Objectives: In this study, we showed some preliminary data on the effectiveness of neural manual mobilization vs robotic assisted mobilization, on reduce pain sensitivity in subjects with dominant hand OA.

Methods: A pilot randomized controlled trial was conducted. 50 patients (50 to 90 years old) with a diagnosis of dominant hand OA were randomized into two groups of 25 participants. The experimental group received an intervention of neurodynamic mobilization of median, radial and ulnar nerves plus exercise, the control one received a robotic assisted passive mobilization treatment (Gloreha Workstation, Idrogenet srl, Brescia, Italy) plus exercise. Both groups received 12 treatment sessions over 4 weeks. Pressure pain thresholds (PPTs) were assessed bilaterally over the Radial, Median and Ulnar nerves, first Carpometacarpal (CMC) joint, Hamate bone and in the C5-C6 zygapophyseal joint. Intensity of pain (Visual analogue scale, VAS), Quick-DASH scale, grip and pinch strength were also measured bilaterally. Patients were assessed at beginning, at the end of therapy and after a period of 1 and 3 months.

Results: In comparison with pre-treatment values, the experimental treatment increased the PPTs in the first CMC joint, radial and median nerves ($P < 0.05$) and this effect was maintained until the 2nd Follow up session in the dominant hand. No significant changes in PPT at the hamate bone and ulnar nerve during treatment were found. No significant interaction for pain intensity (VAS) of hand while executing a grip strength, over the last 24 hours and over the last week also was found. Similarly, grip and pinch of the dominant hand did not increase after treatment.

Conclusion: Neurodynamic mobilization by sliding technique decreases pain in the hand joints in patients with hand OA, suggesting alternative therapies to surgery or to the use of analgesic. This research suggests alternative therapies to surgery or the use of analgesic therapy.

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FRI0696 THE NEXT STEP; MOVING TOWARDS A MORE PHYSICALLY ACTIVE RHEUMATOLOGY POPULATION

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Background: For individuals with rheumatic diseases, it is important to be sufficiently physically active. Several standardized exercise programs have been developed for patients with rheumatic diseases, that have proven to be effective in increasing physical activity level for a short period of time or only in a selection of the patients. A more personalized approach based on shared-decision making to tailor the intervention on personal physical activity goals could increase compliance to improve and sustain the physical activity level in patients with rheumatic diseases.

Objectives: Primary, this study will examine whether a personalized physical activity program is effective to increase and sustain the level of

physical activity in patients with a rheumatic disease. Secondary, this study will examine whether this program also results in a reduction in pain and fatigue.

Methods: A before after study will be performed among patients of the rheumatology outpatient clinic of Bernhoven in the Netherlands who do not meet the international physical activity recommendations¹ and who are motivated to improve their physical activity level. Physical activity will be measured with an activity tracker (steps/week) and as secondary outcomes the VAS pain and VAS fatigue will be measured over time. Measurements will take place before and 1, 3, 6 and 12 months after inclusion. Each participant starts the programme with an intake by a physiotherapist to identify motives and barriers for being physically active. Additionally, motivational interviewing and shared decision-making are used to tailor the intervention on personal physical activity goals. Participants will perform an individualized program, but they will also be a member of a group of 5-15 participants who will start at the same time. This group will meet three times a year to get feedback about their goals and physical activity level. Besides that, they can share experiences, questions, remarks and ideas with each other and with the physiotherapists involved in this study.

Results: Since February 2018, 49 patients are included in the physical activity program with a mean ($\pm$ sd) age of 53 ± 12 years and a median (IQR) disease duration of 2 (1-6) years. The majority of the participants is female (71%) and most frequently diagnoses are rheumatoid arthritis, spondyloarthritis and fibromyalgia. At baseline mean $\pm$ sd daily steps is 8469 ± 4170 , mean VAS pain is 43 ± 23 and mean VAS fatigue is 53 ± 25 . Results after 1, 3 and 6 months after baseline will be presented at EULAR. The inclusion of newly participants is still ongoing.

Conclusion: Despite it is too early to make a statement about the effectiveness of a personalized physical activity program, there are signs that participants became more physically active. During group meetings patients told they spent more time being physically active; they took more frequently their bike or went outside for a walk. This study will be continued giving the patients of the rheumatology outpatient clinic a personalized opportunity to become more physically active.

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HPR Epidemiology and public health (including prevention)

FRI0697-HPR CONSUMPTION OF DAIRY PRODUCTS AND RISK OF RHEUMATOID ARTHRITIS AMONG WOMEN: A POPULATION-BASED PROSPECTIVE COHORT STUDY

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Background: Conflicting results have been reported regarding the association between consumption of milk and dairy products and the risk for development of rheumatoid arthritis (RA).

Objectives: The aim of this study was to investigate the association between consumption of milk and dairy products and the development of RA in a large population-based cohort of women.

Methods: In a prospective cohort study 35,600 women aged 48-83 years, from the Swedish Mammography Cohort (SMC), were followed between 2003 and 2015. Consumption of dairy products was assessed in 1997 at a mean age of mean age of 61.5 years (SD 9.1 years) with a 96-item self-administered questionnaire. The risk (hazard ratio; HR) of RA development associated with consumption of dairy products was estimated using Cox proportional hazard regression models with adjustment for age, alcohol intake, smoking, energy intake, meat and fish consumption.

Results: During the follow-up of 12 years, 368 individuals were identified with a new diagnosis of RA. Comparing high consumption with low consumption of dairy products, no association between consumption of dairy

products and the development of RA was observed: HR for the fully adjusted model=1.12 (95% CI: 0.78-1.59 (Table 1). Also when evaluating milk and cheese consumption separately, no association with the risk of RA was observed: HR for the highest milk consumption=1.10 (95% CI: 0.82-1.44) and highest cheese consumption HR=1.20 (95% CI: 0.81-1.79), compared with low consumption (fully adjusted models, table 1).

Conclusion: In this large population-based cohort study, consumption of dairy products was not associated with risk to develop RA.

FRI0697HPR Table 1. Relative risk of developing rheumatoid arthritis during follow-up (2003-14) of women in the Swedish Mammography Cohort by consumption of dairy products in 1997.

	N of cases	N of person years	HR, adjusted for age	HR, fully adjusted model*
Total dairy				
<=3 servings/week	73	77148	1 (Ref)	1 (Ref)
3-4.5 servings/week	103	105043	1.00 (0.75-1.35)	1.05 (0.78-1.43)
4.5-6 servings/week	76	83777	0.93 (0.68-1.28)	1.01 (0.72-1.43)
>6 servings/week	111	115333	1.00 (0.74-1.33)	1.12 (0.78-1.59)
Milk				
<=0.5 servings/week	113	118630	1 (Ref)	1 (Ref)
0.5-1 serving/week	67	62227	1.16 (0.86-1.57)	1.17 (0.86-1.58)
1-2 serving/week	95	104788	1.01 (0.77-1.33)	1.03 (0.78-1.35)
>2 serving/week	85	89145	1.09 (0.82-1.44)	1.10 (0.82-1.48)
Cheese				
<=1 servings/week	81	84818	1 (Ref)	1 (Ref)
1-2 serving/week	119	124044	1.03 (0.77-1.36)	1.06 (0.80-1.41)
2-4 serving/week	106	108849	1.04 (0.78-1.39)	1.12 (0.82-1.51)
>4 serving/week	47	45405	1.08 (0.75-1.54)	1.20 (0.81-1.79)

*Adjusted for age, alcohol intake, smoking, energy intake, meat and fish consumption

Disclosure of Interests: None declared

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HPR Interventions (educational, physical, social and psychological)

FRI0698-HPR A RANDOMISED CONTROLLED CLINICAL TRIAL COMPARING THE EFFECTIVENESS OF 6 AND 12 WEEKS OF A SHOULDER SPECIFIC EXERCISE PROGRAMME FOR PATIENTS WITH ROTATOR CUFF RELATED SHOULDER PAIN

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Background: Research has shown loaded exercise to be beneficial for patients with rotator cuff related shoulder pain in terms of improving shoulder function, self-reported disability and pain^{1,2}. The optimal duration for which these patients should complete a loaded exercise programme to achieve beneficial effects remains unclear.

Objectives: The purpose of this study is to determine if 6 weeks of a supervised shoulder specific exercise programme is as effective as 12 weeks of the same programme, for improving shoulder function, self-reported disability and pain, in patients with rotator cuff related shoulder pain.

Methods: In this randomised controlled single-blinded study patients with a history of lateral upper arm pain with MRI confirmation of rotator cuff pathology or positive testing on a cluster of clinical rotator cuff tests were included. Patients with a recent history of shoulder surgery or a shoulder fracture were excluded. Participants were randomly assigned to complete either 6 weeks (short group) or 12 weeks (long group) of the exercise programme. Both groups performed the same specific set of loaded exercises daily at home and attended 6 clinic-based group exercise sessions². Participants were assessed at 6 weeks, 3 and 6 months. Shoulder function was assessed using the Constant-Murley (CM) score. Disability was assessed using the QuickDash and the Shoulder Pain and Disability Index (SPADI). Pain was assessed using a visual analogue scale. Group comparisons were made using univariate generalised linear models.

Results: 85 patients were included in this study as per Table 1.

FRI0698HPR Table 1.

Group	Short (n = 45)	Long (n = 40)
Background variables		
Sex (male/female)	24/21	21/19
Age in years median (SD)	57 (15)	57 (14)
Duration of symptoms (median months)	19	24

Within each group shoulder function, self-reported disability and pain improved significantly at 3 months ($p < .05$). Comparisons at 3 months showed the long group had significantly lower pain scores ($p = .02$). At 3 months there was no significant difference between the two groups in the CM score ($p = .415$), SPADI score ($p = .053$) and QuickDash score ($p = .245$). However, at 6 months, the long group had significantly greater changes in both the CM score ($p = .007$) and the SPADI score ($p = .002$).

Conclusion: In the management of patients with rotator cuff related shoulder pain the findings of this study indicate that a 12 week exercise programme results in better outcomes for pain at 3 months and self-disability and shoulder function at 6 months.

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FRI0699-HPR DEVELOPMENT OF DELPHI-BASED RECOMMENDATIONS FOR THE MANAGEMENT OF CARDIOVASCULAR COMORBIDITIES IN PATIENTS WITH PSORIATIC ARTHRITIS AND MODERATE-TO-SEVERE PSORIASIS: STUDY PROTOCOL

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Background: Psoriasis (PSO) and Psoriatic Arthritis, (PsA) particularly moderate to severe disease (MS-PSO), are inflammatory systemic