analgesic medication, VAS range was required to be between 40 mm and 90 mm. Lastly, all subjects were required to have a Body Mass Index < 35.
For this multiple baseline, repeated measures design, all subjects were evaluated for 3 baseline visits at 2 week intervals. At the third baseline visit, subjects were then given an 8-week course of celecoxib (200 mg/d). Outcome measures continued to be collected at 2 week intervals during the 8 week course of medication. At each of the seven total visits, subjects completed the VAS version of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain, stiffness and function scales; performed three trials of the Timed Up and Go Test (TUG); and walked 24 feet for five trials across a computerized gait mat that recorded velocity, cadence, step length, and double support time. Means from all tests were calculated for each visit. The baseline values were averaged to more accurately assess function prior to beginning medication. This baseline value and data from the four bi-weekly medication sessions were entered into one-way repeated measures ANOVAs to determine within-group differences for each of the dependent variables ($p = 0.05$). Paired t-tests were employed for post hoc analyses.
Results: Results of the ANOVA indicated that subjects significantly increased walking velocity (p=.029) and cadence (p=.001), with post hoc tests indicating significant differences from baseline at week 8 for velocity and weeks 6 and 8 for cadence. While modest improvements occurred in step lengths and double limb support time, the differences were not statistically significant. All subjects significantly improved on their TUG scores (p=.009) and on all aspects of the WOMAC (function: p=.005, pain: p=.019, stiffness: p=.001).
Conclusions: Walking velocities improved steadily during the eight week course of celecoxib. We believe the faster walking speeds resulted because subjects took more steps rather than longer steps. The effect of the medication on reducing symptoms of pain and stiffness may account for a greater freedom of limb movement, whereby subjects could more freely advance their lower limbs, take additional steps, and improve efficiency of their walking.
In addition to symptomatic relief of pain and stiffness, subjects improved in all aspects of their walking performance. These positive findings also support the use of a clinically-based, instrumented gait analysis to determine the effectiveness of this medication on walking function in individuals with knee OA.

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A NEW ANKLE CONDRAL LESIONS CLASSIFICATION -

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Purpose: Aim of this study has been the identification of a treatment algorythm based on the proposal a new ankle chondral lesion classification, that took in consideration the need to better localize, understand and commonly relate the different chondral lesions patterns, diagnosed on MRI and confirmed and treated by ankle arthroscopy, both in the distal tibia and in the talar dome. Last ten years dilemma in such lesions treatment has focused on talus lesions staging, that, in our opinion represents just the 2/3 of the problem, neglecting the thorough examination of the distal tibia articular surface lesions.
Methods: Initially we needed to create a classification of cartilage ankle lesions in order to identify a common language both for the diagnosis then the planning and treatment of the lesions.One of the main problems to solve was that of evaluating, beyond the talus lesions, until now considered alone, the distal tibia extremity lesions wich until now have been in impingement classification. We therefore searched for the most adequate and homogeneous classification to answer the needs of foot and ankle surgeons in daily practice, searching for common parameters between MRI -CT- RDX - Arthroscopic findings
Results: The goal of the classification we have developed proved to be very usefull in the planning of the correct corresponding surgical treatment.
As reported in the lecterature early detection and treatment facilitates better outcome.
This is not only confirmed by our study, but we have found that talus lesion starting from II degree is very often associated to a minor tibial plafond lesion, often understimated, secondary to microinstability or to axial malalignement that in our experience has required an associated high tibial osteotomy.
Conclusions: The rationale of this classification consists in giving each lesion a precise identification of position subdiving in A tibia, B talus as main lesions, 1-2-3 medial third, medial, lateral third, "a" tibia and "b" talus as secondary lesions (were present)
We felt that it was important to mantain the classification of Berndt and harty with regards to the depth and the anatomopathological lesions found.
For the staging of the lesions with the new classification the following will be used:
es. grade A2bIII to define a lesion that has main localization the tibia, the medial position, secondary localization in the talus dome and grading of the lesion III.

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WHOLE BODY VIBRATION EXERCISE FOR PATIENTS WITH KNEE OSTEOARTHRITIS (OA): A COMPARISON OF TWO DEVICES AND A CONTROL GROUP

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Purpose: Whole body vibration (WBV) has been proposed as an effective exercise intervention because of its potential for increasing force generating capacity in the lower limbs, and a training effect on the neuromuscular system. Knee OA is associated with decreased muscular strength and neuromuscular function in the lower extremities. The aim of this study was to evaluate whether WBV would be able to improve muscle function of the lower extremities and balance and to improve the patients pain and physical signs of knee OA. In addition two different WBV devices were compared, one with vibration alone (VibMax) and one with vibration combined with the demand of keeping the body equilibrium during WBV (ViBrosFär).
Methods: 52 female patients with knee OA, fulfilling the ACR-criteria, volunteered to participate in this study. Their mean age was 60.5 years (SD 9.9) and their mean Body Mass Index was 28.8 kg/m2 (SD 4.5). Patients with other chronic diseases or artificial knee or hip joint were excluded from the study. Before randomization, the proprioception (measured as knee joint position sense, JPS and threshold to detection of a passive movement, TDPM), ability to climb up and downstairs on time, walking on time, standing balance on a force plate and isometric muscle strength was measured. In addition the patients filled in the SF-36 and WOMAC questionnaires. Patients randomized to either ViBrosfär (balance plate with laterally vibration, 24 - 30 Hz, 1-2 mm amplitude, Vibrosfär, ProMedVi, Sweden) or VibMax (stable plate with both laterally and vertical vibration, 25-30 Hz, 1 1/2-4 mm amplitude, Vibmax, Xendon, Sweden) exercised two times per week for eight weeks. The exercise progression was standardized and equal for both exercise groups. A third group acted as control group.
Results: Baseline values of proprioception showed a total mean for all three groups of JPS: 5.5° (SD 2.6°) and for TDPM: 2.6° (SD 1.1°); total mean for all three groups for climbing six steps

up and down three times: 29.6 s (SD 12.5 s) and walking 50 m: 34.4 s (SD 8.7 s); standing balance showed a total mean for all three groups of average angular velocity: 1.3 $m \cdot s^{-1}$ (SD 0.3 $m \cdot s^{-1}$), per cent maximum stability: 65.3 (SD 10.9) and per cent ankle strategy: 70.4 (SD 10.3); isometric muscle strength showed a total mean for all three groups of knee extension: 72.3 Nm (SD 25.6 Nm) and knee flexion: 37.5 Nm (SD 12.6 Nm).
Conclusions: Preliminary results indicates that WBV may affect the muscle function and balance in patients with knee OA. However, analysis is in progress, and the final results and conclusions will be presented at the congress.

Pain and Disability

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BIOMECHANICAL AND CLINICAL CHARACTERISTICS AMONG PATIENTS WITH OSTEOARTHRITIS OF THE HIP

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Purpose: Significant risk factors in development of knee osteoarthritis (OA) has shown to be quadriceps weakness, joint instability, and changes in joint loading. Few studies have looked at these risk factors for hip OA. Furthermore, very few studies, have reported biomechanical changes in gait patterns affecting joint loading. There are no studies so far describing both biomechanics during gait (joint loading) and clinical outcomes in hip OA patients. The purpose of this study was to identify biomechanical and clinical characteristics among patients with hip OA.
Methods: Fifty patients aged 60.0 (±10.3) years, 32 women and 18 men, with hip pain >3months, activity limitations, and radiographically verified hip OA were included consecutively. Gait analysis was performed using Qualisys Pro reflex 3D motion analysis system, including three forceplates (AMTI). Furthermore, the disease specific questionnaire,WOMAC, isokinetic muscle strength (TechnoRev9000), sub-maximal cardiovascular function (Åstrand's bike-test), hip range of motion, and 6 minute walk test, the generic health-related quality of life questionnaire (SF-36v2), self-efficacy for pain, and the physical activity scale for the elderly, PASE, were included.
Results: The WOMAC showed a mean total score of 25.9 (±15.4) mm, 26.9 (±17.3) mm for pain, 34.4 (±21.5) mm for stiffness, and 24.6 (±15.7) mm for physical function subscales. There was a significant decrease in peak isokinetic muscle strength for the involved versus the uninvolved side for: hip-extension 142.2 Nm versus 152.9 Nm ($p<0.05$), knee-extension 104.7 Nm versus 117.4 Nm ($p<0.001$), knee-flexion 64.1 Nm versus 67.4 Nm ($p<0.05$), and ankle-plantarflexion 63.3 Nm versus 67.6 Nm ($p<0.05$). The gait analysis showed biomechanical changes in the involved versus the non-involved hip and knee.
Conclusions: The WOMAC showed a clinically acceptable state for pain and physical function among the studied patients, however, the patients showed significantly decreased muscle strength for hip extension, knee extension and flexion, and ankle plantar flexion. Decreased muscle strength is a significant risk factor for the development of knee OA and should therefore be targeted in these subjects. Both a randomized controlled trial, regarding the effect of exercise therapy, and a case-control study, identifying biomechanical and clinical characteristics, are ongoing.

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NONINVASIVE ACTIVATION OF BETA-ENDORPHINERGIC SYSTEM OF THE BRAIN USING "NEXALIN" DEVICE FOR TREATMENT OF OSTEOARTHRITIS PAIN

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Purpose: Research supports that the direct activation of the Beta-Endorphinergic Systems (BES)could successfully decrease the level of pain experienced. The "NEXALIN" design uses a proprietary wave form (US Patent 6,904,322 B2), based on a quasi resonance frequency of 77.5 Hz. This frequency was confirmed in many prior Russian trials and studies, as being key to stimulating the increase in concentration of beta-endorphins in the brain, spinal fluid and blood (SU Patent #1522500). The aim is to prove the possibility of decreasing pain caused by osteoarthritis (OA) by using transcranial electrostimulation (TES) via the "NEXALIN" device.
Methods: The study was multi-centered, randomized, double-blind, and placebo-controlled. The study population consisted of 211 patients who had been diagnosed with OA of knee and/or hip, had a pain history of at least three months, and scored 4 or more on the Visual Score for Pain Assessment. The "NEXALIN" groups received 7 daily TES session of 40 minutes, 15 mA (root mean square); the placebo group received no stimulation using a visually identical device. Assessment methods: pain level (PL), patient global self-assessment (PGA), walking test (WT), physician's assessment (PA) - all utilizing visual scales. Assessments were performed prior to treatment, during the treatment series, and at the 1 year follow-up assessment.
Results: After 7 treatments: PL decreased in the "NEXALIN" group 57%, placebo 24% ($p<10-9$), WT 54% and 30% ($P<10-4$); PGA and PA increased respectively 47% and 25% ($P<0.04$), 44% and 32% ($P<0.03$).
After 2 weeks: PL decreased in the "NEXALIN" group 40%, placebo 21% ($p<10-4$), WT 42% and 30% ($P<0.01$); PGA and PA increased respectively 29% and 25% ($P<0.66$), 42% and 30%($P<0.01$).
Statically analysis also showed decreasing of PL in the "NEXALIN" group during at least 6 weeks.
The number and type of side effects were equivalent in both groups, with quantities in placebo exceeding active.
Conclusions: "NEXALIN's" TES device, realized through activation of BES, provides significant and prolonged decrease in pain associated with OA,

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PREFERENCE AND DISABILITY, BUT NOT RACE, ARE ASSOCIATED WITH THE LIKELIHOOD OF REFERRAL TO RHEUMATOLOGY/ORTHOPEDIC SURGERY

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Purpose: Chronic knee/hip pain, most commonly due to osteoarthritis (OA), is a leading cause of disability in the elderly. Joint replacement is a cost-effective treatment option for advanced knee/hip OA. However, there is marked racial/ethnic disparity in the utilization of joint replacement. The reasons for this disparity remain poorly understood and might include differential access to specialty care (rheumatology or orthopedic