385. AGGRESSIVE TREATMENT OF RHEUMATOID ARTHRITIS FOR THE BUSY CLINICIAN

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Background: The aim of rheumatoid arthritis treatment is to use disease modifying drugs aggessively to induce remission. Assessment of remission can be made using the DAS28 (score<2.6). Low disease activity is dictated by a DAS28 <3.2. Although the gold standard the DAS28 relies on the ESR which lacks immediacy and is difficult to use in the busy clinic setting.
Methods: We audited 41 consecutive rheumatoid arthritis patients seen in outpatients at the Royal Liverpool Hospital. We assessed their disease activity using the DAS28, the Simplified Disease Activity Index (SDAI), the CRP and patient and physcian visual analogue scores. In addition we audited whether patients with DAS28 score >2.6 had their treatment increased or changed.
Results: 10% of patients seen in outpatients had low disease activity (DAS28 <3.2). 1 patient was in remission. Of the 40 patients with DAS28 >2.6, 25 had no adjustment made to their treatment (62%). In order to facilitate more aggressive management it may be necessary to measure disease activity more objectively in clinic using methods which will identifiy reliably those patients in remission.
Of the measures we investigated, patient visual analogue scores (r=0.61) and CRP (r=0.60)performed poorly compared to the DAS28. Physician visual analogue scores correlated better with the DAS28 (r=0.70) but the SDAI was the superior measure (r=0.77) correlating well with the gold standard.
In our population there was only one patient in remission therefore it was meaningless to assess the specificity, sensitivity and positive predicitve values of tests to detect remission. However we can assess the usefulness of measurements to screen for patients with "more than low" disease activity, that is patients with a DAS28 >3.2.
A physician analogue score of >2.5 has a sensitivity for identifying patients with DAS28 >3.2 of 97%. Specificity of 75%. Positive predictive value of 97%.
An SDAI of >20 has a sensitivity of 83%, a specificity of 100%, a positive predictive value of 100%.
Conclusions: The SDAI correlates well with the DAS28 and can be used to identify patients' disease activity. It does rely on the CRP being measured, however unlike the ESR this can be made avaliable rapidly in the outpatient setting to allow the objective assessment of disease activity to be made in the clinic. This may facilitate the aggressive treatment of patients with rheumatoid arthritis.

386. CHANGES IN DEMOGRAPHIC AND DISEASE PATTERNS AMONG PATIENTS WITH RHEUMATOID ARTHRITIS ENTERING LARGE CLINICAL TRIALS OVER A 20 YEAR PERIOD

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Background: There is recent evidence to suggest that the epidemiology of rheumatoid arthritis (RA) is evolving. The prevalence is declining in women and increasing in men. Recent reports also show that the disease is becoming less severe. The reasons for this change are thought to be multifactorial.
Aims: To evaluate demographic trends among RA patients entered into prospective DMARD studies.
Study Design: Retrospective analysis of the baseline characteristics of individuals in all DMARD trials between 1981and 2000.
Methods: A Medline search was performed for all prospective, randomised clinical trials involving DMARD therapy in patients with RA. Demographic features, seropositivity and initial ESR were compared in 4 groups between 1981 and 2000.
Results: Demographic features in each group are shown in the table.

Trial Years	1981-1985	1986-1990	1991-1995	1996-2000
n	136	756	1634	3833
%female	68.4	68.8	74.4	72.8
%RF +ve	78.8	72.1	77.6	78.6
Age (yrs)	53.6	53.9	52.7	51.7
Dis Dur (yrs)	7.5	5.7	6.5	4.2
ESR (mm/hr)	56.1	50.4	45.7	45.1

There was almost a 30 fold increase in the number of patients entering clinical trials. Age, disease duration at study entry and initial ESR decreased with time. There was a trend towards recruiting patients with earlier RA in the study cohorts after 1995. Seropositivity remained unchanged, probably reflecting recruitment of patients with more active disease into clinical trials rather than 'real life' situations. Surprisingly the percentage of male patients declined with time although the actual numbers increased.

Conclusions: The increase in the number of clinical trials in RA mirrors a growing appreciation of the treatment options in RA recently. There also seems to be a trend towards decrease in disease severity over time. This may reflect earlier referral to specialist care and initiation of DMARD therapy. The other factors influencing this change can only be ascertained in future clinical trials.

BHPR

387. A LIFESTYLE MANAGEMENT FOR ARTHRITIS PROGRAMME: SHORT-TERM OUTCOMES FOR PEOPLE WITH INFLAMMATORY ARTHRITIS

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Background: Patient education should be flexible and based on clients' needs. The Lifestyle Management for Arthritis programme (LMAP) is a behavioural, self-paced course. Participants attend two modules (each 4 x 2.5hr/week) and a follow-up meeting, over a 3-9m period. Content was based on a survey of people with inflammatory arthritis' priorities. Module 1 "Looking After Your Joints" includes: identifying priorities, motivation for change, joint protection, fatigue management, and hand exercise. Module 2 "Keeping Mobile" includes flexibility, strengthening, "Tai Chi for Arthritis" and "Walk with Ease" exercise programmes and stress management. The follow-up reviews progress. Modules can be flexibly delivered (community – hospital, day-evening) by a team of group leaders (currently OT, PT, and in future nurse) leading any module.
Objectives: To evaluate the LMAP's effects on readiness to change, self-management and health status of people with inflammatory arthritis.
Methods: A randomised controlled trial with mailed questionnaires at 0 and 6m (12m in progress). Participants were randomly allocated to the LMAP or a 5 x 2 hr/week multi-disciplinary arthritis education programme (AEP) based on standard UK practice, including disease and drug information, joint protection, exercise, fatigue, pain and stress management, relaxation, diet, and complementary therapies. People with inflammatory, rheumatoid and psoriatic arthritis were recruited.
Results: 498 people were referred over an 18m period; 53% initially were willing to attend education but only 218 (44%) consented to enter the trial. 38 later withdrew and 13 were unable to attend due to ill-health. In total, 81 attended the AEP and 86 the LMAP. Groups were comparable for age 55.56 vs 55.29 yrs), disease duration (86m v 91m) and use of disease modifying drugs. In comparison to the AEP, at 6 months the LMAP led to significantly higher scores in the Stages of Change Questionnaire Action sub-scale (p = 0.04), greater self-reported use of self-management (joint protection p = 0.02; hand exercises p = 0.01; stretch exercise p = 0.05)) improved self-efficacy (p = 0.04), and reduced overall pain (p = 0.01) and fatigue (p = 0.02) scores.
Conclusions: We found significant short-term improvements in readiness to change, self-management, and psychological and physical status in LMAP participants compared to those attending the standard AEP. An advantage of this programme is that each module requires only one group leader to be present at a time, providing greater continuity to discuss physical and psychological concerns, motivate participants and enable flexible provision. However, overall only a third of those referred participated in the trial, meaning this approach is not applicable for all people with inflammatory arthritis.

388. THE IMPACT OF OSTEOARTHRITIS ON PERSONAL RELATIONSHIPS AND SEXUAL ACTIVITY

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Background: Osteoarthritis (OA) can impact on all aspects of a patient's life, including their personal relationships and sex lives. There is some research into the effects of RA in this area[1], but little in OA. This study investigated the impact of OA on sexual relationships, sexual activity and documented the patients' perceptions of the causes of any difficulties.
Methods: 76 OA patients who were taking part in a RCT managed from the rheumatology outpatient clinic of a large teaching hospital were asked to complete a self administered validated questionnaire in private at home. They returned the questionnaire by post and were guaranteed anonymity if they wished.

Results: 75/76 (99%) patients returned the questionnaire, but 6 (8%) were left blank and were disregarded leaving 69 (91%). Four of the 69 (1 married, 1 single, 2 widowed) answered very few questions. Seven (11%) patients chose anonymity. The median age of the cohort was 62yrs (range 42-82yrs) and 51 (74%) were female. Most were married (40/69:58%); the remainder were either widowed (11:16%), divorced (11:16%), single (4:6%), separated (2:3%), 1 unspecified. Median disease duration was 9yrs (range 2-37yrs). 13/44 (30%) patients with a partner thought OA strained their relationship. Of those in a sexual relationship, 18/38 (47%) thought OA had altered it. 38 answered the question about OA limiting sexual intercourse, and 19 (50%) said it did. Of the 57 (83%) who answered the question on the importance of sexual ability, 30 (53%) considered it important or very important. Their median age was 57yrs, (range 44-77). This compared to a median age of 66yrs (range 46-82) in those to whom sexual ability was of little or no importance. This age difference was significant (p=0.001). Reported symptoms of OA were pain (65/65), stiffness (61/63:97%), fatigue (51/57:89%), reduced function (52/58:90%) and joint swelling (43/55:78%). Reduced libido was expeienced by 28/52 (54%) and reduced finger sensation by 21/53 (40%). 12 patients cited pain as affecting their ability to make love, 8 reduced sexual drive, 7 reduced function and 7 stiffness. Only 15/40 (38%) discussed with their partner the effect of OA on their sexual relationship, but 25/32 (78%) thought their partner understood any difficulties.
Conclusions: In this cohort OA affected the relationships and sexual function of a large minority. Sexual ability was important to 53% of those who responded to this question and ageing had a negative impact on its importance. Symptoms play a large part in reduced sexual function, but reduced libido is also implicated. It is noteworthy that the questionnaire completion rate (91%) was very high and this method of enquiry appears to be acceptable to patients with OA.

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389. RELATIONSHIP BETWEEN CAUSAL BELIEFS OF KNEE OSTEOARTHRITIS AND PAIN, FUNCTION, MOOD AND SELF-EFFICACY

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Background: Osteoarthritis (OA) of the knee is a complex pathology that has many possible causes (including injury, occupation and obesity), but there is very little information regarding patients' causal beliefs about knee OA. These beliefs are important since they might influence self-management and coping strategies. This study uses the causal beliefs section of the revised Illness Perceptions Questionnaire (IPQ-R) to establish i) the main causal beliefs held by patients with OA knee, and ii) the relationship between these beliefs and patient self-reported measures of pain, function, mood and self-efficacy.
Methods: 169 patients with knee OA participating in a clinical trial of rehabilitation completed the IPQ-R at baseline, along with measures of pain and function (WOMAC), depression and anxiety (HAD) and self-efficacy for exercise (Gecht, 1996). Two additional causal beliefs related to knee OA were added to the IPQ-R: wear and tear and ageing. As the distributions of causal items were skewed the Mann-Whitney U-test was used to examine the relationship between causal beliefs and outcome variables.
Results: Mean age of the patients was 65 years, 65% were female, 56% were married and the mean disease duration was 10 years. The 4 most widely held beliefs about the causes of OA were: wear and tear (94% agreed or strongly agreed); ageing (86% agreed or strongly agreed); over work (48% agreed or strongly agreed) and accident or injury (47% agreed or strongly agreed). Higher anxiety scores were associated with beliefs about overwork (p=.021); family problems (p=.048); alcohol use (p=.048); and stress (p=.007). Attributing the development of their OA to stress was also associated with increased depression scores (p=.038). Poorer function was associated with the belief that OA was caused by poor medical care in the past, but lower pain and better function were found for patients who believed their OA was due to ageing.
Conclusions: Certain causal beliefs of knee OA are related to specific outcomes for pain, function and mood but not self-efficacy. Interestingly, patients who believed OA was a result of ageing had better pain and function scores than patients who did not consider ageing to be a cause. If causal beliefs do affect self-management behaviour, developing interventions that influence these factors may help improve patient outcomes in OA, particularly in relation to anxiety.

390. RHEUMATOLOGY TELEPHONE HELPLINES: PATIENT AND HEALTH PROFESSIONAL REQUIREMENTS

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Background: Telephone helplines have been demonstrated to be an effective and valuable method of providing information or personal support to large patient populations. In a previous activity analysis, we published the management and use of rheumatology helpline services in five rheumatology units in the South and West of England. The results showed a lack in uniformity between the groups both in delivery of care and access to services. The aim of this study was to investigate patients and health professionals (HPs) requirements from a dedicated rheumatology helpline and how such a service should be delivered.
Methods: Self-completed questionnaires were sent out on one occasion to users and providers of rheumatology services at five Trusts across the South and West of England. Data were collected from patients in hospital outpatient departments and posted to primary care HPs (users). Information from providers of the service was collected from national experts in the field and rheumatology HPs (providers). Information was elicited on access to service, preferred waiting time for response to call, acceptability of an answerphone and choice of health professional responding. Data were entered on Excel spreadsheets and analysed using descriptive statistics. Both qualitative and quantitative data were collected, quantitative data only is reported here.
Results: A total of 607 questionnaires were returned, 523 users (411 patients) and 84 providers (24 experts). The top five reasons for patients contacting the helpline were: advice on changing condition (68.3%), drug information (58.4%), understanding symptoms (45.3%), information on diagnosis (39.5%) and appointment queries (36.6%). HP users showed a preference for Monday to Friday 9-5 access (67.6%) compared with patients who selected 7 days a week, 9-5 (54.2%). All groups recommended a returned call on the same day, (patients 56.9%, HP users 52.3%, HP providers 44.6%) and were happy to leave an answerphone message. Both users and providers recommended a rheumatology practitioner as the most appropriate individual to staff the helpline (patients 69.7%, HP users 73%, HP providers 95%). HP users showed a preference for correspondence via email (64.3%). There were no significant differences in responses across the six Trusts.
Conclusions: This study has contributed a valuable insight into the essential components of a rhematology helpline service from a user and provider perspective. These data will now be added to the qualitative findings as the basis of national guidelines in the development and management of a rheumatology helpline service.

391. BELIEFS ABOUT CAUSES OF RHEUMATOID ARTHRITIS(RA) OF PATIENTS AND THEIR SPOUSES

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Background: People have many theories and beliefs about illness. As part of a larger study, patients with RA, and spouses, were asked to identify what they believed caused their/their partners RA.
Methods: 100 couples (patients and spouses) completed the Illness Perception Questionnaire (IPQ-R). 18 possible causes of RA were suggested and participants were asked to agree/disagree with these and to select 3 main causes. They were asked to state any other causes.
Results: 100 patients (mean age 59.87 yrs, SD11.71, min-max 28-82) and 100 spouses (mean age 60.20 yrs, SD 12.70, min-max 26-85) completed questionnaires. 72% of patients were female.
No single cause of RA was endorsed by everyone. As couples, patients and spouses had low rates of agreement with each other about possible causes. 28 couples agreed that stress may have caused RA, 27 agreed about altered immunity, 24 agreed on hereditary and 23 agreed that it was chance. There was agreement in <20% of couples for other causes. There was least agreement about altered immunity (57 couples disagreeing),chance (55 couples disagreeing) or diet being a cause (52 couples disagreeing).
There was greater agreement about what did *not* cause RA -73 couples agreed with each other that alcohol was not a cause, 66 couples agreed smoking was not a cause, 65 couples agreed that negative mental attitude did not cause RA and 63 couples agreed that RA was not caused by previous poor medical care.

In 9 couples, the spouse believed RA was caused by negative mental attitude in the patient (patients did not agree). 14 spouses believed ageing caused RA but the patients disagreed.12 patients blamed altered immunity for their RA but their spouses disagreed. 13 spouses identified stress as a cause(patients disagreed).
!4% patients and 12% spouses believed other factors not included in the IPQ(R) caused RA and suggested cold or damp weather, childbirth/hormonal change, hard manual work, following surgical/medical procedures, poor general health and medication.
Conclusions: Beliefs about the causes of RA were shown to be many and varied. No single cause was endorsed by everyone. There were low levels of agreement in individual couples. It may be important to identify and discuss causal beliefs with patients and their spouses as these beliefs could have bearing on how they both perceive treatment for RA and its potential benefits. Beliefs about causal factors may dictate how optimistic or pessimistic patients and spouses feel about the future.
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392. OFF-THE-SHELF CONTOURED ORTHOSES DEMONSTRATE COMPARABLE MECHANICAL PROPERTIES TO CUSTOM-MADE FOOT ORTHOSES AT LESS COST

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Background: Foot orthoses are reportedly helpful to patients with certain musculoskeletal conditions [1,2]. Orthoses may be made from individual casts of the patient's foot (costing ~£150), or supplied 'off-the-shelf' (OTS) (costing ~£5–£45). We have demonstrated previously that the mechanical properties of single plane OTS wedges (costing ~£1) are not comparable with custom devices [3]. This study investigates contoured OTS devices.
Methods: Anatomically localised plantar pressures and forces were measured in-shoe in 15 participants with planus feet in a randomised, crossover trial, comparing each orthosis type to the other, and to a shoe-only control state. Participants were randomised to one orthosis type, and after two weeks of wearing orthoses, pressure and force data were recorded using the Pedar system (Novel GmbH, Munich). After crossover and a further two weeks, pressures were re-recorded. Orthoses were either customised polypropylene devices, or a commercially available OTS device made of the same materials but to a standard last.
Results: Both OTS and CFO devices produced statistically significant and comparable mechanical changes relative to the control state for 11 of the 35 variable/mask combinations. The CFO and OTS devices did not differ statistically from each other for any of the variable/mask combinations. Pressure and force variables are reduced significantly at the forefoot (up to 37% change) and heel (up to 17% change) while wearing either type of device, with loads shifted to the midfoot (up to 34% change). Differences were greatest for pressure and force variables incorporating timing of load (integrals), and both types of orthosis increased the duration of load at the midfoot.
Conclusions: Both custom and OTS orthoses shift load from the forefoot and rearfoot toward the midfoot, compared to the control state. The shift in load is however associated with a concomitant increase in midfoot contact area, minimising change in pressures. The timing is altered by the addition of a fulcrum at the midfoot, prolonging loading in this area. Although the mechanical effects of the two devices differed by no more than 12%, the final total cost of CFO devices was more than double that of OTS devices.
These objective data question the role of CFOs as a first line treatment. While previous work has suggested that *single-plane* OTS orthoses cannot be considered a mechanical alternative to custom orthoses, *contoured* OTS devices may address some of the short-comings of single plane devices.

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393. PATIENT-INITIATED REVIEW: SPECIFIC HELPLINE SUPPORT IS REQUIRED

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Background: Telephone helplines for RA patients usually support patients under routine hospital review. Recent research suggests patients may not require routine appointments if they can rapidly initiate reviews themselves.[1] Similar studies in other diseases used a clerical contact point for patients to request appointments. This analysis explores how and why RA patients initiate reviews, and the support needed.
Methods: 302 consecutive RA patients were invited to participate in a study examining the safety, satisfaction and cost of replacing routine reviews with patient-initiated reviews. 209 agreed and were randomised to routine physician-initiated follow-up or no routine follow-up, but direct access to review on request via a nurse helpline. No formal instruction was given in helpline use, other than calling for advice or an appointment. A target of review within 10 working days of the request was set, using a fortnightly ring-fenced clinic. At 6 years 120 patients remained in the study (68 Direct Access).
Results: 62/68 patients (91.2%) used the helpline at least once (506 calls in 72 months). Mean number of calls/patient was 7.4 (0-27) and call duration 14.5 mins (1-120). Reasons for calls were pain (196, 38.7%), flare (95, 18.8%), medication (93, 18.4%), admininstrative/trial (52, 10.3%), social support (26, 5.1%), physiotherapy (9, 1.8%), OT (7, 1.4%) and other (eg orthotics, benefits: 109, 21.5%). Some calls had multiple topics.
After discussion with the helpline nurse 356 calls (70.4%) resulted in an appointment, including 45 (12.6%) where patients had not originally requested one. Five patients (1.7%) who requested an appointment did not need one after discussion with the nurse. 297 (83.4%) were seen within 10 working days (mean 6.39 days, 0-32). The latter delay was at the patients request. Longest hospital-caused delay was 22 days (bank holidays,annual leave). Other outcomes were advice/education (53, 10.5%), social support (36, 7.1%), GP referral (29, 5.7%), OT referral (7, 1.4%), admission (7, 1.4%), physio referral (6, 1.2%), and other (orthotic referral, administrative, 68, 13.4%). Some calls had multiple outcomes.
Conclusions: RA patients who do not have routine hospital-initiated reviews readily (but not excessively) initiate reviews via a nurse led telephone helpline. The nature of the calls clearly requires a professional rather than clerical contact point. An organizational infrastructure is needed for the nurse to give large numbers of rapid appointments.

Reference

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394. INTERIM RESULTS OF A RANDOMISED PLACEBO-CONTROLLED TRIAL OF PHYSIOTHERAPY TREATMENT FOR ROTATOR CUFF TENDINOPATHIES

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Background: Rotator cuff tendinopathies (RCT) affect up to 30% of the general population and become more prevalent and disabling with age. Patients with RCT have significant levels of impairment and associated disability. There has been little evidence to support physiotherapy treatment of this condition. The purpose of this study was to assess the efficacy of physiotherapy approaches to treatment of RCT.
Methods: The results for 47 participants (mean age 53 (sd=14) and mean duration of symptoms 46 weeks (sd=34) and 56 shoulders treated are included here. All participants gave informed consent. Participants recruited for a randomised, controlled trial of treatment for RCT were assessed at the beginning and end of a twelve-week treatment period. All participants were assessed by a chartered physiotherapist blinded to treatment-allocation and treated by a second chartered physiotherapist. All participants completed several outcome measures including the primary measure for this study, the Shoulder Pain and Disability Index (SPADI) - a 0 to 100 scale in which 0 represents normal and a decrease in 10 indicates the minimal clinically meaningful change. Participants were randomised to one of four groups: Therapeutic Exercise (TE), Manual Therapy (MT), Combined manual therapy and

therapeutic exercise (CT), or Placebo (P) (consisting of breathing exercising, effleurage massage, and pain-free range of motion exercises).
Results: The statistical analyses were carried out using an SPSS package. The association between variables was measured using the Kruskal-Wallis Test and the changes within groups were measured using a two-tailed, two-sample unequal varience t-test. Mean SPADI scores improved in all treatment groups (p=0.027). The CT group (n=10) improved by 29.5 (sd=16.7; p=0.002), the TE group (n=10) by 25.9 (sd=19.9; p=0.007), the MT group (n=21) improved by 15.5 (sd=16.9; p=0.009), the and the P group (n=15) improved by 9.4 (sd=16.9; p=0.33).
Conclusions: Physiotherapy treatment resulted in decreased pain and disability as measured by the SPADI. SPADI scores did not improve significantly for participants receiving placebo treatment. Physiotherapy employing a combination of manual therapy and therapeutic exercise appears to be most effective in treating rotator cuff tendinopathies. Based on current results 85 participants are needed to complete the trial to give 95% confidence and 80% power and employing a factorial design.

395. A STANDARDISED PHYSIOTHERAPY REGIME VERSUS SOFT TISSUE MANIPULATION IN FROZEN SHOULDER: A RANDOMISED CONTROLLED PILOT STUDY

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Background: Frozen shoulder (FS) is highly prevalent, affecting 5 - 10% of the population and is frequently treated by both physiotherapists and osteopaths. There is little evidence to support current modes of treatment. The purpose of this study was to compare the efficacy of a standard manual and exercise based physiotherapy regime and a soft tissue manipulation technique in the treatment of frozen shoulder.
Methods: Thirty participants with frozen shoulder were randomised to receive a supervised physiotherapy regime, soft tissue manipulation performed by an osteopath, or to a placebo group. All participants were seen in six, 45-minute sessions over a nine-week period and were blinded to their group allocation. Outcome measures were recorded by a blinded assessor at baseline (one week prior to treatment), and one week following completion of treatment and included a Shoulder Pain and Disability Index (SPADI), subject satisfaction score and range of active and passive shoulder abduction.
Results: All groups improved significantly with respect to shoulder pain and disability scores with no significant difference (p=0.07) between the groups. (Mean (SD) SPADI initial and final measures: physiotherapy: 41.5 (25.0) v 22.8 (13.7); soft tissue manipulation: 49.6 (29.3) v 10.8 (10.8); placebo 58.3 (19.7) v 32.1 (28.2)). Improvements in passive abduction were seen in both the treatment groups, reaching statistical significance in the physiotherapy group only(p=0.009). Active abduction was significantly improved in both treatment groups. (Mean (SD) active ROM: physiotherapy 89.6 (33.1) v 128.9 (28.6) (p=0.008); soft tissue manipulation 85.3 (25.2) v 136.9 (22.1) (p=0.0002); placebo 96.3 (29.2) v 99.9 (43.5)(p=0.12)). Although all three groups showed improved satisfaction with their shoulder status, this reached significance in the physiotherapy group only (p=0.005). (Mean (SD) physiotherapy: 57.2 (22.0) v 82.0 (22.3); soft tissue manipulation: 64.8 (16.2) v 78.4 (15.3); placebo: 58.4 (22.8) v 71.8 (16.6)).
Conclusions: This study confirms that there is a natural improvement with time in shoulder pain and disability in patients with frozen shoulder. However, a manual and exercise based physiotherapy regime and soft tissue manipulation are both superior to placebo in improving range of motion and a supervised physiotherapy regime results in greater participant satisfaction with the status of their shoulder. As treatment of soft tissue restrictions in combination with therapeutic exercise appears to be effective in improving active and passive range of motion of the glenohumeral joint in patients with idiopathic frozen shoulder, intervention is warranted in these patients.

396. WHAT'S IT LIKE TO HAVE RHEUMATOID ARTHRITIS? RESEARCHING AN EDUCATIONAL WEBSITE

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Background: Availability of health information has been revolutionised by the emergence of the Internet. UK Internet access has risen from 13% of households (1999) to 47% (early 2003) ie.11.7million. More than 50 million people worldwide seek health information online. By adopting strict scientific rigour in its approach to obtaining data the information found in the DIPEx (Database of Individual Patient Experiences) website (www.dipex.org.uk) matches other evidence based websites. The DIPEx website currently has 7 other disease/illness modules containing transcript exerts, video and audio clips of interviews and attracts approx. 200,000 site users per month. It is recognised that a well informed patient is likely to be less anxious and studies have indicated that patients who share in decision making may have improved outcomes. Most patients, following diagnosis, will seek out additional information from formal and informal sources and increasingly this includes the Internet. This website aims to provide a more balanced view of Rheumatoid Arthritis (RA) patient's real experiences instead of the limited exchange of eg. disability chat websites.
Methods: 39 semi-structured individual narrative interviews were undertaken with those with RA. These were audio and video taped following consent. Interviewees were invited to tell their story, with prompt questions to address important details relating to: getting a diagnosis, living with RA and treatments received. Detailed coding of all interviews was performed followed by systematic content analysis of the data utilising qualitative software. Interpretation of the categories and sub-categories resulted in mapping of important overall themes for the RA interviewees.
Results: Mean age of interviewees' 40yrs (range 21-78); mean disease duration 14yrs (range 0.5-46) and mean age at diagnosis 37yrs (range 2-74). UK subjects were selected from a range of socio-economic backgrounds. Many people had not had the chance to share experiences in depth with another person with RA. Results show that RA is very individual and issues regarding the following emerged: initial symptoms; pathway to and effect of receiving a diagnosis; effect on all aspects of daily life (practical, emotional and financial); ongoing symptoms; treatments (medication, therapies, surgery, complementary therapies and diet); healthcare received including access and choice of treatment and information requirements/sources.
Conclusions: Interviewees willingly shared their stories and many expressed a wish to learn of other people's experience of the disease, specifically how people cope with RA on a daily basis. They were interested to find out practical tips, ways to adapt and how to accommodate the unpredictability of RA. The RA module of the DIPEx website will include topic summaries and selected multimedia interview clips. Due summer 2004 it will be evaluated.

397. UPPER LIMB SENSORIMOTOR DYSFUNCTION AND FUNCTIONAL PERFORMANCE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: There are many causes of disability in patients with rheumatoid arthritis (RA) including joint destruction, deformity, pain and muscle dysfunction. Although considerable sensorimotor deficits have been described in the lower limbs of patients with RA, which contribute to reduced functional performance and disability, little is known about the presence and consequences of sensorimotor deficits in the upper limb. Therefore, we examined sensorimotor and functional performance in RA patients.
Methods: Subjects: 31 RA patients (mean age 65yrs, height 1.65m, weight 73kg, 9 males) and 18 healthy subjects (66yrs, 1.65m, 70kg, 4 males) attended for one assesment.
Methods: Global upper limb strength (aggregate isometric strength of shoulder flexors, abductors, elbow flexors, elbow and wrist extensors), upper limb proprioception (joint position sense (JPS) at the elbow and wrist) and global functional performance (time taken to; i) put on a shirt and button 3 buttons (dressing) and ii) cut putty with a knife and fork (eating)) was assessed.
Analysis: Between group differences were established by Student t-test and association by Pearson correlation coefficient. As several outcomes were measured, to ensure erroneous statistcial signficance was not reported the level of acceptable statistcial significance was set at $P<0.01$.
Results:

Dominant limb	RA patients# (n=31)	Healthy subjects# (n=18)	Mean difference (95% CI)
Strength (N)	369 (181)**	649 (181)	280 (172,389)
JPS (deg)	7.4 (2.9)	5.4 (2.0)	-2 (-0.4, -3.5)
Function (sec)	47.5 (15.4)*	31.5 (8.1)	-16 (8.1, 23.9)

#mean (SD), **lower than healthy subjects ($P<0.001$), *slower than healthy subjects ($P<0.001$)

Upper limb strength was inversely associated with global functional performance (r=-0.3, P=0.09) and eating (r=-0.5, $P<0.05$)
Conclusions: This study demonstrates patients with RA have considerable upper limb weakness when compared to healthy subjects. There is a difference in proprioception (JPS) between the two groups (P=0.013), which did not reach the conservative level of statistical difference set, whether this difference is clinically important is unknown. These sensorimotor deficits may contribute to the reduced upper limb function evident in the RA patients.

398. PATIENTS' PERSPECTIVE OF QUALITY OF LIFE FOLLOWING COMMENCEMENT OF NEW BIOLOGICAL THERAPIES IN THE TREATMENT OF RHEUMATOID ARTHRITIS

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Background: Anti-TNFα drugs have been shown in randomised controlled trials to be highly effective in the treatment of rheumatoid arthritis and other inflammatory conditions. The aim of this research study was to gain the patients perspective of quality of life while on Anti-TNFα therapy and to ascertain their experience of what it is like to receive treatment with a new class of 'powerful' drug and to gain their perspective of living with this chronic disease.
Methods: In this qualitative study (part of MSc in Health Science funded by *arc*), five patients (4F & 1M) with rheumatoid arthritis, who had received anti-TNFα therapy, underwent unstructured 'in-depth' interviews. The sampling method used was purposive to gain the spectrum of experience from different types of RA patient e.g. in work, at home, severe or moderate disease, older and younger patients. Each interview was tape recorded and transcribed verbatim by the author. This data collected was analysed using Colaizzi's six procedural steps, where significant statements were extracted, meanings formulated from these statements and then organised into cluster themes. All results underwent participant validity.
Results: The three themes identified influencing quality of life were:
Expectations prior to treatment - They had very high expectations of anti-TNFα therapy these appeared to be mainly as a result of information gained from newspapers, the Internet and from other patients' experience of the treatment. They included: reduction in symptoms of RA (especially pain and swelling of the joints) and to have an increase in physical function and social activity.
Employment of coping strategies (3 main strategies were identified) - *'Trade Off'*; a price willing to be paid in order to achieve certain physical activities e.g. they suffered increased joint stiffness and pain following completion of physical activity. *Adaptation*; making life easier by learning to adapt to the effects of RA by finding ways to remain independent. *Acceptance*; of assistance from other people in order to be able to achieve activities.
Presentation of self - consciously present a healthy, positive body image to the outside world to disguise the fact that they have a chronic disabling disease. Isolation of self as they feel guilty that they affect other peoples lives therefore they withdraw themselves from family and friends, although this is reduced following treatment.
Conclusions: Patients had a high expectation for their quality of life, on treatment. Although there was improvement on treatment in their physical function, social activities and a reduction in pain, it was not to the degree they anticipated. We suggest that setting realistic goals during patient education, prior to treatment, may improve their perceived outcome.

399. A STUDY TO EXPLORE THE INFLUENCES WHICH DRIVE CLINICAL DECISION MAKING AMONGST RHEUMATOLOGY NURSES

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Background: Clinical leaders should be aware of the influences which drive decision-making amongst nurses within their area of practice particularly within a specialty, to facilitate quality care and appropriate professional development. Decisions nurses make whilst providing patient care, will impact on the patient's immediate and long-term outcomes and also impact on service provision. Although many studies have focused on the clinical decision-making process itself, little has been published neither in regards to what influences decisions nor in the field of rheumatology nursing at clinical level.
This study therefore explores the influences which drive clinical decision-making amongst a small, local group of rheumatology nurses working within a ward environment. The findings will be used to facilitate a structured development programme locally for future nurses working in this specialty, improving clinical practice.
Methods: A qualitative descriptive design was chosen, which facilitated close investigation of this group of nurses using an interpersonal approach which could not have been achieved through alternative methodologies, nor would have produced such a useful insight. A purposive sample of six 'D' Grade nurses was taken from within a large teaching hospital in the north of England, focussing on two in-patient rheumatology wards split over two sites. Enquiry was made through a series of semi-structured interviews in preference to standardised tools such as those used in quantitative research (Parahoo 1997; Porter 2000). Transcibed interviews were then processed using Burnard's (1991) thematic content analysis.
Results: The findings, discussed along side the literature, demonstrated four distinct themes which influenced clinical decision-making amongst this group of nurses including professional development, patient focused care, working in a specialty and rheumatology nursing. Development of experiential knowledge, access to specialised information and expert practitioners was also influential in informing decisions.
Conclusions: The range of factors which influenced clinical decision-making was obviously reliant on personal development and clinical supervision within the specialty environment itself. More efficient use of the specialised resources available and improved networking amongst the specialist nurses and clinical staff would certainly improve the theoretical application of knowledge within the clinical setting. Competency based development and effective clinical supervision would therefore be recommended along with a clearer understanding of the specific disease processes and the relevence of nursing interventions to address them. Several recommendations were made by the sample group and these will be shared with the Ward Leaders in order that practice can be taken forward.

400. PROPRIOCEPTIVE ACUITY OF THE LUMBAR SPINE IN LOW BACK PAIN AND NON-LOW BACK PAIN SUBJECTS

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Background: Proprioceptive acuity – our ability to appreciate body position and movement - is considered to make an essential contribution to functional stability of the spine. Pain may impair proprioceptive acuity and initiate or exacerbate joint damage. Low back pain (LBP) is a pervasive problem and the incidence and socio-economic consequences are increasing. Few studies have investigated the relationship between LBP and proprioception of the lumbar spine. This study investigated whether a history of LBP is associated with altered proprioceptive acuity of the lumbar spine.
Methods: Sixty one subjects with, and forty subjects without a history of LBP were recruited. Each subject's spinal reposition sense was assessed by an electro-goniometer placed over the lumbar spine. Testing was performed in standing and sitting. For both sitting and standing tests each subject was blindfolded and asked to flex or extend their low back slowly and stop at a random "test" position for 3 seconds. The subject was then instructed to return to the upright position. After 3 seconds the subject attempted to return to the "test" position; the position they returned to was the "reproduced" position. This procedure was repeated 10 times in total. The absolute error between each "test" position and the "reproduced" position was calculated in degrees. The average mean error was then calculated and compared between the two groups using an independent-samples t test.
Results: No significant differences were found in the average mean error between the LBP and non-LBP subjects. *In standing*, the average mean error was 2.48° (SD=1.04°) for LBP subjects and 2.21° (SD=0.65°) for non-LBP subjects, with a mean difference of -0.27° (95% CI = -0.60° to 0.07°; P = 0.118). *In sitting*, the average mean error was 1.78° (SD=0.80°) for LBP subjects and 1.81° (SD=0.95°) for non-LBP subjects, with a mean difference of 0.03° (95% CI = -0.31° to 0.38°; P = 0.854).
Conclusions: There was no difference in proprioceptive acuity of the lumbar spine during flexion and extension movements for LBP and non-LBP subjects in sitting or standing.

401. THE USE OF QUANTITATIVE ULTRASOUND TO DIAGNOSE OSTEOPOROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis (RA) are recognised as being at risk of osteoporosis both as part of the disease process and due to the drugs used to treat it.[1,2] This study aimed to consider the use of calcaneal scanning using quantitative ultrasound - Contact Ultrasound Bone Analysis (CUBA) to demonstrate osteoporosis in patients with RA.
Methods: Forty-six patients (35 female,11 male) with estabilised RA had a DEXA scan of the non-dominant wrist and a CUBA scan of the non-dominant heel. Sensitivity, specificity, positive and negative predictive values were used to determine the correlation between osteoporosis as determined by the CUBA heel scan compared to a DEXA wrist scan.
Results: The CUBA heel scan revealed a sensitivity of 90% with a specificty of 44% for osteoporosis compared to a DEXA scan of the wrist. The positive

predictive value of the CUBA was 31% and the negative predictive value was 94%.
If a normal bone density is achieved with the CUBA there is a 94% certainty this is correct. However, if osteoporosis is demonstrated using CUBA there is only a 31% certainty this is correct. In such instances a secondary scan utilising a different methodology e.g. DEXA would needed. Future work should consider the effect of minor alterations to the equipment and/or scanning protocol in order to yield greater accuracy.
Conclusions: The clinical implications of this work are that the CUBA unit could be used as a primary screening device.Given some of the cost and accessibilty issues associated with DEXA scans, quantitative ultrasound may have a role in screening for osteoporosis in the Primary Care setting.

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402. FOOT PROBLEMS IN PAGETS DISEASE

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Background: Little is known about the scale and impact of foot problems in patients with Paget's disease, although clinically foot pathology and altered gait are seen in patients referred for podiatry. Lower limb involvement may alter the external forces applied to the feet and result in greater foot pathology and impaired function.
Methods: 130 patients completed health and foot health status measures (SF12, Foot Function Index) and had a detailed lower limb and footwear assessment.
Results: 70 females and 64 males (mean age of 74 yrs) were assessed. 36% had plantar callus and this was consistent between sexes. 18% females presented with corns on the plantar aspect compared to 4% of men ($p<0.01$). 37% females presented with corns on the toes compared with 9% of men ($p<0.01$). 2 patients were wearing specialist footwear with the remainder in retail footwear (3 with outer sole raise adaptations). 28% of the retail footwear was totally unsuitable.Those with lower limb involvement only (n=18) had the highest FFI score. The patients needs for foot care was assessed. In addition to the 73 (59.3%) that had received either NHS or private foot care, a further 49 (39.8%) would have benefited from professional foot care for treatment to hyperkeratotic lesions and or management of foot pain with only 12 (9.8%) requiring no foot care at all. There was little evidence of the use of foot orthoses and/or outer sole adaptations although this intervention would have benefited 33% of those with lower limb involvement. In addition to the two patients wearing specialist footwear six patients would have benefited from this intervention.
Conclusions: Foot pathology is common in patients with Pagets disease and the impact of foot pain and its related disability may be influenced by the site of the disease. It is recommended that patients with foot pain, hyperkeratosis, unsuitable footwear and leg length difference should be referred for podiatry intervention including footwear evaluation and adaptation. It is unclear if the need for podiatry intervention is any greater than the general elderly population. However, reducing foot pain in Pagets patients may contribute to the overall reduction in pain experienced by these patients and therefore improve patients level of activity and quality of life.
Further investigation is needed to evaluate the extent of pain, disability and activity limitation in relationship to the extent of lower limb involvement. Also an evaluation of the provision of footwear adaptations and/or foot orthoses in reducing the incidence of falls in this patient group needs to be carried out.

403. UPPER LIMB FUNCTIONAL DISABILITY IN EARLY RHEUMATOID ARTHRITIS

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Background: In the early 1990's, Eberhardt et al acknowledged that hand function is affected early on in RA. With the changes in drug treatments more recent studies have however, provided limited insight into upper limb functional ability as predominantly generalised health outcome measures such as the Arthritis Impact Measurement Scale and the Health Assessment Questionnaire have been employed. Although both of these questionnaires have small sub-sections for upper limb function these are not seen as separate sub-analyses in published research. This study aimed to contribute towards the current understanding of how upper limb function is affected in early RA.
Methods: 120 patients from eight hospital clinics with a diagnosis (or suspected diagnosis) of rheumatoid arthritis with disease duration of less than 5 years were recruited as part of a larger trial on static resting splints. All particpants had some hand involvement and were considered suitable for hand splinting at time of referral to out patient occupational therapy departments. The self-report Disability of the Arm, Shoulder and Hand (DASH) questionnaire(Hudak et al 1996) was used to score and analyse upper limb disability.
Results: 110 patients (92%) returned completed questionnaires with sufficient information to permit scoring. The group characteristics are presented in the table below.
The responses of the DASH questionnaire were scored and analysed. The use of force was a consistent factor in severely limiting individuals abilities; 61% were unable or had severe difficulty in opening jars, 53% had severe difficulties or were unable to take part in recreational activities that required some force or impact through the arm and 41% were unable or had severe difficulties in carrying a heavy object over 10lbs. Participants most frequently reported mild or moderate difficulty for dexterity tasks; 70% reporting mild/moderate difficulty in writing, 66% struggling to turn a key and 58% having mild to moderate difficulty in preparing a meal. The daily tasks that caused the least or no difficulties were; managing transport needs 45%, sexual activities 38% and washing hair 37%.
Conclusions: Upper limb ability is affected early on in RA, tasks that require strength and static grip force appear to cause the most problems for this sample and combined dexterity tasks that require precision but not necessarily force seem to cause the least amount of difficulty

Abstract 403 – Baseline Goup Characteristics

Gender	Age	Time since diagnosis	% on DMARDS	Mean No. of DMARDS	Time on DMARDS	Baseline HAQ	Baseline DASH
81 (74%) Female, 29 (26%) Male	57 years (SD: 13.85)	9 months (SD: 11.44)	89%	1.25 (SD: 0.62)	9 months (SD: 11.72)	1.18 (SD: 0.73)	38.94 (SD: 21.09)

404. DOES FLATFOOT DEVELOP DURING PREGNANCY? A PROSPECTIVE STUDY

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Background: Flat feet, which developed for the first time during pregnancy, were reported in two cases. Both women were above 30 years of age with a history of recurrent miscarriages. Possible explanations could include the laxity of ligaments and the gain in weight. The objectives of the study were to elucidate feet changes and to determine the incidence of flat feet and any predisposing factors during pregnancy.
Methods: We assessed 102 healthy pregnant women prospectively at 3 and 8 months of pregnancy and 3 months post delivery. The average age was 32(range between 30-42). Subjects were asked about the number of previous pregnancies and miscarriages, history of employment, musculoskeletal symptoms and any family history of flatfeet. Static footprints were obtained using the Harris Mat, ink and paper. Weights, heights and Beighton score were also assessed. Ankle swelling was calculated using the formula of a truncated cone.
50 non-pregnant women average age 39 (range between30-48) served as controls. They were assessed initially and at 1 year.
For assessment of foot changes, a flat footedness index was used by dividing the narrowest width of the footprint over the widest possible at the same

level. The largest width of the forefoot was measured to represent the transverse arch of the foot. Interclass Correlation Coefficient showed excellent inter and intra-observer reliability for the measurements taken. T-Student test was used for changes in flat footedness measures and multivariate regression analysis for possible related factors.
Results: None of the pregnant women developed flat feet during pregnancy. There was however a statistically significant increase in the flat footedness index of the right foot during pregnancy ($p<0.05$). Age predicted an increase in the flatness of the right foot and relation to the BMI was approaching statistic significance at 10%. There was also a significant increase of the width of the left forefoot ($p<0.05$). An increase in the BMI and being employed was associated with an increase in the left forefoot diameter at the 10% significance level. There was no significant change in the flat footedness measurements of the control group over time.
Conclusions: Increased flatness of the foot occurs during pregnancy and, for some reason possibly related to dominance, this seems to affect each foot differently with the right foot longitudinal arch becoming flatter and the left forefoot becoming wider. The development of frank flat feet during pregnancy must be a rare event.

405. THE IMPACT OF HAND OSTEOARTHRITIS ON THE INDIVIDUAL

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Background: Osteoarthritis (OA) is a common disabling complaint in older people, with the hands second only to the knees in the frequency of involvement. Little is known about the effects of hand problems in OA. The aim of this study was to explore patients' illness perceptions, and in particular the impact of hand OA on the individual, using focus groups.
Methods: *Design*: Four focus groups were conducted.
Participants: The focus groups consisted of participants from either primary or secondary care with a clinical diagnosis of hand OA. All participants were aged 50 years and over; mean age 61.9 years; 82% (n=14) were female.
Analysis: The verbatim transcripts were content analysed using open, axial and selective coding.
Results: The themes generated included: (i) Functional impact, in terms of everyday activities and self-care. (ii) Psychological impact, including frustration and self-concept. (iii) Coping and control, particularly in terms of conventional medication, self-help and alternative forms of treatment. (iv) 'Other' illness perceptions in relation to the Common-Sense Model, a model developed to help understand the self-regulation processes by which individuals make sense of an illness experience.
Conclusions: Clinical care is largely geared towards the treatment of symptoms using conventional medication which patients do not like to take. Patients often resort to self-help and alternative forms of treatment. Lack of available information and education opportunities were expressed, particularly in relation to coping. This may be a key area for the involvement of members of a multidisciplinary team.

406. PHYSIOTHERAPISTS' PERCEIVED PREDICTORS OF OUTCOME IN NECK PAIN

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Background: Neck pain is common and may lead to long term discomfort and disability. Successful treatment by physiotherapists might be facilitated if patients at risk of long-term disability could be identified and targeted for specific treatments. We therefore investigated whether physiotherapists taking part in a randomised clinical trial of treatment for non-specific neck pain were able to identify predictors of poor outcome.
Methods: The study was nested within a large multicentre pragmatic randomised controlled trial in 15 physiotherapy outpatient facilities in the Midlands region of England. 26 health care professionals, including 16 clinical and 7 research physiotherapists and 3 non-physiotherapists, attending a study day for this trial were invited to complete a self-administered questionnaire which contained two sections. Part 1 asked them to select and rank 5 factors from a list of 30 baseline patient factors that they felt would be highly predictive of poor prognosis as defined by 6-month patient global improvement ('better' or 'not better'). The sums of these ranks across physiotherapists were calculated for each of the 30 factors. These were compared with actual ranks derived from analysis of the trial data. Spearman's rank correlation was used to compare these two sets of ranks. Part 2 involved a validation task to identify the case scenario with the least favourable prognosis from three anonymised patient vignettes extracted from the baseline trial data. The 'gold standard' was based on actual outcomes of the vignettes from the trial data.
Results: There was a moderately strong correlation between the physiotherapist ranks and the ranks obtained from the trial results for the predictors of outcome ($rs=0.5$, $p<0.01$). Physiotherapists correctly identified the three clinical features that were most predictive of poor outcome: chronic widespread pain; neck catastrophising, and severity of neck disability. 24 out of 25 participants correctly identified scenario 2 as the one that had the poorest outcome according to analysis of the trial data.
Conclusions: Participants were able to identify the most important predictors of poor outcome in a trial of physiotherapy for neck pain. This small study supports the notion that physiotherapists can use simple clinical indicators to identify patients with neck pain at risk of poor prognosis. This strategy needs testing in the clinical situation to investigate whether it can lead to more effective targeting of treatment.

407. A STUDY TO INVESTIGATE FACTORS THAT MAY BE ASSOCIATED WITH PATIENTS' DECISIONS ABOUT STARTING DISEASE-MODIFYING ANTI-RHEUMATIC DRUGS

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Background: For the estimated 50% of patients who do not take medicines recommended to them, there is loss of therapeutic benefit and waste of health resources. With increasing emphasis on concordance rather than compliance, it not sufficient merely to provide best evidence about treatment options and risk/benefit ratio. Clinicians must appreciate that how information is received and interpreted is affected by many factors, including patients' own beliefs, which have been shown to influence their decisions about taking medicines more than anything else.
Anecdotal evidence suggested that some patients with rheumatoid arthritis (RA) rejected or delayed disease-modifying anti-rheumatic drugs (DMARDS), potentially leading to sub-optimal disease control. The aim of this study was to investigate factors that influence patients' decisions about starting DMARDS, to improve understanding as to why they are sometimes rejected, leading to a more focussed approach to patient education, maximising limited resources and ultimately leading to improved therapeutic benefit.
Methods: Patients in consecutive rheumatology clinics were asked to complete questionnaires and hospital records were also studied. The questionnaire ascertained whether current beliefs about medicines were associated with past decisions about treatment as well as assessing the use of complementary therapy, sources of information about drugs and level of education.
Results: 192 completed questionnaires were obtained, a response rate of 88%. Patients were divided into groups according to whether they had ever rejected a DMARD and the results analysed by non-parametric testing. The 40 patients in the 'reject' group had more erosions. Their level of education was higher ($p<0.01$), they used more sources of information about drugs ($p<0.01$) and tried more complementary therapy ($p<0.001$). Most patients did not think that medicines are overused or harmful and the majority believed that their arthritis drugs were necessary, with no difference between groups. The most striking results related to patients' concerns. 95% of the 'reject' group had strong or very strong concerns about long-term side effects and there was a significant difference between groups ($p<0.001$) relating to concerns generally.
Conclusions: Patients rejecting DMARDS in this study are not passive, unquestioning recipients. They are highly educated and seek information beyond that supplied by the rheumatology clinic. They accept the need for their medication but have very strong concerns, particularly about long term side effects. One of the inevitable consequences of concordance is that some patients will decide not to take their medicines but clinicians have a responsibility to explore patients' concerns, to ensure they receive accurate information and to establish they do not have an exaggerated perception of risk.

408. OSTEO-ARTHRITIS, IDENTITY AND COPING; AN INTERPRETATIVE PHENOMENOLOGICAL APPROACH

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Background: 15% of the population over the age of 55 has Osteoarthritis (OA), with a higher incidence in women. Significant quantitative work has been carried out in Rheumatoid Arthritis (RA) and some in OA documenting

how individuals adapt to their condition. Much of this work has centred on the role of beliefs about the illness and attempts to cope with the symptoms and uncertaiinty regarding the course of the condition. This study uses a qualitative method to examine how individuals describe the impact of their OA and how they have attempted to cope with the symptoms and restrictions it has generated.

Methods: A qualitative methodology, Interpretative Phenomenological Analysis (IPA), was used to explore, in depth the experience of 3 women with OA. This methodology is concerned with individual, personal, phenomenological accounts of events. Semi-structured in-depth interviews are employed to produce a detailed account of the participant's experience. This rich data was subjected to systematic analysis to provide an understanding of how these individuals have responded to their OA.

Results: In all cases the experience of OA was considerably more complex than the responding to the symptoms of stiffness and pain and the restrictions of increasingly immobile joints. Central to the women's responses to their OA was their sense of self identity. Self identity influenced their interpretation and meaning of having OA and it subsequently influenbced how they responded. Two of the women's responses to OA involved active coping and were aimed at preserving their identities prior to have OA. The third woman's passive response occurred in the context of a pre-morbid vulnerable identity, which was then further undermined by OA.

Conclusions: Identity as a variable influencing adaptation to OA was highlighted in this study. The threat that OA makes to ones self identity is a potentially neglected area of research. The collection of beliefs about the self that make up identity can potentially be one the targets of psychological interventions designed to facilitate adaptation and coping.

409. THE PREVALENCE OF DEPRESSION IN RA AND ITS RELATIONSHIP TO DISABILITY, PAIN AND FATIGUE

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Background: Depression is said to be common in RA (Murphy et al 1998) and is likely to be influenced by the personal, social and financial impact of this disease yet as healthcare professionals we do not routinely or systematically try to identify or initiate treatment of it. We were interested to see if our patients showed similar levels of depression. and were further interested in whether any identified depression related to restriction of activity (disability) pain or fatigue.

Methods: A survey approach was used to target 165 patients (Male/Female $>$ 18 years) as they presented to a DMARD monitoring clinic. We used the HAD to diagnose depression and anxiety The applied outcome measurement tools were the HAQ, used to assess disability, and Visual Analogue Scales for both Pain and Fatigue (VAS P/F) along with disease duration.

Results: 123 patients with RA, both male (31%) and female (69%) (mean age 56 years) with mean RA duration of 7 years completed the study questionnaires. The prevalence of depression was reported by 44.7% of the sample, which were categorised into mild (19.5%) moderate (17.9%) and severe (7.3%). Significant +ve correlation coefficients were determined between self-report depression and anxiety (r = 0.741), disability (r = 0.494) pain (r = 0.540) and fatigue (0.411) in all cases p = $<$0.0001. Multiple regressions were used and identified anxiety, disability and fatigue as predictors of depression. Logistic regression indicated an increased risk in those who report severe anxiety and fatigue, the results suggested they were around 14 times and 9 times (respectively) more likely to report depression when compared to mild status. Additionally, patients were twice as likely to report depression with each extra year of RA duration.

Conclusions: Depression is common in RA and it relates to duration of disease, pain disability and fatigue in that order. We cannot determine cause and effect from these results but treatment of depression is another possible avenue in the health care of this patient group and one in which we currently do not take responsibility for.

410. THE DEVELOPMENT OF A HAND ASSESSMENT FOR CLINICAL RESEARCH: A CONSENSUS STUDY USING A MODIFIED DELPHI APPROACH

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Background: Osteoarthritis is a major cause of musculoskeletal pain and disability amongst older adults in primary care. Osteoarthritis commonly affects the hands, but little is known about the relationship between hand symptoms and functional limitation in the population. In order to investigate this relationship the best way of assessing the hand in this group needs to be established. This abstract describes the first stage of a larger study designed to evaluate and describe the nature, severity and impact of hand symptoms in older people.

Methods: Twenty-six local and national health care professionals with experience in rheumatology and/or hand therapy were invited to participate in a consensus study. Three rounds of a postal questionnaire were administered using a modified Delphi technique. The first round generated a list of subjective and objective items for assessing people with hand symptoms. Subsequent rounds were used to rate and prioritise these items.

Analysis: The qualitative data produced from the first round was analysed using content analysis. The items produced from the numerical and dichotomous rating scales used in rounds two and three respectively were filtered according to arbitrary cut-off points.

Results: Twenty-two health care professionals agreed to participate (13 Occupational Therapists, 4 Physiotherapists, 2 General Practitioners and 3 Consultant Rheumatologists). Sixteen responded to the first round (response rate 72%), generating 156 questions and 143 assessments. Thirteen responded to the second round (response rate 81%), retaining 94 questions and 55 assessments. Eleven responded to the third round (85% response rate) reserving 26 questions and 19 assessments. In general, the strongest agreement on what should be retained was for the simplest items.

Conclusions: The modified Delphi study generated an extensive list of questions and assessments to be used with people with hand symptoms. These were subsequently narrowed down using the consensus technique to a core of essential items, representing all domains of hand assessment. A pilot study of this comprehensive plan of evaluation is now being undertaken.

411. A SURVEY OF PRACTICE IN NURSE LED RHEUMATOID ARTHRITIS CLINICS

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Background: Clinical Nurse Specialists (CNS) have proliferated in rheumatology in recent years, largely due to an increasing workload, reduction in junior doctors' working hours and the need for safety monitoring of drugs used in Rheumatoid Arthritis (RA). The CNS is now considered an essential member of the multidisciplinary rheumatology team, especially in the outpatient setting. The objective of this survey was to ascertain the processes and care provided by present day CNSs.

Methods: A questionnaire was sent to 59 CNS either by post (29) or email (30). As no official list of CNS exists in the UK, the cohort was a convenience sample covering most areas of the UK. The questionnaire collected demographic data and focused on sources of referral, reason for referral, length of appointment time, outcome measures used and referral patterns.

Results: The response rate was 70% (41/59), all were female. The majority of nurses had been specialising in rheumatology for $>$6 years (34/41; 83%). Over half the CNS (21/41; 51%) had been holding clinics for $>$6 years. Referrals were from numerous sources, including rheumatologists (40/41; 98%), junior doctors (38/41; 93%), Primary Care Teams (28/41; 68%) and the multidisciplinary team. There was no consensus as to what stage post diagnosis patients were referred to the CNS or the duration patients were reviewed. The commonest appointment time was 30 minutes (26/41; 63%). Patients were referred for monitoring of disease status, emotional support and patient education. Only 4/41 (10%) CNS did not undertake DMARD monitoring and 3/41 (7%) did not manage stable disease. Less common reasons for referral included biologic therapies, Methotrexate and steroid injections. Although all 41 CNS provided patient education, only 17/41 (41%) provided a structured programme.

Outcomes measured reflected disease status and included inflammatory markers (33/41; 80%), stiffness (35/41%; 85%), pain (31/41; 76%) and HAQ (22/41; 54%). Although patients were referred for psychological support, outcome measures were collected by only 3/41 (7%) of CNS. Surprisingly, only 2/42 (5%) measured outcomes from patient education in the form of self efficacy. Nurses referred patients to 17 different sources and all referred to the OT and physiotherapist. Over half (21/41: 51%) referred to podiatrist and 10/41 (24%) to Orthopaedic Surgeons.

Conclusions: This survey identified the processes that occur within a nurse led clinic. The majority of patients are referred from the rheumatology medical team for a 30 minute appointment for monitoring of their condition and/or drug therapy. Outcome measures used reflect the emphasis on disease status and physical outcomes. There is little attempt to measure educational or psychological outcome. A further study is needed to explore the patients' experiences of attending nurse led clinics through out the UK.

412. DOES MENSTRUAL CYCLE PHASE INFLUENCE DAS 28 SCORES?

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Background: Rheumatoid arthritis is much more common in women. Previous studies have suggested that the phase of menstrual cycle has an influence on disease activity, as assessed by finger joint size, grip strength and body weight (1), and morning stiffness and pain (2). Both these studies predate the development of the DAS 28, which is used increasingly in routine practice as a consequence of the introduction of biologic therapies. There is no data on the influence of menstrual cycle phase on the DAS 28 score. The aim of this pilot study was to investigate whether the menstrual cycle influences the DAS 28.
Methods: Inclusion criteria: stable established RA (age > 18years) on disease modifying therapy, with regular menstrual cycle over the previous six months. Willing to give informed consent.
Exclusion criteria: patients on HRT or hormonal contraception, actively trying to conceive. Prednisolone> 10mg/day or injected steroids within previous 3 months.
Patients were assessed pre-menstrually and mid-cycle for 3 cycles, with joint score (tender, swollen), ESR, global health (100 mm VAS) and the DAS 28 score calculated. A menstrual calender was kept.
Statistical analysis was performed using the Wilcoxon signed ranks test using SPSS.
Results: Nine women (median age 43.4 years (range 25-48)) and median disease duration 5 years (range 1-23) were recruited, and studied for a total of 26 cycles. The mean length of cycle was 27.8 days (±2.7). 8 patients were taking methotrexate, 2 in combination with sulphasalazine, and one was receiving weekly adalimumab.
The mean pre-menstrual DAS 28 was 3.38 (±0.86) and the mean mid-cycle score was 2.93 (±0.83) (p=0.021). The individual components of the DAS 28 did not show a statistical difference - tender joint count (p=0.074), swollen joint count (p=0.213), ESR (p=0.416), global health (p=0.069).
Conclusions: The data from this pilot study suggest that the phase of the menstrual cycle does influence the DAS 28 score, and that this should be taken into account when timing assessments to determine efficacy of treatment and/or eligibility for biologic therapy. These data need to be confirmed in larger study.

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413. WHAT CONSTITUTES USUAL PHYSIOTHERAPY TREATMENT FOR PAINFUL SHOULDER, AND WHAT FACTORS INFLUENCE THIS?

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Background: 'Painful shoulder' is a complaint commonly treated by musculoskeletal physiotherapists. Whilst many treatment options are available to the therapist, there is only limited research supporting their efficacy and consenus on standard management guidelines has yet to be established. Trials comparing 'physiotherapy' with other clinical interventions may be criticised for not having described the means by which the treatment techniques were selected. When designing pragmatic randomised clinical trials of effectiveness, it is important that the intervention reflects actual practise.
Aims: The aims of this study were:
1. To describe current physiotherapy management of painful shoulder complaints, including the treatment modalities that are most commonly employed and the frequency with which these are offered; and
2. To identify the factors, noted on examination, that influenced the choice of these techniques.
Methods: Written consent to examine physiotherapy records was obtained from patients participating in a longitudinal study of upper limb disorders. Records were retrieved from archives for forty patients referred for treatment of 'painful shoulder'. Six were excluded from the analysis for reasons of unsuitability. Data regarding number of treatments, treatment techniques and details of presenting complaint were collected and analysed by the researcher.
Results: The average number of treatment sessions was six (range 1-19), and the average number of different techniques employed was also 6 (range 1-14). Therapeutic exercise was used in most instances (94%) and was by far the most favoured mode of treatment. Techniques addressing the shoulder joint complex were selected in 91% of cases and 20 (58%) patients' management also included techniques applied to the spine or ribs. Seventeen patients (50%) had mobilization techniques applied to the gleno-humeral joint, and 12 were treated with mobilizations to the cervical spine. Eight patients received ultrasound, and friction massage, acupuncture, neural mobilization and strapping techniques were only used twice in each instance.
The report of pain extending below the elbow influenced the inclusion of manual therapy techniques applied to the spinal structures. Factors which increased the number of treatment episodes included descriptions of pain spreading to the elbow and beyond, pain on resisted movement, and limitation of movement on examination. A combination of the former two factors required the most treatment techniques (mean 9) and contacts (mean 10).
Conclusions: Therapeutic exercise was used as a treatment technique in most instances. The cervical and thoracic spine was also treated in a majority of patients, indicating a need to consider the inclusion of spinal techniques in a description of 'standard physiotherapy' management of the painful shoulder in treatment trials.

414. THE EXTENT AND NATURE OF OUTPATIENT REFERRALS TO OCCUPATIONAL THERAPY AND PHYSIOTHERAPY IN EARLY RHEUMATOID ARTHRITIS

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Background: Occupational Therapy (OT) and Physiotherapy (PT) are key service providers within the multidisciplinary rheumatology team (MDT). Hill (2003) reported that Physicians make fewer referrals to other MDT members than Allied Healthcare Professionals (AHPs). We aimed to determine current referral practice to OT and PT in an Early Synovitis Clinic (ESC) as a baseline for the development of best practice therapy referral procedures. The audit purpose was to 1) quantify the numbers of early RA patients (Pts) referred from the ESC to outpatient OT and PT 2) evaluate the reasons for referral.
Methods: A consecutive cohort of 100 Pts with a confirmed diagnosis of RA and disease duration ≤3 years was sought from an ESC comprising 2 Physicians and a rheumatology practitioner (OT). Two randomised subgroups each of 20 Pts were selected from those referred (*group a*) and those not referred to OT and PT (*group b*). These groups were further analysed utilising their medical notes to determine Pt and disease characteristics and in *group a*, the nature of the referral.
Results: Of the 100 ESC Pts attending in a 6 month period, the median age was 64 and 68% were female. 29% were referred to OT and 20% to PT. Subgroup analysis showed that in *group a,* 75% (n=15) were female, had a median disease duration of 12 months, median age 56, 72% (n=13) were seropositive and 85% (n=17) took disease modifying agents (DMARDS) at the time of referral. In *group b*, 90% (n=18) were female, median age 70, with a median disease duration of 17 months, 33% (n=5) were seropositive and 60% (n=12) took DMARDS. Referral patterns in *group a* are as follows: 25% (n=5) Consultant, 15% (n= 3)Registrar, 55% (n=11) Therapist, 5% (n=1) GP. The median duration between diagnosis and referral was 15 days (IQR-30-254). Table 1 shows reasons for referral.

Referrals for assessment and intervention

OT	PT
Hand 60%	General assessment 40%
ADL 70%	Gait 20%
Joint protection 40%	Upper body joints 20%
Work 30%	Lower body joints 20%
	Referral for other primary diagnosis 30%

Referrals can contain ≥2 reasons

Conclusions: These findings show that 80% of early RA Pts are not referred to PT and to a lesser extent OT (71%). The majority of referrals were made by an AHP confirming Hill's previous studies. There was a wide variation in time of referral with some patients referred prior to diagnosis and others seen a year later. The majority of those referred were seropositive in contrast to mainly seronegative non-referred Pts. Despite current OT and PT best practice and SIGN guidelines, results show that in practice these are not being adhered to. Results will inform the development of a best practice referral procedure.

415. IMPACT OF USING PATIENT PARTNERS TO TEACH JOINT EXAMINATION TO NURSE PRACTITIONER STUDENTS

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Background: Previous research has identified that few nurses have received any form of formal training in clinical examination skills and that 81% of qualified nurses undertaking an extended role identified examination of

the musculoskeletal system as a training need [1,2]. Patient Partners were used to demonstrate musculoskeletal examination techniques to nurse practitioner students undertaking a post graduate rheumatology course. This approach is used in many medical schools but there is limited evaluation of using Patient Partners to teach nurse practitioner students [3].
Methods: Students were taught how to examine the hand, ankle, foot and knee. An evaluation of the ' Patient Partner ' teaching session was carried out using a questionnaire and a personal reflective account of the session. Information was collected on the effectiveness of the teaching session and the perceived benefits to the student.
Results: 12 students participated in the session. All completed a questionnaire and a reflective account. All agreed that the session was a very effective method of teaching joint examination, all felt that they had a structured approach and felt more confident. Stated ability to recognize additional clinical features: nodules (12), muscle wasting (10), reduced function (8), subluxation (10), crepitus (12), swan neck deformity (8), hammer toes (6) and fallen arches (12). The session met the students learning needs but one student would have liked a handout summarizing the session.
Data analysis of the student reflections revealed a number of themes.
Practical Experience – nurses valued the opportunity to have a ' hands on 'session where they could see and feel actual pathology.
Positive Experience – they found the interactive practical demonstration more beneficial than reading a text book. They were able to practice examination techniques in a safe, non-threatening environment.
Patient Perspective - this theme describes the impact of rheumatoid arthritis on patients' lives. The students learnt how this disease affects patients on a daily basis and improved their knowledge and understanding of the effects of this disease.
Conclusions: Nurses are keen to undertake post- registration courses that are relevant to their work to develop clinical skills and knowledge. Patient Partners is an effective method of learning by doing and develops the joint examination skills of nurses.

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416. AUDIT OF THE EFFECT ON PAIN SCORES OF INTRA-ARTICULAR HYALGAN INJECTION IN PATIENTS WITH OSTEOARTHRITIS OF THE KNEE IN A NURSE-LED CLINIC

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Background: Audit of clinical practice is an important part of the clinical governance process, ensuring the National Health Service continously improve the quality of its services, and safeguarding high standards of care for the patient. An audit in the Trust was undertaken in a nurse-led rheumatology clinic to assess the effect on pain scores where patients with osteoarthritis (OA) of the knee receive intra-articular Hyalgan injections once weekly for 5 weeks. Patients with continuing pain following steroid injection were referred to the clinic. Patients were assessed prior to clinic appointment and x-rays of knees graded using Kellgren and Lawrence scoring system: grade I showing minimal change through to grade IV with severe x-ray changes and deformity.
Methods: 40 patients referred to the nurse-led clinic, over a one year period, completed VAS pain scores looking at pain experienced walking on the flat and when walking up or down stairs. These were repeated on completion of the course of injections at week 5 and followed up one month later. Only those who completed all 3 scores were included in the audit. Highly sensitive CRP levels were also measured on 20 of those patients at the same time points, to look at possible anti-inflammatory effects of Hyalgan.
Results: Mean age was 64 years (range 47-82) and 70% of patients were female. 75% of patients had moderate OA damage (grading II or III on x-ray). Of this group with moderate damage, 70% of patients showed an improvement in pain score of at least 30%, some achieving 50% reduction in pain scores at 1 month. There were no identifiable factors to indicate non-responders. In those with grade IV x-ray changes (10 patients), only 37.5% achieved an improvement of 30% in pain scores. Those with minimal damage showed no benefit from injection. Highly sensitive CRP levels showed no significant result with minimal change in levels measured. Side effects were minor, with occasional, short-term increase in pain immediately following injection.
Conclusions: Those with moderate OA damage on knee x-ray gained the most benefit in pain reduction following the course of injections. While only a partial effect is seen in those with severe damage, these injections might be suitable for those at risk or unfit for surgery. The possible benefit for this group therefore needs to be balanced against the need for intra-articular injections combined with the inconvenience of weekly clinic appointments and travel to the hospital. Those with minimal OA changes do not benefit from injection.
The result of the audit means the service of a nurse-led clinic offering Hyalgan injections will continue and be better placed to identify more accurately those patients able to benefit from this course of treatment and assist in pain management.
Educational grant from Shire Pharmaceuticals

417. A DEVELOPING ROLE WITHIN RHEUMATOLOGY NURSING

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Background: Many rheumatology nurses and allied health professionals (AHPs) work in expanded clinical roles with peripheral research involvement. There is little standardisation of these roles or of the qualifications and training required to practice at this level. A series of workshops involving consultant rheumatologists, nurses and AHPs resulted in the definition of core clinical competencies and training/educational needs for each level of clinical practice, from novice to expert practitioner.This highlighted the need to develop educational courses at different levels to supplement in-house training to achieve clinical competence [1].
Methods: The first MSc in Rheumatoloy nursing was run by Keele University in 1998. This demanded great commitment from the course leaders who simultaneously maintained clinical, research and educational roles.Collaboration between Keele University, the University Hospital of North Staffordshire NHS Trust and a rheumatology charity (Haywood Rheumatism Research and Development Foundation), has led to the development of an exciting new post of Lecturer in Rheumatology Nursing. This endorses the Government agenda to promote innovative ways of working for experienced nurses. Although the post encompasses key components of the nurse consultant role, it enables the postholder to dedicate more time to research and education whilst maintaining clinical practice. The key responsibilities of this post are: *education, research and clinical*
Results: This post has enabled the development of post registration educational opportunuites for nurses and AHPs with the creation of level 3 rheumatology modules and preregistration involvement in speciality related lectures. It has also provided the opportunity to develop a special study module for undergraduate medical students. A vision for rheumatology nursing research is being developed and the postholder is leading a departmental project on exploring the experiences of rheumatology nurse specialists who run telephone helplines. Specialist knowledge and skills are maintained by conducting two clinics per week.
Conclusions: The emergence of nurse consultant posts has reinforced the need to have clinical nurses leading education and research development. The development of academic nursing posts in rheumatology can foster the educational and research activities of rheumatology nurses.The creation of a Lecturer in Rheumatology Nursing has ensured educational and research development that equates with clinical practice.
Acknowledgement: Haywood Rheumatism Research and Development Foundation.

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418. A REVIEW OF A CONSULTANT PHYSIOTHERAPIST'S FIRST YEAR IN POST

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Background: The NHS Plan encourages the development of innovative roles to ensure patients are seen in a timely manner by the most appropriate practitioner. A Consultant Physiotherapist in musculoskeletal disease was employed with the aim of: providing expert practice; developing a research and education strategy, developing clinical algorithms; promoting service redesign and providing professional leadership.

Methods: The post holder developed a list of objectives to be achieved within the first twelve months in agreement with the Therapies and Locomotor Directorates. Objectives were formulated under the headings expert practice; research and education, service redesign and clinical and professional leadership.
Results: Expert practice: The post holder has successfully integrated into a clinical team providing one stop assessment and management for non surgical musculoskeletal conditions. Over 75% of patients are treated and discharged after one assessment, 33% of patients are referred for physiotherapy with only 3% referred on for surgical consideration. Protocols to support the use of as X-Ray requesting and injection therapy have been developed. **Research and education**: Evidence based guidelines and clinical algorithms for the management of musculoskeletal patients within physiotherapy have been developed and disseminated. A research strategy has been developed to increase the profile of physiotherapy research and to utilise the clinical expertise of the team in developing future research questions and evaluation projects. A review enabled the process of education within physiotherapy to be modernised. A masters module was developed to support expert clinical practice in injection therapy. **Service redesign**: A process of facilitation to allow physiotherapists to actively involved in creating a new vision for physiotherapy has been supported by funding obtained from the NHS Leadership Centre. **Professional leadership**: The post holder has been responsible for national publications and presentations on the development of such posts and acts as a role model and expert opinion within the broader mutlidisciplinary team.
Conclusions: Consultant Physiotherapy roles have many facets. The achievements over the first twelve months have been possible due to team work and effective communication. These roles cross professional boundaries and draw on both physiotherapy and medical skills. Patients have the benefit of being seen in a timely manner and by practitioners who have the skills and competence to mange their problem.

419. THE IMPORTANCE OF CERVICAL SCREENING PRIOR TO ANTI TNF THERAPY

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Background: There is no such thing as the perfect drug. The advent of biologic therapy has meant that Rheumatology departments throughout the UK have had to ensure that stringent screening procedures are in place to ensure the safe and appropriate use of Anti TNF Therapy in accordance with the BSR guidelines. To date 80 adult females have received Anti TNF therapy at the University Hospital of Wales. One of these patients had recently had a cone biopsy following the detection of cervical intraepithelial neoplasia (CIN) II on routine cervical smear testing. Given that Human Papilloma virus is the primary risk factor for CIN, we decided that all women who met the screening criteria for detection of CIN should have a negative cervical screen before commencing Anti TNF therapy. We aimed to identify all those women receiving or about to receive anti TNF therapy to promote the importance of having screening and to identify those who had previous abnormal smears for which treatment had been received.
Methods: All patients on Anti TNF therapy up until October 2003 were questioned about their cervical screening status. If they had not been seen in the last 3 months they were contacted by telephone and asked if they had up to date cervical screening and secondly if they had ever been treated for abnormal smears in the past.
Results: 72 of the 80 women met the criteria for having regular cervical screening (2 had previous total hysterectomy, 1 under the age of 25, 5 over the age of 65 had normal smears on last two occasions therefore no longer having regular smears.) 56 were contacted. All 56 had had up to date cervical screening. Of this number two were awaiting results and one had been recalled due to an insufficient sample. Of the 56 women contacted, 5 had had previous colposcopy therapy which had led on to 3 cone biopsies, of these 3, two had been discharged from the colposcopy clinic with subsequent normal smears and the other one woman was still awaiting the results of her cone biopsy. On questioning some of the women had stated a reluctance to have up to date smears due to painful hips at the time of procedure.
Conclusions: The national rate of abnormal cervical smears in Wales for 2001-2 was 8.6%. This compares with 11.2% in our cohort of women on anti TNF therapy. There is no reported increased risk of CIN in patients with rheumatoid arthritis however given that this malignancy is virally driven we believe that pre screening is imperative in this group of women.

420. CAN AN ADVANCED NURSE PRACTITIONER APPROPRIATELY MANAGE PATIENTS WITH EARLY RHEUMATOID ARTHRITIS USING AN INTEGRATED CARE PATHWAY?

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Background: Modern management of RA revolves around early diagnosis and early use of disease modifying anti rheumatic drugs [DMARDs]. We have developed an integrated care pathway for the management of early RA incorporating aggressive management of active disease.Can an advanced nurse practitioner successfully manage early RA using a care pathway which sets out precise treatment decisions based on a validated disease activity score rather than decisions being made on an ad hoc basis by the staff reviewing the patients in an out-patient setting?
Methods: Patients with early RA [< 2 yrs duration] were randomized to receive either active management via the care pathway or conventional out patient follow up. Initial screening was performed by a specialist rheumatology registrar. Follow up clinics were mainly run by an advanced nurse practitioner using the care pathway. Those managed by the care pathway were reviewed at 6 weekly intervals until DAS score < 3.2 and thereafter 3 monthly. At each visit a clinical assessment including side effects from current therapy was made. DAS 28 was performed and treatment adjusted according to a pre-set care pathway. X rays were taken annually and HAQ recorded 6 monthly. Patients followed up in a standard out patient review clinic would have treatment changed on the basis of clinical assessment but without using a standard validated disease activity score.
Results: 1 year data is presented on 21 patients randomised to the integrated care pathway group and 14 patients in control group.
All patients in the active group were commenced on Methotrexatre (MTX) 10mg. 10 patients with DAS > 5.1 received intramuscular methyprednisolone 120mg x3.
At end of 1 year in active group, 15 patients were on MTX, 3 patients on MTX/SZP/HCQ, 2 on MTX/SZP and 1 on MTX/LEF.
In the control group 9 patients were on MTX, 4 patients on MTX/SZP, 1 patient on SZP.
Mean MTX dose in active group was 14.9mg and control group 14.6mg.
There was no significant difference between active and control group DAS scores, HAQ scores or Larsen scores at baseline and after 1 year.
Conclusions: The results show that when using an integrated care pathway, involving initially a specalist registrar and subsequently an advanced rheumatology practitioner, there is no difference in outcome, compared with traditional outpatient follow up, as assessed by DAS scores, HAQ scores, Larsen scores and DMARD therapy. In addition an advanced nurse practitioner also provided ongoing support and education to each patient. The failure to demonstrate benefit with the care pathway over and above that provided by conventional follow up may be due to the fact that all staff in the rheumatology unit in our hospital practise aggressive management of rheumatoid arthritis.

421. ANTI-TNF-α THERAPY PRESCRIBING IN BERKSHIRE – ARE WE COMPLIANT WITH NICE GUIDELINES?

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Background: Prescribing anti-TNF therapies is regulated by NICE guidelines, which set criteria for eligibility, exclusion and treatment withdrawal. Our aim was to assess the compliance with NICE guidelines in two district general hospitals in Berkshire.
Methods: We analysed data on 54 patients receiving anti-TNF therapy in Berkshire between 2002-03. 46 patients receiving anti-TNF therapy for active RA were assessed for baseline DAS28, previous DMARDs, exclusion criteria and reasons for therapy withdrawal. Patients with PsA (3), JIA (3), AS (1) and colonic vasculitis (1) were excluded from the analysis.
Results: 46 patients with active RA (36F:10 M) were included, mean age 51 (33-70), mean disease duration 13 years (2-25). All were previously treated with standard DMARDs including MTX [mean number 4.5 (2-7), representing 100% guidelines compliance]. Mean baseline DAS28 score was 5.93 (3.96-7.9). 96% of patients had DAS28 >5.1. Two patients had DAS28 score <5.1. Both had >6 tender and swollen joints and history of erosive disease in the absence of raised inflammatory markers. All patients were screened for exclusion criteria. 2 patients with Heaf test grade III and no features of active TB received prophylactic treatment with isoniazid.
34 patients received infliximab, 15 etanercept and 3 adalimumab. All pa-

tients were registered with BSR Biologic Registry. 42 patients (91%) responded to therapy (mean DAS28 at 3 months 2.92 (1.6-4.7). 26 patients (56%) achieved DAS28 of <3.2. 3 out of 4 non-responders had their treatment discontinued. One of them is currently being treated with infliximab at the dose of 5mg/kg.
3 patients with good initial response to infliximab developed a disease flare after 12-18 months of treatment. They subsequently received etanercept with excellent results.
5 patients developed serious side effects (3-severe infusion reactions, 1-sepsis,1-optic neuritis) leading to treatment withdrawal (100% compliance).
Conclusions: Among our patients with RA we found 100% compliance in selection of patients who failed conventional DMARDs. All but 2 patients (95.6% compliance) satisfied required activity criteria. A good response to treatment at 3 months was observed in 91% of patients, higher then quoted in published studies. Furthermore, 4 patients treated with inliximab stopped responding at 12-18 months. 3 out of 4 patients who failed to respond at 3 months had treatment withdrawn (75% compliance).
NICE guidelines do not recommend consecutive use of infliximab and etanercept due to lack of evidence. 3 patients who stopped responding to infliximab were subsequently treated with etanercept with good results. 3 patients who develop severe infusion reactions tolerated consecutive treatment with adalimumab, although interestingly one of them failed to respond.

422. AUDIT OF A MULTI-DISCIPLINARY JOINT INJECTION RHEUMATOLOGY SERVICE

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Background: Historically joint injections in the Rheumatology Department at St Helens Hospital have been carried out by medical staff. The senior physiotherapist and advanced nurse practitioner have undertaken training to enable them to perform these procedures. It has become apparent that there are discrepancies in the information given to patients regarding the procedure and aftercare. It was therefore decided to audit our practice including patients' recollection of the information given, discussion of risks and their satisfaction with the procedure.
Methods: Three questionnaires were used. The first was completed at the time of the procedure by the member of staff giving the injection. The second was completed by the patient immediately after the injection, and the third sent out to the patient to complete 2 weeks after the injection. Questionnaires were given to 100 patients over a 4-month period (November 2002 to February 2003).
Results: There was a total response rate of 86%
71% of injections were given by medical staff, 19% by the physiotherapist and 7% by the nurse. The most common joints injected were knees (41%) and shoulders (21%). In 18 instances no joint injection was given, and alternative treatment was provided for 8 patients. Two patients were referred to other agencies.
For 69% pre-injection information was given verbally, and 90% were happy with the detail given. Patients knew why they were having their injection and how long to rest afterwards. However, they did not know how long they would have to wait for their appointment, who would carry out the procedure. In additon there was discrepancy, depending on member of staff administering the injection, regarding information about not driving afterwards and when to resume activities. Little was recalled regarding discussion of side effects, risks and follow-up. 87% found the procedure comfortable, and patients were satisfied with their injections. After 2 weeks 88% of patients found their symptoms relieved, and most gained benefit within a week. Satisfaction at 2 weeks was lower than at the time of injection. 88% would have another injection if offered.
Conclusions: Joint injections were of benefit to most patients (at least for up to 2 weeks) and patients were satisfied with our service. There were differences in the amount and type of information given to patients and patients were unable to recall discussion of risks of the procedure which raises the issue of informed consent.
In an attempt to standardise our joint injection protocol we are developing a written information sheet which will be sent to patients with their clinic appointment, and a checklist to be used by health professionals giving injections to ensure the appropriate care pathway has been followed. It will then be re-audited.

423. THE DEVELOPMENT OF A USER LED CLINICAL SERVICE FOR NEWLY DIAGNOSED RHEUMATOID ARTHRITIS PATIENTS - AN ACTION RESERCH STUDY

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Background: A review of the clinical service provided for newly diagnosed patients was possible due to the expansion of the day care unit. A proposal was made that members of the multidisciplinary team (MDT) particpated concurrently to provide assesment and education of patients as soon as practical, following the diagnosis of rheumatoid arthritis (RA). This study was concieved to ensure that the resulting service met the needs of patients at this important time in the disease journey. As all key stake holders were required to be involved in the study, an action research methodology was chosen.
Action research involves the utilisation of sequential phases of problem identification, planning, observing, reflecting, and replanning. It is a robust research methodology which is concerned with the improvement of quality care at a clinical level and gives structure and direction to facilitate change in practice.
Methods: 23 newly diagnosed patients were asked to complete a questionairre focussing on their needs at the time of diagnosis. The content included reactions to diagnosis, physical and psychological implications and what clinical services were required at this time. A sub sample of 6 patients partook in an interview to explore these issues in more depth. A questionairre was also distrubited to 14 members of the clinical team to ascertain their views on the purpose, content and provision of a clinical service for newly diagnosed patients.
Results: 18 patients agreed to take part (9 male/9 female, age range 23-74 yrs, mean age 52.3 years, mean disease duration from point of diagnosis, 16 weeks).
The data from the questionairres and interviews led to the following themes being identified.
- Pre diagnosis anxiety and fear
- Impact of symptoms both physical and psychological
- Impact of diagnosis
- The need for infomation
- Issues related to control/lack of control
- Employment
- The importance of support from family and the MDT team.

It was found that the opinions of the MDT mainly corresponded with that of the patients. Particular areas of concordance were the impact of the disease and the resultant need for information. Areas of the service that were identified by patients independantly of the staff, related to the importance of the period of time pre-diagnosis, while awaiting the hospital appointment and employment issues.
The data collected was then used to inform an action plan, which then formed the basis of the evolving clinical service.
Conclusions: This study has given the multidisiplinary team some insight into the impact of RA in the early stages of pre and post diagnosis on physiscal, psychological and social functioning. It has demonstrated the need for information and support to foster a sense of control. The MDT has then been able to utilse this data to inform and improve the clinical service available to this patient group.

424. METHOTREXATE MONITORING IS IMPORTANT BUT PATIENT EMPOWERMENT IS SUB-OPTIMAL

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Background: All patients at our hospital treated with methotrexate are educated by a nurse practitioner prior to treatment and receive a methotrexate monitoring booklet in which to record their blood test results. The agreed hospital-GP shared protocol at our trust stipulates monthly monitoring of full blood counts and liver function tests. A reduction in the white cell count below $3.5x10^9$/L, the platelet count below $150x10^9$/L, or an elevation of liver transaminases more than twice the upper limit of normal necessitates stopping methotrexate. The most recent blood results are entered into the patients' monitoring booklet by the general practice surgery staff. To ensure patient autonomy, and involvement in their therapy, patients should retain the booklets. This is highlighted during their initial education.
The purpose of this study was to audit the methotrexate monitoring and use of monitoring booklets in our hospital.
Methods: A sample, of 100 consecutive methotrexate treated patients, was recruited from the outpatients clinic. A questionnaire was completed assessing: when their most recent blood tests were obtained, when the last blood

test monitoring was documented, whether they had retained their booklet and whether there were any abnormalities on their most recent blood results.
Results: 92% of the patients had had a blood test within the past month, whilst a further 5% had had a test within the previous two months. All the patients had had a monitoring blood test within the past 6 months. 79% of the patients retained their blood test monitoring booklet and 70% of all the patients had had a blood test documented in their booklet within the past two months. However, despite education and the shared care protocol, 21% did not retain their booklet and 13% of the patients had not had any blood tests documented in their booklet within the past 12 months.
Of the 100 patients, 9 had abnormalities of either their white blood cell count or their liver transaminases. Of these 3 had significant abnormalities (elevation of their liver transaminases >twice the upper limit of normal) that should have been acted upon.
Conclusions: Although this is a relatively small audit it demonstrates that regular (monthly) blood test monitoring is feasible (97% having blood tests within the previous 2 months) and important (3% of our cohort had significant abnormalities). However the finding that 13% of our patient cohort had not had their monitoring book completed in the previous 12 months and 21% no longer had access to their booklet demonstrates that patient empowerment in the process is sub-optimal. This is despite the education given to patients and indicates that regular reinforcement and reiteration of the educational process is probably required to improve patient involvement in methotrexate monitoring.

425. EXPEDITED REVIEW APPOINTMENTS IN A RHEUMATOLOGY OUTPATIENT (OP) DEPARTMENT

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Background: Over the last 3 years there has been a steady increase in the proportion of patients attending for follow up (FU) in our Rheumatology OP department. New to FU ratios have increased from 1:3.1 to 1:3.8.
In order to keep waiting times for new referrals down, the time interval between review appointments has had to increase from a mean of 3.6 to 5.2 months.
The department has adopted a policy of reserving a few FU slots on each clinic (emergency follow up (EFU) slots) that are to be untilised only for patients requiring earlier review having run into problems between their appointments.
The department undertook this survey to assess the reasons for, and appropriateness of any requests for expedited appointments and the department's capacity to deal with them with it's current policy.
Methods: 100 requests for review appointments to be brought forward were assessed.
Data was collected on who requested the expedited appointment and why, who sanctioned the appointment to be brought forward, how quickly the patient was seen, whether or not the request was felt to be appropriate and whether the patient was seen in an EFU slot, an unfilled FU slot or as an extra patient on an already full clinic list.
Results: Requests for appointments to be brought forward were received from a number of sources: the patient themselves (38%), their General Practitioner (33%), their rheumatology consultant (8%), a relative (8%), another consultant (3%), their specialist nurse (3%) and "other" sources, including physiotherapy, occupational therapy (3%).
88% of expedited appointments were sanctioned by the patient's consultant; the remainder being sanctioned by the department's Specialist Registrars or Nurses.
A wide variety of reasons for the requests were recorded: the most common were for a "flare" (24%), increasing pain (21%), increasing or new symptoms (13%) or request for joint injection (7%).
Through use of available FU and EFU appointment slots only 13% of patients had to be seen as additional patients on already full clinic lists.
The patients were seen a median of 12 days from receiving the request and had their appointments brought forward by a median of 9 weeks.
Only 10% of expedited appointments were felt to be inappropriate: 70% of these were at a patient's or relative's request.
Conclusions: The department's current policy of seeing patients less frequently but having EFU slots available in order to be able to promptly review those that run into problems between their clinic appointments is working well.
The number of patients whose appointments were brought forward "inappropriately" was small and the requests in such cases were predominantly received from patients or their relatives.

426. TO OPERATE OR NOT TO OPERATE. CAN AN INTERVENTION BY THE HAND OCCUPATIONAL THERAPIST (OT) PREVENT THE NEED FOR HAND SURGERY?

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Background: Patients with arthropathies are frequently referred for hand surgery opinions because of pain and functional impairment. However patients frequently adapt with such sophistication that surgical intervention may worsen their function.The skills of the OT may be a useful asset in providing an opinion regarding the suitability and surgical priorities of the patient. This approach is used by both orthopaedic and plastic surgeons, who report benefits in surgical decision- making. To date these benefits have not been documented.The aims were therefore to formally identify possible benefits of O.T in this context.
Methods: Rheumatologists and practitioners referred patients for surgical opinion to OT and orthopaedics concurrently. An observational study over 12 months evaluated the outcomes of the O.T assessment. Hand deformities were present in all patients. Pain alone was not a criteria for referral for this type of assessment.
An assessment was conducted lasting approx 45 mins and covered the following:- ROM; deformities and their contribution/interference in grasp release and overall function; self- report and observed functional assessment: pain; sensation; patients priorities/needs; patients' attitude to surgery and their commitment to a post -operative regime.
If patients needed surgical intervention a report detailing the assessment findings and recommendations were sent to the orthopaedic hand surgeon in preparation for his consultation.
Results: 17 patients were assessed during this period. Participants included 3 men and 14 women whose mean age was 66.6yrs. 14/17 had a diagnosis of rheumatoid arthritis, 2/17 osteoarthritis, and 1/17 psoriatic arthritis.
Following assessment 11/17 patients were managed conservatively. Of these, 3 patients opted for non- surgical intervention due to personal circumstances preventing them from being able to commit to post- operative therapy. Patients in the conservative group received a range of treatments from splintage for pain relief and to facilitate function, to joint protection and advice regarding activity modification. 6/17 patients were recommended for surgery, for 5 of these MCP arthroplasty was considered a priority, and 1 patient needed an EPL transfer.
Conclusions: A detailed assessment and intervention by a skilled hand O.T can prevent the need for surgical intervention in many cases. Where surgical recommendations were made the decisions were supported by the orthopaedic surgeon in all cases, demonstrating that patients were selected appropriately. Future assessment of those in the conservatively managed group will be carried out to ensure that thir needs are still being met without surgical intervention.

427. AN INVESTIGATION OF THE PRESCRIBING TRENDS OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS IN AN ELDERLY POPULATION: IN A HOSPITAL AND PRIMARY CARE SETTING

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Background: *NICE* guidelines recommend co-prescribing a gastroprotectant with non-selective NSAIDs or the use of a cox-II specific drug in patients over 65 years, as they are at high risk of gastrointestinal complications.
Methods: Patients ≥ 65 years were sampled in primary care (surgery of 12,185 patients) and secondary care (a care of the elderly and a general medical ward). The number of patients on a non-selective NSAID or cox-II specific drug were recorded, together with the number of patients appropriately co-prescribed a gastroprotectant. The number of patients co-prescribed more than one NSAID (including aspirin) was also recorded.
Results: Sample numbers of over 65 year olds in the elderly ward, medical ward and general practice were 102, 82 and 1120, respectively. The patients prescribed either a non-selective NSAID *and* a gastroprotectant or a cox-II (in accordance with *NICE* guidelines) were as follows: 75% (6/8) (elderly ward); 29% (2/7) (medical ward) and 37% (36/98) general practice. Of those prescribed a NSAID, the numbers co-prescribed more than one NSAID (including aspirin) were: 4/48 (8%) elderly ward, 2/32 (6%) medical ward and 32/146 (22%) primary care.
Conclusions: Patients were over twice as likely to have gastroprophylaxis considered by their physicians (*NICE* recommendations followed) if on a specialised elderly ward than if on a general medical ward or in primary care. In order to reduce gastrointestinal complications and subsequent deaths nationally, all primary and secondary care physicians need to be encouraged

to place a greater emphasis on providing gastroprophylaxis for this high risk group of patients.

428. EVALUATION OF AN IN-PATIENT JOINT PROTECTION EDUCATION PROGRAMME

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Background: Joint protection is an approach taught by Occupational Therapists to facilitate individuals with arthritis to maintain maximum function whilst avoiding and minimising joint strain, pain and risk of deformities. Joint protection aims to reduce pain, internal and external stress/pressure on joints and in this way decrease risk of deformities (Melvin, 1998)
Aim: To audit current practice of joint protection education in Our Lady's Hospice.
Methods: Evaluation was based on 156 clients with inflammatory disease who attended the joint protection group between October 2001 and October 2002. The education group was based on the Information/Dissemination Model. Clients attended a 1-hour group compromising of a lecture style presentation using both written and visual instructional aids, practical demonstrations, sharing of ideas and experiences inter-group. Group goals were to achieve cognitive change by educating clients regarding their condition and its management. All clients also received one-to-one joint protection education determined by their specific needs. The evaluation tool used for this study was the Joint Protection Knowledge Assessment (Hammond and Lincoln, 1999). This questionnaire was designed to determine knowledge of joint protection and has proven inrer-rater and test-retest reliability. The questionnaire was administered pre-, one week post and six weeks post group.
Results: Results highlighted significant improvements in all questions with marked improvements in skill learning and integration at the six week stage. Additional individual education, provision of reading material and peer support in the group were consideired to have contributed to learning. Greatest improvements were made in pacing and planning questions.
Conclusions: Using the Information/Dissemination Model to teach Joint Protection has proven efficacy. Learning was maintained over and extended period.

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429. EFFECTIVENESS OF A LOAN-AND-PURCHASE SERVICE

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Background: The transcutaneous electrical nerve stimulation (TENS) units are provided for pain relief for a variety of conditions. In many chronic rheumatological conditions pain can be an ongoing problem. TENS provides a means of analgesia without medication. It was decided to audit the loan-and-purchase service provided to determine if the TENS units continued to be used in the long term, adequate instructions are provided on use and maintenance of the units, whether the TENS is effective in relieving pain and reducing analgesia and if patients feel this service is beneficial to them.
Methods: Patients who have purchased a TENS unit over the last 5 years were identified from physiotherapy and Appliance Department records. Questionnaires were given to these patients when they attended any of the Rheumatology clinics.
Results: 85 questionnaires were given out, and 35 were returned. 83% of respondents still use their TENS units. All respondents felt they had received adequate instructions to use their unit, though only 40% recall verbal, written and diagrammatic instructions. 75% recall some advice on maintenance, whilst 40% felt they needed further instruction on some aspect. 67% of respondents understood that TENS is for analgesia only, and 74% would consider using their TENS in the event of increased pain. After their TENS trial period 19 patients felt the TENS eased their pain, and after using their own unit for some time 17 felt it was still effective in relieving pain. However, there was little change in pharmaceutical analgesia used. On reflection 86% (30) patients felt the service had been beneficial to them.
Conclusions: Rheumatology patients suffering with chronic pain and identified as appropriate for TENS pain relief find the service to try out and then purchase their own units beneficial. Stress needs to be placed on the fact that TENS is effective only for pain relief. New patient information leaflets are being created with information concerning maintenance of all aspects of the TENS units, and including personalised diagrammatic details. A further audit will be carried out to assess the effects of these changes.

430. RHEUMATOLOGY HELPLINE

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Background: It was recommended by the Arthritis Research Campaign in 1997 that a helpline should be made available in all rheumatology departments.Telephone helplines aim to provide advice and support for patients, relatives and health professionals.
The Rheumatology Specialist Nurse helpline, at Wirral NHS Trust was set up in 1991 for all patients under the care of the Consultant Rheumatologist. G.P's, Practice Nurses and other health professionals also have access to this facility. It is both a manned and answer phone service available between 08-30 – 17.00 hrs Monday to Friday.
Methods: An audit was undertaken to assess the impact of the volume of work on the Nurse Specialists, the quantity of calls, who rang and why.
A standardised form for documenting the information received from each phone call was used. This included demographic details, date & time of call, problem and outcome. The information was gathered between Nov 2002 – April 2003.
Results: There were a total of 565 recorded calls. The busiest month was November with 133 calls the quietest January with 68 calls. The majority of calls were from patients or relatives and 75 calls from GP's/Practice nurses. The main reason for calling was disease flare or increased pain 46.9%, advice 29.7%, drug reactions 12.0%, prescriptions 8.3% appointments 2.3% and other 0.8%.
334 of the calls were handled by the specialist nurses the remaining 231 needed medical staff intervention. 210 patients needed a treatment change of DMARD therapy, analgesia or NSAID.
Conclusions: It is a well-utilised service largely used by patients and relatives but also other health professionals. Very few inappropriate calls were received.
As a consequence of the audit the number of repeat prescriptions has been reduced with the introduction of a home delivery service for TNF therapy. The largest group of calls (46.9%) were patients reporting a flare of their disease. This has led to the introduction of SOS appointments within nurse led clinics only requiring 24 hours notice.
Although the nursing team dealt with the majority of calls this could be increased further with the advent of nurse prescribing and protocols.
Therefore a further audit can be undertaken to compare this data incorporating nurse prescribing and patient satisfaction.

431. NURSE PRESCRIBING IN RHEUMATOLOGY PRACTICE

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Background: Supplementary prescribing is defined as " a voluntary prescribing partnership between an independent prescriber and a supplementary prescriber to implement an agreed patient-specific CMP with the patient's agreement" (DoH 2003). All prescription only medicines (except controlled drugs) can therefore be prescribed by a Registered Nurse with a V300 prescribing qualification if included within a clinical management plan (CMP). Rheumatological conditions are associated with chronic disease/illness, so by their very nature are relevant to supplementary prescribing. The already established multi-disciplinary team approach at Wirral Hospital is conducive to this prescribing partnership and patient concordance.
Methods: Following attainment of the V300 prescribing qualification by 3 Specialist Nurses, a questionnaire was devised using open and closed questions to explore patients' knowledge and views of nurse prescribing. This questionnaire was completed by patients in the nurse-led clinic.
Results: 28.5% of patients were aware of the new prescribing laws and 38% were aware that a recognised prescribing course was now available. All said they felt comfortable with Specialist nurses prescribing their medication and felt that it would contribute well to their overall management. After reading a CMP all patients commented that advice by nurses regarding medicines was extremely valuable.
Conclusions: A proportion of patients did have some knowledge of the new prescribing laws, however more education is required if the majority of patiets are to be made aware that nurse prescribing is now available. All patients who participated were keen to use clinical management plans and their implementation into practice is ongoing.

Reference

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432. USER SATISFACTION WITH HOSPITAL LED RHEUMATOLOGY MONITORING SERVICE

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Background: In 1999 the unit developed the post of the Monitoring Coordinator. In addition to providing the phlebotomy service, this individual runs the computerised monitoring system including printing abnormal results for actioning by the the nurse specialist/practitioner, contacting non-attendees and updating patient held records. The hospital based service offers 6 phlebotomy sessions and 4-administration sessions weekly. Sessions are held within the rheumatology department and patients are allocated a session but not a time slot. However an early and late clinic provide convenient monitoring for the employed. Approximately 150 patients are monitored weekly. Due to the rapid expansion of the service it became apparent to measure the quality of service provision.
Study aim: To measure patient satisfaction using a likert scale questionnaire. Areas assessed include waiting times, appointment flexibility, environmental aspects and approachability of the monitoring staff.
Methods: 301 patients attended the blood monitoring service over a 2-week period in October 2003 and were given a likert type questionnaire to complete on site or at home to be returned via pre paid envelope. The data was entered onto a database using Excel and analyzed numerically.
Results: A total of 263 questionnaires were returned giving a response rate of 87%. Of the responders 76% (n=199) were on monotherapy and 21% (n=55) took a combination of 2 DMARDS. 70% of patients had their blood tests within 10 minutes of arrival, 26% of patients waited more than 10 minutes and 4% of patients did not record their waiting time. The overall service was rated very good by 86% of patients. Negative points included the comfort of the waiting area and difficulties with parking. Positive comments included the efficiency and approachability of the staff and the quality of the overall monitoring service.53% of patients requested additional information regarding their blood results.

Table 1

	Disatisfied %	Slightly disatisfied %	Satisfied %	Very satisfied %	Not documented %
Waiting times	0	1.5	39.5	58	1
Waiting time for patient held record to return	1.5	4.5	44.5	47.5	2
Appointment Flexibility	0	0.5	34	63.5	2
Session location	2.3	5.7	37	52.4	2.6
Comfort	2	6	50.5	40.5	1
Staff approachability	0	0.5	10	89	0.5
Privacy	0	0.5	22.5	76	1

Conclusions: This audit found consistently high satisfaction levels, particularly around the flexibility of appointments, maintenance of privacy and staff approachability. Difficulties with parking and the lack of an appropriate waiting area are issues to be addressed. Aggressive DMARD treatment of RA has caused increasing demand for blood monitoring, this audit has demonstrated that hospital monitoring services can be both highly efficient and patient centred.

433. AGE DIVIDE IN THE UPTAKE OF PNEUMOVAX AND INFLUENZA ('FLU) VACCINATION AMONGST RHEUMATOLOGY PATIENTS TAKING DISEASE MODIFYING ANTI-RHEUMATIC DRUGS (DMARDs)

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Background: Government guidelines state that patients immunosuppressed by treatment should receive a pneumovax and an annual 'flu vaccine. The government's current uptake target for 'flu vaccine is set at 70% and this audit was undertaken to assess whether our Rheumatology Department was achieving this standard. No government targets have been set for the uptake of pneumovax but a survey of pneumovax uptake in this population was also undertaken.
Methods: 111 patients who attended the department over an 8 week period in 2003 and were immunosuppressed through DMARD use were audited. Data was collected on patient demographics, type of DMARD taken, uptake of 'flu vaccine over the winter of 2002-2003 and lifetime uptake of pneumovax.
Results: The majority of patients surveyed had RA (81%); 63 (57%) were female and 81 (73%) were aged >50 years. 70 (63%) were taking one DMARD and 41 (37%) were on a biologic therapy or more than one DMARD.
78 (70%) had received a 'flu vaccine; only 37 (33%) had had a pneumovax injection. Previous audit undertaken in 2000 showed only a 56% uptake of the 'flu vaccine. No previous uptake data is available for pneumovax.
Of the 33 patients who did not receive the 'flu vaccine, 14 (42%) would not have accepted vaccination even if offered; 3 of the these were aged < 50 years. The remaining 19 patients weren't offered vaccination; all 19 indicated that they would accept vaccination in the future if offered; 16 of these (84%) were aged < 50 years.
78% of patients who had received the 'flu vaccine had received letters via their General Practitioner inviting them for vaccination. 6 patients could directly attribute receiving their 'flu vaccine from information solely provided by our Rheumatology department; all of these were aged < 50 years. 44 of those vaccinated against 'flu (56%) could recall seeing posters in the department and, or being educated by the Rheumatology team; 19 (43%) of these were aged <50 years.
Conclusions: Government targets are being reached for 'flu vaccination within our Rheumatology department. Despite this, a significant number of patients are either not being offered or are failing to accept the 'flu vaccine.
'Flu vaccine uptake was higher in patients >50 years old and, in general, patients in this age goup are being targeted well through primary care. This is not the case for younger patients and our department's campaign to highlight the benefits of 'flu vaccination will be altered to target this age group more specifically.
Across all age ranges uptake of pneumovax was poor and the department will set up measures to improve uptake.

434. MANAGEMENT OF CHRONIC FATIGUE SYNDROME IN MULTIDISCIPLINARY GROUP SETTING

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Background: Aims: Evaluation of Multidisciplinary group treatment for Chronic Fatigue Syndrome (CFS) patients.
Background review: Chronic Fatigue Sydrome (CFS) is heterogeneous in nature and reflects a complex interaction of psychological, behavioural, cognitive and emotional factors. Approximately 20% of the general population report symptoms of fatigue. Inconsistent estimates of the epidemiology of CFS relates to the diversity of the criteria used for diagnosis. In UK it is estimated that over 150,000 people suffer from CFS. Chronic fatigue syndrome presents with a range of symptoms including fatigue, headache, sleep disturbances, difficulty in concentration, musculoskeletal pain and neurological symptoms. There is no laboratory test available for diagnosis.
Interventions showing promising results include cognitive behavioural therapy and graded exercise therapy. Many trusts have no specific service for this group of patients and they attend at several departments according to their presenting complaints. Due to the complex nature of the syndrome there is a need for a multidisciplinary approach and we describe our experience.
Methods: This study describes the multidisciplinary management of chronic fatigue syndrome in a group setting. The study is hospital based and the referrals are accepted from secondary care, the majority having fibromyalgia. We included all the patients (n=30) with diagnosis of chronic fatigue syndrome using Oxford criteria (1991). Group treatment included engagement, education, graded exercise therapy, cognitive behavioural therapy and support. There were 16 group sessions running once weekly for 2-3 hours run by a senior physiotherapist, occupational therapist and cognitive behavioural therapist. The outcome measures compared satisfaction levels and target attainment at the end of the treatment programme as compared with targets set prior to entering the programme. Objective measures include SF36 and Fatigue questionnaire.
Results: The results demonstrated that there was an improvement in objective measures of function and a reduction in fatigue symptoms when comparing baseline with that on exiting the programme. Interestingly, individuals did not subjectively perceive any change.
Conclusions: A multidisciplinary group setting appears to offer a valuable treatment alternative for the management of CFS. Objective measures demonstrate a functional improvement with no subjective change. The audit needs to be further evaluated as does the issue of the patients' subjective versus objective improvement.

435. AN AUDIT OF THE PROVISION AND EFFICACY OF DISEASE MODIFYING ANTI-RHEUMATIC DRUG INFORMATION LEAFLETS FOR PATIENTS WITH INFLAMMATORY ARTHRITIS

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Background: Patient (pt) information and education is integral to chronic disease management. Information leaflets reassure patients, increase knowledge and also perceptions of control and self-efficacy. We documented the provision of information leaflets for disease modifying anti-rheumatic drugs (DMARDs), their comprehensibility and assessed the subjective control of arthritis relating this to the mode of information provision.
Methods: Consecutive pts attending rheumatology clinics over 4-week period, who had commenced a DMARD for inflammatory arthritis in the last 4 years, were asked to complete a questionnaire. This assessed the provision of an Arthritis Rheumatism Council information leaflet about the DMARD, its comprehensibility and whether the leaflet was accompanied by a verbal explanation from a trained member of staff. Pts were also asked to complete visual analogue scales (VAS) to assess how well they perceived their arthritis had been controlled since commencing DMARDs; poorly controlled = 0, well-controlled = 100. VAS scores were compared using unpaired t-tests to assess differences in mean scores between pts receiving/not receiving information leaflets and pts having/not having additional verbal explanations.
Results: 44 pts completed questionnaires, 35 females, 9 males. 73% (32/44) received a DMARD information leaflet, 23% (12/44) had not and 4% (2/44) could not remember. 93% (30/32) of the pts who received an information leaflet stated that they understood the leaflet. 3 pts stated that they needed further help to understand the information from relatives. The 2 pts who did not understand the leaflet could not remember why or give suggestions for improvement. 34% of the pts who received information leaflets also received a verbal explanation, 59% did not and 7% could not remember. Since commencing DMARDs, subjective control of arthritis (mean VAS score) in pts who received information leaflets and pts not receiving leaflets was 60 and 53.2 respectively (p=0.48). The pts receiving/not receiving additional verbal explanations mean VAS scores were 72 and 49.4 respectively (p=0.03)
Conclusions: Nearly a quarter of patients commencing DMARDs had not received written information about their treatment. Even less had received a verbal explanation about the leaflet and DMARD. Despite the small number of participants, patients receiving an additional verbal explanation perceived significantly better control of their arthritis than those who had received a leaflet alone. These results support the need for patient education beyond the simple provision of information leaflets and have service provision implications with respect to adequate staffing levels to provide the verbal explanations of treatment from which patients appear to considerably benefit. A re-audit is planned in 12 months time.

436. THE DEVELOPMENT AND EVALUATION OF A NURSE-LED BIOLOGICS REVIEW CLINIC

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Background: Nurse led clinics are becoming a popular way to deliver effective multi-disciplinary care. Due to an increasing uptake of biologic therapies and the success of our other nurse led services we set up and evaluated a Nurse Led Biologic Review Clinic. As this clinic was previously run by an experienced doctor, we initially had concerns. This abstract outlines our experience of developing the clinic, investigates patient satisfaction and considers the impact of the clinic on our current workload.
Methods: The Nurse Led Biologics Clinic provides a review service for patients on biologic therapies. Initially 1 nurse took the lead in developing the clinic. Over a period of 8 months a further 2 nurses have been trained and 2 hope to be trained. All 6 have a shared responsibility for completing BSR documentation. The clinic runs one afternoon per week and patients are scheduled every 30 mins. A consultant is available for advice throughout the clinic in an adjacent room and each patient is discussed with him. Every patient has a biologics folder, which is completed at each visit. It holds the BSR documentation, a between visit events sheet, recent letters, latest blood results and a data collection form. Patients are referred to the clinic from the Biologic Assessment Clinc, the Rheumatology Nurses and the Rheumatology Ward. Patients are seen at the clinic within 3 months of commencing treatment, then at 6 monthly intervals. They are advised to contact us should they have problems in between visits. We recently carried out an audit to gain information around patient satisfaction.
Results: The clinic has now been running for 8 months. We have 74 patients on biologic therapies. There have been 135 patient visits.15 DNA's and 2 cancellations. Although the nurses enjoy the clinic the additional paperwork has significantly increased our workload. An audit of 15 patients revealed that all 15 were satisfied with the nurse led service. 15 felt that the nurses had answered any questions they had relating to their treatment effectively. 15 believed that they had a full understanding of their treatment and nurse support mechanisms. 15 stated that they had always been seen within 30 mins of their appointment. 6 stated they were happy with nurses running the clinic. 4 had no preference and 5 would have preferred to see a doctor despite being satisfied with the service provided.
Conclusions: Although labour intensive running the clinic has been very rewarding. Audit suggests that initial worries about patient satisfaction were unfounded. Further larger scale research is required to gain an understanding why some patients still preferred to see a doctor despite being very satisfied with the service provided.

437. MULTI-DISCIPLINARY ANKYLOSING SPONDYLITIS SERVICE

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Background: Previously patients with ankylosing spondylitis (AS) were reviewed in the Rheumatology clinic, Orthopaedic clinic or by their GP. They were also reviewed on a 6-monthly basis by the physiotherapist and could attend a monthly exercise group. It was decided to standardise the provision for these patients within the Trust by setting up a specialist clinic, monitoring the disease using accredited tools and provide a patient-centred service. This development was discussed with and supported by the patients' support group.
Methods: The revised service includes a multi-disciplinary ankylosing spondylitis clinic. Each patient attends on a 6-monthly basis. It is run by the advanced nurse practitioner and clinical specialist physiotherapist, both of whom also run the monthly exercise class and support group. From the clinic both staff can organise appropriate investigations, and can refer back into the medical clinic, onto other specialities including the anti-TNF clinic or arrange admission to the Rheumatology ward if necessary. A patient SOS Helpline is also available. The nurse and physiotherapist provide assessment including the use of the BASDAI, BASFI and BASMI aspects of the Bath assessment tool. Individual treatment plans are agreed with the patient involving appropriate medication, exercise, education, coping strategies and support for patients and carers.
Results: 67 patients are on the AS register and 32 have attended the MDT AS clinic to date (November). It is anticipated that all patients willing to attend will have been seen by January 2004. Patients are on NSAIDs unless contraindicated or unable to tolerate and 14 are on DMARD therapy. All patients have a 1 hour appointment instead of 15 minutes, and the use of the Bath assessment tools means that patients undergo a validated condition-orientated assessment, which may not the case in main out-patients. No patients opted to return to main clinic. Outcomes have included 2 referrals for orthopaedic opinion, 2 patients commenced on anti-TNF, 1 patient with peripheral arthritis commenced on Sulphasalazine, 1 patient admitted to ward, 1 patient set up with TENS trial and 1 patient given a shoulder injection.
Conclusions: The use of the Bath standardised assessment tool provides appropriate information to set up individualised treatment plans. With these results it has been decided that a multi-disciplinary clinic is an appropriate way forward for the provision of a patient-centred service, and will continue. This will enable us to develop treatment guidelines for new therapies. The service now needs to be formally audited, including patient satisfaction. A patient information sheet about the service should be provided. Networking with other Rheumatology Departments will help to standardise AS provision within the region.