MENTAL HEALTH AND OUTCOME IN PRIMARY JOINT REPLACEMENT SURGERY OF THE HIP AND KNEE.

Introduction:
Outcomes of orthopedic interventions have been the subject of a large number of publications. About 5 years ago surgeons became interested in instruments that measured patient satisfaction with metrologically valid instruments. The Short Form 36 Survey (SF-36) allows for group comparisons not specific to age, disease or treatment. Although the instrument contains 8 subscales, no paer to date has utilized the instrument to improve the outcome. Depressed patients have been shown to have suboptimal outcome in multiple surgical and medical interventions. Antidepressive medications such as prozac have revolutionized the treatment of depression. On most depressed patients significant improvements have been reported with a simple pharmacological or psychological intervention. Our objective was to assess the effects of mental health in the outcome of primary joint replacement surgery of the hip or knee utilizing the SF-36 instrument.

Materials and Methods:
449 patients that underwent primary total hip or knee arthroplasty at our institution were included in the study. Pre-operative QWB, SF-36 and WOMAC were collected prospectively for all patients. The mental health summary scale of SF-36 was utilized to assess clinical depression. Patients with an SF-36 mental health subscale score less than 52 were considered depressed. Identical measures were obtained at the one-year mark and the results were compared. ANOVA, T-test and Stepwise Multiple Regression Analysis (SMRA) were performed. A “p” value less than 0.05 was considered significant.

Results:
A total of 449 patients (309 Females and 140 males) undergoing primary joint replacement surgery were included in the study. 198 (44.1%) patients underwent primary total hip arthroplasty and 251 (55.9%) patients underwent primary total knee arthroplasty. A total of 116 patients were depressed and 333 were not depressed. Our pre-operative domains showed that patients that were depressed had significantly lower pre-operative quality of life scores in all three instruments used (QWB=0.498 ± 0.003 SE vs. 0.520 ± 0.004 SE, p=0.001), WOMAC (67.81 ± 1.11 SE vs. 60.76 ± 0.4 SE; p<0.001) and SF-36 mental health domain scores, Physical function (8.88 ± 0.98 SE vs. 13.87 ± 0.77 SE p<0.001) Role-Physical (4.96 ± 1.84 SE vs 13.21 ± 1.59 SE; p=0.005) Bodily Pain (18.97 ±1.18 SE vs 26.24 ± 0.94 SE; p<0.001), General Health (56.1 ± 1.62 SE vs 69.91 ±1.06 SE; p<0.001), Vitality (37.7 ± 1.80 SE vs 57.87 ± 1.20; p<0.001), Social function (31.39 ± 2.34 SE vs 49.63 ± 1.60 SE; p<0.001) and Role Emotional (11.49 ± 2.77 SE vs. 48.83 ± 2.64 SE; p<0.001). Post operatively the patient groups had similar differences which persisted at the one year mark. The quality of well being score (QWB) one year post-operatively was statistically significantly higher in the patients that were not depressed (0.551 ± 0.08 SE vs. 0.6 ± 0.12 SE; p<0.001) pre-operatively. The items of stiffness and pain from the WOMAC instrument persisted in the depressed population (31.38 ± 2.47 SE vs. 25.52 ± 1.29; p=0.005). The depressed cohort had a lower SF-36 physical function score (34.31 ± 2.34 SE vs. 41.19 ± 1.54 SE; p=0.02) and a difference in general health score (58.96 ± 2.38 SE vs. 71.05 ± 1.18 SE; p<0.001). A significant lower mental scale score of social functioning (31.39 ± 2.34 vs. 49.63 ± 1.60; p<0.001) was also observed.

Discussion
Our results clearly demonstrate that this depressed group of patients have a less optimal response when compared to the normal group. This cohort continues to have a lower quality of life at the one year mark (Figure 1). Most of the SF-36 and Womac scales continue to show lower scores. In particular the pain levels in this cohort (see figures 2-3) continues to be higher when compared with the rest of the group.