Mahnaz Amini; Jagadeesh K. Kumar Venkatesan; Amélie Leroux; Henning Madry; Véronique Migonney; Magali Cucchiari

Poster No. 2102

Influence Of pNaSS-grafted Poly(e-caprolactone) Film-guided rAAV Fgf-2 Gene Delivery On The Cellular Responses In Human Anterior Cruciate Ligament (hACL)

Mahnaz Amini; Jagadeesh Kumar Venkatesan; Amélie Leroux; Henning Madry; Veronique Migonney; Magali Cucchiari

Poster No. 2103

Local Delivery Of Tanshinone IIA Prodrug-based Thermoresponsive Hydrogel Normalized Delayed Fracture Repair Through Acceleration Of Neovascularization

Ningrong Chen; Rongguo Ren; Xin Wei; Xiaoke Xu; Gang Zhao; Zhifeng Zhao; Steven R. Goldring; Dong Wang

Poster No. 2104

Osseointegration Into Ultra-high Molecular Weight Polyethylene Utilizing An Open, Macro-scale Surface Morphology

Greg Causey; George Picha; Jamey Price; William Walsh; Matthew Pelletier; Tian Wang

Poster No. 2105

A Bioinspired Orthopaedic Biomaterial With Tuneable Mechanical Properties Based On Sintered Titanium Fibres

Caitlyn Collins; Andreas Seitz; Katja Nuss; Brigitte von Rechenberg; Daniel Sietz; Cris Kostmann; Peter Quadbeck; Olaf Anderson; Matthias Rüger

Poster No. 2105A

Bio-integrative Implant Fixation For First Metatarsophalangeal Joint Fusion Arthrodesis Shows Reduction In Stress Concentrations On Cortical Bone Compared To Traditional Metal Fixation: Finite Element Analysis Study

David Pedowitz; Ezequiel Palmanovich; Meir Nyska

Poster No. 2106

Fibroblast And Tenocyte Co-culture Attachment And Viability Within Porous Titanium In A Bioreactor Setting

Dexter Powell; Paula Dietz; Therese Bou-Akl; Weiping Ren; David Markel

Poster No. 2107

Osteocyte Growth On Carbon-Infiltrated Carbon Nanotubes Versus Medical Grade Titanium Alloy

Lucy C. Bowden; Natalia DeMordaunt; Aleksí Solorio; Michelle Arias; Brian D. Jensen; Anton E. Bowden; Sandra Hope

Poster No. 2108

Intratissue Mitochondrial Transfer From Mesenchymal Stem Cells To Annulus Fibrosus Cells

Rachel Yerden; Megan Fahey; Michelle Delco; Lawrence Bonassar

Poster No. 2109

3D Meltblowing As A High Speed Fabrication Process For Tendon Tissue Engineered Scaffolds.

Kentaro Umemori; Behnam Pourdeyhi; Dianne Little

Poster No. 2110

Topology Optimal Design And Efficacy Evaluation For Lightweight Of Patient Specific Total Talar Implant

Yeokyung Kang; Seongjin Kim; Jin Woo Lee; Jong-Chul Park; Jungsung Kim

Poster No. 2111

Complement Receptor C5aR1 On Osteoblasts Regulates Osteoclastogenesis During Ovariectomy-induced Bone Loss In Mice

Jasmin Bülow; Melanie Haffner-Luntzer; Verena Fischer; Astrid Liedert; Anita Ignatius

Poster No. 2112

Rems Technology For The Assessment Of Fracture Risk Through Fragility Score Evaluation

Kimberly Zambito; Andrew Bush; Fiorella A. Lombardi; Ernesto Casciaro

Poster No. 2113

Skeletal Effects Of Raloxifene And Targeted Tibial Loading In The KKAY Murine Model Of Type 2 Diabetes

Nusaiba N. Chowdhury; Rachel Surowiec; Rachel Kohler; Dyann Segvich; Olivia Reul; Robert Bone; Joseph Wallace

Poster No. 2114

A Rapid MRI Protocol For The Evaluation Of Acute Pediatric Musculoskeletal Infection

Romie F. Gibly; Jacob T. Wild; Kyle Chan; Jonathan Samet

Poster No. 2115

Nod Signaling Exerts Skeletal Sexual Dimorphism

Kristina V. Wells; Alice Wong; Melanie G. Gareau; Damian Genetos

Poster No. 2116

WNT16 Is A Gene Of Major Effect On Lean Mass At Chromosome Region 7q31.31

Maria F. Rojas; Ali R. Ahmed; Adrian T. Monstad-Rios; Yi-Hsiang Hsu; Claire J. Watson; Ronald Y. Kwon

Poster No. 2117

Degradation-resistant Hypoxia Inducible Factor-2 α ; In Osteocytes Promotes A High Bone Mass Phenotype

Sarah V. Mendoza; Deepa K. Muruges; Blaine A. Christiansen; Gabriela G. Loots; Damian C. Genetos; Clare E. Yellowley

Poster No. 2118

Lgr6 Is Required For Endochondral Fracture Healing

Matthew Wan; Laura M. Doherty; Daniel W. Youngstrom; Ivo Kalajzic; Kurt D. Hankenson; Archana Sanjay

Poster No. 2119

2.7mm LCP Provides Sufficient Fixation Strength For Ulnar Fracture: A Biomechanical Evaluation

Jenna Wahbeh; Ben Kelley; Sang-Hyun Park; Sophia Sangiorgio; Edward Ebramzadeh; Devon Jeffcoat

Poster No. 2120

A Multiscale Model Investigating The Roles Of Mineralised Collagen Fibrils And The Extra-fibrillar Matrix On Bone Biomechanics

Mahdi Tavakol; Hamid Alijani; Ted J. Vaughan

Poster No. 2121

Determining The Geometrical Accuracy Of Modeling Trabecular Bone With 3d Models Constructed In Materialize Mimics And 3D-Printed Models

McKinley Van Klei; Erin Huitema; Caroline Baril; Heidi-Lynn Ploeg

Poster No. 2122

The Effect Of Volumetric Muscle Loss On The Efficacy Of Masquelet Technique For Healing Segmental Fractures

Andrew Clark; Jonathan Kulwatno; Sergey Kanovka; Connor Dolan; Jorge Edwards; Jorge Edwards; Christopher Dearth; Stephen Goldman

Poster No. 2123

Epigenomic Analysis Of Osteoarthritis Genetic Risk During Human Fetal Development

Sarah J. Rice; Julia Falk; Abby Brumwell; Yulia Kehayova; John Casement; Eleanor Parker; Ines MJ Hofer; Colin Shepherd; John Loughlin

Poster No. 2124

FTIR-I Chemical Mapping Of Articular Cartilage As A Function Of Tissue Degeneration - A Preliminary Study

Catherine Yuh; Songyun Liu; Deborah Hall; Arnavaz Hakimian; Markus Wimmer; Susanna Chubinskaya; Robin Pourzal

Poster No. 2125

Ptpn11 Depletion Promotes Cartilage Anabolism By Enhancing Sox9 Abundance And Transcriptional Activity

Lijun Wang; Jiahui Huang; Camilo Osorio; Thedoe Nyunt; Douglas Moore; Wentian Yang

Poster No. 2126

Cartilage To Synovium Crosstalk In Osteoarthritis: Role Of Nr4a1 Signaling

Katherine Escalera-Rivera; Jennifer H. Anolik; Jennifer H. Jonason

Poster No. 2127

Cell Source Age And Substrate Properties Modulate Mechanosensitivity Of Fibroblast-like Synoviocytes

Matthew J. Pellicore; Neeraj Sakhrani; Gerard Ateshian; Roshan Shah; Mark Gorelik; Clark T. Hung

Poster No. 2128

Matrix Rejuvenated Infrapatellar Fat Pad Derived MSCs Enhance Functional Reconstruction Of Rabbit Osteochondral Defects Through A Potential Epithelial-mesenchymal Transition Mediated Cellular Mechanism

Ming Pei; Yixuan Amy Pei; Sheng Zhou; Elmira Mikaeiliagah; Benjamin Giertych; Michael Hu; Christopher Erickson; Kirk Hansen; Sotcheadt Sim; Eric Quenneville

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Towards Application Of Cell Therapy Using HiPSC-derived MSCs As A Stable 'Off-the-shelf' Cell Source

Yolande F. M. Ramos; Eka Suchiman; Georgina Shaw; Rodrigo Coutinho de Almeida; Thomas B. Kuipers; Hailing Mei; Frank Barry; Rob Nelissen; Mary Murphy; Ingrid Meulenbelt

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Disease Modifying, Pain And Functional Effects Of Cannabinoid Oils In Mouse Osteoarthritis

Amy Thompson; Vengadeshprabhu Karuppagounder; Juliet Chung; Ahmed Abdeen; William Pinamont; Natalie Yoshioka; Wesley Raup-Konsavage; Nicholas M. Graziane; Kent E. Vrana; Reyad Elbarbary; Fadia Kamal

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Nazgol Tavabi; Mallika Singh; Jin-Young Kim; Ryan Sanborn; Ata Kiapour

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Bullying, Harassment, And Discrimination Of Musculoskeletal Researchers And The Impact Of The Covid-19 Pandemic: An International Study

John Martin; Christine Le Maitre; Nadeen Chahine; Aaron Fields; Rahul Gawri; Morgan Giers; Lachlan Smith; Simon Tang; Uruj Zehra; Lisbet Haglund; Dino Samartzis

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Artificial Intelligence In Predicting Early-onset Adjacent Segment Degeneration Following Anterior Cervical Discectomy And Fusion Surgery

Samuel S. Rudisill; Alexander L. Hornung; J. Nicolas Barajas; Jack J. Bridge; G. Michael Mallow; Wylie Lopez; Arash J. Sayari; Philip K. Louie; Garrett K. Harada; Youping Tao; Hans-Joachim Wilke; Matthew W. Colman; Frank M. Phillips; Howard S. An; Dino Samartzis

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John T. Martin; Christine Le Maitre; Nadeen Chahine; Aaron Fields; Rahul Gawri; Morgan Giers; Lachlan Smith; Simon Tang; Uruj Zehra; Lisbet Haglund; Dino Samartzis

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Uptrend Of Cost In One Decade Of Outpatient Pediatric Anterior Cruciate Ligament Reconstruction

Alvin Weii Su; Keith Hazen; Kenneth Rogers; Matt Saboe; Simon Condliffe

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Hussein Alizereej; Morshed Khandaker

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Tonya An; Edward Haupt; Max Michalski; Jari Salo; Glenn Pfeffer

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Establishment Of A Neurodegenerative Charcot Mouse Model

Zachary A. Koroneos; Anna Ptasinski; Chris Stauch; Julie Fanburg-Smith; Michael Aynardi

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Are Neurofunctional Representations Suitable For Classifying Human Grasping Movements For Prosthetic Control? A Feasibility Study

Eike Jakubowitz; Thekla Feist; Alina Obermeier; Carina Gempfer; Christof Hurschler; Henning Windhagen; Max Heinrich Laves

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Effect Of Hip Preservation Surgery On Ipsilateral Lower Limb Joint Biomechanics During Level And Sloped Walking

Brandon Nunley; Avneesh Chhabra; Ajay Kohli; Edward P. Mulligan; Emily F. Middleton; Nicholas P. Fey; Joel Wells

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Tip-apex Distance As A Long-term Risk Factor For Hospital Readmission Following Intramedullary Fixation Of Intertrochanteric Fractures

Brandon Knopp; Matthew Harris

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Alkaline Phosphatase Is An Independent Risk Factor For Periprosthetic Fractures In Total Joint Arthroplasty

Brandon Lung; Matthew Kim; Maddison Morgan; Kylie Callan; Edward Wang; William McMaster; Steven Yang; David So

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Condylar Positioning At Full Extension May Contribute To Higher Knee Flexion And Greater Magnitudes Of Axial Rotation

Michael LaCour; Milad Khasian; Jason Jennings; Douglas Dennis; Richard Komistek

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Mapping Bacterial Biofilms On Features Of Explanted Orthopedic Hardware: An Analysis Of 14 Consecutive Cases

Jacob R. Brooks; Kelly Moore; Douglas Chonko; Matthew Pigott; Anne Sullivan; Paul Stoodley

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An Anthropometric Analysis Of Key Bone Morphological Parameters For A New Short Conical Stem Design

Niyati Dave; Ahmad Faizan; Peter Tulkis; Geoffrey Westrich

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The Effect Of Machined Surface Topography On Wear Particle Formation In A TiAlV-CoCrMo Taper Contact Model

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Novel THA Component Positioning Planning Tool: Optimizing Performance Before Implantation

Thang D. Nguyen; Michael LaCour; Jarrod Nachtrab; Garrett Dessigner; Manh Ta; Richard Komistek

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Novel 3-D Hip Pre-operative Planning Tool That Offers A Surgeon Validated Post-operative Predictions For Multiple Activities

Thang D. Nguyen; Michael LaCour; Manh Ta; John Callaghan; Steven MacDonald; Richard Komistek

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A Novel 3d Pre-operative Planning Tool That Predicts Post-operative Outcomes For Multiple Activities

Bradley Meccia; Seth Coomer; Michael LaCour; Richard Komistek

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Varying The Number Of Bundles Used While Modelling Ligaments In The Post-TKR Knee

Liam Montgomery; Ryan Willing; Brent Lanting

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Micromotion Evaluation Of Cementless Tibia: Validated Modeling Approach Using ASME VV40-2018

Mehul A. Dharia; Charlie Parduhn; John Kyle Mueller; Jeff Bischoff

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In Vivo Hip Separation And Edge Loading For Neutral And Lipped Liner Types

Thang D. Nguyen; Michael LaCour; Jarrod Nachtrab; Brad Meccia; Richard Komistek

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Associations Between Bone And Heart Health In Prostate Cancer Patients

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Operator-independent Characterisation Of Image Quality In HR-pQCT Scans Using A Fully Automated Convolutional Neural Network-based Classification Method

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Comparison Of Shear Wave Elastography And Mechanical Testing

Austin Ellis; Lynda Brady; William R. Ledoux

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Rapid Aggregation Of Staphylococcus Aureus In Synovial Fluid Is Highly Influenced By Synovial Fluid Concentration, Viscosity, And Fluid Dynamics

Amelia Staats; Peter Burback; Daniel Li; Anne Sullivan; Alexander Horswill; Paul Stoodley

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Rat Model Of One Stage Revision Surgery In The Presence Of Staphylococcal Hardware Infection

Adriana Barba; Leslie Brewer; Lauren Israel; Rachell Hilliard; Zoe Katz; Carly Dillulio; Lindsay Gelb; Melissa Fernandez; Julia Schayes; Thomas Schaer; Theresa Freeman

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The Role Of Sox9 In Disc Degeneration-associated Pain

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Postnatal Annulus Fibrosus Tissue Stiffness Depends On Lysyl-oxidase Crosslinking

Danielle N. D'Erminio; Robert J. Wiener; Kelsey Goune; Damien Laudier; Kevin Costa; Woojin Han; Alice Huang; James Iatridis

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Degeneration Of The Intervertebral Disc Relies On Common Metabolic Pathways Despite Differing Models

Mulati Mieradili; Shambhavi Bhagwat; Kya Vaughn; Evan Polsky; Matthew Silva; Regis O'Keefe; Matthew L. Goodwin

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Loading Challenges Cell Survival In The Nucleus Pulposus

Elias Salzer; Vivian H.M. Mouser; Jurgen Bultink; Marianna A. Tryfonidou; Keita Ito

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Improving Spinal Fusion With Injectable Hydrogels

David Owen; Joseph Snuggs; Antony Michael; Ashley Cole; Neil Chiverton; Lee Breakwell; Chris Sammon; Christine L. Le Maitre

Poster No. 2163

Screening For Nerve Dieback Compounds In A Drg Explant 3D Hydrogel Culture

Fei San Lee; Alvaro Moreno Lozano; Rebecca Wachs

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Raman Needle Probe Assessment Of Cartilage Composition Predicts Functional Tissue Properties

Masumeh Kazemi; Dev Mehrotra; Juncheng Zhang; Chenhao(Daniel) Yu; Diya Desai; Mark Grinstaff1; Brian Snyder; Mads Bergholt; Micheal Albro

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Early Circulating Immune Biomarkers Correlate With Post-traumatic Osteoarthritis Damage In Male And Female Rats

Lina M. Mancipe Castro; Michelle Hernandez; Nisha Kyathsandra; Tyler Guyer; Kelly Leguineche; Angela Lin; Robert E. Guldborg

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Replicating Fixed Walk, Stair Climb, And Sit-to-stand Gait Analysis Outputs Using Convolutional Neural Networks And Commercial, Off-the-shelf Inertial Sensors

Stefano Bini; Richard Souza; Brooke Schultz; Thomas A. Peterson

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Consequences Of Targeted Non-muscle Myosin Deletion On The Formation Of The Murine Meniscus

Tonia Tsinman; Mary Kate Evans; Xi Jiang; Eiki Koyama; Lin Han; Nathaniel Dymant; Robert Mauck

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Superficial Layer Meniscus Cells Migrate Faster And Are Less Mechanosensitive Than Those In The Meniscus Body

Sereen SF Assi; Ryan C. Locke; Sung Yeon Kim; Ryan Daniels; Brendan Stoeckl; Edward Bonnevie; Robert L. Mauck

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Fabrication Of Extracellular Matrix-based Hydrogel System For Meniscus Repair: Donor Age-dependent Effects On Meniscal Fibrochondrocytes

Se-Hwan Lee; Zizhao Li; Yujia Zhang; Shreya Mondal; Dong Hwa Kim; Lucy Hederick; Melike Lakadamyali; Jason Burdick; Robert Mauck; Su-Jin Heo

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Humeral Retroversion, Eccentricity And Glenosphere Size Are Associated With Shoulder Kinematics During A Hand To Head Movement After Reverse Shoulder Arthroplasty

Ajinkya Rai; Clarissa LeVasseur; Gillian Kane; Maria Munsch; Jonathan Hughes; William Anderst; Albert Lin

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Dysfunctional Subscapularis Increased The Anterior-posterior Glenohumeral Joint Reaction Force During Activities With Large Internal Rotation

Hazimah Mahmud; Luca Modenese; Yichen Huang; David Ackland; Ulrich Hansen

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A Proof Of Principle Study To Evaluate Severity Of Loads On The Shoulder Resulting From Work Activities

Mason J. Garcia

Poster No. 2173

A Radiographic Analysis Of The Outcomes And Complications After The Open Latarjet Procedure: A Systematic Review

Madeleine G. DeClercq; Maitland Martin; Kaare Midtgaard; Liam Peebles; Mark P. Cote; Giovanni Di Giacomo; Matthew T. Provencher

Poster No. 2174

Establishment And Characterization Of A Survival Turkey Model Of Acute Compartment Syndrome (ACS)

Omar A. Selim; Koichi Nakagawa; Chunfeng Zhao

Poster No. 2175

Too Much Too Soon? Functional And Metabolic Impairments After Early Rehabilitation In A Model Of Volumetric Muscle Loss Injury

Alec M. Basten; Christiana J. Raymond-Pope; Jacob R. Sorensen; Jarrod A. Call; Sarah M. Greising

Poster No. 2176

Cone Beam Computed Tomography (CBCT) For Opportunistic Assessment Of Bone Density In The Cervical Spine

Winnie Xu; Gregory Chang; Ethan Truong; Shilpa SKR Babu; Steven Wang; Adeyinka F. Dayo; Anh Le; Chamith S. Rajapakse

Poster No. 2177

Credibility Assessment Of A Physiologically Representative Finite Elements Spine Model: Verification And Validation

Ibrahim El Bojairami; Mark Driscoll

Poster No. 2178

The Role Of Demographic And Academic Characteristics On Industry Payments Received By Orthopedic Spine Surgeons In 2019 And 2020

Adwin Denasty; Sean Pickard; Addisu Mesfin

Poster No. 2179

Subsidence In A Novel 3d Printed Titanium Acdf Implant As Compared To Peek

Christopher B. Cutler; Kai Barlow; Seth Wilson; John Edwards; Anton Bowden

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Withdrawn

Poster No. 2181

Knockdown Of Decorin And Biglycan Immediately Following Tendon Injury Significantly Alters Gene Expression And Fibril Morphology, With Minimal Effects On Mechanical Properties

Joseph B. Newton; Stephanie N. Weiss; Christelle Darrieutort-Laffite; Courtney A. Nuss; David E. Birk; Louis J. Soslowsky

Poster No. 2182

Regenerative MRL/MpJ Tendon Cells Exhibit Sex Differences In Morphology, Proliferation, And Cell-Mediated Remodeling Under 3D Culture In Vitro

Jason C. Marvin; Molly E. Brakewood; Nelly Andarawis-Puri

Poster No. 2183

How Do Muscle Forces During Everyday Life Impact Tendon Strain? Quantifying Tendon Strain And Muscle Forces Continuously During Dynamic Movements In Vivo

Fransiska M. Bossuyt; Tim Leonard; Sarah Abramovic; Michael W. Scott; Andrew Sawatsky; Walter Herzog

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Delayed Inhibition Of Plasminogen Activator Inhibitor-1 Leads To Improved Organization Of Fibrotic Scar Following Achilles Tendon Injury In Mice

Tessa Phillips; Zachary Tata; Syeda Lamia; Daniel A. Lawrence; Adam C. Abraham; Megan L. Killian

Poster No. 2185

Senolytic Treatment Reduces Expression Of Tendon Cellular Senescent Markers

Samantha J. Przybelski; Tamar Tchkonja; James L. Kirkland; Anne Gingery

POSTER SESSION 2 – (PS2)

Exhibit and Poster Hall (West and Central Hall)

Poster displayed Monday, February 7 and Tuesday, February 8

Presenting Authors are asked to be present the following days to discuss posters.

Monday, February 7 (EVEN Poster numbers) 10:15 AM – 11:15 AM

Tuesday, February 8 (ODD Poster numbers) 9:00 AM – 10:00 AM

PS2-090

Biomaterials - Controlled Release

Poster No. 1221

Optogenetic TGF- β Signaling For Multilineage Mesenchymal Differentiation Of Human iPSCs

Josephine Wu; Gordana Vunjak-Novakovic

Poster No. 1222

Development Of Scaffold-based Platform For Simultaneous Delivery Of Microrna For Treatment Of Large Volume Bone Defects

Joanna M. Sadowska; Monika Ziminska; John Redmond; Nicholas Dunne; Helen McCarthy; Seth Donahue; Fergal O'Brien

Poster No. 1223

CHT/PBCD-SHP099 Layer-by-layer Polyelectrolyte Films To Inhibit Osteolysis

Jillian Glasser; Caitlin Barrett; Douglas Moore; Dioscaris Garcia; Wentian Yang; Anita Shukla; Valentin Antoci

Poster No. 1224

Tunable Release From Particle-loaded Hydrogels For Multiple Therapeutics

Mehmet D. Asik; Ashlyn R. Masterson; Ebru Oral

Poster No. 1225

Polymer Membrane Around Chitosan Hydrogel Containing Fosfomycin Impairs Treatment Of Implant-based Osteomyelitis

Luke J. Tucker; Malley A. Gautreaux; Xavier J. Person; Lauren B. Priddy

Poster No. 1226

Physiomimetic Biocompatibility Evaluation Of Direct Metal Printed Bioabsorbable Implants

Holger Jahr; Yageng Li; Prathyusha Pavanram; Amir Zadpoor; Thomas Pufe

Poster No. 1227

Photopolymerized Copolymers Of Polyethylene Glycol (PEG) And Polylactic (PLA) And Glycolic Acid (PGA) Gels For Dual Drug Delivery

Mehmet D. Asik; Ashlyn R. Masterson; Ebru Oral

Poster No. 1228

Antibiotic-loaded Ultrahigh Molecular Weight Polyethylene (UHMWPE)

Sashank Lekkala; Jaynie Criscione; Keith Wannomae; Amita Sekar; Ebru Oral

Poster No. 1229

High Efficiency Delivery Of Nucleic Acid Cargo To Chondroprogenitor Cells By Stabilizing Non-covalent Assembly Of Nanopieces Delivery Vehicle With Counter-ions

Zhen Zq Qiao

Poster No. 1230

Evaluation Of The Osteogenic Potential Of A Novel Drug Eluting Carrier In A Lapine Posterolateral Fusion Model

James Johnson; Kevin Labus; Christian Puttlitz; Kirk McGilvray; Daniel Regan; Katie Sikes; Jeremiah Easley; Bryan S. Margulies; Benjamin Gadowski

Poster No. 1231

Antimicrobial Activity Profile Of Analgesic-eluting Ultrahigh Molecular Weight Polyethylene

Amita Sekar; Sashank Lekkala; Andrew Thomson; Jamie E. Collins; Ebru Oral

Poster No. 1232

Evaluation Of A Novel Drug Eluting Bone Graft In A Lapine Posterolateral Fusion Model

James Johnson; Kevin Labus; Christian Puttlitz; Kirk McGilvray; Daniel Regan; Katie Sikes; Jeremiah Easley; Bryan Margulies; Benjamin Gadowski

Poster No. 1233

Modeling Early Post-traumatic Changes In Articular Cartilage Using Human Cell-based Hydrogel Constructs

Chunrong He; Zhong (Alan) Li; Jian Tan; Karen L. Clark; Hang Lin; Peter Alexander

PS2-091

Biomaterials - Orthopaedic Implant Materials

Poster No. 1234

Is It Time To Review The Shear Strength Requirements For Porous Implant Surfaces?

Ilona Hoffmann; Hiroyuki Takahashi

Poster No. 1235

Retrieval Analysis Of Second Generation Highly Crosslinked Polyethylene Used In Total Joint Arthroplasty

Shine Tone; Masahiro Hasegawa; Yohei Naito; Giuseppe Pezzotti; Akihiro Sudo

Poster No. 1236

Silver-based Antibacterial And Antibiofilm Nanostructured Coatings

Gabriela Graziani; Daniele Ghezzi; Martina Cappelletti; Julietta V. Rau; Enrico Sassoni; Marco Boi; Francesco Valle; Nicola Baldini

Poster No. 1237

Nanoscale Wear And Tribocorrosion Of CoCrMo Alloy Using Atomic Force Microscopy

Yangping Liu; Annsley Mace; Jeremy Gilbert

Poster No. 1238

Radiolucent Zones Of Biodegradable Magnesium-Based Screws In Children And Adolescents - A Radiographic Analysis

Maximilian M. Delsmann; Julian Stuerznickel; Constantin Schmidt; Michael Kertai; Ralf Stuecker; Michael Amling; Tim Rolvien; Martin Rupprecht

Poster No. 1239

A Novel Method Of In-situ Activation Of Synthetic Hydroxyapatite Particles For Improved Bone-implant Integration

Deepak Bushan Raina; Linnea Arvidsson; Elin Törnquist; Yang Liu; Alessandro Tengattini; Corina Vater; Stefan Zwingenberger; Hanna Isaksson; Lars Lidgren; Magnus Tagil

Poster No. 1240

Advancing Bone Tissue Engineering Through DBM Fibers As A Scaffold For Mineralization

Mary E. Kundrat; Peter Supronowicz; Jimmie Bullock; Stephen St John; Jingsong Chen

Poster No. 1241

A Patient-specific, 3D-printed Regenerative Bone Implant For Hip Dysplasia Treatment

Miguel Castilho; Nasim Golafshan; Willemssen Koen; Firoz Kadumudi; Elke Vorndran; Alireza Dolatshahi-Pirouz; Harrie Weinans; Bart van der Wal; Jos Malda

Poster No. 1242

Macroscopic Analysis Of Fixed-bearing Posterior Stabilized TKA Retrieved Inserts

Enrico Baldessar Fava; Allan de Paula Mozella; Antonio Fernandes Bandeira Neto; Daniel Araujo Fernandes; Patricia Ortega Cubillos; João Mateus Guimarães; Carlos Rodrigo de Mello Roesler

Poster No. 1243

3D Printing Of Titanium Surface Topography And Human Osteoblast Viability

Timothy L. Norman; Sarah G. Seman; Grant Trautman; Matthew Shomper; Rocco J. Rotello

Poster No. 1244

In Vivo Studies Of Additive Manufactured Bioabsorbable Magnesium Scaffolds In A Rabbit Femur Model

Juncen Zhou; Donghui Zhu

Poster No. 1245

Semaphorin 3A Restores Osseointegration Of Titanium Implants In Type 2 Diabetes Rats

Jingyao Deng; David Cohen; Zvi Schwartz; Barbara Boyan

Poster No. 1246

Is Appropriate Implant Sizing For Distal Radius Fractures Important: A Biomechanical Study

Natalia McIver; Christina Salas; Jorge Orbay; Nathan Menon; John Heifner; Deana Mercer

Poster No. 1247

Long-term (5-million Cycles) Wear Properties Of A Novel Biomaterial Against Cartilage

Herb Schwartz; Jacob Alumbaugh; Stone Miguel

Poster No. 1248

Post-deformation Shape Recovery Behavior Of Compressed Ultra-high Molecular Weight Polyethylene

Lucas G. de Moura; Carlos R. de M. Roesler; Eduardo A. Fancello; Edison da Rosa; Gean Vitor Salmoria

Poster No. 1249

Is Fretting Corrosion Damage A Concern In Titanium-backed Ceramic-on-Ceramic Liners?

Daniel W. MacDonald; Luis Ramos Peralta; Eric Ouellette; Gregg R. Klein; Arthur Malkani; Michael Mont; Steven M. Kurtz

Poster No. 1250

Volumetric Availability - An Analysis On Osteoblast On-growth Availability Of 3D Printed Titanium Surface Topography

Matthew A. Shomper; Grant Trautman; Chris R. Collins

Poster No. 1251

Effect Of Exosomes On Chondrogenic Potential Of Rabbit Tracheal Chondrocytes Cultured In Hydrogel

Dan Li; Matthew I. Saleem; Pooja Swami; Andrew Wong; Haixiang Liang; Andrew Ko; Daniel Grande

Poster No. 1252

Injectable Mineral Coated Microparticles Platform To Enhance mRNA Delivery For Fracture Repair

Anna-Laura Nelson; Gianluca Fontana; Johnny Huard; William Murphy; Nicole Ehrhart; Chelsea Bahney

Poster No. 1253

Serum Cytokine Profile In Women And Men With A Total Joint Replacement

Lauryn Samelko; Marco Caicedo; Joshua Jacobs; Nadim Hallab

Poster No. 1254

Engineered Hierarchical Surface Roughness Regulates Mesenchymal Stem Cell Spreading, Proliferation, And Differentiation On Titanium Implants

Su-Jin Heo; Ali Kiapour; Lewis Harrison; Saeed Ahmed; Brendan Stoeckl; Yujia Zhang; Matthew Begley; Hunt Jessee; Robert Mauck

Poster No. 1255

A New Outlook On The Acetabular Liners Damage Assessment And Performance Analysis

Lucas Kurth de Azambuja; Enrico Baldessar Fava; Renir Damasceno; Patricia Ortega Cubillos; Gean Vitor Salmoria; Carlos Rodrigo Roesler

Poster No. 1256

Anisotropy In Fused Filament Fabrication (FFF) Printed Fibretuff For Synthetic Bone Models

Abigail Tetteh; Steven M. Kurtz

Poster No. 1257

Antimicrobial Properties Of Poly(methyl Methacrylate) Bone Cement Incorporating A Borate Bioactive Glass Filler

Kara A. Hageman; Grahmm A. Funk; Terence E. McIlff

Poster No. 1258

Corrosion Behavior Of Implant Alloys Used In Total Shoulder Arthroplasties

Daehan J. Yi; Mozart Neto; Deborah Hall; Bianca Romay; Jennifer L. Wright; Simona Radice; Gregory Nicholson; Grant E. Garrigues; Robin Pourzal

Poster No. 1259

Elution Kinetics Of A Small Molecule From A Novel Osteogenic Bone Graft Material

Bryan S. Margulies

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Biomaterials - Repair/Replacement of Hard Tissues

Poster No. 1260

Single-cell Transcriptional Atlas Reveals The Promotion Of Hydroxyapatite Related Bone Regeneration By PCDH10⁺ MSCs

Zhiyu Zhou; Peng Guo; Xizhe Liu; Penghui Zhang; Zhongyuan He; Manman Gao; Shaoyu Liu

Poster No. 1261

Nanoengineered Injectable Collagen/chitosan Hydrogels With Single Wall Carbon Nanotubes For Load Bearing Bone Defects

Kulwinder Kaur; Ciara Murphy

Poster No. 1262

Magnesium Phosphate Granules Support Bone Regeneration In A Large Animal Model

Lena Marie Sophie Schröter; Friederike Kaiser; Svenja Emmi Catherine Stein; Benjamin Krüger; Uwe Gbureck; Anita Ignatius

Poster No. 1263

Development And Characterization Of A Calcium Phosphate-collagen Matrix Bone Graft With Needle-shaped Submicron Surface Topography For Spinal Fusion

Nathan W. Kucko; Inazio Arriola Alvarez; Charlie Champion; Florence Barrère-de Groot

Poster No. 1264

Autograft-Like Porous Fluorapatite Bone Scaffolds

Clark R. Nielson; Sujee Jeyapalina; Jill Shea; Jay Agarwal; James P. Beck

Poster No. 1265

Bone Regenerative Capacity Of 3D Printed Bioactive Ceramic Scaffolds Coated With Bioactive Molecule: Dipyradamole

Lukasz Witek; Nick Tovar; Bruce N. Cronstein; Jacques H. Hacquebord; Philipp Leucht; Vishal D. Thanik; Eduardo D. Rodriguez; Paulo Coelho

Poster No. 1266

Alginate Hydrogels As Platform Bone Spacers For Masquelet's Induced Membrane Technique

Sarah McBride-Gagy; Abigail Avila; Houston Linder; Bridget Boland; Danielle McTigue; Clare Reinwart; Robert Hill; J Tracy Watson; Daameon Nicolaou; Steven Buckner; Paul Jelliss; Scott A. Sell

Poster No. 1267

Apatite-Based, Antimicrobial, Engineered Bone Scaffolds

Samantha Steyl

Poster No. 1268

Biocompatibility Evaluation Of Novel 3D Printed Scaffolds For Bone Tissue Engineering Applications

Sara Hassouna Elsayed; Ming Yan; Davide Corbetta; Hani Awad; Matthew Allen

Poster No. 1269

3D Bioprinted Hybrid Barrier Construct For Bone Healing In Inflammatory Conditions

Zeena Qiryaqoz; Adil Akkouch

Poster No. 1270

Highly Flowable Calcium Phosphate Cement Augmentation Of Cancellous Bone Strength And Stiffness

Michael J. Voor; Elizabeth Mattingly; Garrett Russell

Poster No. 1271

3D Electroconductive Scaffold For Bone Regeneration

Adil Akkouch; Mitchell Kenter; Keith Kenter

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Biomaterials - Repair/Replacement of Soft Tissues

Poster No. 1272

Development Of An Extracellular Matrix-based Multiphasic Scaffold System For Rotator Cuff Repair

Zizhao Li; Se-Hwan Lee; Dong Hwa Kim; Shreya Mondal; Erik Nimmer; Lucy Hederick; Richard Tran; Josh Baxter; Yongho Bae; Jason Burdick; Robert Mauck; Su-Jin Heo

Poster No. 1273

Collagen Coating Improves Tenocyte Interaction With Suture Tape For Ligament Augmentation

Haley K. Brouwer; Andrea M. Matuska; Anish Kadakia

Poster No. 1274

Tissue-reinforcing Hydrogel System To Protect Cartilage From Mechanical And Biochemical Loss

Michael A. Kowalski; Lorenzo Fernandes; Kyle Hammond; Sameh Labib; Jay M. Patel

Poster No. 1275

A Cyclic-inverso AHSG/Fetuin A-based Peptide As Potent Inhibitor Of Calcification

Guus G.H. van den Akker; Jessica S. Steijns; Roderick Stassen; Grzegorz B. Wasilewski; Karolina A. Wijnands; Leon J. Schurgers; Marjolein M.J. Caron; Lodewijk W. Van Rhijn; Tim J.M. Welting

Poster No. 1276

Comparative Tribological Study Of Three Biomaterials For Interposition Shoulder Arthroplasty

Amandine Impergre; Ana Maria Sfarghiu; Nathalie Bernoud-Hubac; Markus A. Wimmer

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Self-healing Hyaluronic Acid Mitigates Cartilage Degeneration In A Post-traumatic Osteoarthritis Rat Model

Anna Gilpin; Yuze Zeng; Jiaul Hoque; Stefan Zauscher; William Eward; Morika Williams; Shyni Varghese

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Formation Of A GAG Mimetic Interpenetrating Network In Degraded Cartilage

Christian DeMoya; Taylor Lawson; Maria Varghese; Brian Snyder; Mark Grinstaff

Poster No. 1279

Comparison Of Loose Vs Tight Suture Repair Techniques In Nerve Tissue Undergoing Wallerian Degeneration In A Rat Model

Grace V. Gilbert; Andrew Simon; Alec Fisher; Parker Johnsen; Samantha Weiss; David Fuller

Poster No. 1280

Vascularizing Collagen Type - I Hydrogels With Rat Microvascular Fragments Via pH And Temperature Modulation

Samuel R. Lester; Angela Lin; Kelly Leguineche; Robert Guldberg

Poster No. 1281

Tunable Physical And Soluble Cues Synergistically Enhance Tenocyte Migration

Robert N. Kent; Mohamed Said; Megan E. Busch; Ariane Tsai; Daniel L. Matera; William Y. Wang; Samuel J. DePalma; Harrison L. Hiraki; Megan L. Killian; Adam C. Abraham; Ariella Shikanov; Brendon M. Baker

Poster No. 1282

Design And Biomechanical Characterization Of Composite Lateral Meniscus Scaffold

William Pfaff; Andrzej Brzezinski; Peter Filtes; Matthew Nasra; Michael Simon; Rae Tarapore; Charles Gatt; Michael Dunn

Poster No. 1283

Slow Continuous Stretch And Cyclic Loading Differentially Drive Ligament-to-Bone Enthesis Maturation

Michael E. Brown; Jennifer L. Puetzer

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Biomaterials - Scaffolds

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Development Of An siRNA-Activated Scaffold Targeting Mechano-Inflammation To Promote Regeneration Of Osteoarthritic Cartilage

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Alex M. Hollenberg; Amir N. Kucharski; Hua Pan; Sam Wickline; Christine TN Pham; Audrey McAlinden; Cecilia Pascual-Garrido; Jie Shen; Regis O'Keefe

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Cartilage Healing With Microfracture Augmented With Fisetin And Bone Marrow Aspirate Concentrate

Naomasa Fukase; Xueqin Gao; Sealy Hambright; Kaitie Whitney; Matthieu Huard; Yoichi Murata; Philip Nolte; Ingrid Stake; Charles Huard; Sudheer Ravuri; Marc Philippon; Johnny Huard

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Link N Suppresses Periostin Expression In Osteoarthritic Cartilage

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Vidyani Suryadevara; Sai Rama Krishna Meka; Alessandra Esposito; Lily Yu; Pranav Mishra; Katrien Corbeels; Brittany Wilson; Michael Kluppel; Anna Spagnoli

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Severin Ruoss; Thomas C. Whisenant; Chanond A. Nasamran; Scott T. Ball; Jeffrey L. Chen; Jesal N. Parekh; Shanelle N. Dorn; Kathleen M. Fisch; Adam J. Engler; Samuel R. Ward

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Discharge To Rehabilitation Independently Predicts Readmission Following Multilevel Posterior Lumbar Fusion

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Matthew Thompson; Brady Hislop; Ron June; Stephen Martin; Erik Adams

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Johnathan Dallman; Megan Wolf; Tanner Campbell; Trent Herda; Armin Tarakemeh; Jacob White; Bryan Vopat

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Kaitlyn Dillabough; Michael Leslie; Karin Lienhard; Sofia Bzovsky; Shelia Sprague; Prism Schneider

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Sahar Mohammadyari Gharehbolagh; Vishnu Deep Chandran; Saikat pal; Philippe C. Dixon

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Charlotte P. Leape; Jessica B. Hawken; Xue Geng; Melissa A. Wright; Anand M. Murthi

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Benefits And Pitfalls Of Tracking Joint Fusion Micromotion In 6 DOF Using Digital Image Correlation

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Mikhail Gurevich; Alexander Chirokikh; Yuliya Kulyomina; Tyler Hwang; Marie Badalamente; Lawrence Hurst; David Komatsu

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Relationship Between Bar Tilt Angle And Inter-limb Load Distribution Asymmetry During Bilateral Squat

Junwon Yoon; Yoonjin Kim; Junho Hong; Yongnam Song

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A 3D Image-based Comparison Of The Center-center And Transyndesmotic Axis Methods For Patient-specific Fixation Of The Ankle Syndesmosis

Nicholas J. Jackson; Christopher Reb; Joel B. Harley; Jennifer Nichols

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Development Of A Novel Large Animal Model For Tarsal Fusion With MicroCT Analysis

Erin E. Estrada; Jeremiah T. Easley; David L. Safranski; Daniel Latt; Naohiro Shibuya; Christian M. Puttlitz; Benjamin C. Gadowski

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Distal Carpal Stabilization In An Ovine Preclinical Model Of Foot And Ankle Surgery

Katie Bisazza; Benjamin Gadowski; Kevin Labus; Holly Stewart; Brad Nelson; Christian Puttlitz; Kirk McGilvray; Daniel Regan; Laura Brinker; Jeremiah Easley

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Strength And Compressive Ability Of Midfoot Fusion Nail Versus Midfoot Fusion Bolt And Role Of Subtalar Fusion

Nahir A. Habet; David Barcel; Shangcheng Wang; Victor Anciano; Todd Irwin; Carroll P. Jones

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Josephine M. Kalshoven; Amy M. Morton; Rohit Badida; Julia A. Henke; Douglas C. Moore; Joseph J. Crisco

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Provocative Scapholunate Instability Wrist Positioning

Elizabeth H. Norman; Nina Suh; Emily Lalone

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Metacarpophalangeal Joint Finger Splint Affected On Joint Movement And Mechanical Interaction

Takanori Ito; Mio Yoshida; Hayase Funakoshi; Takanori Kokubun

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Assessment Of Median Nerve Mobility By Particle Image Velocimetry

Takahiro Furukawa; Yutaka Mifune; Atsuyuki Inui; Hanako Nishimoto; Shintaro Mukohara; Tomoya Yoshikawa; Issei Shinohara; Tatsuo Kato; Ryosuke Kuroda

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Yukinori Hayashi; Takashi Ajiki; Katsushi Takeshita

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Aniruddh Nayak; Courtney Mason; Jason Kamath; Connor Ogden; Stephen Berling; Scott Edwards

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Dario F. Mazza; Pattira S. Boonsri; Christopher O. Bayne; Aman Arora; Robert M. Szabo; Abhijit J. Chaudhari; Robert D. Boutin

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Validation Of MRI Kinematic Profiles Of Wrist Carpal Bones By External Motion Capture Systems

Mohammad Zarenia; Samantha R. Schwartz; Alyssa J. Schnorenberg; Joshua M. Leonardis; Volkan E. Arpinar; Brooke A. Slavens; Kevin M. Koch

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Validation Of A Hybrid Approach Combining CT Data And Digitally Acquired Landmarks To Obtain 3D Models Of Human Fingers

Grace Kennedy; Lauren D. Hall; Karl Bilderback; Stephanie Villalba; Tara Saxena; R Shane Barton; Giovanni F. Solitro

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The Use Of Cone Beam Computed Tomography In The Diagnosis Of Acute Radiocarpal Fractures And Ligamentous Wrist Injuries - A Systematic Review And Meta-analysis

Firas Raheman; Djamila Rojoa; Emma Fitzpatrick; Vivek Sharma; Harvinder Singh

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Segmentation Of Transverse Carpal Ligament In Ultrasound Images Using Convolutional Neural Network

Jiayan Huo; Hui Zhang; Zong-Ming Li; Janet Roveda

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Simultaneous Measurement Of Muscle Activity, Kinetics, And Pain In Women With Carpometacarpal Osteoarthritis

Tamara Ordenez Diaz; Samuel Licht; Kevin A. Hao; Yenisel Cruz-Almeida; Jennifer A. Nichols

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Kinematic Analysis Of Functional Motions In Healthy And Osteoarthritic Human TMC Joints: An Optical Motion Tracking Approach

Lizzie Walker; Shuchun Sun; Daniel Gordon; Nicholas Bain; Alexander Chiaramonti; Elizabeth Nadeau; Dane Daley; Hai Yao; Yongren Wu

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3-dimensional Ultrasound For Monitoring Synovitis In First Carpometacarpal Osteoarthritis Patients

Carla du Toit; Robert Dima; Aaron Fenster; Emily Lalone

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Hand and Wrist - Surgical and Therapeutic Innovation

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Peripheral Nerve Regeneration Using Acellular Nerve Allografts Plus Amniotic Fluid Derived Stem Cells (AFS) In A Vervet Model

Xue Ma; Jacob A. Hamby; Tameka C. Dean; Thomas L. Smith; Zhongyu Li

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Intramedullary Headless Compression Screw Fixation For Proximal Phalanx Fractures: Technique And Review Of Current Literature

Rajeev N. Herekar; Mitchell P. John; Michael C. Doarn; Jason A. Nydick

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Improved Restoration Of Key Pinch Strength In A Human Forearm Model Using An Implantable Passive Mechanism

Hantao Ling; Kai L. Roberts; Dennis Kao; Ravi Balasubramanian

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Influence Of Routing Of EIP Tendon Transfer On Thumb Opposition Kinematics And Pressures In Carpal And Ulnar Tunnels

Nahir A. Habet; Steven Niedermeier; Shangcheng Wang; Susan Odum; Glenn Gaston

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Hip - Diagnostics

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Evaluation Of Serum And Urine Biomarkers For Secondary Osteoarthritis Associated With Developmental Dysplasia Of The Hip

Preston Wolfe; Aaron M. Stoker; Emily V. Leary; Brett D. Crist; James L. Cook

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How Does Femoral Head Morphology And Femoral Malalignment Affect Femoral Version Measurements? Implications For Derotational Femoral Osteotomy Planning

Malin Kristin Meier; Florian Schmaranzer; Till Lerch; Simon D. Steppacher; Eduardo N. Novais; Ata M. Kiapour

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Deep Learning Based Fully Automated 3D Models Of Hip Labrum Based On MR Arthrography Are Feasible And Allow Detection Of Differences In Labrum Volume Among Different Hip Deformities

Malin Kristin Meier; Guodong Zeng; Till D. Lerch; Jürgen Burger; Nicoals Gerber; Klaus A. Siebenrock; Moritz Tannast; Simon D. Steppacher; Florian Schmaranzer

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A Computational Model For Predicting Hip Fracture During A Fall

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Current Intervertebral Disc Cryopreservation Protocols Can Compromise Cell Viability

Ward Shalash; Ryan Forcier; Morgan B. Giers

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Fully Automated 3D Joint Space Width Analysis Of The Tibiofemoral Joint From Weight Bearing CT

Erin McFadden; Kevin Dibbern; Neil A. Segal; John A. Lynch; David T. Felson; Don D. Anderson

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Jacob Griffith; Andrew Jensen; Scott Banks; Kyle Allen

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Accuracy And Repeatability Of Diffusion-Weighted Imaging For Total Joint Replacement MRI

John Neri; Matthew Koff; Kevin Koch; Ek Tan

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Jacob F. Oeding; Kenneth Gao; Francesco Caliva; Valentina Pedoia; Drew A. Lansdown

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Ali R. Ahmed; Ronald Y. Kwon

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Human In The Loop: Improving The Quality Of Automatic Semantic Multi-class Segmentation Of Knee Cartilage In MRIs With Continuous Learning

Bruno Astuto Arouche Nunes; Evan Chang; Rutwik Shah; Laura Carretero; Mario Padron; Valentina Pedoia; Sharmila Majumdar

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Accurate Segmentation And Normalization Of μ CT Data From In-vivo Testing Of A Macro-scale Pillar Morphology

Alan Horstman; Greg Causey; Jamey Price; George Picha

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High-Throughput Semi-Automated Segmentation Of Murine Hindpaw Micro-CT Datasets Identifies The Cuboid As A Reliable Longitudinal Biomarker Of Arthritic Progression In TNF-Tg Mice

H. Mark Kenney; Yue Peng; Kiana L. Chen; Raquel Ajalik; Lindsay Schnur; Ronald W. Wood; Edward M. Schwarz; Hani A. Awad

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Towards Personalized Biomechanical Models Of The Lumbar Spine From Deep Learning-based Segmentation Of MRI

Madeline Hess; Brett Allaire; Kenneth Gao; Radhika Tibrewala; Gaurav Inamdar; Upasana Bharadwaj; Cynthia Chin; Valentina Pedoia; Mary Boussein; Dennis Anderson; Sharmila Majumdar

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High Prevalence Of Abnormal Imaging Findings In Clinically Asymptomatic Siblings Of JOCD Patients

Abdul Wahed Kajabi; Stefan Zbyn; Marc A Tompkins; Bradley J. Nelson; Kevin G. Shea; Cathy Carlson; Jutta Ellermann

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The Optimized Oxford Hip Skeletal Maturity System Proves Resilient To Rotational Variation

Julio C. Castillo Tafur; Ryan J. Furdock; Abdus Sattar; Raymond W. Liu

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Determining The Variability In Multiple Observer MRI-based Interpretation Of ACL Attachment Site Locations

Brett K. Jones; Paal Nilssen; Shasha Yeung; Jason Halloran

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Beomsu Shin; Seungbum Koo

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Novel Application Of Lacey Carbon Grids For Electron Microscopy Imaging Of Extracellular Vesicles From Bone Marrow Derived Mesenchymal Stromal Cells

Edward J. Carson; Ronald J. Midura; Vijay Krishna; Mei Yin; Mei Kuang; George F. Muschler

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Douglas Beall; Christopher Hancock; John Feller; Michael Crotsenburg; Blake Martin; Timothy Ganey

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Brendan L. Eck; Richard Lartey; Sibaji Gaj; Dongxing Xie; Mei Li; Emily Knott; Jeehun Kim; Carl Winalski; Laura Huston; Kevin D. Harkins; Nancy A. Obuchowski; Michael V. Knopp; Bruce M. Damon; Xiaodong Zhong; Harry Friel; Kecheng Liu; Faysal Altahawi; Morgan H. Jones; Kurt P. Spindler; Xiaojuan Li

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ACL T₂* Relaxation Time Sensitivity To Extra-articular Bone Surgery

William Zaylor; Kayla M. Malby; Nicole Byram; Xiaojuan Li; Jillian Beveridge

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Dual-contrast PCD-CT Separates Proteoglycan, Collagen, And Porosity Related Biomechanical Properties Of Articular Cartilage

Petri Paakkari; Satu I. Inkinen; Ali Mohammadi; Miika T. Nieminen; Mark W. Grinstaff; Juha Toyras; Juuso T.J. Honkanen; Janne T.A. Makela

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Hamstring Injury And TKA Rehabilitation Progress Assessment Via Electrical Impedance Tomography

Jessica Rosendorf; Lily Keiderling; Junyi Zhu; Arnav Gupta; Stefanie Mueller; Joseph Schwab; Hamid Ghaednia

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Pre- To Post-ovulatory Changes In ACL T₂* Metrics: Insights Into A New Biomarker For Female ACL-injury Risk?

Erin C. Argentieri; Ryan E. Breighner; Matthew F. Koff; Hollis G. Potter

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In Vivo Ultrasound Shear Wave Elastography Assessment Of Acute Compartment Syndrome In A Turkey Model

Koichi Nakagawa; Ye Ren; Yoichi Toyoshima; Alyssa Vrieze; Shuwei Zhang; Brett Freedman; Jason Doles; Azra Alizad; Chunfeng Zhao

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Evaluation Of The Usefulness Of Alpha Defensin Test For Infectious Nonunion And Chronic Osteomyelitis Treated With The Masquelet Technique

Kyohei Takase; Takahiro Niikura; Keisuke Oe; Tomoaki Fukui; Kenichi Sawauchi; Ryo Yoshikawa; Yuya Yamamoto; Ryosuke Kuroda

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The Perfect Dyad? Evaluation Of Alpha-defensins And Neutrophil Elastase In The Diagnosis Of Early Postoperative Infection In Orthopaedic Trauma: The Pilot

Prasoon Kumar; Anupam Mittal; Siddhartha Sharma; Parth Bansal; Sameer Aggarwal; Rajesh K. Rajnish

Poster No. 1780

How Hardware And Infection Affect Bone Formation And Resorption After Revision Surgery

Jordan Safran; Christopher Talone; Zoe E. Katz; Adrianna Barba; Leslie Brewer; Thomas P. Schaer; Theresa A. Freeman

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Bacterial Bioburden Analysis Of On-label Povidone-iodine And Chlorhexidine Gluconate Surgically Prepared Skin Samples In Porcine Model Support Patient-originated Infection Hypothesis

Hannah R. Duffy; Rose Godfrey; Dustin Williams; Nicholas Ashton

PS2-134**Infection - Treatment and Therapeutics**

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Periprosthetic Tissue Damage Associated With Revision Surgery Alone Or With MSSA Infection

Lauren E. Israel; Zoe E. Katz; Lilith F. Elmore; Adriana Barba; Leslie Brewer; Thomas P. Schaer; Theresa A. Freeman

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Cold Atmospheric Plasma Has Bactericidal Capability For Prevention Of Surgical Infection During Incision

Lauren E. Israel; Lilith Elmore; Zoe Katz; Jordan Safran; Rachel Grant; Theresa A. Freeman

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Silver Carboxylate In Wound Care: A Novel Solution For Antibiotic Resistance?

Neel Vishwanath; Dioscaris R. Garcia; Sai Allu; Dominique Dockery; Caitlin Barrett; Valentin Antoci; Christopher Born

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Effects Of Wound Irrigation Solutions On Host Tissue - Murine Air Pouch Infection Model

David Markel; Rishi Chatterji; Therese Bou-Akl; Bin Wu; Paula Dietz; Weiping Ren

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Local Tissue Response Of Ti6Al4V Implants Treated With An Antimicrobial Iodine-surface Technology

Devendra D. Gorhe; Imran Khan; Gil Machado

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Synergistic Antibacterial Activity Of Pain Medication With Antibiotics In Staphylococcal Infection Management

Peyton Tierney; Amita Sekar; Vikram Daesety; Darina Trendafilova; Katheryn Daffinee; Kerry LaPlante; Ebru Oral

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Ketorolac Enhances The Antibacterial Action Of Gentamicin To Target Planktonic And Biofilm Staphylococci

Amita Sekar; Dmitry Gil; Vikram Daesety; Darina Trendafilova; Peyton Tierney; Ebru Oral

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Development Of Bisphosphonate-conjugated Antibiotics To Target Staphylococcus Aureus Biofilm Within The Osteocyte Lacuno-canalicular Network Of Infected Cortical Bone In Chronic Osteomyelitis

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Antimicrobial Study Of Acylated Chitosan Nanofibers Loaded With Local Anesthetics And Cis-2-decenoic Acid Against Staphylococcus Aureus

Rabeta Yeasmin; Landon Choi; Zoe Harrison; Emily Coleman; Jessica Jennings

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The Efficacy Of Antibiotic-eluting Materials In A Two Stage Model Of Periprosthetic Joint Infection

Yingfang Fan; Jean Yuh; Sashank Lekkala; Andrew Thomson; Madeline McCanne; Orhun K. Muratoglu; Mark A. Randolph; Collins E. Jamie; Ebru Oral

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Combination PhotothermAA Gel And DAIR Treatment Eradicates Mature Biofilm And Culturable Staphylococcus Aureus In Vitro

Nathalie B. Milbrandt; Yu Hsin Tsai; Dehua Jiang; Habin Jung; Massado Ngompe; Anabelle Visperas; Alison K. Klika; Nicolas S. Piuze; Carlos A. Higuera-Rueda; Anna Cristina S. Samia

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Mechanism Of Antibacterial Activity Of Analgesic And Anti-inflammatory Therapeutics Against Staphylococcus Aureus

Amita Sekar; Andrew Thomson; Vikram Daesety; Darina Trendafilova; Peyton Tierney; Ebru Oral

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Immunofluorescent Techniques As A Tool For Rapid And Quantifiable Detection Of Bacterial Biofilms And Bioburden On Surgical Explants, Tissue, And Synovial Fluid

Dioscaris R. Garcia; Mursal Gardezi; Caitlin Barrett; Neel Vishwanath; Ellis Berns; Carole Spake; Valentin Antoci; Christopher Born

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Titanium Associated Methicillin-resistant Staphylococcus Aureus Biofilms Treated With Electrical Stimulation Technology: Bioprax

Stephen Tyrpak; Jackson Hobbie; Brian Peterson; Jason Maranhao; Jennifer Garofalo-Mancino; Mary Canty

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Antibiotic Calcium Sulphate Beads Lower Bacterial Burden And Prevent Infection In Mouse Model Of PJI

Christopher Hart; Ben Kelley; Christopher Hamad; Zeinab Mamouei; Amr Turkmani; Alan Li; Adam Sassoon; Nicholas Bernthal

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Establishment Of A Reliable Biofilm Based Periprosthetic Joint Infection Rat Model

Mazen M. Ibrahim; Thien-Fah Mah; Hesham Abdelbary

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Intervertebral Disc - Diseases and Disorders

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Comparison Of Metabolic Responses For Annulus Fibrosus And Nucleus Pulposus Recovered From Human Tissue Donor Intervertebral Discs

Jacob Kramer; Aaron M. Stoker; Elise Baumann; Josiah Kaboga; James L. Cook

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On The Effects Of Human Surgical Intervertebral Disc Tissue Promoting An Inflammatory Disc Degeneration Environment In Vitro

Jennifer Gansau; Andrew C. Hecht; Saad Chaudhary; James C. Iatridis

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Hydrostatic Pressurization Activates An Inflammatory Resolving Macrophage Through Cytoskeletal Related Pathways

Kevin G. Burt; Joseph R. Genualdi; Lee Song; Clark T. Hung; Nadeen O. Chahine

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Toll-like Receptor 2 Associated MicroRNAs In Degenerative Disc Disease

Petra Cazzanelli; Mikkael Lamoca; Oliver Nic Hausmann; Addisu Mesfin; Karin Wuertz-Kozak

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Conditioned Media Derived From Dynamically Loaded Discs Promote Macrophage Immunomodulation

Hagar M. Kenawy; Lauren E. Lisiewski; Clark T. Hung; Nadeen O. Chahine

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Differences In Metabolic Responses By Cervical And Lumbar Intervertebral Discs Based On Pfirrmann Grades

Josiah Kaboga; Aaron M. Stoker; Jacob Kramer; Elise Baumann; Theodore J. Choma; Don Moore; Muhammad Mirza; Fasil Mesfin; James L. Cook

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Type 2 Diabetes In Rats Impairs Annulus Fibrosus Fiber Deformation And Rotation Under Disc Compression

James Rosenberg; Eric Schaible; James L. Graham; Peter J. Havel; Robert Ritchie; Tamara Alliston; Jeffrey Lotz; Aaron Fields

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A Role Of Biglycan C-terminal Peptide In Regulating Intervertebral Disc Homeostasis

Manyu Zhu; Stanley Chun Ming Wu; Wai Kit Tam; Chun Kit Wong; Yan Peng; Kenneth Cheung; Nieto Angela; Kathryn Cheah; Danny Chan; Victor Leung

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Intervertebral Disc - Growth, Development and Aging

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Effects Of Adiponectin Receptor Agonist Adiporon On Human Intervertebral Disc Cell In A Three-Dimensional Cell Culture System And Rat Tail Puncture Model

Hiroki Ohnishi; Zhongying Zhang; Masao Ryu; Tomoya Matsuo; Kunihiro Miyazaki; Ryu Tsujimoto; Yutaro Kanda; Yuji Kakiuchi; Takashi Yurube; Toru Takada; Ryosuke Kuroda; Kenichiro Kakutani

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Differentiation From Human Induced Pluripotent Stem Cell To NP-like Cell

Martha Elena Diaz Hernandez

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Activation Of TRPV4 Triggers Calcium Signaling And Acute NF-kB Expression In The Intervertebral Disc

Garrett Easson; Alireza Savadipour; Farshid Guilak; Simon Tang

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Recapitulating The Fetal Intervertebral Disc Microenvironment Through Extracellular Matrix Engineering Using CRISPR

Catarina Milheiro; Filipa Freire; Raquel Gonçalves; Mario Amendola; Mário Barbosa; Joana Caldeira

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Loss Of BNIP3 In Nucleus Pulposus Cells Causes Up-regulation Of Mitophagy And Metabolic Rewiring

Vedavathi Madhu; Miriam Hernandez-Meadows; Paige K. Boneski; Yunping Qiu; Irwin Kurland; Anyonya Guntur; Makarand Risbud

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Comparative Histopathological Analysis Of Age-associated Intervertebral Disc Degeneration In CD1 And C57BL6 Mice

Jeffrey Hutchinson L. Hutchinson; Matthew Veras; Meaghan Serjeant; Frank Beier; Cheryle Seguin

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Loss Of Prolyl 3-hydroxylase 2 (P3H2) Alters Collagen Cross-linking And Fibril Distribution In A Type II/IX/XI Collagen Synthesizing Cell Line.

David M. Hudson; Marilyn J. Archer; Russell J. Fernandes

PS2-137**Intervertebral Disc - Injury, Healing and Pain**

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Effect Of Frequency On Recovery From Whole-body Vibration In Rats

Folly Patterson; Raheleh Miralami; Alicia K. Olivier; Kaylin McNulty; John W. Wood; Raj K. Prabhu; Lauren B. Priddy

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Regional Response Of The Intervertebral Disc To Rat Caudal Needle Puncture Injury

Lauren Lisiewski; Kevin Burt; Hagar Kenawy; Dan Viola; Nadeen Chahine

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A Model Of Chronic Discogenic Low Back Pain In Female Sprague Dawley Rats

David Lillyman; Tyler Miller; Fei San Lee; Alvaro Moreno Lozano; Evie Barnett; Henry Dvrol; Rebecca Wachs

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HMGB1 Exhibits A Sustained Regional Activation Following Injury Of The Intervertebral Disc

Kevin G. Burt; Dan C. M. Viola; Gerard Marciano; Joseph R. Genualdi; Clark T. Hung; Nadeen O. Chahine

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Histological And Molecular Changes After Disc Or Endplate Injury In Rats

Saurav Sumughan; Brandon Williams; Guoying Zhang; Ana V. Chee; Howard S. An

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CX3CL1 And CX3CR1 In Disc Inflammation

Brandon Williams; Saurav Sumughan; Howard S. An; Ana V. Chee

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Interleukin-1 β As A Neuroinflammatory Mediator In Intervertebral Disc Injury

Lance Murphy; Ana Peredo; Sarah Gullbrand; Robert Mauck

PS2-138**Intervertebral Disc - Structure, Function and Mechanics**

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Spinal Interbody Device Static Axial Compression Stiffness Varies With Placement

Valerie S. Coldren; David J. Nuckley

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Anatomically Designed 3D Printed Flexible Scaffold Mimics Compressive Equilibrium Biomechanics Of Intervertebral Disc Motion Segment

Erik Emsbo; Samantha Marshall; Timothy Jacobsen; Nadeen Chahine

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Diurnal And Spatial Variations In Extracellular And Pericellular Sodium Content In Nucleus Pulposus Tissue

Jordin T. Marshall; Anthony D. Lutton; John W. Olesik; Benjamin A. Walter

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The V-atpase Antibiotic Bafilomycin Inhibits Autophagy And Induces Cell Death In Rat Nucleus Pulposus Cells

Rebecca Kritschil; Vivian Li; Dong Wang; Feng Li; Nam Vo

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Donor Sex Is A Significant Contributor To The Response Of The Intervertebral Disc To Injury In Vitro

Hagar M. Kenawy; Clark T. Hung; Nadeen O. Chahine

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Role Of TRPV4 And PAR2 Signaling In Response To Changing Osmotic Environments Within Nucleus Pulposus Cells

Brian Schintgen; Zachary Osborn; Devina Purmessur; Benjamin Walter

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Intervertebral Disc - Treatment and Therapeutics

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Characterization Of Cushioning Properties Of Nucleus Pulposus Allograft For Replacement Of Tissue Loss Due To The Degeneration Of The Intervertebral Disc

Jonathan Messer; Praathibha Sripadhan; Rachel Montalvan; Hanna Kaliada; Sara Littlejohn; Martin Garon; Sotcheadt Sim; Renaud Sicard; Shabnam Namin

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Suppression Of Sost/sclerostin And Dickkopf-1 Promote Intervertebral Disc Structure In Mice

Tori Kroon; Paul Niziolek; Daniel Edwards III; Erica Clinkenbeard; Alexander Robling; Nilsson Holguin

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Periprosthetic Bone Loss Versus Osteolysis In Cervical Total Disc Arthroplasty: A Systematic Review

Jenna M. Wahbeh; Sang-Hyun Park; Pat Campbell; Edward Ebramzadeh; Sophia Sangiorgio

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Immunomodulation By Stimulated Mesenchymal Stem Cells In A Rat Intervertebral Disc Model

Lauren Lisiewski; Samantha Marshall; Nadeen Chahine

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Biodegradable Microspheres And Hydrogel Drug Delivery System Of Multiple Therapeutics For Chronic Degenerative Disc Disease

Bo Yuan; Kayla Rudeen; Jun Li; Brandon Williams; Gregory Lopez; Howard S. An; Jennifer Kang-Mieler; Ana V. Chee

Poster No. 1829

Effect Of Culture Surface, Media, And Duration On Nucleus Pulposus Cell Phenotype During Monolayer Expansion

Sarah M. Romereim; Shaghayegh Basatvat; Christine Le Maitre; Bailey V. Fearing

Poster No. 1830

Functionalization Of 3D Printed Scaffold With Electrospinning Promotes A Fibrochondrogenic Phenotype

Jessica Z. Liu; Samantha Marshall; Helen H. Lu; Nadeen O. Chahine

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Actomyosin Contractility Protects Elastic And Viscoelastic Material Properties Of The Nucleus Pulpous Against Inflammatory Stimulation

Timothy Jacobsen; Nadeen Chahine

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Radiculopathy Related Hypersensitivity Treated Through High Frequency Electrical Stimulation

Lauren Savannah Dewberry; Ken Porche; Kevin Otto; Kyle Allen

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Multiplex CRISPRa Upregulation Of Pro-survival Genes Improves Cell Viability In ECM Producing Cells

Hunter Levis; Jacob Weston; Brooke Austin; Bryce Larsen; Matthew Ginley-Hidinger; Brandon Lawrence; Robert Bowles

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Repeated Cyclic Loading Induces Regeneration Of Degenerated Intervertebral Discs

Elizabeth A. Capogna; Emma Brown; Evan Walrath; William Furst; Gwendolyn Sowa; Nam Vo; Eric H. Ledet

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Microenvironmental Stiffness And Oxygen Tension Differentially Regulate Goat Mesenchymal Stem Cells And Nucleus Pulposus Cells

Dong Hwa Kim; Chenghao Zhang; Su-Jin Heo; Thomas P. Schaer; George R. Dodge; Neil Malhotra; Lachlan Smith; Robert Mauck

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Exosomes From Expanded Nucleus Pulposus Cells Deliver Scleraxis To Primary Annulus Fibrosus Cells

Peter Linde; John Kisiday; Christian Puttlitz

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Investigating The Role Of Fibroblast-laden Injectable Nanofibrous Scaffold In Damaged Annulus Fibrosus Repair: Porcine Intervertebral Disc Organ Culture Study

Evan Roebke

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Knee - Diagnostics

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Relationship Between Structural And Clinical Progression In Patients With No Or Minimal Radiographic Osteoarthritis Of The Knee

Armaghan Mahmoudian; Martin Englund

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The Effect Of Knee Height Asymmetry On Gait Biomechanics

Haluk Altioik; Jacqueline Simon; Ann Flanagan; Abdal Kawaiah; Robert Burnham Jr; Susan Sienko; Cathleen Buckon; Jeremy Bauer; Joseph J. Krzak; Karen M. Kruger

Poster No. 1840

Diagnostic Benefit Of CBCT In The Assessment Of Subchondral Insufficiency Fractures Compared With MRI

Maximilian M. Delsmann; Kai-Jonathan Maas; Julian Stuerznickel; Nico M. Jandl; Michael Amling; Gerhard Adam; Tim Rolvien; Frank Oliver Henes; Clemens Spink

Poster No. 1841

Senescent CD3+ T-cells: A Potentially Novel Biomarker For Mild To Moderate OA

Sealy Hambright; Alex Goff; Victoria Duke; Heidi Kloser; Chelsea Bahney; Johnny Huard

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Knee - Injury and Healing

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Effects Of Fatigue On The Landing Posture Of Elite Women Athletes Using High Intensity Fatigue Protocol

Aguri Kamitani; Kunio Hara; Shohei Yoshida; Yuta Fujii; Yuji Arai

Poster No. 1843

Cartilage-specific SIRT6 Loss Increases Cartilage Damage In A Surgery-induced OA Mouse Model

Cheeho Kim; Ashley Coleman; Kathryn Kelley; Susanna Chubinskaya; Theresa A. Freeman; Richard Loeser; John A. Collins

Poster No. 1844

Biomechanical Investigation Of Partial Injuries Of The Superficial Medial Collateral Ligament

Callahan Doughty; Thiago Vivacqua; Tina Khazaee; Samira Vakili; Ryan Willing; Alan Getgood

Poster No. 1845

Influence Of Quadriceps Atrophy Factors For Controlled Tibia Anterior Instability After Anterior Cruciate Ligament Injury

Kenji Murata; Yuichiro Oka; Takuma Kano; Takanori Kokubun; Naohiko Kanemura

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The Effect Of Low-intensity Pulsed Ultrasound On A Novel Developed Knee Adhesion Model In Rats

Ryo Nakahara; Akira Ito; Akihiro Nakahata; Momoko Nagai-Tanima; Hideki Kawai; Tianshu Wang; Tomoki Aoyama; Hiroshi Kuroki

Poster No. 1847

Disproportionate Reduction In Secondary Anterior Cruciate Ligament Injuries During COVID-19 Sports Restrictions: Implications For Postoperative Rehabilitation And Testing?

Casey Thompson; Caitlin Conley; Mary Lloyd Ireland; Darren Johnson; Benjamin Wilson; Austin Stone; Cale Jacobs

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Effect Of Acute Infrapatellar Fat-pad Lipolysis On Inflammation And Pain In A Mouse Model Of PTOA

Ravi K. Komaravolu; Taylor Conner; Madeline Allen; Jessica Lumry; Albert Batushansky; Padmaja Mehta-D'souza; Timothy M. Griffin

Poster No. 1849

Tibial Tubercle Fractures In Children: Reliability Of The Modified Watson Jones Classification And Twenty Year Epidemiologic Review

Taylor R. Bradley; Charles Mehlman; Junichi Tamai; James McCarthy; Hani Mayassi; Mary Crowe; Jay Patel

Poster No. 1850

Cross-sectional Profile Of Surgically Treated Anterior Cruciate Ligament Is Heterogenous Across Its Length And Influenced By Notch Width

Danilo Menghini; Shankar Kaushal; Sean W. Flannery; Martha M. Murray; Braden C. Fleming; Ata M. Kiapour

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Knee - Structure, Function and Mechanics

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Theoretical Calculation Of Rotational Alignment Of The Knee For Use In Biplanar Lateral Closed Wedge Distal Femoral Osteotomy

Masaru Higa; Hiroshi Nakayama

Poster No. 1852

Can A Planar Model More Accurately Determine Locations Of Contact Developed By The Femoral Condyles On The Tibial Insert In Total Knee Arthroplasty Than The Penetration Method?

Alexander Simileysky; Maury Hull

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Tibial Contact Points Can Not Be Used To Determine Internal-external Axial Rotation Of The Native Tibiofemoral Joint

Alexander Simileysky; Maury L. Hull

Poster No. 1854

Higher Correlation Of A New Radiographic Parameter With Knee Adduction Moment And Patient-reported Outcomes After High Tibial Osteotomy Compared To The Conventional Leg Alignment: Pelvis-knee-ankle Angle

Koji Iwasaki; Yasumitsu Ohkoshi; Yoshiaki Hosokawa; Shuya Chida; Kengo Ukishiro; Kensaku Kawakami; Shoji Suzuki; Tatsunori Maeda; Tomohiro Onodera; Eiji Kondo; Norimasa Iwasaki

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Prediction Of Knee Joint Loading From Subject Characteristics Using Machine Learning

Jere Lavikainen; Lauri Stenroth; Tine Alkjær; Rami Korhonen; Marius Henriksen; Mika Mononen

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A Novel Approach To Support Diagnosis And Treatment Of Knee Osteoarthritis Via Superimposition Of Ground Reaction Force On Proximal Tibial Model

Claudio Belvedere; Miriana Ruggeri; Richie Gill; Alisdair MacLeod; Alberto Grassi; Giacomo Dal Fabbro; Joana Fernandes; Stefano Zaffagnini; Alberto Leardini

Poster No. 1857

Assessment Of Tibiofemoral And Allograft Loading After Osteochondral Allograft Transplantation Using Shell Grafts

Josephine Luk; Johnny Williams; Will Bezold; Aaron M. Stoker; James P. Stannard; James L. Cook

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Tuning Of A Muscle Actuator System With Virtual Gravity

Alexandre Galley; Samira Vakili; Ryan Willing

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An In Silico Method Of Evaluating The Effect Of Anteromedializing Tibial Tubercle Osteotomy On Patellofemoral Cartilage Pressure And Patellar Tracking

Steven P. Mell; Navya Dandu; Chandhana Voleti; Adam B. Yanke; Hannah J. Lundberg

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Prediction Of Surgical Outcomes In Patients With Recurrent Patellar Dislocation

Dario De Caro; John Curran; Lee J. Pace; Nathan L. Grimm; Clare K. Fitzpatrick

Poster No. 1861

Changes In Stress Distributions After ACL Reconstruction: A Longitudinal Finite Element Analysis

Kelsey Neal; Jack R. Williams; Ashutosh Khandha; Lynn Snyder-Mackler; Thomas Buchanan

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Feasibility Assessment Of Gait Measurements Using A Virtual Reality Interface With Markerless Motion Capture

Kevin Abbruzzese; Andre Freligh; Sally LiArno

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Biomechanical Function Of The Native Knee Revealed By 3D Knee Stiffness

Brian Frondorf; Erin Berube; Aditya Jain; Joseph Manzi; Danyal Nawabi; Andrew Pearle; Thomas Wickiewicz; Carl Imhauser

Poster No. 1864

Kinematic Bounds Of Knee Instability

Neda Abdollahi; Jason Halloran; Ahmet Erdemir; Sam Butler

Poster No. 1865

Three-dimensional MRI Analysis Shows Sex-specific Patterns In Changes In Anterior Cruciate Ligament Cross-sectional Area Across Its Length

Danilo Menghini; Shankar Kaushal; Sean W. Flannery; Martha M. Murray; Braden C. Fleming; Ata M. Kiapour

Poster No. 1866

Biomechanics Of Posterior Stabilized Total Knee Arthroplasty In Midflexion Via 3D Stiffness Assessment

Brian Frondorf; Erin Berube; Cynthia Kahlenberg; Aditya Jain; William Xiang; Joseph Manzi; Brian Chalmers; David Mayman; Geoffrey Westrich; Michael Cross; Timothy Wright; Peter Sculco; Carl Imhauser

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Effect Of Challenging Surfaces On Knee Joint Stability In Young And Older Adults

Amy E. Holcomb; Aidan G. Cormier; Nicholas L. Hunt; Amanda K. Ivy; Christina M. Geisler; Tyler N. Brown; Clare K. Fitzpatrick

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Automatic Bone-based Femoral And Tibial Coordinate System With A Comparison To Mechanical Axes

Madison L. Lang; Sofia L. Guarnieri; Erin C. Argentieri; Amy L. Lerner

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An Investigation Of The Influence Of Geometric Characteristics On Stress Distribution Of Tibial Tray

Amaury S. Sá; Carlos R. M. Roesler; André L.A Pizzolatti

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Does Passive Knee Motion Differ Between Sexes? An Ex-vivo Investigation On Healthy Adults

Francesca Bucci; Rami Al-Dirini; Mark Taylor; Saulo Martelli

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Development Of A Multi-bundle Virtual Ligament Model To Simulate The Mechanical Behavior Of Human Knee

Samira Vakili; Liam Montgomery; Brent Lanting; Ryan Willing

Poster No. 1872

Angle Of Knee Flexion During Graft Fixation For MPFL Reconstruction Significantly Affects Patellar Rotational Kinematics

Navya Dandu; Jeffrey Lee; Steven DeFroda; Mario Hevesi; William Cregar; Athan Zavras; Hailey Huddleston; Nozomu Inoue; Adam Yanke

Poster No. 1873

Changes In Posterior Tibial Slope Following “I” And Inverse I” (with And Without A “Twist”) High Tibial Osteotomy: A Biomechanical Study

Natalia D. McIver; Jonathan Tobey; Christina Salas; Christopher Shultz; Robert Mercer; River Fine; Dustin L. Richter; Robert Schenck

Poster No. 1874

MPFL Reconstruction Confers Greater Stability To Lateral Patellar Displacement In The Setting Of Patella Alta Than MQTFL Reconstruction: A Biomechanical Comparison

Navya Dandu; Nicholas Trasolini; Elizabeth Frankenburg Shewman; Han D. Kim; Athan Zavras; Robert Browning; Hailey Huddleston; Adam Yanke

Poster No. 1875

Variability Of Distal Femoral Landmark Topography: A Descriptive Anatomic Study

Navya Dandu; Nicholas Trasolini; Mario Hevesi; Athan Zavras; Adam Yanke

Poster No. 1876

Assessment Of Kinematic Uncertainty During Knee Joint Loading In A Dynamic Gait Simulator

Brett D. Steineman; Kalle Chastain; Suzanne Maher

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Knee - Surgical and Non-Surgical Interventions

Poster No. 1877

Interference Screws Vs. Cement In ACL Graft Fixation

Thomas P. Helbig; Yazan Kadkoy; Jay Patel; Rupani Mohamed; Nicholas Cuppari; Andrew Mostello; David Paglia; Balazs Galdi; Cristobal Beiro

Poster No. 1878

Clinical Outcomes Of Adjustable Cortical Fixation Repair For Knee Extensor Mechanism Rupture

Heath P. Gould; Joseph M. Bano; William R. Rate; Eric R. Samuelson; Katherine L. Mistretta; Milford H. Marchant

Poster No. 1879

Effect Of Bone Surface Mismatches Caused By Osteochondral Transplant On Patellar Cartilage Deformation

Ryan Rosario; Ellen Arruda; John Grant; Rhima Coleman

Poster No. 1880

Optimization Of Osteochondral Allograft Preparation For Transplantation Using Finite Element Modeling

Josephine Luk; Austin Holtorf; Thiagarajan Ganesh; Aaron M. Stoker; James P. Stannard; James L. Cook

Poster No. 1881

Histological Evaluation Of Subchondral Bone Drilling For Preimplantation Preparation Of Osteochondral Allografts

Josephine Luk; Johnny Williams; Chantelle C. Bozynski; James P. Stannard; James L. Cook

Poster No. 1882

Risk Of Patella Fracture In Proximal Quadriceps Tendon Versus Distal Patella Tendon Autograft Bone Blocks In Anterior Cruciate Ligament Reconstruction: A Biomechanical Study

Kathleen N. Meyers; Stephanie Swensen Buza; Gabriella Ode; Dakota Adamec; Suzanne Maher; Karen Sutton

Poster No. 1883

Case Study: Computational Analysis Of Double Derotational Osteotomies On Patellofemoral Kinematics

Derek Jacobs; Ryan Willing; Alan Getgood

Poster No. 1884

Outcomes Following Surgical Management Of Multi-ligamentous Knee Injuries Using Adjustable Suspensory Fixation

Ryan Martin; Kaja Matovinovic; Prism Schneider

Poster No. 1885

Proximal Bone Block For Mechanical Stability During Distalization Tibial Tubercle Osteotomy

Brian M. Cash; Amirhossein Jahandar; Suzanne Maher; Sabrina M. Strickland; Andreas H. Gomoll

Poster No. 1886

C₁₂FDG Is A Reliable Immunofluorescent Marker For Endogenous And Induced Senescence In Human Primary Adipose Derived Stem Cells

Charles Huard; Heidi Kloser; Victoria Duke; Michael Mullen; Sealy Hambright; Johnny Huard

Poster No. 1887

Quantitative Longitudinal MRI T2* Mapping Of Juvenile Osteochondritis Dissecans (JOCD) Lesions Differentiated Operative From Non-Operative Patient Treatment Groups

Abdul Wahed Kajabi; Stefan Zbyn; Mark A. Tompkins; Bradley J. Nelson; Kevin G. Shea; Shelly Marette; Cathy Carlson; Jutta M. Ellermann

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Meniscus - Injury and Healing

Poster No. 1888

A Tale Of Two Loads: Regional Variation And Inflammation In Meniscus Mechanoresponsive Pathways Using Two Models Of Mechanical Loading

Benjamin Andress; Rebecca Irwin; Amy McNulty

Poster No. 1889

MR T1p And T2 Of Meniscus 10 Years After Anterior Cruciate Ligament Reconstruction

Dongxing Xie; Richard Lartey; Sibaji Gaj; Jeehun Kim; Mei Li; Brendan L. Eck; John Murray; Carl S. Winalski; Faysal Altafawi; Morgan H. Jones; Laura J. Huston; Kevin D. Harkins; Lindsay Merrin; Michael V. Knopp; Christopher C. Kaeding; Kurt P. Spindler; Xiaojuan Li

Poster No. 1890

Mononuclear Leukocytes Induce Catabolism Of Meniscus Tissue

Kevin Betsch; Lucas Lyons; J. Brice Weinberg; Jocelyn Wittstein; Amy McNulty

Poster No. 1891

Mononuclear Leukocytes Cause Sustained Meniscus Catabolism That Is Exacerbated By The Presence Of Lysed Red Blood Cells

Lucas Lyons; Kevin Betsch; Jocelyn Wittstein; Brice Weinberg; Amy McNulty

Poster No. 1892

A Novel Approach To Meniscal Engineering: The Re-population And Maturation Of Channel-laden Decellularized Meniscus

Paul M. Gehret; Soheila Ali Akbari Ghavimi; Alexandra A. Dumas; Riccardo Gottardi

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Meniscus - Structure, Function and Mechanics

Poster No. 1893

Volumetric Analysis Of Calcifications In Posterior Horn Of Human Meniscus Using Micro-computed Tomography Imaging

Ville-Pauli Karjalainen; Iida Hellberg; Mikko Finnila; Elin Jonsson; Aleksandra Turkiewicz; Patrik Önnarfjord; Velocity Hughes; Jon Tjörnstrand; Martin Englund; Simo Saarakkala

Poster No. 1894

The Effect Of The Relationship Between Medial Meniscal Extrusion And Knee Alignment On The Stress Load Of The Knee -finite Element Analysis

Takuhei Kozaki; Daisuke Fukui; Ei Yamamoto; Daisuke Nishiyama; Manabu Yamanaka; Hiroshi Yamada

Poster No. 1895

Removal Of GAGs Improves Mechanical Properties And Increases Resistance To Failure In Tissue Engineered Meniscal Enthesis

Serafina Lopez; Jongkil Kim; Lawrence Bonassar

Poster No. 1896

Type V Collagen Regulates Nascent Protein Assembly And Micromechanobiology Of The Meniscus Pericellular Matrix

Chao Wang; Su-Jin Heo; Claudia Loebel; Jason A. Burdick; X. Lucas Lu; Robert L. Mauck; Lin Han

Poster No. 1897

Effect Of Solute Size On Partition Coefficient In Porcine Meniscus

Andy Morejon; Francesco Travascio; Alicia Jackson

Poster No. 1898

Joint Kinematics Via MRI Are Partially Restored With Repair Following Meniscus Injury In A Large Animal Model

Kyle D. Meadows; John M. Peloquin; Brendan D. Stoeckl; Adriana Barba; Edward D. Bonnevie; Sonia Bansal; David R. Steinberg; Miltiadis H. Zgonis; Thomas P. Schaer; Robert L. Mauck; Dawn M. Elliott

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Meniscus - Treatment and Therapeutics

Poster No. 1899

Combination Of Cartilage Progenitors And Kartogenin In A Collagen I Laden Matrix For Application In Meniscus Tissue Repair

Daniel S. Yang; Daniel Betensky; Salomi Desai; Jay Trivedi; Brett D. Owens; Chathuraka T. Jayasuriya

Poster No. 1900

Fibronectin Adherence And Physioxia Isolates A Clonogenic And Multipotent Meniscus Progenitor Cell Population From The Avascular And Vascular Regions Of The Meniscus

Girish Pattappa; Siegmund Lang; Johannes Zellner; Brian Johnstone; Denitsa Docheva; Peter Angele; Ruth Schewior; Judith Jahns; Franziska Reischl

Poster No. 1901

Chondrogenic Differentiation Potential Of Human Adipose-derived Mesenchymal Stem Cells In A Type I Collagen-based Meniscus Scaffold With Activated Platelet-rich Plasma Stimulation In Vitro

Wei Chang; Henintsoa Fanjaniaina Andriamifidy; Jedediah Bondi; Daniel Grande; Shu-Tung Li

Poster No. 1902

Evaluation Of Tranexamic Acid On Meniscal Repair In A Rabbit Model

Janice Havasy; Edward Bowen; Jonathan Yu; Vincent Yao; Ronak Patel; Alexander Piacentini; Ian Hutchinson; Yulei Liu; Xianghua Deng; Scott Rodeo

Poster No. 1903

The Effects Of Lateral Opening Wedge Distal Femoral Osteotomy On Meniscus Allograft Transplantation: A Biomechanical Evaluation

Simon Lee; Chris Bartolomei; Travis Turnbull; Miles Jon; Grant Dornan; Rachel Frank; Justin Brown; Armando Vidal

Poster No. 1904

Fibrochondrocytes Rapidly Restore Phenotype And Matrix Production Capacity Following Transient Nuclear Softening Via Histone Deacetylase Inhibition

Ryan C. Locke; Dakota L. Jones; Edward Bonnevie; Liane Miller; Sereen S. Assi; Jason A. Burdick; Su-Jin Heo; Robert L. Mauck

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Shoulder and Elbow - Arthroplasty

Poster No. 1905

Range And Composition Of Internal And External Rotation In Individuals With TSA

Moir Pryhoda; Sarah Walden; Thor Andreassen; Landon Hamilton; Sean Higinbotham; Casey Myers; Ignacio Crespo; David Weinstein; Kevin Shelburne

Poster No. 1906

Relationship Between Shoulder Implant Design And Removal Difficulty During Revision Shoulder Arthroplasty

Benjamin Black; Nicklaus Ipock; Alex Kullman; Peter Simon; Miguel Diaz; Mark Frankle; Melinda Harman

Poster No. 1907

Central Fixation Element Type And Length Affect Glenoid Baseplate Micromotion In Reverse Shoulder Arthroplasty

Lawrence F. Torkan; John T. Bryant; Ryan T. Bicknell; Heidi-Lynn Ploeg

Poster No. 1908

Identifying Areas Of Screw Fixation In Glenoids With Severe Glenoid Bone Loss In Shoulder Arthroplasty

Lauren Wilder; Peter Simon; Blake Eyberg; Sergio Gutierrez; Mark Frankle

Poster No. 1909

Improved Mechanical Fixation Of An All-polyethylene Glenoid Reduces Postoperative Radiolucent Lines

Miguel Diaz; Wilder Lauren; Roshan Melvani; Adam Hutchinson; Kaitlyn Christmas; Peter Simon; Mark Mighell; Mark Frankle

Poster No. 1910

Intraoperative Measurement Of Retroversion Does Not Predictably Restore Native Retroversion Nor Accurately Predict Postoperative Retroversion After Reverse Shoulder Arthroplasty

Ajinkya Rai; Clarissa LeVasseur; Gillian Kane; Maria Munsch; Jonathan Hughes; William Anderst; Albert Lin

Poster No. 1911

Can Variations In Humeral Version Effect Stability On Reverse Shoulder Arthroplasty: A Biomechanical Study

Alessia Lavin; Vani Sabesan; Jonathan Braman; Jeff Bischoff; Marc Bandi; Kyle Snethen

Poster No. 1912

Predictors Of Readmission And Reoperation Following Shoulder Arthroplasty In Young Patients Under 45 Years

Junho Song; Austen Katz; Nicholas Sgaglione

Poster No. 1913

Radiographic And Survivorship Analysis Of A Short Humeral Stem For Total Shoulder Arthroplasty: Two-year Minimum Follow-up Results

Alexander T. Greene; Christopher P. Roche; Gabriel Larose; William Aibinder; Kenneth Faber; Howard Routman; Samuel Antuña; Joseph Zuckerman; Thomas Wright; Pierre Henri Flurin; Mandeep Virk

Poster No. 1914

Abnormal Preoperative Platelet Counts Associated With Increased Risk Of Complications Following Shoulder Arthroplasty

Kenny Ling; Matthew Kim; Kevin Kashanchi; Alireza Nazemi; David Komatsu; Edward D. Wang

Poster No. 1915

Survivorship Of Anatomic Shoulder Arthroplasty Versus Reverse Shoulder Arthroplasty: A Healthcare Database Analysis In The United States

Akshar P. Thakkar; Daniel T. Mathew; Michael Scheidt; Matthew D. Saltzman; Sanjeev Bhatia; Aaron A. Bare

Poster No. 1916

The Significance Of International Normalized Ratio In Predicting Complications Following Shoulder Arthroplasty

Matthew Kim; Kenny Ling; Kevin Kashanchi; Alireza Nazemi; David Komatsu; Edward Wang

Poster No. 1917

Both Morbidly Obese And Underweight Status Are Risk Factors For Complications Following Shoulder Arthroplasty

Matthew Kim; Kenny Ling; Kevin Kashanchi; Alireza Nazemi; David Komatsu; Edward Wang

Poster No. 1918

Reverse Total Shoulder Arthroplasty Deltopectoral Versus Anterosuperior Approach Comparison

Jackson P. Harvey; Lorena Bejarano; James Heaberlin; Aimee Bobko; Michael Patetta; Dmitriy Peresada; Ye Lin; Julio Castillo Tafur; Benjamin Goldberg

Poster No. 1919

Morphology Of The Humeral Head Resection Plane During Total Shoulder Arthroplasty

Gregory Spangenberg; Daniel Langohr; Faber J. Kenneth; Jacob Reeves

Poster No. 1920

Preoperative Chronic Steroid Use As A Predictor For Mortality Following Shoulder Arthroplasty

Kenny Ling; Matthew Kim; Kevin Kashanchi; Alireza Nazemi; David Komatsu; Edward D. Wang

Poster No. 1921

Muscle Activations During External Rotation In Patients Who Have Undergone A Reverse Total Shoulder Arthroplasty

Alexis K. Nelson; Blake Hajek; Kunal Singhal; Shannon Hughes; Thomas Throckmorton; William Mihalko

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Shoulder and Elbow - Injury and Healing

Poster No. 1922

Rotator Cuff Tendon Healing Using Human Dermal Fibroblasts In Place Of Human Tenocytes: Histological And Biomechanical Analyses In A Rabbit Model Of Chronic Rotator Cuff Tear

Sung-Min Rhee; Ji-Hye Lee; Saewha Jeon; Jikhyon Han; Yun Hee Kim; Hyeon Jang Jeong; Joo Hyun Park; Joo Han Oh

Poster No. 1923

Part 1: Fibrogenesis After Retracted Rotator Cuff Tear Repair Compared With Non-retracted Tendon - an Animal Study

Sung-Min Rhee; Seung-Min Youn; Young Wan Ko; Tae Yoon Kwon; Yong-Koo Park; Yong Girl Rhee

Poster No. 1924

5-year Follow-up On A Prospective Randomized Controlled Study On Early Versus Delayed Rehabilitation After Arthroscopic Rotator Cuff Repair

Joseph Y. Rho; Sungwook Choi; Seung Jin Yoo; Hyunseong Kang; Jaehwang Lee

Poster No. 1925

Correlation Of Long-term Clinical Results And Coracoid Graft Position After Modified Bristow Procedure

Masataka Minami; Yoshikazu Kida; Satoru Atsumi; Hara Kunio; Kenji Takahashi

Poster No. 1926

Psychosocial Factors Play A Greater Role In Preoperative Symptoms For Patients With Atraumatic Shoulder Instability: Data From The MOON-Shoulder Group

Michael Nichols; Cale Jacobs; Nicole Lemaster; Justin Magnuson; Shannon Ortiz; Carolyn Hettrich

Poster No. 1927

The Role Of The Subacromial Bursa In Rotator Cuff Tendon Injury And Healing In A Rat Model

Brittany P. Marshall; Xavier Ferrer; Astia Innis; Andrew Luzzi; Kevin G. Burt; Lee Song; Stavros Thomopoulos

Poster No. 1928

Single Cell Transcriptomics Of Human Frozen Shoulder Indicate Stromal Driven Adaptive Immune Response: An Early Shoulder Capsule Cell Atlas

Moeed Akbar; Lucy Macdonald; Lindsay Crowe; Iain McInnes; Neal Millar

Poster No. 1929

Investigating In Vivo Biomechanical Properties Of Neonatal Brachial Plexus When Subjected To Stretch

Virginia Orozco; Rachel Magee; Lindsay Hager; Mitali Sahni; Sriram Balasubramanian; Anita Singh

Poster No. 1930

PRDM16 KO In Fibro/Adipogenic Progenitor Cells Improved Muscle Quality After Massive Rotator Cuff Tears

Agustin Diaz; He Zhang; Ryan Halvorson; Michael Davies; Hubert Kim; Brian Feeley; Xuhui Liu

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Shoulder and Elbow - Structure, Function and Mechanics

Poster No. 1931

The Influence Of Patient Sex On Outcomes Following Surgical Treatment Of Osteochondritis Dissecans Lesions Of The Elbow: A Systematic Review

Anthony C. Mok; Andrew Hinkle; Armin Tarakemeh; Candence Miskimin; Felix Savoie III; Bryan Vopat; Bryan Vopat; Mary Mulcahey

Poster No. 1932

Humeral Head Geometry: A Cadaveric And Anatomical Analysis Of Global Offset And Intermedullary Shaft Diameter

Deana Mercer; Jennifer S. Weaver; Ann Laurie Wells; Gary Mlady; Mahmoud Taha; Gabriel Pertierra; Natasha Dark; Jorge Orbay

Poster No. 1933

Coordination Of The Sub-regions Of The Supraspinatus And Deltoid Muscles During Shoulder Scaption: A Shear Wave Elastography Study

Kyosuke Hoshikawa; Takuma Yuri; Hugo Giambini; Nariyuki Mura; Yoshiro Kiyoshige

Poster No. 1934

Grasping Python-Tooth-Inspired Device For Enhanced Rotator Cuff Repair

Iden Kurtaliaj; Ethan Hoppe; Thomas Gardner; Liana Tedesco; Sohil Desai; Silvio Torres Betancur; Linda Effiong; Mark Lipkin; William Levine; Guy Genin; Stavros Thomopoulos

Poster No. 1935

Biomechanics Of A Rotator Cuff Deficient Shoulder And The Effects Of Acellular Dermal Matrix Allograft Reconstruction Techniques

Pranav Krishnan; Aimee Bobko; Dmitriy Peresada; Michael Patetta; Danil Rybalko; Erwin Secretov; Julio Castillo Tafur; Farid Amirouche; Jason Koh; Benjamin Goldberg

Poster No. 1936

Influence Of The Glenoid Labrum On The Glenohumeral Joint Stability By A Finite Element Shoulder Model

Alexandre N. Trichez Jr.; José O. R. Pécora; Arnaldo A. Ferreira Neto; Carlos R. M Roesler; Eduardo A. Fancello

Poster No. 1937

Analysis Of Abduction Moment Arms After Rotator Cuff Tear And Acellular Dermal Matrix Allograft Reconstruction

Pranav Krishnan; Sonia Pradhan; Roberto L. Diaz; Aravind Athiviraham; Jason Koh; Farid Amirouche

Poster No. 1938

Augmentation Of Plate Fixation With Suture Through The Triceps In A Comminuted Olecranon Fracture Model: A Biomechanical And Proof Of Concept Study

Austin F. Smith; Joseph M. Kitchen; Kevin L. Harreld; Michael Voor; Jiyao Zou

Poster No. 1939

Tears To The Rotator Crescent Area Affect Force Transmission

Michael Smolinski; Ryan Blake; Anthony Davidson; Jamie Greenwell; Mark Carl Miller; Patrick Smolinski; Luis Carrazana-Suarez; Dimitrios Papadopoulos; Christopher Schmidt

Poster No. 1940

Why Don't Bats Tear Their Rotator Cuffs Despite Repetitive Overhead Motion?

Iden Kurtaliaj; Jennifer Kunes; Michael Rowley; Lynn Ann Forrester; Guy Genin; Stavros Thomopoulos

Poster No. 1941

Comparison Of Shoulder Muscle Forces During Arm Elevation In The Scapula Plane For The Intact And Cuff Deficient Shoulder

Aniruddh Nayak; Courtney Mason; Stefan Gabriel; David Spenciner; Marc Jacofsky

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Shoulder and Elbow - Surgical and Non-Surgical Interventions

Poster No. 1942

Therapeutic Effect Of Mesenchymal Stem Cell Transplantation On Tendon-bone Healing In Chronic Cuff Tear Model With Suprascapular Nerve Injury

Kenichiro Eshima

Poster No. 1943

Biomechanical Analysis Of Percutaneous Pin Configuration In The Sagittal Plane For Supracondylar Humerus Fractures

Marc Duemmler; Kelsie Coe; Nahir Habet; Susan Odum; Michael Paloski

Poster No. 1944

Preventing Varus Collapse In Proximal Humerus Fracture Fixation: 90-90 Dual Plating Versus Endosteal Fibular Allograft Strut

Jon Miles; Ravi Patel; Grant Dornan; Chris Bartolomei; Justin Brown; Leslie Vidal; Peter Millett

Poster No. 1945

Mechanics Of Porous Glenohumeral Implant Stems In Humeri Of Different Bone Densities

Sydney Hitchon; Jaques Milner; David Holdsworth; Ryan Willing

Poster No. 1946

Normalization Of Upper Extremity Kinematics Following Rotator Cuff Repair Surgery

Alyssa J. Schnorenberg; Steven I. Grindel; Brooke A. Slavens

Poster No. 1947

Biomechanical Evaluation Of Optimal Mini-fragment Dual Plate Configuration For Mid-diphyseal Clavicle Fracture Fixation

Joep Kitzen; Kent Paulson; Brent Edwards; Robert Korley; Paul Duffy; Andrew Dodd; Ryan Martin; Prism Schneider

Poster No. 1948

Opioid Consumption After Rotator Cuff Repair And Regional Anesthesia

Akshar Thakkar; Andrew Bare; Ashorne K. Mahenthiran; Michael Scheidt; Matthew D. Saltzman; Sanjeev Bhatia; Aaron A. Bare

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Skeletal Muscle - Diseases and Disorders

Poster No. 1949

Regulation Of Myoblast Differentiation And Skeletal Muscle Formation By The Extracellular Protease ADAMTS10

Keron WJ Rose; Nandaraj Taye; Dirk Hubmacher

Poster No. 1950

Tolerance Induction Of Muscle Cells Through Activating XIAP Pathway In Hypoxic Preconditioning.

Jefferson DeKloe; Haiying Pan; Nariaki Nakamura; Yong Li

Poster No. 1951

Excess Intramyocellular Lipid Does Not Impair Muscle Contractile Force

Karen C. Shen; Kelsey H. Collins; Charles A. Harris; Farshid Guilak; Gretchen A. Meyer

Poster No. 1952

Does Isolated Unilateral Knee Osteoarthritis Leads To Adverse Changes In Extremity Composition?

David DeMik; Michael C. Marinier; Jacob Elkins

Poster No. 1953

Prevalence Of Sarcopenia And Sarcopenic Obesity In An Academic Total Joint Arthroplasty Practice

David E. DeMik; Michael C. Marinier; Jacob M. Elkins

Poster No. 1954

Isolated Unilateral Hip Osteoarthritis Leads To Adverse Changes In Extremity Composition

David DeMik; Michael C. Marinier; Jacob Elkins

PS2-152

Skeletal Muscle - Growth, Development and Aging

Poster No. 1955

Collagen Type I Enriched With Advanced Glycation End-products Regulates Human Primary Myoblast Differentiation And Proliferation Via RAGE-P38 MAPK Signaling

Lucas C. Olson; Tri M. Nguyen; Barbara D. Boyan; Zvi Schwartz; Michael J. McClure

Poster No. 1956

Effect Of Oral Fisetin On Uninjured Skeletal Muscle Homeostasis

Matthieu Huard; Xueqin Gao; Naomasa Fukase; Johnny Huard

Poster No. 1956A

Novel Approach To Prevent Fatty Replacement Of Skeletal Muscle

Daniel Kopinke

Poster No. 1957

Wnt16 Exerts Pleiotropic Effects On Bone And Lean Mass In Zebrafish

Claire J. Watson; Ernesto Morfin Montes de Oca; Imke Fiedler; LuLu K. Callies; Avery Angell Swearer; Ali R. Ahmed; Maria F. Rojas; Bjorn Busse; Yi-Hsiang Hsu; Ronald Y. Kwon

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Skeletal Muscle - Injury and Healing

Poster No. 1958

Conditional Knockout Of ECM Protein Adamtsl2 Delays Skeletal Muscle Repair After Injury

Nandaraj Taye; Dirk Hubmacher

Poster No. 1959

Skeletal Muscle PDGFR α ⁺ Fibro-adipogenic Progenitor Cells Are A Source Of IL-1 β In Hindlimb Ischemia-reperfusion Injury

Emily G. Parker; Kanglan Yu; Andrew Kent; Jeanene Pihkala; Meghan McGee-Lawrence; Mark Hamrick

Poster No. 1960

UCP1 Expressing Cells Are Not Required For Muscle Regeneration In Mice

Jacob Parson; Gretchen Meyer

Poster No. 1961

Resolution-based Immunomodulatory PEG-MAL Hydrogels Achieve Pro-regenerative Immunomodulation After Critical VML Injury

Thomas C. Turner; Lauren A. Hymel; Frank S. Pittman; Monica Behara; Edward A. Botchwey

Poster No. 1962

Segmental Bone Defects Are The Primary Source Of Muscle Weakness In A Porcine Mangled Limb Model Of Volumetric Muscle Loss

Todd O. McKinley; Roman N. Natoli; Stephen Goldman; Christopher Dearth; Stephen Mendenhall; Caio Staut; Melissa Kacena; Benjamin Corona

Poster No. 1963

Harnessing Immune Cell Pseudotime Trajectory Analysis To Inform Regenerative Medicine Strategies In Critically Sized Volumetric Muscle Loss Injury

Lauren A. Hymel; Shannon E. Anderson; Thomas C. Turner; Molly E. Ogle; William Y. York; Edward A. Botchwey

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Skeletal Muscle - Structure, Function and Mechanics

Poster No. 1964

A Rodent Neuromusculoskeletal Model To Study Neurodevelopmental And Neurodegenerative Conditions

Victoria L. Volk; Dustin J. Hines; Rochelle M. Hines; Clare K. Fitzpatrick

Poster No. 1965

Comparison Of Hip Abductor Muscle Quality Evaluation Methods: Is The Whole Muscle Needed?

Alyssa Bird; Sharmila Majumdar; Richard Souza

Poster No. 1966

Repairing Volumetric Muscle Loss By Combining Skeletal Muscle Units And Hyaluronic Acid Hydrogel In The Tibialis Anterior Muscle In Rats

Emmanuel E. Vega-Soto; Stoyana Novakova; Lisa M. Larkin; Kevin Healy; George J. Christ

PS2-155

Skeletal Muscle - Treatment and Therapeutics

Poster No. 1967

Effect Of Treadmill Running On Slow-twitch Muscle Atrophy In A Rat Model Of Arthritis

Yoichiro Kamada; Atsuo Inoue; Shogo Toyama; Hiroaki Inoue; Shuji Nakagawa; Yuta Fujii; Kenta Kaihara; Ryota Cha; Yuji Arai; Osam Mazda; Kenji Takahashi

Poster No. 1968

Electrically Stimulated Eccentric Contraction Training Improves Muscle Size And Strength Following Volumetric Muscle Loss

Natalia Ziemkiewicz; Jeffrey S. Au; Hannah M. Chauvin; Koyal Garg

Poster No. 1969

Mesenchymal Stem Cell Therapy: A New Therapeutic Option For Sarcopenia

Belle Yu-Hsuan Wang; Chien-Wei Lee; Wayne Lee

PS2-156

Spine - Diagnostics

Poster No. 1970

Differences Between Supine And Upright Cervical Sagittal Alignment Are Dependent Upon Vertebral Level

Anthony Oyekan; Clarissa LeVasseur; Jeremy Shaw; William F. Donaldson; Joon Lee; William Anderst

Poster No. 1971

MRI Heating Due To Spinal Construct Screw Placement Variability

Valerie S. Coldren; David J. Nuckley

Poster No. 1972

Measures Of Vertebral Endplate Bone Marrow Lesion Composition From Water-Fat MRI Improve Associations With Low Back Pain Compared With Clinical Modic Change Classification

Noah B. Bonnheim; Ann A. Lazar; Jiamin Zhou; Ravi Chachad; Nico Sollmann; Xiaojie Guo; Thomas Link; Conor O'Neill; Jeffrey C. Lotz; Roland Krug; Aaron J. Fields

PS2-157

Spine - Growth, Development and Aging

Poster No. 1973

Ovine Model Of Congenital Chest Wall And Spine Deformity: From Birth To Three Months Follow-up

Jesse Shen; Nathalie Samson; Jerome Lamontagne-Proulx; Denis Soulet; Yves Tremblay; Sarah Bouchard; Jean-Paul Praud; Stefan Parent

Poster No. 1974

Bone Mineral Density Revisited: Is Volumetric Bone Mineral Density Using Dual-energy X-ray Technique Reliable?

Yvonne W. Karanja; Bhushan Borotikar; Tinashe E. M. Mutsvangwa

Poster No. 1975

Mechanically Induced Scoliosis Progressively Varies With Anatomic Location And Between Disc And Bone

Axel C. Moore; Adriana Barba; Harrah R. Newman; Kyle D. Meadows; Benjamin P. Sinder; Alessandra Fusco; Rachel Hilliard; Edward J. Vresilovic; Brian Snyder; Patrick J. Cahill; Thomas P. Schaer; Dawn M. Elliott

Poster No. 1976

The Induction Of Posterior Instability Of Rat Spine Caused Ligamentum Flavum Hypertrophy; A Rat Model Of Lumbar Spinal Stenosis

Yuta Goto; Kenji Kato; Nobuyuki Suzuki; Kiyoshi Yagi; Hideki Murakami

Poster No. 1977

Integration Of Skeletal Maturity In Patient-specific Finite Element Model Simulations Of Adolescent Idiopathic Scoliosis Curve Progression

Christian D'Andrea; Amer F. Samdani; Sriram Balasubramanian

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Spine - Injury, Healing and Pain

Poster No. 1978

Novel Assessment Of Low Back Pain In Daily Life Of Different Situations Or Positions: Correlation Analysis With Quality Of Life

Norihiko Takegami; Koji Akeda; Koki Kawaguchi; Takahiro Hasegawa; Junichi Yamada; Tatsuhiko Fujiwara; Akinobu Nishimura; Akihiro Sudo

Poster No. 1979

3D Surface Strain-assisted Failure Analyses In Simulated Defect And Augmented Spine Segments

Maryam Tilton; Asghar Rezaei; Maria Astudillo Potes; Hugo Giambini; Yong Li; Alexander Hooke; Alan L. Miller II; Michael Yaszemski; Lichun Lu

Poster No. 1980

Novel High-throughput Drug Screening Assay Identified New Neuroprotection Drugs For Spinal Cord Injury

Yuki Suzuki; ken Kadoya; Takeshi Endo; Akito Sotome; Yuen Rufeij; Tsuyoshi Asano; Katsumi Maenaka; Shinsuke Nakagawa; Norimasa Iwasaki

Poster No. 1981

Evaluation Of A Novel Naloxone-Treated Collagen Implant In A Rabbit Model Of Posterior Lumbar Intertransverse Fusion

Katie Bisazza; Kirk McGilvray; Kurt Selberg; Kevin Labus; Benjamin Gadowski; Bryan S. Marguiles; Jeremiah Easley

Poster No. 1982

Improved Spinal Fusion Through Targeted Delivery Of Abaloparatide

Jeffery J. Nielsen; Stewart A. Low; Christopher Chen; Xinlan Li; Ephraim Mbachu; Lina Trigg; Madeleine Tremblay; Philip Low

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Spine - Structure, Function and Mechanics

Poster No. 1983

The Effect Of Pedicle Screw Diameter Ratio On Rate Of Failure During Load Cycling

Farid Amirouche; Julio Castillo Tafur; Roberto Leonardo Diaz; Bingtao Xiang; Awais Hussain; Nate Koh; James Mok; Ye Lin

Poster No. 1984

Morphologic Variation In Adult Cervical Vertebrae Identified Using Statistical Shape Modeling

S. Sharon Ashok; Clarissa LeVasseur; Samuel Pitcairn; William F. Donaldson; Jeremy Shaw; Joon Lee; William Anderst

Poster No. 1985

Changes In Lumbar Spine Intervertebral Foramen And Disc Deformation During Gait Following Total Hip Arthroplasty

Anthony Oyekan; Clarissa LeVasseur; Stephen Chen; Christopher Como; Brian Klatt; Michael O'Malley; William F. Donaldson; Joon Lee; William Anderst; Jeremy Shaw

Poster No. 1986

Evaluation Of Injectable Calcium Sulfate/Hydroxyapatite Cement For Augmentation Of Pedicle Screws In Osteoporotic Vertebrae: A Cadaver Study

Xinggui Tian; Deepak B. Raina; Tilman Ahlfeld; Ivan Platzek; Corina Vater; Ute Nimtschke; Magnus Tägil; Lars Lidgren; Alexander Thomas; Uwe Platz; Klaus-Dieter Schaser; Alexander C. Disch; Stefan Zwillingenberger

Poster No. 1987

Effect Of Body Lattice And Microporous Endplates On The Subsidence Of Interbody Fusion Cage Under Simulated In-vivo Testing Conditions

Guy Fogel; Nicholas Martin; Kelli Lynch; Gregory Williams; Yun Peng; Michael Jekir

Poster No. 1988

Asymmetrical Lumbar Intervertebral Motion In Chronic Low Back Pain

Marit E. Johnson; Clarissa LeVasseur; Tom Gale; Sabreen Megherhi; Kimberly Hua; Paige Paulus; Naomi Frankston; Samuel Pitcairn; Ajinkya Rai; William Anderst

Poster No. 1989

Interbody Device Placement Is Critical To Subsidence Resistance

Joseph A. Fredericks; David Nuckley

Poster No. 1990

A Thoracolumbar Spine Musculoskeletal Model Predicts Back Muscle Activation Patterns During A Dynamic Lifting Activity

Mehdi Alemi Alemi; Jacob J Banks; Andrew C. Lynch; Brett T. Allaire; Mary Boussein; Dennis Anderson

Poster No. 1991

Mechanical Vertebral Attachment For Biomechanical Testing Of Explanted Spinal Segments

Aubrie Taylor; Austin Johnson; Brevin Banks; Anton E. Bowden

Poster No. 1992

How Many Trials Are Needed To Estimate Typical Lumbar Movement Patterns Using Dynamic X-ray Imaging?

Ameet Aiyangar; Tom Gale; Sabreen Megherhi; William Anderst

Poster No. 1993

Does Axis Of Rotation Matter? Assessment Of Cervical And Lumbar Kinematics In Simulated Open And Closed Kinetic Chain Pelvic Tilting: A Preliminary Cadaveric Model

Kevin Jacob; Farid Amirouche; Sonia Pradhan; Mark Mikhael; Steve Mardjetko

Poster No. 1994

Accuracy Of Inertial Measurement Units (IMUs) To Assess Spine Kinematics During A Sit-to-stand Task In Individuals With Low Back Pain

Anna H. Bailes; Harold Cook; Marit Johnson; Rakié Cham; Mark Redfern; Gwendolyn Sowa; Kevin Bell

Poster No. 1995

Single-level Subject-specific Finite Element Model Can Predict Fracture Outcomes In Three-level Spine Segments Under Different Loading Rates

Asghar Rezaei; Maryam Tilton; Maria Astudillo Potes; Li Yong; Michael Yaszemski; Lichun Lu

PS2-160

Spine - Surgical and Non-Surgical Interventions

Poster No. 1996

Biomechanical Evaluation Of Cage Subsidence Performance Of Three Porous Lateral Cage Designs

Guy Fogel; Christian Yee-Yanagishita; Brooke Douglas; Nicholas Martin; Gregory Essayan; Brijesh Poojary; Yun Peng; Michael Jekir

Poster No. 1997

Biomechanical Analysis Of Bilateral, Satellite And Accessory Rod Configurations Following Anterior Column Realignment And Pedicle Subtraction Osteotomy

Muzammil Mumtaz; Justin Mendoza; Ardalan Seyed Vosoughi; Anthony S. Unger; Vijay Goel

Poster No. 1998

Choice Of Spinal Interbody Fusion Cage Material And Design Influences Subsidence And Osseointegration Performance

Guy Fogel; Nicholas Martin; Gregory Williams; Christian Yee-Yanagishita; Yun Peng; Michael Jekir

Poster No. 1999

A Computational Optimization Approach To Scoliosis Brace Design - Preliminary Results

Kateryna Kardash; Jesus P. Rodriguez; Miguel A. Otaduy

Poster No. 2000

The Effect Of Spinal Surgery On Spine And Walking Biomechanics In Patients With Symptomatic Lumbar Spinal Stenosis

Seyed Javad Mousavi; Andrew Lynch; Andrew White; Dennis Anderson

Poster No. 2001

Wireless In Vivo Measurement Of Tether Tension In A Porcine Model Of Scoliosis

Benjamin Sinder; Adriana Barba; Alessandra Fusco; Vincent Ruggieri; Edward Vresilovic; Jason Anari; Brian Snyder; Thomas Schaer; Patrick Cahill

Poster No. 2002

Satellite Rod Configuration (in-line Vs. Lateral) And Screw Type (Monoaxial Vs. Polyaxial) Spanning A Lumbar Pedicle Subtraction Osteotomy (PSO): A Finite Element Analysis

Niloufar Shekouhi; Ardalan S.Vosoughi; Joseph M. Zavatsky; Vijay Goel; Alekos A. Theologis

Poster No. 2003

Rod Instrumentation Order Does Not Influence Final Rod Strain In Posterior Thoracolumbar Fixation Constructs

Kyle A. McGrath; Callan M. Gillespie; Jeremy G. Loss; Robb W. Colbrunn; Swetha Sundar; Michael P. Steinmetz

Poster No. 2004

Preoperative Prone Radiographs Can Reliably Determine Spinal Curve Flexibility In Adolescent Idiopathic Scoliosis

Tej Joshi; Daniel Berman; Evan Mostafa; Jaime Gomez; Regina Hanstein; Leila Mehraban Alvandi; Jacob Jacob

Poster No. 2005

Increasing Posterior Instrumentation Construct Lengths Reduces Stand-alone L5-S1 Anterior Lumbar Interbody Fusion Stability

Kyle A. McGrath; Eric S. Schmidt; Jeremy G. Loss; Callan M. Gillespie; Robb W. Colbrunn; Robert S. Butler; Michael P. Steinmetz

Poster No. 2006

Biomechanical Testing Of Anterior Vertebral Body Tethering Using Simvitro Robotics

A'anna M. Kelly; Alex W. Hooke; Daniel Jacobson; James Fitzsimmons; Chunfeng Zhao; Noelle Larson; Todd A. Milbrandt

Poster No. 2007

Forces Transmitted Through The Endplate During Implant Trialing And Insertion Of Standalone ALIF Devices: A Cadaveric Study

Kevin Monahan; Kyle Holmberg; Jonathan Acosta; Isaac Swink; Ryan Sauber; Gary Schmidt; Alexander Yu; Boyle Cheng

Poster No. 2008

Additive Manufactured Titanium Interbody Cages With Macro Pore Architecture Show Comparable Bone Formation To Peek With Graft In An Ovine Lumbar Fusion Model

Benjamin Gadowski; Kevin Labus; Christian Puttlitz; Kirk McGilvray; Howard Seim; Brad Nelson; Katie Bisazza; Jeremiah Easley; Josephine Shum; G. Hooper; Tim Woodfield

Poster No. 2009

Withdrawn

Poster No. 2010

Anterior Cervical Discectomy And Fusion Outcomes In Patients Who Undergo Bariatric Surgery - Does Losing The Weight Matter?

Justin Zhu; Peter Joo; William McLaughlin; Jonathan Grauer

PS2-161

Tendon and Ligament - Diseases and Disorders

Poster No. 2011

Categorical Genome-wide Association Study Of Equine Degenerative Suspensory Ligament Desmitis, A Spontaneous Model Of Degenerative Tendon/ligament Injury

Mehdi Momen; Sabrina H. Brounts; Emily E. Binversie; Susannah J. Sample; Brian W. Davis; Guilherme JM Rosa; Peter Muir

Poster No. 2012

Heritability Of Degenerative Suspensory Ligament Desmitis In The Peruvian Horse, A Spontaneous Large Animal Model Of Degenerative Tendon/ligament Injury

Mehdi Momen; Nyah L. Kohler; Kiley J. Brauer; Sabrina H. Brounts; Peter Muir

Poster No. 2013

Heterogeneous Mechanical Strains Within Tissues Inhibit Its Collagen Degradation By Collagenase

Karanvir Saini; Manu Tewari; Sankyun Cho; Abdalziz Jalil; Manasvita Vashisth; Jason Andrechak; Alex Kasznel; David Chenoweth; Kazuhiro Yamamoto; Dennis Discher

Poster No. 2014

Proteomics Profile Of Synovial Fluid In Patients With ACL Tear Diverges With Patient Sex, Injury Pattern And Location Of Bone Bruise

Robert Brophy; Lei Cai; Muhammad Farooq Rai

Poster No. 2015

Dysregulated Ca^{2+} Signaling Through The $Ca_v1.2$ Ca^{2+} Channel Induces Tendon Heterotopic Ossification In Mice

Brandon Dexter; David Ciufo; Matthew Greenblatt; Hani Awad; Edward Schwarz; Brendan Boyce; Chike Cao

PS2-162

Tendon and Ligament - Growth, Development and Aging

Poster No. 2016

Scleraxis Targeted Deletion Of Collagen XI Disrupts Mouse Patellar Tendon Structure During Postnatal Development

Matthew K. Stein; Snehal S. Shetye; Courtney A. Nuss; Ashley F. Fung; Jaclyn A. Carlson; Jordan S. Cohen; Nathaniel A. Dymment; Louis J. Soslowsky

Poster No. 2017

Spatiotemporal Distribution Of LOX And MMPS During Embryonic Craniofacial Tendon Development

Stefanie H. Korntner; Timothy Beane; Elizabeth A. Kinnard; Emily Leo; Catherine K. Kuo

Poster No. 2018

Regional FDL Tendon Development Involves Differential Pericellular Matrix Expression And Presence

Ryan J. Leiphart; Stephanie N. Weiss; Nathaniel A. Dymment; Lou J. Soslowsky

Poster No. 2019

Region And Strain-dependent Mechanics Of Supraspinatus Tendons Are Influenced By Fibril Modulus And Sliding

Biao Han; Michael DiStefano; Snehal S. Shetye; Andrew F. Kuntz; Lou J. Soslowsky

Poster No. 2020

Characterization Of Macrophages In Murine Tendon And Enthesis

Lee Song; Feifer Valia; Stavros Thomopoulos

Poster No. 2021

Phenotypic Profiling And Spatial Localization Of Resident Tendon Macrophages

Catherine Bautista; Nathaniel Dymont

Poster No. 2022

The Effect Of Advanced Glycation End-Products On Tissue Mechanics Depends On Degree Of Collagen Organization

Austin Gouldin; Jennifer Puetzer

Poster No. 2023

Medium, But Not Coating, Affects Tenocyte Culture

Eduardo Abreu; Maria Veronica Vidal

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Tendon and Ligament -Injury and Healing

Poster No. 2024

The Effects Of Exercise Initiation During The Immobilization Period On Tendon Healing And Shoulder Function

Haruna Takahashi; Moe Yoneno; Kei Takahata; Yuki Minegishi; Kohei Arakawa; Yuna Usami; Kenji Murata; Naohiko Kanemura; Takanori Kokubun

Poster No. 2025

CCN2 Knockout Demonstrates Enhanced Achilles Tendon Healing In Adult Mice

Danielle Sim; Kathryn Greskovich; Jocelyn Wu; Natalie L. Leong; Jie Jiang

Poster No. 2026

Collagen III Deficiency Alters Mechanical Properties And Decreases Regulation Of Fibrillogenesis Following Injury In Female Murine Tendons

Jaclyn A. Carlson; Stephanie N. Weiss; Susan W. Volk; Lou J. Soslowsky

Poster No. 2027

Decorin-associated Dermatan Sulfate Increase In Fatigue Injured Tendons Modulates Viscoelastic Tensile Properties

Patrick M. Muljadi; Hunter L. Nourzad; Rebecca Bell; Nelly Andarawis-Puri

Poster No. 2028

Intrasynovial Flexor Tenocyte-macrophage Interactions: Implications In Inflammation And Catabolism During Intrasynovial Tendon Healing

Charles M. Bowlby; Zarah Belacic; Sidney Long; Sushmitha Durgam

Poster No. 2029

Development Of A Testing System For In-vivo Rat Achilles Tendon Mechanical Loading

Patrick Williamson; Dominic Ascitutto; Priyan Pathirana; Christian Avakian; Thomas Peacock; Isabella Stewart; Diana Yeritsyan; Nadim Kheir; Arun Ramappa; Joseph DeAngelis; Ara Nazarian

Poster No. 2030

On Trauma-induced Heterotopic Ossification Of Tendon And The Role Of Tenomodulin

Denitsa Docheva; Manuel Delgado Caceres

Poster No. 2031

Critical Shoulder Angle And Acromion Morphology Do Not Predict Supraspinatus Tear Propagation Following An Individualized Exercise Therapy Program

Ehab M. Nazzal; Luke Mattar; Philipp Winkler; Keishi Takaba; Adam Popchak; Sotoshi Takeuchi; Volker Musahl; Albert Lin; James Irrgang; Richard Debski

Poster No. 2032

MiRNAs Modulate Enthesis-specific mRNA Targets And Collagen I And II Expression

Carlos J. Peniche Silva; Rodolfo E. De la Vega; Virginie Joris; Christopher H. Evans; Elizabeth R. Balmayor; Martijn van Griensven

Poster No. 2033

Longitudinal Tracking Of Achilles Tendon Morphology And Function In The Near-Term After Rupture And Repair

Stephanie G. Cone; Jack A. Martin; Keith A. Knurr; Josh R. Baxter; Darryl G. Thelen

Poster No. 2034

The Role Of Toll-like Receptors On Altered Mobility In A Murine Model Of Tendinopathy

Emily M. Van Zeeland; Sara Wist; Kimberli Fernandez; Emma Hurley; David D. Frisbie; Kelly S. Santangelo; Katie J. Sikes

Poster No. 2035

Increased Fibrillin-2 Is Associated With Improved 1-year Healing Outcome After Achilles Tendon Rupture

Junyu Chen; Jin Wang; Aisha Ahmed; Paul Ackermann

Poster No. 2036

Tendon-to-bone Healing In A CCR2 Knockout Mouse Model Of Delayed Rotator Cuff Repair

Claire D. Eliasberg; Camila Carballo; Alex Piacentini; Janice Havasy; Yulei Liu; Marjan Khan; Sarah Caughey; Iryna Ivasyk; Scott A. Rodeo

Poster No. 2037

CD4+ T Cells Directly Stimulate Tenocyte Migration In Vitro

Giulia Crosio; Alice Huang

Poster No. 2038

ACL Reconstruction With Novel Bio-Inductive Biocomposite Scaffold: A Preliminary Study

William Walsh; Vedran Lovric; James Crowley; Dan Wills; Andrew Carter; Nguyen K. Tram; Mitchel R. Stacy; Justin Bendigo; Jeffrey Ott; Kevin Rocco

Poster No. 2039

Slide-free, Volumetric Imaging Of Optically Cleared Mouse Paw Demonstrates Improved Healing In The Injured Digital Flexor Tendon Of The MRL/MpJ Mouse

Melissa MacLiesh; Vincent Ching-Roa; Jenna Montague; Michael Giacomelli; Hani Awad

Poster No. 2040

Knockdown Of Decorin And Biglycan At Time Of Tendon Injury Alters Gene Expression And Fibril Morphology

Ashley K. Fung; Thomas P. Leahy; Stephanie N. Weiss; Sheila M. Adams; Nathaniel A. Dymment; David E. Birk; Louis J. Soslowsky

Poster No. 2041

The Use Of Connective Tissue Growth Factor Mimics For Flexor Tendon Repair

Hua Shen; Solaiman Tarafder; GaYoung Park; Jichuan Qiu; Younan Xia; Chang Lee; Richard Gelberman; Stavros Thomopoulos

Poster No. 2042

Knockdown Of Decorin And Biglycan During The Early Proliferative And Remodeling Phases Of Tendon Healing Alters Gene Expression And Fibril Morphology

Thomas Leahy; Ashley Fung; Stephanie Weiss; Sheila Adams; Nathaniel Dymment; David Birk; Lou Soslowsky

Poster No. 2043

Transcriptomic Single Cell Atlas Reveals The Tendon Progenitor Organizing Cells

Mor Grinstein; Stephanie Tsai; Daniel Montoro; Heather Dingwall; Miho Tanaka; Terence Capellini; Jayaraj Rajagopal; Jenna Galloway

Poster No. 2044

Evaluation Of Tendon Healing In A Mouse Model Of Elevated Serum Advanced Glycation End Products Following Tendon Injury

Shivam H. Patel; Chad C. Carroll

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Tendon and Ligament - Structure, Function and Mechanics

Poster No. 2045

In Vivo Unloading Of Rat Achilles Tendons Leads To A Delayed Mechanical Response And An Altered Collagen Structure

Isabella Silva Barreto; Maria Pierantoni; Malin Hammerman; Ana Diaz; Vladimir Novak; Jonas Engqvist; Pernilla Eliasson; Hanna Isaksson

Poster No. 2046

Anterior Cruciate Ligament Strength Changes Following A Course Of Direct Repetitive Loading In Inbred Mice

Kaitlyn A. Colglazier; Benjamin E. Loflin; Stephen H. Schlecht

Poster No. 2047

Non-collagenous Components Of Tendon Extracellular Matrix Mediate Its Pro-tenogenic Bioactivity On Human Adipose-derived Stem Cells

Shuting Huang; Dan Wang; Rocky Sung Chi Tuan

Poster No. 2048

Steeper Lateral Posterior Tibial Slope And Greater Lateral-to-medial Slope Asymmetry Correlate With Greater Preoperative Pivot-shift In Anterior Cruciate Ligament Injury

Kiminari Kataoka; Kanto Nagai; Yuichi Hoshino; Masashi Shimabukuro; Kyohei Nishida; Noriyuki Kanzaki; Takehiko Matsushita; Ryosuke Kuroda

Poster No. 2049

Altered Loading Causes Multiscale Structural Changes In Tendon

Ellen T. Bloom; Chandran Sabanayagam; Jeffrey Caplan; Justin Parreno; Dawn M. Elliott

Poster No. 2050

Collagen V Knockdown Alters Collagen Fibril Size, But Not Mechanics, In Mature Female Murine Tendons

Ryan J. Leiphart; Stephanie N. Weiss; Jaclyn A. Carlson; Patrick L. Paglia-Garcés; Lou J. Soslowsky

Poster No. 2051

Effect Of Joint Immobilization On Ligament Strength In Self-healing Model Of The Anterior Cruciate Ligament

Chiharu Takasu; Hidenobu Terada; Takuma Kojima; Takuma Kano; Yuri Morishita; Sora Kawabata; Takanori Kokubun; Naohiko Kanemura; Kiyomi Takayanagi; Kenji Murata

Poster No. 2052

A Novel Inexpensive Technique For High-Tension Tendon Clamping With Expandable Mesh Sleeving For In Vitro Foot Biomechanics Testing

Callan M. Gillespie; Joshua L. Golubovksy; Tara F. Nagle; Jeremy G. Loss; Robb W. Colbrunn

Poster No. 2053

Development Of An Autoclavable 3D-printed Bioreactor For Axial Loading Of Tendon Explants

Sebastian Cardona Ramirez; Will Bezold; Aaron M. Stoker; James L. Cook; Shen-Ying (Richard) Ma

Poster No. 2054

The ACL Mid-substance Changes Shape With Knee Loading

Michael A. DiNenna; Ryo Kanto; Michael P. Smolinski; Monica A. Linde; Patrick Smolinski; Freddie H. Fu

Poster No. 2055

Mucopolysaccharidosis I And VII Dogs Exhibit Impaired Anterior Cruciate Ligament Mechanical Properties

Yian Khai Lau; Rahul Gawri; Snehal Shetye; Khaled Abdoun; George Dodge; Margret L. Casal; Lachlan J. Smith

Poster No. 2056

FAK Inhibition Attenuates Increased Tendon Cell Nuclear Aspect Ratio With Applied Mechanical Strain In Situ

Thomas P. Leahy; Nathaniel Dymont; Lou Soslowsky

Poster No. 2057

Defining Mechanical Injury Criteria For Soft Connective Tissues

Callan M. Luetkemeyer; Emily Y. Miller; Corey P. Neu; Sarah Calve

Poster No. 2058

Urea-extracted Tendon Extracellular Matrix: Investigating Its Protein Compositions And Induced Transcriptomic Profile In Human Adipose-derived Stem Cells

Ying Rao; Rocky Tuan; Dan Wang

Poster No. 2059

Osmotic Environments Tune Ex Vivo ECM Viscoelasticity By Distinct Water Uptake

Matthias R. Kollert; Martin Krämer; Nicholas Brisson; Serafeim Tsitsilonis; Taimoor H. Qazi; Jürgen R. Reichenbach; Georg N. Duda

Poster No. 2060

The Missing Link: Cell-derived And Crosslinked Extracellular Matrix Is Required For Tendon Cell Mechanotransduction

Patrick K. Jaeger; Alina Dintheer; Fabian s. Passini; Jess G. Snedeker

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Tendon and Ligament - Treatment and Therapeutics

Poster No. 2061

Evaluation Of Novel Therapeutic Agents For Modulation Of The Inflammatory Response In Rotator Cuff Tendinopathy Utilizing A Mouse Model Of Subacromial Impingement

Claire D. Eliasberg; Camila Carballo; Janice Havasy; Alex Piacentini; Yulei Liu; Marjan Khan; Iryna Ivasyk; Scott A. Rodeo

Poster No. 2062

The Effect Of Early Ankle Mobilization On Collagen Remodeling After Achilles Tendon Rupture And Surgical Repair

Moe Yoneno; Haruna Takahashi; Kei Takahata; Yuna Usami; Kenji Murata; Naohiko Kanemura; Takanori Kokubun

Poster No. 2063

MRL/MpJ-Derived Therapeutics Elicit Repair-Associated Phenotype In Subrupture Fatigue Damaged Tendons

Monideepa Chatterjee; Hunter Nourzad; Rebecca Bell; Nelly Andarawis-Puri

Poster No. 2064

Methylprednisolone Acetate Differentially Downregulates The Bioactivity Of Fibrocartilage Cells Compared To Intrabursal Flexor Tendon Cells In Response To In-vitro IL-1 β

Zarah Belacic; Stasia Sullivan; Sushmitha Durgam

Poster No. 2065

Metabolic Regulation Of The Early Stages Of Intrasynovial Tendon Repair

Hua Shen; Ryan Lane; Shelly Sakiyama-Elbert; Stavros Thomopoulos; Richard Gelberman

Poster No. 2066

Bone Marrow Mesenchymal Stem Cell-derived Extracellular Vesicle Secretome And Teno-/chondroprotective Properties

Zarah Belacic; Vivian Quam; Charles Bowlby; Sidney Long; Sushmitha Durgam

Poster No. 2067

Structural Proteins Enriched In Therapeutic MRL-derived Matrix Promote MRL Behavior In Canonical Healer B6 Cells

Marguerite A. Pacheco; Nelly Andarawis-Puri

Poster No. 2068

Enhanced Tendon-to-Bone Attachment Healing Through Hedgehog Activation

Andrew J. Luzzi; Xavier Ferrer; Fei Fang; Mikhail Golman; Brittany Marshall; Stavros Thomopoulos

Poster No. 2069

Tendon Matrix Digestion Technique Influences Regenerative Capacity Of Engineered Allograft Matrices

Anna-Laura Nelson; Kelsey O'Hara; Phillip Nolte; Johnny Huard; Peter Millett; Chelsea Bahney

Poster No. 2070

Tendon Mechanical Properties Are Enhanced Via Upregulation Of Lysyl Oxidase-mediated Collagen Crosslinking

Phong K. Nguyen; Catherine K. Kuo

Poster No. 2071

Tendon Tissue Repair Using Alginate-cell Cross-linked Gel

Jun Yamaguchi; Tomohiro Onodera; Kentaro Homan; Masatake Matsuoka; Yoshiaki Hosokawa; Koji Nagahama; Natsumi Ueda; Shiho Sawada; Mitsuru Saito; Norimasa Iwasaki

PS2-166

Tumors - Metastatic

Poster No. 2072

Doxorubicin-Loaded Nanoparticle Bone Cement For The Treatment Of Metastatic Spine Disease

Ateeque Siddique; Megan E. Cooke; Audrey Pitaru; Mina Aziz; Michael H. Weber; Derek H. Rosenzweig

Poster No. 2073

Usefulness Of Polypropylene Mesh In Proximal Femoral Replacement For Metastatic Bone Tumors

Masanobu Takeyama; Yusuke Kawabata; Kenta Hayashida; Shintaro Fujita; Keiju Saito; Yutaka Inaba

Poster No. 2074

Outcomes Following Surgical Management Of Bone Metastases In Renal Cell Carcinomapatients At MD Anderson From January 2012 To August 2019

Ava Brozovich; Benjamin Garmezy; Lorenzo Devezza; Justin Bird; Valerae Lewis; Bryan Moon; Patrick Lin; Robert Satcher

Poster No. 2075

Metastatic Bone Lesions Modulate Vertebral Load-to-strength Ratio Compared To Age-, Sex-matched, Healthy Cohort

Dennis E. Anderson; Brett T. Allaire; Marc A. Stadelmann; Philippe K. Zysset; Roger Davis; Ron N. Alkalay

Poster No. 2076

Tamoxifen Induced Reduction Of Osteoclast Activation Mediated By Membrane-Associated Estrogen Signaling

Cydney Dennis; Jingyao Deng; David J. Cohen; Zvi Schwartz; Barbara Boyan

Poster No. 2077

Prolonged Hypercoagulability Exists In Patients With Metastatic Bone Disease Requiring Surgical Treatment For Pathologic Fractures: A Pilot Study

Lisa Yamaura; Leslie Skeith; Michael Monument; Prism Schneider

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Tumors - Primary Tumors

Poster No. 2078

Temporal Changes In Bone Mineral Content And Mechanical Properties During Breast-cancer Bone Metastases, Proximal And Distal To The Primary Tumour

Anneke S.K. Verbruggen; Roisin M. Dwyer; Elan C. McCarthy; Laoise M. McNamara

Poster No. 2079

The Value Of Serum BNP In Patients With Soft Tissue Sarcoma

Keisuke Yoshida; Kunihiro Asanuma; Yumi Matsuyama; Tomohito Hagi; Tomoki Nakamura; Akihiro Sudo

Poster No. 2080

Evaluation Of Intraoperative Tumor Margin In Sarcoma With Fluorescent Dye Imaging: A Preliminary Analysis Of Results

William T. Li; Sumail Bhogal; Stella J. Lee; Richard L. McGough; Kurt R. Weiss

Poster No. 2081

Upregulation Of LCP1 In Chondrosarcoma Correlates With Aggressive Behavior And Poor Prognosis

Caleb Watson; Emily Peairs; John Martin; Trudy Zou; Jianhong Ou; Julia Visgauss

Poster No. 2082

Complication And Reoperation Rates Following Excision Of Long Bone Versus Soft Tissue Malignancies Of The Lower Limb

Alexander Christ; Alexander M. Ballatori; Andy Ton; Xiao T. Chen; Nathanael D. Heckmann; Lawrence R. Menendez; Shane Shahrestani

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Tumors - Treatment and Therapeutics

Poster No. 2083

Anti-tumor Effect By Anti-IL-6 Receptor Antibody In Osteosarcoma

Keisuke Yoshida; Tomoki Nakamura; Takahiro Iino; Yumi Matsuyama; Tomohito Hagi; Kunihiro Asanuma; Akihiro Sudo

Poster No. 2084

Radiodynamic Therapy Using Local Acridine Orange Administration Is Effective For Osteosarcoma And Breast Cancer Cell Line

Yumi Matsuyama; Tomoki Nakamura; Takahiro Iino; Keisuke Yoshida; Tomohito Hagi; Kunihiro Asanuma; Akihiro Sudo

Poster No. 2085

Mithramycin A Has Modest Effects On Trabecular Microarchitecture In Skeletally Immature Mice

Melanie C. Ngo; Jason A. Horton

Poster No. 2086

Mechanical Contribution Of Cementoplasty In Long Bone Cortical Defect Subjected To Torsional Forces

Erin E. Estrada; Michael J. Poland; Chloe R. Brekhus; Quinn E. Smith; Sam E. Winston; Bernard Séguin; Vivian Ojeda; Christian M. Puttlitz; Benjamin C. Gadowski

Poster No. 2087

Complications And Reoperation Rates Following Resection Of Long Bone Versus Soft Tissue Malignancies Of The Upper Limb

Alexander M. Ballatori; Shane Shahrestani; Xiao T. Chen; Andy Ton; Lawrence R. Menendez; Nathanael D. Heckmann; Alexander B. Christ

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Late Breaking Poster Session 2

Poster No. 2186

Purified Exosome Product In Mediating Chondrogenesis By Enhancing Proliferation, Attenuating Apoptosis, And Modulating Inflammation

Guidong Shi; Omkar S. Anaspure; Daniela D. Maltais; Ramona Reisdorf; Rodolfo De la Vega; Christopher Evans; Steven Moran; Atta Behfar; Chunfeng Zhao

Poster No. 2187

Erythromycin-doped Nanofiber Coating Enhances Osseointegration And Inhibits Staphylococcus Aureus Induced Osteolysis

Dexter Powell; Bin Wu; Paula Dietz; Therese Bou-Akl; Weiping Ren; David Markel

Poster No. 2188

Withdrawn

Poster No. 2189

Synthesis Of Mg And Sr Substituted Hydroxyapatite Following A Design Of Experiments Approach

José Rui Oliveira Rodrigues; Denata Sylá; Gwendolen C. Reilly; Frederik Claeyssens; Laura Grillini; Riccardo Bendoni; Lucia Forte

Poster No. 2190

Synthesis Of Magnesium And Strontium Substituted Hydroxyapatite-Polycaprolactone Composites

Denata Sylá; Jose Rodrigues; Frederik Claeyssens; Gwendolen Reilly; Lucia Lucia; Laura Grillini

Poster No. 2191

The Influence Of Micro Structured Surface Features On The Adhesion Of Synovial Fluid Induced Aggregates Of Staphylococcus Aureus

Tripti Thapa Gupta; Niraj Gupta; Paul Stoodley

Poster No. 2192

Micellized Protein Transduction Domain-bone Morphogenetic Protein-2 Accelerates Bone Healing In Rat Tibia Model Of Distraction Osteogenesis

Cheol-Hee Jeong; Song-Yi Lim; Jo Eun Um; Kyeong-Mee Park; Jun Seop Yun; Hyun Sil Kim; Jong In Yook; Nam Hee Kim; Yoon Hae Kwak

Poster No. 2193

Bioink Material Stiffness And Composition Promote Chondrogenesis

Kari Martyniak; Maria Cruz; Thomas Kean

Poster No. 2194

Guiding Human Adipose Stem Cell (hASC) Differentiation Using Structural Cues

Thomas Jenkins; Sadhana Venkataramen; Dianne Little

Poster No. 2195

Hydrostatic Pressure-facilitated Diffusion: Application In Decellularization Of Cartilage Tissue

Mehran Kasra

Poster No. 2196

Physiochemical Effects Are Predominantly Responsible For Acidosis-induced Changes In Bone Mechanics

Margaret Easson; Stephanie Wong; Mikayla Moody; Anna Peterson; Tannin Schmidt; Alix Deymier

Poster No. 2197

Neurotransmitter Signalling Is Regulated By Mechanical Loading And Inflammation In A 3-dimensional Model Of Human Stem Cell Derived Osteocytes

Ryan Jones

Poster No. 2198

Subchondroplasty For Osteonecrosis Of The Knee

Brendan R. Fitzpatrick; Bilal Hasanspahic; Joseph Kuechle

Poster No. 2199

Systemic Bone Loss After Myocardial Infarction Is Not Mitigated In Complement 5aR1 Knockout Mice

Priscilla M. Tjandra; Kevin Yu; Sophie Orr; Anna Adhikari; Jill L. Silverman; Crystal M. Ripplinger; Yi-Je Chen; Blaine A. Christiansen

Poster No. 2200

Acceleration Of Bone Growth During Early Developmental Phase In A Rat Model Of Gper1 Gene Ablation

Seungyong Lee; Sarah Galla; Venkatesha Basrur; Blair Mell; Bina Joe; Rhonda D. Prisby

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