program by a physiotherapist, using the WOMAC,¹ Arthritis self-efficacy scale,² visual analogue scales (VAS) of distress and pain, timed measures of walking and sit-to-stand, and leg extensor power (LEP, Watts/Kg).³ Patients gave a global assessment of change in pain and function as a result of the program as (1) much worse (2) somewhat worse (3) same (4) somewhat better (5) much better. Less than 5% of patients reported worsening symptoms, therefore categories 1–3 were combined. The mean change in outcome measures was calculated for the three levels of global patient assessments. A non-parametric ANOVA was used to test for statistically significant differences in outcomes across the three levels of global assessment, and included a test for linearity.

Results The mean age of participants was 69 (SD 8.5), 44% were male, median duration of symptoms was 6 yrs (range 57.5). Over 70% of patients reported being somewhat or much better in function or pain after the program. Global ratings of pain and function demonstrated strong, linear associations with changes in WOMAC function, LEP and self-efficacy (shown for pain in the Table 1). Improvements in pain were associated with the baseline WOMAC pain score. Age, sex, and severity of disease were not associated with patients' global assessments. Neither were changes in walking speed, sit-to-stand, VAS distress, VAS pain or WOMAC pain scores.

Conclusion The results suggest possible minimum clinically significant differences for use in clinical trials, and measures that reflect patient perceptions of the benefits of a chronic disease management program.

Abstract HP0013 Table 1

	Change WOMAC function/4	Change LEP W/ Kg	Change self-efficacy/ 45
Same or worse	-0.19 (0.46)	0.22 (0.71)	1 (12.6)
Somewhat better	-0.23 (0.56)	0.71 (0.65)	2.5 (9.3)
Much better	-0.49 (0.44)	1.01 (0.78)	10 (9.7)

Mean change (SD) in comparison to participants global rating of pain. ANOVA and linearity tests $p < 0.05$.

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Back pain

SP0131 CONSERVATIVE TREATMENT FOR IMPROVING WORKING ACTIVITY IN SUBACUTE AND CHRONIC LOW BACK PAIN-A META ANALYSIS

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10.1136/annrheumdis-2001.1289

Introduction The primary goal in the rehabilitation of patients with chronic aspecific low back pain is return to work. Return to work was not reported in Tulder's review (1997), who found strong evidence for the effectiveness of manipulation, back schools and exercise therapy for chronic low back pain especially

for short-term effects. Van der Weide's review (1997) investigated vocational outcome after treatment of patients with CLBP based on RCT until December 1996. No evidence was found for the effectiveness of behavioural treatment, exercise, manipulation or back school. Since then, several studies regarding RCT reporting vocational outcome were performed. It remains questionable whether return to work can be improved. Therefore a new review is performed.

Method Literature search: MEDLINE, Cochrane Clinical Trial Register, EMBASE, PSYCLIT, cross reference tracing. The search combined the key word 'low back pain' with one of the following terms: absenteeism, (re)employment, sick leave, return to work, sickness absence, occupational disability and employment status. Criteria for inclusion of studies were: randomised clinical trial, subacute or chronic aspecific low back pain (> 4 weeks), subjects at working age, outcome return to work or sick days, conservative intervention. Based on prior reviews passive treatment modalities were excluded. To assess methodological quality internal validity was rated on a 10 point scale (1 = concealment of treatment allocation, 2 = blinded assessment, 3 = blinding of patients, 4 = blinding of therapist, 5 = intention to treat analysis, 6 = timing of outcome assessment comparable, 7 = withdrawal/drop out rate, 8 = cointervention avoided or equal, 9 = compliance, 10 = outcome measurements relevant). Four levels of evidence were defined. Level 1, Strong evidence: multiple relevant high quality RCTs. Level 2, Moderate evidence: One relevant, high quality RCT and one or more relevant, low quality RCTs. Level 3, Limited evidence: one relevant, high quality RCT or multiple relevant, low quality RCTs. Level 4, No evidence: only one relevant, low quality RCT, no relevant RCTs or contradictory outcomes.

Results More than 900 publications were identified. 120 were further examined. So far 14 RCTs fulfilled the inclusion criteria. Results on methodological quality and treatment effectiveness will be presented at the EULAR Conference in Prague.

Osteoporosis

HP0015 BONE TURNOVER DURING PREGNANCY IN WOMEN WITH LOW DIETARY CALCIUM INTAKE: EFFECTS OF A CALCIUM CITRATE SUPPLEMENT

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10.1136/annrheumdis-2001.1290

Objective To determine parameters of calcium homeostasis in pregnant women with low dietary calcium intake and to observe the effects of a calcium supplement.

Method 44 pregnant women (calcium intake: 310 to 720 mg/day) were enrolled. Blood and urine samples were taken around the 20th. week (pre-treatment value). Afterwards 26 women received calcium 750 mg/day (as calcium citrate suspension) until delivery; 18 received a placebo. At 36th–38th week blood and urine samples were again taken (post-treatment value). Ca and P in serum and urine and serum bone -specific alkaline phosphatase (AP), intact PTH, 1,25-2OH-vit D, IGF-1 and degradation products of C terminal telopeptides of type I collagen (CT) were determined.

Results At enrollment serum Ca, P, AP and IGF-1 were normal although with a great individual variation for IGF-1 (50% of the women showed high values and 20% low values); PTH (103.8

± 56.4 pg/ml), CT (4855 ± 268 pM) and 1,25-2OH-vit D (46.8 ± 7.4 pg/ml) showed high values. After treatment the calcium-treated women showed a significant decrease of AP (15.7 ± 3.3 U/l), PTH (35.8 ± 25.8 pg/ml), CT (2490 ± 1498 pM) and 1,25-2OH-vitD (38.0 ± 8.0 pg/ml) while the other parameters remained without significant changes. The placebo-group showed increments of AP, PTH, CT and 1,25-2OH-vitD.

Conclusions In pregnant women with low dietary Ca intake a parathyroid hyperfunction is present at least at the 20th week of pregnancy, a situation reverted by calcium supplement. In contrast to other studies IGF-1 did not show a systematic increase.

HP0016 FAMILIAL RISK TO OSTEOPOROSIS IN THE IRISH POPULATION

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10.1136/annrheumdis-2001.1291

Osteoporosis is a disease characterised by a low bone mineral density (BMD) and microarchitectural deterioration of bone tissue leading to fractures, especially of the hip and spine. It is a major public health problem of western societies that affects the elderly population. Both environmental and genetic factors have been evoked as determinants of peak bone mass, but the major determinant of BMD is heritability. Families were recruited as part of an ongoing study to identify susceptibility genes to low BMD. Osteoporotic and osteopenic women were identified retrospectively from records at the Bone Densitometry Unit of Cork University Hospital. Individuals with a disease or on medications known to influence calcium metabolism were excluded. Participants were requested to nominate both female and male relatives for bone densitometry measurement. Relatives over 40 years of age, with a history of fracture or dowager's hump were preferentially selected for inclusion in the study. Of the 220 families who participated in the study to date, relative pairs with low BMD were found in 152 families. There was a total of 525 low BMD pairs among the 152 families, of whom 310 were sib-pairs. Our study will help to increase public awareness in Ireland of the familial risk of osteoporosis.

Fibromyalgia

HP0017 EVALUATING THE EFFECTIVENESS OF A FIBROMYALGIA EXERCISE PROGRAMME

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10.1136/annrheumdis-2001.1292

Background Exercise has been identified as the most effective intervention in the management of Fibromyalgia (FM), however, patients often report difficulty in initiating and maintaining a regular exercise programme.^{1,2} In 1996 a FM programme was developed at our hospital. Patients attend for 6 weeks and follow a progressive exercise programme of land-based exercise and hydrotherapy. The initial emphasis is on conditioning and stretching as preparation for increased activity. Patients are then encouraged to develop their own home exercise/activity

programme, which they should continue on completion of our programme.

Method 50 consecutive patients with FM were diagnosed by Consultant Rheumatologist using the ACR criteria for FM.³ Female patients 39 (78%), male patients 11 (22%), age range 28–78 (mean 51.8 years). Symptom duration was as follows; <1 Year 11.1%; 1–5 Years 50.0%; 6–10 Years 16.7%; > 10 Years 5.5%; Patient Unsure 16.7%. Time since diagnosis was as follows; Less Than 1 Year 55.6%; 1–5 Years 38.9%; 6–10 Years 5.5%. Patients completed a series of validated questionnaires prior to participation on the programme and again at 6 weeks. The Nottingham Health Profile, Health Assessment Questionnaire and Hospital Anxiety Depression Scale were used thus assessing the major areas affected by FM – quality of life, mood, function and pain.

Results A third of patients reported improvements in mood and in some measures of global health specifically Physical Function and Social interaction. Generally pain did not significantly improve. However it should be remembered that this programme is designed as an initiation to exercise. Much of the work previously reported regarding the benefits of exercise entailed aerobic exercise with most studies having high drop out rates.^{4,5} Our programme introduced patients to gentle levels of exercise and progressed to more intensive work. The limitations of a 6-week programme mean we cannot progress to the aerobic levels where it has been demonstrated that pain and fatigue levels can be altered. The next stage of our project is to develop a community-based exercise programme. This combined approach of a gentle initiation followed by long-term exercise will be assessed at 6 and 12 months.

Conclusion We believe that this collaboration is innovative and has great potential in offering significant health improvements to Fibromyalgia patients.

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Orthopedics, sports medicine/soft tissue rheumatism

HP0018 THE DEVELOPMENT OF AN INTEGRATED CARE PATHWAY FOR THE MANAGEMENT OF ANTERIOR KNEE PAIN IN CORNWALL

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10.1136/annrheumdis-2001.1293

Patients with anterior knee pain (AKP) are waiting long periods to see Orthopaedic surgeons for expert advice, few are considered for surgery, most are referred for physiotherapy. This expensive use of a Consultants time increases orthopaedic waiting lists and often delays patients referral to Physiotherapy.