(pain and function) translated into an improvement of SF12 physical component. Improvement was achieved as from W6 and maintained up to W24. Changes of the VAS and LFI score between baseline and W24 were respectively -29,0 (21,9) and -4,1 (3,1) in Structum group and -29,9 (22,3) and -4,1 (3,2) in Chondrosulf group. OMERACT-OARSI responders rates at week 24 were 76,3% in Structum and 73,8% in Chondrosulf group (PP). Rescue medication use (paracetamol and/or NSAIDs) was low and similar in the 2 groups. 37.4% and 33.1% in the Structum and in the Chondrosulf group respectively did not take any rescue medication. Both treatments were well tolerated with a discontinuation rate for safety of 2.4% in the Structum group and 4.5% in Chondrosulf group.

Conclusions: Structum® 1000mg (500mg BID) and Chondrosulf® 1200mg (400mg TID) were equally effective on pain relief and functional improvement in patients with symptomatic knee OA over a 6 month period of time. The improvement started as early as week 6 and persists over the 24 weeks. Efficacy was also confirmed by the high rate of responders, around 75% in each group.

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LACK OF DISEASE MODIFYING ACTIVITY OF CELECOXIB IN END-STAGE OSTEOARTHRITIS: A RANDOMIZED CONTROLLED TRIAL

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Purpose: Selective COX-2 inhibitors are frequently used in treatment of osteoarthritis (OA) to control inflammation and relieve pain. *In vitro* and *ex vivo* research using human articular cartilage, demonstrated an inflammation independent chondroprotective effect of celecoxib. Such effects are difficult to verify in clinical trials because changes in OA cartilage, degenerative and reparative, are slow and evaluation by image and biomarker techniques are still hampered by their limited sensitivity. Therefore, patients were treated *in vivo* several weeks prior to joint replacement surgery. At the moment of surgery, cartilage was obtained and analyzed *ex vivo* in detail. Three recent small studies using this approach demonstrated a beneficial effect of celecoxib at chondrocyte mRNA and protein level, and at the level of matrix integrity suggesting disease modifying characteristics of celecoxib.

These positive results tempted us to perform a well designed and powered RCT to evaluate the disease modifying properties of celecoxib in treatment of end-stage OA.

Methods: Patients (n=172) with end-stage knee OA on the waiting list for knee replacement surgery were randomized to 4 groups and treated for at least 4 weeks prior to surgery: celecoxib 2dd200mg, naproxen 2dd250mg stopped 3 days prior to surgery (because of its platelet-inhibiting effect), celecoxib 2dd200mg also stopped 3 days prior to surgery, or no treatment. Cartilage and synovial tissue were collected during surgery and analyzed in detail *ex vivo* fully blinded to the treatment until all data were obtained. Primary outcome was cartilage proteoglycan release. Additionally, several biochemical markers of cartilage integrity and synovial inflammation were determined. The WOMAC questionnaire was used to evaluate pain, stiffness and function before and after treatment. The study was conducted according to the declaration of Helsinki and registered EudraCT nr 2007-004862-41.

Results: 4 patients withdrew their consent, 10 changed medications within 2 weeks, and of 20 patients insufficient tissue was obtained. Drop-outs were equally distributed over the 4 treatment arms. Data were analyzed by intention to treat as well as per protocol of the remaining 138 patients. At inclusion, age, gender, weight (BMI) and cartilage damage (X-ray, macroscopic or histological) did not differ between the 4 randomized groups. Unexpectedly, cartilage proteoglycan release was not different between the 4 treatments. Also the other biochemical cartilage parameters did not differ between the 4 groups. Furthermore, prostaglandin-E_2 and nitric oxide (NO) levels produced by the cartilage remained unchanged compared to the no-treatment group. The *ex vivo* release of inflammatory mediators IL-1β, TNFα, PGE_2 and NO by the synovial tissue only showed a statistical significant decrease in NO levels in the celecoxib treated group compared to the no-treatment group. Celecoxib treatment showed a slight improvement in WOMAC pain ($p<0.01$), function and total score compared to the no-treatment group.

Conclusions: No clear effect of celecoxib treatment on cartilage was evident in the present study. Also the effects on synovial inflammatory mediators were limited. Only a small beneficial effect on WOMAC scores was found. As such the reported *in vivo* disease modifying effects of celecoxib could not be confirmed in a sufficiently powered single blinded RCT.

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INFLUENCE OF TAI CHI EXERCISE ON PROPRIOCEPTION IN PATIENTS WITH KNEE OSTEOARTHRITIS: RESULTS FROM A PILOT RANDOMIZED CONTROLLED TRIAL

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Purpose: Neurologic deficits, especially quadriceps sensory dysfunction (i.e., decreased proprioceptive acuity) may precede Knee Osteoarthritis (KOA) and are proposed to be a factor in its pathogenesis or progression. Tai Chi may provide ideal proprioceptive exercise to older individuals with KOA through its emphasis on balance, muscle strengthening, and integration of the mind and body. Previous long-term observational studies found that Tai Chi practitioners had better knee-joint proprioceptive acuity versus controls in an older population. We evaluated the effects of Tai Chi for knee-joint proprioception in KOA in a randomized controlled trial.

Methods: We randomized 40 eligible individuals (age $>$ 55, BMI $\leq$ 40 kg/m^2 with knee pain on most days of the previous month and tibiofemoral OA K/L grade $\geq$2) to Tai Chi (10 modified forms from classical Yang style) or an attention control (stretching and wellness education). The 60-minute intervention sessions occurred twice-weekly for 12 weeks. The knee joint proprioception was measured using a Biometrics™ electrogoniometer with an ADU301 angle display unit during each assessment visit. Three test angles (30, 45 and 60 degrees) were evaluated with each subject in a sitting position taken as neutral (0 degree). The electrogoniometer was placed longitudinally in alignment with the femur and tibia with double-

Abstract 329 – Table 1. Changes in Proprioception scores

Variable	Mean Scores (SD)		Change from Baseline Mean (SD)		Total Number of Subjects	P-value Tai Chi vs. Control
	Tai Chi (N=20)	Control (N=20)	Tai Chi	Control		
30 Degrees						
Baseline	5.58 (4.15)	4.26 (2.88)				
Week 12	3.00 (2.55)	6.55 (4.38)	-2.53 (5.22)	2.11 (5.64)	40	0.01
Week 24	3.60 (4.58)	3.80 (2.50)	-2.58 (5.84)	-0.68 (2.60)	40	0.20
Week 48	4.10 (2.79)	4.79 (4.70)	-1.26 (4.75)	-0.11 (4.42)	39	0.40
45 Degrees						
Baseline	4.60 (4.03)	3.63 (3.08)				
Week 12	4.00 (3.29)	4.75 (4.12)	-0.60 (5.06)	0.95 (5.04)	40	0.30
Week 24	2.75 (2.59)	1.65 (1.73)	-1.85 (4.40)	-1.95 (3.27)	40	0.90
Week 48	2.75 (1.55)	3.00 (2.98)	-1.85 (4.52)	-1.22 (4.41)	39	0.70
60 Degrees						
Baseline	3.05 (3.05)	3.24 (2.93)				
Week 12	2.45 (2.44)	2.84 (2.61)	-0.60 (4.03)	0.06 (3.80)	39	0.60
Week 24	1.94 (2.46)	3.60 (3.31)	-1.18 (3.28)	-0.88 (3.76)	27	0.80
Week 48	3.21 (2.44)	1.94 (1.89)	0.26 (4.59)	-1.44 (4.11)	37	0.30