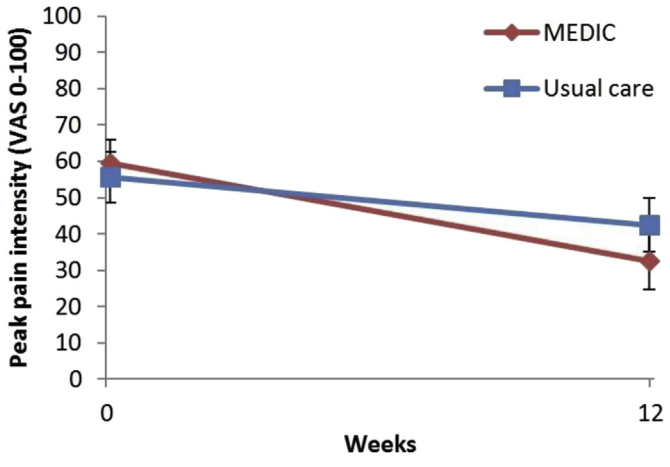
improvements were larger in the MEDIC group in pain intensity after 30 min of walking and in the number of body sites with pain ($P < 0.05$). There was no difference in pain pattern, usage of pain medication or in the change in sensitization from baseline to 3 months between groups ($P > 0.05$), but sensitization improved in both groups $P < 0.05$).

Conclusions: A multimodal non-surgical treatment program is more efficacious in reducing self-reported pain-related measures, while it is not superior to usual care in reducing pain sensitization. This suggests that other mechanisms than pain sensitization contributed to the perception of pain.

Table 1
Baseline characteristics

Baseline characteristics	MEDIC (n=50)	Usual care (n=50)
Women, n (%)	26 (52)	25 (50)
Age (years), mean (SD)	64.8 (8.7)	67.1 (9.1)
Body Mass Index, mean (SD)	30.6 (5.6)	29.4 (5.2)
Radiographic knee OA severity (Kellgren-Lawrence), n (%)		
Grade 1	7 (14)	11 (22)
Grade 2	13 (26)	15 (30)
Grade 3	13 (26)	10 (20)
Grade 4	17 (34)	14 (28)
Peak pain intensity in the previous 24h (VAS 0-100), mean (SD)	60 (23)	56 (25)



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MRI STRUCTURAL PARAMETERS PREDICT SHORT TERM RESPONSE TO INTRA-ARTICULAR STEROID THERAPY IN KNEE OA

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Purpose: Osteoarthritis (OA) is a disease of the whole joint. Intra-articular steroid injection (IASI) is widely used in the management of knee OA; however, it remains unclear whether structural factors identified by magnetic resonance imaging (MRI) may influence outcome of therapy. The aim of this analysis was to determine if individual sub-scores of WORMS assessed prior to IASI of the knee including scores for cartilage, bone attrition, bone marrow lesions (BMLs), synovitis, osteophytes, bone cyst, menisci and ligaments, influence short-term response to treatment.

Methods: Men and women aged 40 years and older with painful knee OA who met the American College of Rheumatology criteria for the disease, were recruited for participation in an open-label clinical trial of IASI. Subjects who took part in the study had significant knee pain (moderate to severe pain on at least 2 days in the last 2 weeks and/or Knee Injury and Osteoarthritis Outcome Score (KOOS) pain subscale > 7) and knee OA; on radiographs at least a Kellgren-Lawrence grade 2 or more. At baseline they completed questionnaires about their symptoms including the KOOS (0-100) with lower scores indicating greater pain and also a VAS (0-10cm) for pain during a nominated activity (VASNA) with higher scores indicating greater pain. They subsequently had a gadolinium (Gd)-enhanced MRI scan using 3-T scanner immediately prior to having an IASI (depomedrone 80mg) with follow-up visit usually within a 2-week period. Semi-quantitative grading of the MRI images using the WORMS protocol was performed for cartilage, bone attrition, BMLs, synovitis, osteophytes, bone cysts, menisci and ligaments within the knee by an experienced MSK radiologist. For cartilage, bone attrition, BMLs, osteophytes and bone cyst we focused our analyses on the maximal WORMS score in any region of the knee. Using linear regression we looked whether these WORMS scores at baseline were associated with the change in KOOS pain and VASNAbetween baseline and the follow-up visit, with the results expressed as b (unstandardised) coefficients and 95% confidence intervals (CI).

Results: 112 participants recruited at baseline had MRI images evaluated. Their mean age was 61.8 years (SD=10.2 years) and 57 (51%) were female. The median time between baseline and the follow-up visit was 8 days (IQR 7 to 13 days). During this time there was a significant increase in KOOS (23.0 points; 95% CI 19.0, 27.0) and a reduction in VASNA (-3.1cm; 95% CI -3.7, -2.6), both indicating an improvement in pain following steroid injection. Using linear regression, we found that higher maximal score for BMLs (b coefficient= 0.79; 95%CI 0.19, 1.38), and menisci damage (b coefficient= 0.35; 95% CI 0.03, 0.68) were associated with a smaller reduction in pain as assessed by VASNA VASnA. Similar trends were observed when KOOS pain was used as the outcome(data not shown).

Conclusions: To our knowledge, this is the first trial that has looked at WORMS individual structural sub-scores to predict response to IASI. Persons with more severe structural disease are less likely to have pain reduction with steroid injection as assessed by MRI markers of disease severity.

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SUPERVISED NEUROMUSCULAR EXERCISE PRIOR TO HIP OR KNEE REPLACEMENT: COST-UTILITY ANALYSIS ALONGSIDE A RANDOMISED CONTROLLED TRIAL

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Purpose: To analyse cost-utility of supervised neuromuscular exercise prior to total hip replacement (THR) and total knee replacement (TKR).

Methods: Cost-utility analysis was performed alongside a randomised controlled trial including 165 patients scheduled for THR or TKR (Clinical Trials registration no.: NCT01003756). An 8-week preoperative supervised neuromuscular exercise program was provided twice weekly in addition to standard THR or TKR regimen compared to standard THR and TKR regimen alone. The analysis applied the health care sector perspective and used the intention-to-treat approach. The intervention cost was based on tariff-based costs for physiotherapy. Individual resource use and tariff-based costs (2012-EUR) for health care visits in primary and secondary care were extracted from The Danish National Health Insurance Service Registry and The Danish National Health Registry. Utility was expressed as quality adjusted life years (QALY), based on weighted EQ-5D-3L scores. Missing EQ-5D-3L data was imputed with the linear trend at point method. Incremental net monetary benefit was analysed to estimate the probability for the intervention being cost effective and presented in cost effectiveness acceptability curve (CEAC). The robustness of the cost-utility result was tested by changing perspective, applying a per-protocol analysis and limiting analysis to complete item response. The time horizon was 61 weeks including assessment of clinical outcomes at baseline, post-intervention, and 6 weeks, 3 months and 12 months post-surgery.

Results: A non-significant total cost of €132 (95% CI -3942 to 3679) was observed between the groups. There was a significant QALY gain of 0.06 (95% CI, 0.02 to 0.09) in the intervention group as compared to the control group. At the conventional threshold of €40.000, the intervention was found to be cost effective at 89% probability. The cost-utility analysis was found to be robust (Figure).

Conclusions: Preoperative supervised neuromuscular exercise was cost-effective in patients scheduled for THR and TKA surgery at conventional thresholds for willingness to pay.