Patients initially treated with etanercept, infliximab, abatacept or rituximab were assumed to switch to adalimumab in the event of a non-response, and those initially treated with adalimumab were assumed to switch to etanercept. Based on NICE guidance non-responding patients were assumed to switch treatment after 6 months; 3 months was also evaluated in sensitivity analysis. Drug costs were calculated based on the recommended licensed dose for each treatment.

Adjusted non-response rates were estimated for each drug using indirect comparison techniques applied to published RCT response rates.

Results: Table 1: 6 month switching timepoint results.

Conclusions: The cost of both responders and non-responders is higher for adalimumab, etanercept, infliximab and abatacept compared to rituximab assuming a 6 month treatment switching timepoint. If treatment switching was 3 months the mean patient costs when accounting for both the cost of responders and non-responders remains lowest for rituximab. In this analysis a 1 year time horizon was assumed, which will underestimate the cost savings of rituximab in the longer term for patients who respond well to treatment.

Disclosure: N.L. is an employee of Roche Products Ltd. G.L. is an employee of Roche.

£	Adalimumab	Etanercept	Infliximab	Abatacept	Rituximab
Satisfactory responder	9,653	9,474	7,553	11,340	6,985
Non-responder	9,653	9,474	9,368	10,696	8,140
Mean patient	9,653	9,474	8,296	11,083	7,411

Education Research

426. ATTITUDES AND PERCEPTIONS OF RHEUMATOLOGISTS REGARDING CONSULTATION SKILLS TRAINING FOR SPECIALIST REGISTRARS (SPRS): A QUALITATIVE STUDY

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Background: Highly developed consultation skills are essential for rheumatologists. Historically, there has been no culture of direct observation of consultation skills within Rheumatology training and formal assessment of this fundamental skill rarely occurs. The introduction of the ''mini-Clinical Evaluation Exercise'' (CEX) requires such observation although this creates considerable logistical challenges in conducting mini-CEX in a routine clinical setting. The objective of this study was to explore the attitudes and perceptions of rheumatology specialist registrars (SpRs) and consultants regarding the need for consultation skills training and the use of videotape in this context. We also explored the potential barriers to its successful implementation in the context of specialist training.

Methods: Semi-structured interviews with rheumatology consultants and focus groups with rheumatology SpRs were conducted in four UK deaneries in the West Midlands, North West, Yorkshire and Northern regions. Within each region one junior (□5 years experience) and one senior consultant (□10 years) was interviewed. All rheumatology SpRs from each Deanery were invited to attend and between 5 and 7 SpRs responded in each site. Focus groups with these SpRs were held. Interviews & focus groups were recorded and transcribed verbatim before thematic analysis.

Results: There was significant variation in the amount of consultation skills training received prior to entering specialist training. SpRs and consultants all perceived as important, direct observation of trainee rheumatologists in practise, to provide constructive feedback on their consultation skills. Videotaped consultations were considered potentially useful in this context. Successful implementation of videotaped consultations was perceived to be predicated upon allowing adequate time for feedback and developing consensus on key consultation skills. Participants also felt it key that consultants providing feedback on consultation skills were motivated and appropriately trained. SpRs also believed that feedback should be individualised and tailored to their learning needs.

Conclusions: This study demonstrates that rheumatologists increasingly value the ability to observe trainees consulting in practice. Logistic challenges in direct, real time observation of trainees make videotaping consultations a potentially attractive proposition. Important issues to address in developing videotaped consultations as a teaching method within rheumatology specialist training include time constraints, consistency in the evaluation of consultation skills, and consultant expertise in providing constructive feedback.

Disclosure: The authors have declared no conflicts of interest.

427. RHEUMATOID FACTOR: THE SURROGATE FOR MUSCULOSKELETAL EXAMINATION AMONG JUNIOR DOCTORS?

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Background: Patients with acute rheumatological problems are often admitted on unselected medical take and, in consequence, are often first assessed by doctors with little rheumatology experience. The management of musculoskeletal conditions often plays a limited role in undergraduate curricula and initial postgraduate training, resulting in deficiencies in musculoskeletal examination as well as injudicious use of serological tests such as rheumatoid factor. We have evaluated this potential problem within our hospital.

Methods: The last 75 requests received from orthopaedic, surgical and medical teams for assessment of an inpatient by the rheumatology team have been reviewed. In 52 cases, the request for review related to a known or suspected inflammatory arthritis. The notes of these patients were scrutinized to establish whether:

1. the patient was currently under follow up in rheumatology outpatients
2. the admission was primarily related to an inflammatory joint problem
3. the notes contained a fully documented musculoskeletal assessment
4. serology (rheumatoid factor, ANA, HLA-B27) was performed and under what circumstances
5. patients with a monoarthritis had a wider joint examination documented

Results: Of the 52 arthritis related referrals:

- 26 were known to the rheumatology department with an established diagnosis of rheumatoid arthritis, in 20 of whom joint problems were a significant contributor to the reason for admission. In these patients only 30% had a musculoskeletal examination of worth documented on admission. However, a rheumatoid factor was checked in 90% and an ANA in 40%.
- 11 patients not known to the rheumatology team were admitted with an acute monoarthritis. In all of these cases no wider musculoskeletal examinations were noted. Rheumatoid factor was checked in 55%, ANA in 36% and HLA B27 in 27%.
- 15 patients were admitted with a suspected new acute inflammatory polyarthritis and not known to the rheumatology team. 53% had a musculoskeletal examination documented on admission. 87% had their rheumatoid factor checked on admission and in 80% the ANA was also performed.

Conclusions: Our survey shows that the majority of junior doctors on take in our hospital are not documenting appropriate physical examination of acute rheumatology patients. Furthermore there is evidence of injudicious use of serological testing with rheumatoid factor often being requested in patients who already have an established diagnosis of rheumatoid arthritis. The inappropriate widespread use of the ANA test is also of concern. We have tried to address these issues by offering to educate the junior doctors through a combination of clinic-, bedside- and lecture-based teaching.

Disclosure: The authors have declared no conflicts of interest.

428. ONLINE COMMUNICATION IN AN ARTHRITIS WORKSHOP: SHOWING EMPATHY, MAKING SUGGESTIONS, AND CONSTRUCTING IDENTITY AS AN EXPERT PATIENT

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Background: The Healthier Living with Arthritis Workshop is a 6-week online workshop focusing on self-management and goal setting that is being piloted by Stanford University, USA. Topics covered include problem solving techniques for pain, fatigue, isolation; diet, sleep and exercise; and communication skills. Participants make weekly action plans, which they post to the Workshop website. Participants are paired up and are asked to give each other feedback on their action plans. This feedback is also posted to the website, and is available to all participants.

Aim: To examine online feedback, particularly in terms of negative and positive politeness strategies.

Methods: The 24 Workshop participants were US-based, the majority were White, female, average age 55 years and high education levels. Content Analysis was conducted on 455 messages posted during 1 month using politeness theory as the analytical framework.

Results: Goals focused mainly on exercise. Feedback typically comprised short narratives (<256 characters), demonstrated a ''shared journey'' (i.e. shared condition, concerns, goals), provided empathy, support and feedback on recipients' action plans in the form of indirect suggestions. Narratives were used to construct the narrator as an expert patient who has taken action to address the challenges and problems of their condition and thus are able to 'coach' others in a similar situation.

Conclusions: Attending to the recipient's interests and concerns is a form of positive politeness that reduces social distance. In contrast to many online postings, the Workshop feedback exhibited indirect rather than explicit suggestions. The online format appears to promote the empathic, supportive environment needed to facilitate change among participants.

Disclosure: The authors have declared no conflicts of interest.

429. ASSESSING THE CONSULTATION SKILLS OF RHEUMATOLOGY SPECIALIST REGISTRARS: DEFINING THE SKILLS AND COMPETENCIES TO BE ASSESSED

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Background: Highly developed consultation skills are essential for rheumatologists. Within Rheumatology training, direct observation and formal assessment of this fundamental skill rarely occurs. The introduction of the ''mini-Clinical Evaluation Exercise'' (CEX) requires such observation although there is little guidance on the skills and competencies required within the consultation. Our aim is to develop an

instrument to facilitate constructive feedback on rheumatology consultation skills, for use in direct observation of consultations "live" or by videotape. The objective of this study was to explore the views of rheumatology patients and doctors regarding the competencies and skills required for effective rheumatology consultations.
Methods: A focus group interview was conducted with doctors (rheumatology consultants, SpRs and GPs) in each of the West Midlands, North West, Yorkshire and Northern Deanery regions. In addition, focus groups in three of the regions were conducted with rheumatology outpatients. Interviews were semi-structured. The expectations of patients and doctors regarding the rheumatology consultation were explored. Competencies and skills required by the consulting doctor were identified. Focus groups were all recorded and transcribed verbatim. Data were analysed using framework analysis. The data was utilised to inform the content of the assessment tool.
Results: Competencies identified were categorised into eight domains: (i) Building/maintaining a relationship (ii) Opening the discussion (iii) Gathering information (iv) Problem solving (v) Sharing information (vi) Patient management (vii) Closure of the consultation (viii) Efficiency in the consultation. 39 descriptors required to fulfil the above competencies were identified. The content of the tool endorses a patient-centred approach to the rheumatology consultation. However, it also acknowledges the importance of incorporating within this approach, efficiency in time management, application of specialist knowledge and problem solving.
Conclusions: The content of the Rheumatology Consultation Skills Assessment Tool (Rheum-CAT) was derived from the focus group data. When developed, the Rheum-CAT has potential to provide a useful framework for assessing consultation skills and providing constructive feedback. Involving rheumatology doctors and patients promotes ownership and acceptance of the tool by stakeholders. We hope this tool will aid in the conscious development of consultation skills within rheumatology specialist training.
Disclosure: The authors have declared no conflicts of interest.

430. CREATING AND EVALUATING AN EDUCATIONAL PACKAGE ON SHOULDER PAIN FOR PRIMARY CARE

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Background: GP registrars (GPRs) have previously reported their musculoskeletal training to be inadequate and have highlighted the management of shoulder pain to be an area of particular need. The aim of this project was to develop an educational package on the management of shoulder pain in primary care and to evaluate it with GPRs.
Methods: 2 GP Trainers, 2 GPs with a special interest in musculoskeletal disorders, a physiotherapist, a shoulder surgeon and 2 consultant rheumatologists were involved in a group nominative process to determine the content of the shoulder package. It was then created and given to 5 trainers/trainees for initial feedback using a structured proforma. The updated package was developed. Evaluation of the package is involving a pre and post Clinical Skills Assessment (CSA) test with 14 GPRs on the Cleveland Vocational Training Scheme. 5 classical presentations of shoulder pain in primary care have been chosen with doctors, specialist nurses and physiotherapists playing the role of patients. The GPRs are being marked according to a Royal College of General Practitioners mini-CEX schedule. The pre-assessment has taken place and the post assessment will occur in December.
Results: The five clinical presentations used were rotator cuff pain, acromio-clavicular joint osteoarthritis (AC joint OA), adhesive capsulitis, polymyalgia rheumatica and shoulder pain with red flags in the history. Registrars' skills at taking a history, communicating and organising their consultation generally met the level expected. They were felt to be professional in their approach to the patient. Physical examination skills at the initial assessment were more variable with registrars having particular problems examining patients with AC joint OA (8 = borderline, 1 = below expectations (n = 14)) adhesive capuslitis (6 = borderline) and rotator cuff problems (4 = borderline). Clinical judgement was also an issue for both AC joint OA (borderline = 11, below expectations = 1) and adhesive capsulitis (borderline = 8). Although overall clinical care did appear to be satisfactory (AC joint OA: meets = 10, borderline = 3. Adhesive capsulitis: meets = 14).
Conclusions: GPRs demonstrated below expected skills at examining the shoulder for 2 common causes of shoulder pain in primary care: AC joint OA and adhesive capsulitis. Clinical judgement also appeared to be an issue for these conditions. The registrars have now been given a copy of the aforementioned shoulder education package and will be reassessed following its usage to see if they improve.
Disclosure: E.W. receives funding from Arthritis Research Campaign. A.M.S. receives some funding from Arthritis Research Campaign. All other authors have declared no conflicts of interest.

431. LONG TERM CHANGE OF PRACTICE FOLLOWING JOINT INJECTION TRAINING OF PRIMARY CARE PHYSICIANS

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Background: Several musculoskeletal problems are treated with intra-articular or peri-articular injections. There is no consensus as to the best method of learning these techniques. Two surveys have sugggested that a lack of training and confidence are potential blocks to performing these injections in primary care. A previous small study has demonstrated short term effectiveness of an educational intervention for General Practitioners (GPs; Gormley et al, 2003). We hypothesised that a short training course incorporating theory, injection models and practice on real patients could change long term practice amongst GPs.
Methods: Over a four year period, 90 practitioners (including 84 GPs) attended one of 9 injection courses. All GPS were mailed a questionnaire 2 to 48 months after participation. The questionnaire included joints and diagnoses injected both before and after the course. Prospective data including pre-course, six week and long term data was also available for a subgroup of these to exclude the effect of recall bias.
Results: 53/84 (63%) of GPs responded. 33/53 (62%) reported injecting pre-course and 47/53 (89%; Fisher exact $p < 0.003$) were injecting 2 to 48 months after the course. 35/53 (66%) reported injecting into a greater variety of joints after their course than before. Knee and shoulder joints were injected most commonly and showed the greatest increase (seven-fold for the knee). 53/53 (100%) of participants reported that they would recommend the course to colleagues. Prospective data was consistent with this: 35/54 (65%) were injecting regularly prior to the course and 25/27 (93% Fisher exact $p < 0.007$) were injecting regularly up to 30 months later, in the subgroup for whom this data was available.
Conclusions: This study has demonstrated a long term change in joint injection practice following a short training course, which differed from most such training in providing practice on patients. It is likely that realistic experiential learning provides a robust increase in skills and confidence, leading to a long term change in practice.
Disclosure: The authors have declared no conflicts of interest.

432. CONFIDENCE IN PAEDIATRIC MUSCULOSKELETAL (PMSK) CLINICAL SKILLS IN PRIMARY AND SECONDARY CARE DOCTORS

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Background: Children with pMSK problems often present to primary care (GPs), accident & emergency (A&E), general paediatrics or general orthopaedics. Delay in access to paediatric rheumatology care has been reported for children with suspected Juvenile Idiopathic Arthritis [Foster 2007] and sub-optimal pMSK clinical skills are regarded as a contributory explanation. Low self perceived confidence in pMSK clinical skills has already been reported in primary care doctors [Wise].
Methods: The aim of this study was to ascertain, through an anonymised questionnaire, exposure to pMSK teaching and self rated confidence in pMSK clinical skills (with comparison to other bodily systems), amongst doctors in paediatrics, primary care, orthopaedics and accident and emergency attending pMSK teaching events.
Results: In total 341 responses (>65% response rate) representing GP principals (28%), trainees [primary care (22%), orthopaedics (12%), A&E (11%), general paediatrics (10%)] and consultant paediatricians (17%). The majority (n = 302, 89%) recalled teaching of adult musculoskeletal clinical skills, mainly delivered by adult rheumatologists (48%) or orthopaedic surgeons (37%). Of those taught the GALS screen (n = 122, 36%), a minority (58/127, 46%), used this in their clinical practice. A smaller number recalled pMSK teaching (152/341, 47%) and this was mainly delivered at postgraduate level (87/152, 57%) and by paediatricians (59/87, 68%), orthopaedic surgeons (54/87, 62%) and paediatric rheumatologists (32/87, 37%). Self rated pMSK clinical skills confidence was rated as being 'in some aspects only' by the majority of the responders with only a small proportion 'very confident' (mainly consultant paediatricians or GPs with special interest in MSK medicine). With the exception of orthopaedic trainees, self rated confidence in pMSK clinical skills was lower than other systems (cardio, respiratory and gastro systems) but comparable to confidence in clinical skills in neurology, skin and eyes. Orthopaedic trainees rated their pMSK clinical skills as greater than in all other systems, yet only 26/40 (65%) could recall teaching of pMSK clinical skills.
Conclusions: Doctors in primary and hospital practice, to whom children with pMSK problems may present, are not confident in their pMSK clinical skills and do not seem to have adequate exposure to pMSK teaching. This needs to be addressed at undergraduate level and reinforced in postgraduate training.
Disclosure: The authors have declared no conflicts of interest.

433 EVALUATE THE EFFECTIVENESS OF A NEW SELF-MANAGEMENT PROGRAMME FOR PATIENTS WITH CHRONIC PAIN

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Background: Self-management has been adopted by healthcare policy makers in U.K as a "systematic intervention" (Chodosh. J et al, 2005) targeting the rising number of people with long term conditions. Arthritis care has been at the forefront

delivering the stanford model (see references) of self management programmes for people with arthritis and other long term conditions in the U.K since 1994.

Arthritis care has long recognised the common thread that people with long term conditions have chronic pain. In response arthritis care together with specialists from Derriford hosptial developed a new self management programme ''challenging pain'' with specific emphasis on chronic pain.

Recent papers (Croft and Hay 2006, Griffiths et al 2007) have questioned the effectiveness of standard 6 week self-management programmes such as the expert patient programme. This new programme offers a cost-effective, patient-friendly alternative.

Purpose: to evaluate the effectiveness of the new self management programme challenging pain.

Methods: A cohort of 186 people with long term conditions either referred by GPS (some had been on a pain clinic pain education waiting list) or self-referred attended the challenging pain course. A total of 18 workshops were carried out in the Plymouth area. The effectiveness of the programme was assessed using assessment tools and outcome measures adapted from Lorig's work (Lorig et al 1999) including questionnaires and focus group discussions. Assessment was followed up at 6 and 12 months following the course. Primary outcome measures included healthcare use, health distress and self-efficacy.

Results: Qualitative results showed that patients did not find the long pre-programme questionnaire burdensome and that the programme was felt to be beneficial. Themes such as the timing (patients wanted it earlier) and the benefits of sharing their experiences emerged.

Quantitative results using Wilcoxon signed rank test indicate that there are strongly statistically significant changes in healthcare visits ($P = 0.000$) and in pain scores ($P = 0.004$); GP visits were reduced by 17%; health distress was reduced by 15% ($P = 0.000$) whilst self-efficacy was improved by 17% ($P = 0.000$), changes being sustained at 6 months. In comparison with 6 week self-management programmes (Lorig et al 2001, Buszewicz et al 2006) the 2 week programme was at least as effective.

Conclusions: These promising results suggest that nationwide roll-out of this lay-led brief intervention will make available a cost-effective programme to the significant population of patients in the community who are affected by chronic pain. This will give benefits not only to the individual, but also to the healthcare service in general.

Disclosure: The authors have declared no conflicts of interest.

434. EDUCATION FOR PEOPLE WITH ANKYLOSING SPONDYLITIS: PERSPECTIVES FROM PATIENTS, RHEUMATOLOGISTS AND ALLIED HEALTH PROFESSIONALS

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Background: Specific educational interventions can improve physical and psychological outcomes for patients with rheumatological conditions. However, we know less about how, when and why patients access educational resources, and the methods we could use to produce more acceptable and effective resources in the future.

We aimed to study ankylosing spondylitis (AS) patient education from the perspective of patients and health professionals. Specifically, we were interested in how existing resources were utilised, whether there were other, less clearly defined resources, and if these met participants' needs and aims.

Methods: We carried out three focus groups consisting of patients with AS, Consultant Rheumatologists, and Rheumatology allied health professionals (AHPs) respectively. Patient participants were recruited from a National Ankylosing Spondylitis Society (NASS) branch; the consultants and AHPs were recruited purposively from rheumatology departments in North East England. Each group was moderated by BT (first author), and employed a topic guide devised to address the aims of the study. The discussions were recorded and transcribed. Analysis employed the constant comparative method, with emerging themes from the anonymised transcripts discussed at a data analysis workshop. Ethical approval and participants' consent were obtained.

Results: All three discussion groups distinguished between education within groups and individual learning which was often self-directed. While there were benefits to group education, the method was unacceptable for some patients, and it proved difficult to define their characteristics. Information sources which related to the experiences of other patients were rated most highly by patients, and an important function of learning was to verify their own standard of care. The roles of different professionals were not clearly defined. For example, there was a belief among consultants that issues such as finance, insurance and sex were better dealt with by AHPs, who in turn described the same difficulties of privacy, knowledge and time as the doctors. Wider roles for education were identified; AHPs highlighted that education enhances patients' relationship with their rheumatology team, providing them with the contacts and confidence to solve future problems.

Conclusions: This qualitative data suggests that a predetermined, universal education programme for patients with AS would not meet all their needs. Solutions to this complex area should reflect the functions of education identified by health professionals. Education tailored to the needs of individual patients with ankylosing spondylitis remains a challenge.

Disclosure: B.T. has an Educational Research Fellowship from the Arthritis Research Campaign. All other authors have declared no conflicts of interest.

435. PEER-ASSISTED LEARNING BY MEDICAL STUDENTS IMPROVES MUSCULOSKELETAL SYSTEM EXAMINATION SKILLS

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Background: Peer-assisted learning (PAL) allows students to assist collegues with teaching and learning support and is implemented in many undergraduate and postgraduate programmes. The objective of this study was to determine if (PAL) by final year medical students as an integrated part of the curriculum improves musculoskeletal examination by using the Gait, Arms, Legs, Spine (GALS) examination system as a training tool.

Methods: 25 final year students were trained in the GALS system for musculoskeletal system examination (MSS) by a specialist registrar in rheumatology or a specialist physiotherapist, whilst attending Glasgow Royal Infirmary as part of their standard clinical medical attachment. These students (trainers) then trained 74 final year students (trainees) in MSS using the GALS system. Students were evaluated with pre/post confidence questionnaire (100mm visual analogue scale), course experience questionnaire (using a 5 point Likert scale) and end of year final examination OSCE score for musculoskeletal system. Results were compared with 79 students who were trained by the non-peer assisted standard curriculum in alternative hospitals.

Results: Analysis from the confidence questionnaires showed an increase in all parts of the GALS examination after training from mean score of 4.1 pre-training to 8.6 post training.(Range 0-10, $p < 0.0001$) Results of the course experience questionnaire demonstrated benefits in all parameters investigated (teamwork, trainers performance, teaching skills). OSCE results showed that 66/79 (83%) of students in the standard curriculum passed the MSS OSCE station. By comparison, 68/74 (92%) of the trainees ($p < 0.0001$) and 25/25 (100%) of the trainers ($p = 0.058$) passed the MSS.

Conclusions: PAL for teaching the MSS in final year students improves confidence, encourages development of generic skills and results in improved OSCE scores for final year examination of MSS when compared to the standard curriculum. This is the first time that PAL for examination of MSS has been shown to work as part of the standard curriculum for medical students.

Disclosure: The authors have declared no conflicts of interest.

436. TEACHING KNEE JOINT ASPIRATION TO MEDICAL STUDENTS-AN EFFECTIVE TRAINING WITH LONG TERM BENEFITS

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Background: The importance of joint aspiration in the management of acute monoarthritis is well recognised. Although often perceived as a postgraduate competency, Cambridge University has developed an undergraduate knee aspiration training programme. Students are taught the skill on a mannequin in a dedicated skills unit, by a trained AHP using an evidence based ANTT protocol. Student competence is formally assessed in the final year examinations.

The purpose of this study was to assess the effectiveness of undergraduate knee aspiration training, and determine the impact this learning has on on subsequent clinical practice.

Methods: The Practical Skills Examination results were calculated using a standardised OSCE mark scheme. The pass mark for each station was calculated using a borderline group method. The results for 4 examinations, over the past 3 years, (306 students) were analysed. Chi square analysis was used to determine whether competence in knee aspiration was significantly different to competence in other core clinical skills.

To assess whether training in knee aspiration translated into clinically relevant practice we undertook a quantitative questionnaire survey of 200 trainees at 3 hospitals within the Eastern Region. Postgraduate training places in the Eastern Deanery are populated partly by Cambridge graduates (who have been taught knee aspiration) and partly by graduates from other medical schools (who have not been taught knee aspiration). The survey assessed a) graduates' confidence in knee aspiration and b) how this had impacted on their practice. Chi square analysis was used to compare the two groups.

The study was approved by the Local Research Ethics Committee.

Results: The final year practical skills results showed that, of the students taught knee aspiration at undergraduate level, 96% of the students were competent in knee aspiration (mean score 88%). Student performance in knee aspiration was found to be either significantly better, or not significantly different, to the performance in other core skills required of a junior doctor.

The results of the postgraduate questionnaire survey results analysed so far(49) shows that there is significantly increased confidence in knee aspiration amongst junior doctors taught this skill as students ($p = 0.039$). Furthermore those taught as undergraduates are significantly more likely to have undertaken knee aspiration in clinical practice ($p = 0.014$).

Conclusions: Teaching knee aspiration to medical students is effective and feasible. Furthermore it improves junior doctor's confidence and translates into improved clinical practice. The possibility of extending this training across other medical schools should therefore be considered.
Disclosure: The authors have declared no conflicts of interest.

437. ALL WALES PATIENT QUESTIONNAIRE: UNDERSTANDING OF ANTI-TNF THERAPY DECLINES AFTER THE FIRST YEAR OF TREATMENT

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Background: Patients being considered for anti-TNF therapy are given information on the goals and risks associated with therapy and on what to do if problems are experienced. We previously reported that despite a dedicated education programme, gaps in knowledge still exist. We report on the extension of this survey across Wales.
Methods: All Rheumatology patients in Wales receiving anti-TNF therapy (excluding 2 pilot hospitals) were sent anonymous true/false questionnaires about indications for their therapy, side effects and what to do if they had an infection or needed a surgical procedure. We analysed data received with particular reference to mode of administration and duration of therapy postulating that those on intravenous treatment may have benefited from frequent contact with the healthcare team and therefore score higher, as might those who had more prolonged time on treatment.
Results: 893 questionnaires were distributed with a 72% response rate. 632 replies were analysed: 384 (61%) Etanercept patients, 134 (21%) Adalimumab and 106 (17%) Infliximab. Duration of therapy: 310(49%) $\geq$ 2 years, 167 (26%) 1-2 years, 135 (21%) $<$ 1 year. Of the 9 questions analysed, 40% of respondents answered 8 or more correctly. Questions relating to indications for anti-TNF treatment had high rates of correct responses (77 - 91%) but questions about toxicity and infection gave more variable results. 35% of patients felt anti-TNF therapy was safe with no side-effects and 37% indicated that they would continue therapy (or were unsure) if they had an infection. Similarly, 37% were not aware that therapy should be stopped prior to surgery. There was no statisical difference in responses between those on subcutaneous or intravenous treatment. However, there was a significant difference in the number of correct answers with respect to duration of treatment. A statistically higher proportion of patients on treatment for less than one year scored 8 or more correct answers ($p < 0.001$). This difference at 1 year was particularly apparent with questions relating to toxicity. ($p < 0.04$) and was lost when comparing treatment duration more or less than 2 years.
Conclusions: We had a high response rate in this national survey. Patients are well informed of the goals of anti-TNF therapy. However a significant proportion (37%) did not recognise active infection as a reason for temporary cessation of therapy and a similar number of respondents felt there were no significant risks associated with treatment. Reassuringly, patients receiving subcutaneous therapy were as well informed as those on intravenous therapy. Our results suggests that recall of knowledge (particularly in relation to infection) appears to decline after 12 months of treatment and further educational sessions at this point may address this issue and promote optimal knowledge retention.
Disclosure: The authors have declared no conflicts of interest.

438. POSTGRADUATE PAEDIATRIC RHEUMATOLOGY (PRh) TRAINING WITHIN PAEDIATRICS IN THE UK

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Background: The PRh clinical service in the UK is currently successfully delivered in many areas by adult rheumatologists with training in PRh, working in clinical networks with PRh multidisciplinary teams. However, current adult rheumatology training does not include PRh - future delivery of PRh clinical service in the UK relies on adequate PRh trainees being recruited from within paediatrics. Specialist training within UK paediatrics follows a structure comprising 'Core' training (two years, competency based framework [www.RCPCH.ac.uk]) before progressing to a competitive entry point for ''Grid'' specialty training (usually three years) The aim of this study was to establish the extent of PRh exposure for trainees within general paediatrics, as exposure is likely to influence future sub-speciality career choice.
Methods: All national programme directors in paediatrics (n = 17) were contacted by email and invited to complete a web-based anonymised questionnaire about PRh training in their Region.
Results: The response rate was 14/17 (82%). The median number of Specialist Registrars (SpRs) in general paediatrics per Region was 64 (range 36 - 110). Commonest specialties offered to SpRs were endocrinology, neurology, respiratory and oncology (n = 13, 93%). Less commonly offered were adolescent medicine or clinical pharmacology (n = 1, 7%), metabolic medicine (n = 2, 14%), education or immunology (n = 3, 21%), and PRh (n = 4, 28%). Trainees were invariably not offered choice in their speciality placements in Core training (n = 5, 36%). PRh training was provided at 'Core' in 4 centres (28%) and post 'Core) at 8 centres (57%)all of which were tertiary hospitals. Three Regions (21%) permitted trainees to pursue PRh training outwith their given Region. Notably only three Regions had candidates apply for 'Grid' training in PRh and all had provided PRh experience in Core training. Within Regional teaching programmes for SpRs, PRh was included in 10/12; taught by general paediatricians (n = 4), paediatric rheumatologists (n = 5) and adult rheumatologists(n = 3).
Conclusions: Opportunities for PRh training within general paediatrics are limited and confined to PRh tertiary centres. The RCPCH core competency framework for all paediatricians includes musculoskeletal medicine and few Regions in the UK offer appropriate training. This is likely to adversely affect recruitment to the PRh sub-specialty & the achievement of core competencies required by all paediatricians. Given that future adult rheumatologists will not be trained to deliver PRh services as at present, this study suggests a shortfall in paediatric trainees in PRh with major implications for manpower planning for the future provision of PRh services in the UK. This needs to be addressed both in general paediatric training and by adult rheumatology services.
Disclosure: The authors have declared no conflicts of interest.

Case Reports (I)

439. HYPERTROPHIC PULMONARY OSTEOARTHROPATHY MIMICKING ATYPICAL RHEUMATOID

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Background: A 52 year old lady presented to orthopaedics with arthralgia affecting knees, shins and wrists. She was arthroscoped and synovial biopsy of the right knee revealed no synovitis. Ongoing arthralgia was diagnosed as rheumatoid arthritis and treated with monotherapy methotrexate and then sulphasalazine with added prednisolone. IM steroid was ineffective. A second diagnosis of facet joint arthtritis in part explained her need for additional tramadol, meloxicam and gabapentin for pain control. Rheumatoid factor was negative and inflammatory markers rose from ESR 27 to 101 during treatment. This and her pain, contributed to a very high Disease Activity Score of 8.2. She was a smoker of at least 45 pack years.
Methods: Her symptoms failed to respond to treatment and TNF was planned. Only then was a chest x-ray ordered, which revealed a large right apex mass, which proved to be a squamous carcinoma of the lung. Subsequent resection resulted in rapid and significant improvement in her articular symptoms.
Results: Her rheumatological care was subsequently transferred to our hospital. All medication except analgesics had been stopped as she was now receiving adjuvant chemotherapy. On examination there was clubbing but no synovitis. There were no tender joints in the upper limbs, but tenderness over the shins and the metatarsophalangeal joints persisted. Radiographs showed metacarpal shaft thickening in the hands compatible with hypertrophic pulmonary osteoarthropathy (HPOA). Periosteal reactions were also evident on x-ray of the tibia, and metatarsals. There were no erosions.
Conclusions: The possibility of HPOA had been raised by an earlier nuclear medicine bone scan, but this was only in a final report that took over 3 months to be authorised. A preliminary report had not suggested this possibility.

This case illustrates the need for a chest x-ray in new RA. The diagnosis was atypical with negative rheumatoid factor and synovial biopsy. Pain and a raised ESR influenced DAS unduly. Atypical unresponsive RA requires review of diagnosis rather than just treatment escalation.

Hypertrophic osteoarthropathy is rare, but may be primary or secondary. In the case of malignant lung tumors, arthropathy with synovitis may present in advance of clubbing. This case summarises a case of inflammatory arthritis, which was unresponsive to standard therapy. The subsequent findings of clubbing in a smoker, and radiographic changes made the diagnosis of HPOA likely. The resolution of articular symptoms post lung resection was striking.
Disclosure: The authors have declared no conflicts of interest.

440. AN UNUSUAL CASE OF HEPATIC OSTEODYSTROPHY

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Background: Hepatic osteodystrophy (HOD) refers to a combination of osteoporosis and osteomalacia occurring in chronic liver disease. HOD occurs most frequently with longstanding cholestasis and is common in primary biliary cirrhosis (PBC). It is very infrequent at presentation in PBC.
Methods: We present an interesting case of hepatic osteodystrophy associated with PBC, in which the patient presented with osteoporotic fracture well ahead of clinical presentation of PBC.
Results: A 63 year old lady presented in November 2003 with low back ache and loss of height. She did not have any clinical fracture or other systemic symptoms. She attained menopause at 55 years and did not have any other risk factors for osteoporosis. She denied any personal or family history of significant medical diseases. Clinical examination was unremarkable except for marked kyphosis.

Xray revealed compression fractures of several dorsal and lumbar vertebrae. Dexa Scan showed osteoporotic spine and osteopaenic femoral head. Her base line blood tests were normal including the liver function tests (LFT). She was started on once weekly Risedronate with Adcal D3 in January 2004. In November 2004 her