Rheumatology 2013 | Conference Report

The UK's leading rheumatology conference | 23-25 April 2013

Thank you to everyone who helped to make Rheumatology 2013 such a huge success.

Over 2,100 people joined us in Birmingham for three days packed full of networking, learning and sharing. Delegate feedback was tremendous, with 96.5% saying they would recommend the conference to a colleague - more than ever before. You rated the overall organisation of the conference 4.4 out of 5 and we were delighted to see how many delegates return year after year.

Rheumatology 2014: special advance discount rate ends 30 June 2013. See www.rheumatology2014.org for more details.

While the deadline for session proposals for Rheumatology 2014 has now passed, we would be delighted to have your abstracts (deadline 15 November 2013). Awards will be launched in the enews this summer. And we are still interested in any suggestions for making the conference even better. Just email events@rheumatology.org.uk or call us on 020 7842 0900.

Conference in numbers:

18	CPD points
43	prize winners
54	exhibitors
123	speakers
282	presentations
308	posters
370	BSR cupcakes consumed
450	interactive handsets
475	abstracts
1,264	tweets
2,152	attendees
10,490	cups of coffee served

Content

Conference delegates can see the slides from the conference sessions at www.rheumatology2013.org (you will need to log in using the password you were given after you filled in the feedback survey).

Keynote lectures

Heberden Round: unmasking lupus – changing perceptions of the disease and its treatment

Caroline Gordon is Professor of Rheumatology at the University of Birmingham and Consultant Rheumatologist at Sandwell and West Birmingham Hospitals NHS Trust and University Hospitals Birmingham NHS Foundation Trust. She is one of the world's leading authorities on autoimmune rheumatic diseases, particularly systemic lupus erythematosus and antiphospholipid syndrome.

Her lecture covered the history, epidemiology, diagnosis and the difficulties surrounding perceptions of lupus. Video clips of some of her patients illustrated the enormous impact this disease can have on all aspects of people's lives. Caroline's interactions with her patients show the doctor and patient working together to control the disease and navigate the unpredictable and sometimes devastating course of lupus, sometimes in special circumstances such as pregnancy, with close monitoring, using many of the disease activity and severity scales that Caroline has been instrumental in developing. Management strategies were carefully explained: if one tactic fails to give a satisfactory response, others will be tried, always keeping the needs and desires of the patient central to all considerations.

Not only did we gain insight into how the prognosis for lupus has improved dramatically over recent decades with modern management strategies and the results of randomised controlled trials informing the evidence base, but also some crystal ball gazing on how recent pharmacology breakthroughs such as epratuzumab (a monoclonal antibody that binds to the CD22 receptor, preventing B cells from recognising and reacting to self antigens) may transform the outlook for patients even further, improving morbidity, mortality, and most importantly the quality of life for our lupus patients.

Heberden Oration: the changing face of RA – a palindromic shift?

Paul Emery is the Arthritis Research UK Professor of Rheumatology, Leeds Institute of Molecular Medicine, University of Leeds, and Director of the Leeds Musculoskeletal Biomedical Research Unit, Leeds Teaching Hospitals NHS Trust. In his distinguished career he was President of EULAR 2009-11, and received the Roche Biennial Award for Clinical Rheumatology, Rheumatology Hospital Doctor of the Year Award 1999, EULAR prize 2002 for outstanding contribution to rheumatology research, and the prestigious Carol Nachman prize 2012.

Anthony Redmond,
Head of Clinical Biomechanics and Physical Medicine, University of Leeds

"This is my favourite meeting of the year. The three-day format really works. It's a strong conference programme with no gaps: intense but efficient. There's always something to engage you, and you don't want to miss out on anything."

Paul's lecture gave an overview of how the last 35 years have seen a complete change in the perception and the outcomes of patients with RA. We learned how his work has led much of our understanding of the best strategies for transforming the lives of our patients.

Like Paul, those of us of a certain age can remember in the 1970s the huge gold clinics, with many patients arriving with horrendously active disease, disabled and in wheelchairs, their drugs often not noticeably contributing to modifying their disease. The 1980s saw the use of sulfasalazine in Europe, early combination therapies, and early inflammatory arthritis clinics such as the pioneering Birmingham clinic, and the Early Rheumatoid Arthritis Study run over a number of rheumatology centres.

In the 1990s RA became treatable with intensive therapy advocated from the start, and the Leeds Early Arthritis Clinic led the way in imaging synovitis, and close monitoring of disease. Concepts such as the "window of opportunity" for treating early inflammatory arthritis are now taken for granted, but it is largely thanks to Paul, one of the key pioneers of the management of inflammatory arthritis, that the outlook for patients has been transformed in recent decades. Paul talked us through the evolution of the network of clinics throughout Yorkshire that are now providing an exemplary service for patients with inflammatory arthritis and generating data on how best to manage the disease.

In the 2000s those who failed to respond to conventional disease modifying drugs are given access to an increasing array of biological therapies. Anti-TNF drugs were found to halt radiographic progression, with early introduction having high rates of drug free remission, and work in Leeds has improved our understanding of predictors of response to rituximab.

In the 2010s we are now on the brink of reversing disease by targeting sub-clinical disease and restoring immune function from its dysregulated state, making very early disease truly palindromic.

We were extremely fortunate that such illustrious speakers took time to share their expertise with us.

Chris Deighton

Droitwich Lecture: In defence of non-evidence based medicine

Philip Helliwell (Senior Lecturer in Rheumatology at University of Leeds and Honorary Consultant Rheumatologist for Bradford Hospitals NHS Trust) reminded the audience of the need for a balanced approach to patient care, supporting the biopsychosocial model.

The first of a series of maxims told us not to discount a treatment effect just because you can't explain it. Recounting a tour of European spas, Dr Helliwell reflected on how the holistic effect of being in a spa environment can be measured. He then discussed issues such as the problem of some evidence being ignored, and the placebo effects, using back pathology and management as the context. I suspect many in the audience will recall VOMIT standing for 'victims of medical imaging technology'. The detail that images now produce can lead to pathology being identified that is asymptomatic, while not adding useful information to the clinical picture.

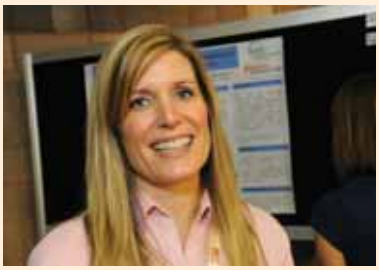
The final part of the lecture illustrated bias that can occur in studies, as well as what is published in the literature that we draw on for our clinical practice. Philip discussed the idea of stratified medicine and personalised treatment, based on a full understanding of the individual, both biological and personal.

Finally, he reflected on the drive for evidence based medicine as a means to deliver cost-effective care while providing an enhanced patient experience that respects the patient perspective, delivering a patient relevant outcome. Meeting these is a challenge within the current health reforms.

The Droitwich Lecture is a highlight in the BHPR year. It takes the name from the Droitwich Trust, a charity that had for forty years funded research into rheumatic conditions. In 2004 this charity made a donation to BHPR to support an annual lecture.

Robert Field

Philip Helliwell



Ruth Barn, Lecturer in Podiatry, Glasgow Caledonian University

"It is a fantastic event for networking, sharing research with others working in the field and keeping up to date with the latest evidence. My highlight of the conference was the Droitwich Lecture from Dr Philip Helliwell who has made a significant and substantial contribution to the field."

Presidents' reception

Birmingham Town Hall

BRiTs (British Rheumatologists in Training) stream

Now firmly established as an integral component of the BSR, the trainees' stream was again very well attended at Rheumatology 2013. The stream provides dedicated trainee-orientated sessions delivered by respected and knowledgeable experts, and provides an opportunity for trainees to present at a national conference as well as encouraging trainee audience participation.

The day began with *Ask the experts,* this year covering systemic lupus erythematosus. Three cases were presented by **Elena Nikiphorou, Vijay Rao,** and **Muditha Samaranayaka,** followed by an energetic discussion with **Ian Bruce** and **Ansiur Rahman.** Each case offered the opportunity to discuss difficult aspects of SLE management and both the panel and audience members dispensed practical advice. Key learning points for trainees included how to deal with ANA-negative SLE, to always consider infection in an immunosuppressed patient and the role of rituximab in the management of SLE.

Our second session was a teaching session on osteoporosis delivered by two world experts on the subject. **Bill Fraser** covered the role of bone markers in management of osteoporosis, treatment pitfalls and the evidence-base for current therapies in his comprehensive talk. This was followed by **Cyrus Cooper's** complementary session on less well-understood aspects of osteoporosis. The popularity of the session was clear, judging by the number of senior colleagues in the audience, as well many trainees.

The final session of the day was specifically for trainees, and covered the early consultant years. **Neil Snowden** discussed the recruitment process for consultants, imparting words of wisdom gained from his involvement in many interview panels. This was followed by **Vinodh Devakumar's** enlightening presentation on how to survive the first few years of being a consultant. Many

BRiTs committee members (left to right): Frances Rees, Zoe Ash, Sonia Panchal, Benjamin Parker, Iain Goff

nuggets of wisdom were shared, from how to cope with the transition to consultant, to how to deal with your own trainees and job plans. Finally, **Nick Shenker** discussed the extended role of consultants, and how to best to prepare for these. Using his own experience as clinical lead and active researcher, he guided us through job planning, consultant contracts, and the roles open to new consultants, such as education, research and management. The session concluded with a panel discussion, dealing with questions covering flexible trainees and contracts.

We hope to provide the same quality programme next year at BSR 2014; we will invite all trainees to get involved and present cases once the Rheumatology 2014 programme has been published. For more information, contact Elena Nikiphorou, BRiTs' new academic rep, on elenanikiphorou@doctors.org.uk

Ben Parker

David Scott, Consultant Rheumatologist Norfolk and Norwich University Hospital NHS Trust

"I really like the networking: this is one of the best conferences. It's not so big that it's impersonal: while it is big enough to have a major impact and influence on clinical practice and scientific advances, and is therefore of real national and international importance, it is also small enough to feel you're part of a family - there's a real community feel. The balance of attendees - clinicians, scientists, allied health professionals, trainees - makes a lovely mix."

Elena Nikiphorou, Trainee, Addenbrooke's

"You get to meet inspirational people we hear about but don't get a chance to meet otherwise."

BSR/BHPR 2013 session: Facilitating adherence to treatment in rheumatology

This session offered a multi-disciplinary perspective into how we, as clinicians and researchers, can facilitate adherence to treatment in rheumatology, with insight from health psychology and physiotherapy.

In *Patient non-adherence to treatment: What causes it and what can be done about it?* **John Weinman** (King's College London) drew upon his extensive experience to offer a health psychology perspective on the reasons for non-adherence. His work in this area has resulted in the development of a number of widely used measures and cognitively based interventions, which have been shown to be effective in improving adherence to treatment, recovery and quality of life. His specific focus was the extent to which patients' beliefs about their illness and treatment explain why they frequently fail to adhere. He showed how the theoretical framework underpins successful intervention studies.

Lis Cordingley (University of Manchester) built on John's introduction in *Adherence and adaptation: Targeting beliefs and behaviour to optimise self-management,* also looking at how patient beliefs can change patient behaviour. She presented evidence that theory-based approaches to consultations, which target patient beliefs and behaviour, are more likely to improve patient motivation and outcome than communication skills alone, illustrating this with some new findings from work on adherence to anti-TNF medication by patients newly started on treatment.

Sarah Dean (University of Exeter) began *The clinical application of behaviour change strategies to facilitate adherence to treatment* by challenging the audience on their adherence to commonly known healthy behaviours such as five-a-day for fruit and vegetables. She described setting and action planning as behavioural change techniques that can be usefully applied in a musculoskeletal rehabilitation setting, and showed how this type of intervention can be used to promote adherence to therapeutic exercise, drawing on her own experience in musculoskeletal rehabilitation.

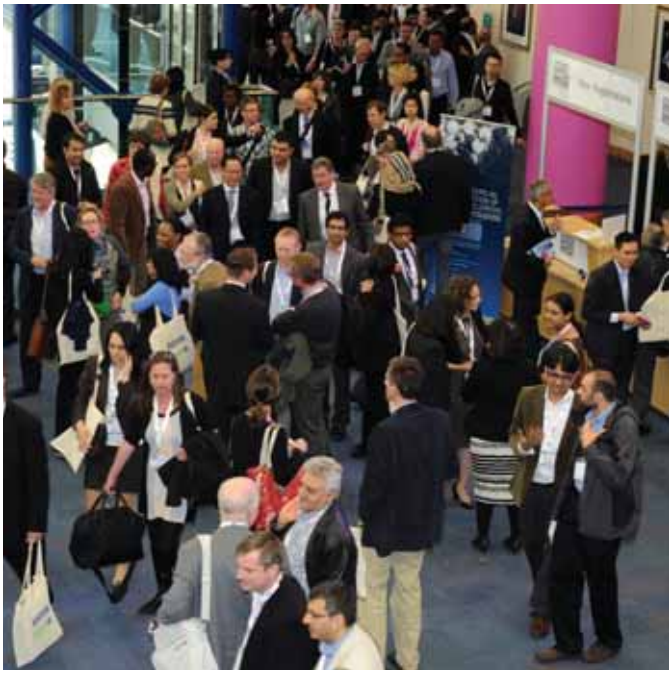
The session stimulated a number of questions and debate on how these techniques could usefully be employed in a clinical setting.

Anne Barton and Karen Vinall-Collier

The experience of living with musculoskeletal problems and other conditions

Vignettes of two patient with complex co-morbidities were distributed and discussed in small groups. The animated group interactive discussion on how health professionals can best respond to the complexity of co-morbidity drew responses from different multi-disciplinary professionals in the community and in the hospital.

Bie Nio Ong and Jenny Ratcliffe



Biologics in connective tissue disease (CTD)

This session covered a broad spectrum of diseases and therapies. **Chetan Mukhtyar** presented a comprehensive overview of the use of rituximab in ANCA-associated vasculitis, discussing the open-label and clinical trial evidence for its use. The RAVE and RITUXVAS trials were reviewed: key points included the ongoing question of which dosing regime should be used, the use of concomitant immunosuppression and when to re-treat with further rituximab infusions.

Ian Bruce then discussed current and emerging biologics in lupus, focussing on the recent successful belimumab clinical trials. He also discussed issues related to study design in SLE trials, and the use of outcome measures, and also where belimumab is likely to be used in daily clinical practice. Novel therapies were also reviewed and finally the audience was updated on the progress of the British Isles Lupus Assessment Group Biologics Register for SLE (BILAG-BR). Attendees were advised to register any SLE patient receiving biological therapies with the BILAG-BR, to assist in acquiring funding for these novel therapies. The last speaker of this session was **Jecko Thachil,** Consultant Haematologist, who discussed how novel biological agents can be used in the management of severe haematological manifestations of CTDs. He gave an excellent review of these haematological features, including thrombocytopaenia and catastrophic antiphospholipid syndrome. The use of rituximab, and in rare cases, eculizumab, was discussed. The session provided many learning points for attendees, discussing both recent clinical trials and how to use these novel and expensive agents in everyday practice.

Ben Parker and Hector Chinoy

Jewels in the crown


Bob Ricketts

The new commissioning landscape: opportunities and challenges

Bob Ricketts, Director of Commissioning Support Services Strategy at NHS England

This session gave us an overview of the new NHS commissioning system in England, and the challenges and opportunities for developing and delivering an excellent system for patients and carers.

For more about this presentation, please see Chris Deighton's blog at www.rheumatology.org.uk/blog

Michael Mason Prize winner: Osteoarthritis: a multisystem approach to understanding disease pathophysiology

Nidhi Sofhat, Clinical Senior Lecturer and Consultant Rheumatologist at St George's Hospital, University of London, demonstrated that OA is a disease of the whole joint, not just cartilage, and identified the proteinases that are important in degrading joint tissue. Her evaluation of mechanisms of pain processing in osteoarthritis using quantitative sensory testing and functional brain, neuroimaging, show that OA pain shows features of sensitisation. Pain does not always correlate with the regions of most severe radiographic damage, so she is conducting a clinical trial of centrally acting pain killing drugs in hand OA.

Garrod Prize winner: Domain I: the hidden face of antiphospholipid syndrome (APS)

Charis Pericleous and her colleagues at the Centre for Rheumatology, Division of Medicine, University College London investigate diagnosis, understanding of pathogenesis, and improving therapeutics in APS. APS is a systemic autoimmune disease often presenting to rheumatologists due to the close association with SLE, with vascular thrombosis and pregnancy morbidity. It accounts for one third of strokes in under 50s, and is the most important treatable cause of recurrent miscarriage. Beta-2-glycoprotein I (β2GPI) acts as an anticoagulant and consists of five domains (Domain I - V; DI-DV). Pathogenic anti-phospholipid antibodies target Domain I (aDI). This is helpful diagnostically because aDI IgG positivity is selective for APS, with current research determining prognostic power. Dr Percleous has demonstrated for the first time that aDI IgG are pathogenic in vivo, and that DI can act as a 'decoy', inhibiting aPL-induced thrombosis in vivo.

2013 delegate feedback

"Well worth attending. I definitely look forward to each year's conference; there is always new information to think about and take back to the workplace to implement in practice."

Randomised controlled trial of tumour-necrosis-factor inhibitors against combination intensive therapy with conventional DMARDs in established rheumatoid arthritis: the TACIT trial

David L Scott presented an abstract of a multi-centre trial where combination therapies of conventional disease-modifying drugs appeared to have little difference in a series of outcomes compared with anti-TNF drugs in patients who are eligible for biological treatment according to NICE guidelines, at a fraction of the cost. This suggests that all patients with active RA should be given a trial of combination therapies at some stage during their treatment pathway, and certainly before expensive biological treatments are considered.

Epigenetic regulation of the IL-23R locus in ankylosing spondylitis

Carla Cohen presented an abstract on behalf of Paul Wordsworth's Oxford group. Large sections of the genome were once referred to as 'junk DNA' because they were not translated into proteins. We now know these sections of DNA are of fundamental importance in the regulation of coding genes. This talk gave us insight into functional variants of putative enhancer of IL23R, a pathway known to be important in the pathogenesis of AS. Three novel enhancers of IL23R were identified with the variants impacting on gene expression. Dissection of the mechanisms has the exciting potential for drug development, and similar models may help in understanding other genetic associations with AS.

Chris Deighton

SARAH - strengthening and stretching for people with RA of the hands: a randomised controlled trial

Mark Williams presented the results of this trial of hands and upper limbs exercise intervention, investigating the addition of an exercise programme to the usual care to reduce hand dysfunction and pain. It also considered the cost effectiveness of adding in this programme to conventional care. The RCT included 490 subjects allocated to a 'usual care' group or an 'exercise programme' group. Results showed that the addition of a hand exercise programme for people with RA, even with well-established disease, is effective clinically and in relation to cost when compared to usual care.

Robert Field

The 'Jewels' abstracts are selected by the Heberden Committee from the BSR and BHPR submissions each year. The committee considers contrasting aspects of the abstracts to provide an entertaining and informative session.

An embarrassment of riches: clinical research in rheumatoid arthritis

This session highlighted the benefits of participation in research for patients and clinical teams alike.

Oncologist **Murray Brunt** (University Hospital of North Staffordshire) discussed the management of breast cancer over the past two decades. Patients have better outcomes even if recruited to control arms of clinical trials. This may be because of more frequent or more intensive assessments and a better understanding of their condition leading to self-empowerment. Departments that participate in trials also develop improved facilities: strong teamwork to deliver the research can also improve routine care, and patients' and clinicians' positive feelings about clinical trial involvement contributes to optimal outcomes.

Ailsa Bosworth (Chief Executive, National Rheumatoid Arthritis Society) spoke on *How research changed my life*. Patients who are involved in research tend to have better outcomes as do institutions with a strong research pedigree. Social media is spreading this knowledge amongst patients and access to research may influence where patients choose to receive care.

Maya Buch (University of Leeds) outlined the broad array of trials, ranging from observational and registry studies to large, double blind placebo controlled trials. Numerous factors mitigate against trial recruitment, and not all trials recruit to target. Part of the reason is the improvement in outcomes, but trial design also contributes – with strict inclusion and exclusion criteria, often restricting recruitment and providing results that are only applicable to a small proportion of 'real world' patients. We need better patient and clinician education about the value of research. Equally important is novel trial design, such as rolling phase II/III clinical trials utilising adaptive, continual reassessment methods, which combine research with everyday care.

Deborah Symmons (University of Manchester) emphasised the funding that was available from NIHR to address perceived barriers to research, such as research nurse support and help with regulatory approvals. Ideally, research-active departments should strive towards a balanced portfolio of activities, ranging from simple observational studies to complex interventions, and a mixture of academic and commercial funding. An active national research portfolio impacts upon patients and their carers, clinicians and their teams, and our industrial partners – improving the health and wealth of the nation.

Peter Dawes (Haywood Hospital) and **Ian Rowe** (Worcestershire Royal Hospital) discussed whether recruitment of RA patients into research should provide an auditable quality measure. Research-active departments and institutions are seen to provide a well-organised service, ready to embrace change and challenge best practice. Research brings innovation, kudos and national profile and attracts quality staff. Even small units can participate with support from local academic 'hubs'. The BSR Biologics Register and the forthcoming INBANK project, as well as the HQIP National Audit of Rheumatoid and Early Inflammatory Arthritis, will enable the multifunctional use of clinical data. Real-world data on outcomes can provide not just epidemiological data but also important information on therapeutic responses in everyday practice. Support from NIHR and peer support from national bodies will increase our capacity to perform different types of research, ultimately leading to research becoming a key 'deliverable' in our revalidation portfolio.

John D Isaacs

Sue Brailsford,
Clinical Trials Co-ordinator,
University College Birmingham

"This conference gives an overview of rheumatology; you can pick and choose what interests you, and also discover things you hadn't really thought about. Rheumatologists and anyone interested in musculoskeletal conditions, including physiotherapists, occupational therapists and specialist GPs, should all be here."

Muhammed Nisar, Consultant Rheumatologist, Luton and Dunstable Hospital

"The content is always up to date and appropriate to the management needs at the time, so it's really relevant. And I enjoy meeting and catching up with colleagues."

ARMA: MSK clinical networks in the new NHS landscape

Federico Moscogiuri (ARMA) explained that ARMA has funding for the MSK clinical network project to find out what is working and use this to help develop successful networks – while recognising that there is no 'one size fits all' network model.

Chris Deighton (Derby Hospitals NHS Foundation Trust) described *The state of musculoskeletal disorders in the NHS.* In terms of disability adjusted life years, the UK comes 16 out of 19 countries for osteoarthritis, and 15 out of 19 for low back pain. An LSE report on biologics for rheumatoid arthritis placed the UK 9 out of 10 for the prescription of biologics – the UK prescription rate is the same as Poland and Slovenia. Current initiatives include the RA quality outcomes framework, the framework and service specifications BSR are developing, and the Rheumatoid Commissioning Support Alliance.

Alan Nye (Pennine MSK Partnership Ltd) looked at how the MSK clinical network project can lead to self-supporting local networks set up by clinical leaders. We need clinical leaders who can take this forward, and provide expertise to commissioning groups.

Colin Beevor (National Ankylosing Spondylitis Society) described the challenges faced by patients living with a musculoskeletal disorder and how clinical networks can help. There is an 8-11 year delay in diagnosis, and inconsistency of services. Patients see inequality in treatment and want access to services they feel they deserve. There is an opportunity with the development of clinical senates; the guiding principle must be to ensure patient involvement.

The presentations were followed by a wide-ranging interactive panel discussion.

For the full write-up of this session, please see www.rheumatology.org.uk - under 'Programme' choose 'Conference presentations' for Wednesday 24 April.

Sarah Wright

Mark Porcheret, GP with special interest in osteoarthritis

"As a GP working to improve the management of OA I have been coming to the BSR conference for the last few years. This year several sessions focused on how to support people making lifestyle changes and were very helpful in thinking how we can improve the support we give to patients with OA. The increasing focus on such issues at the conference is very welcome and I would encourage others to come."

2013 delegate feedback

"This conference is an excellent learning and networking opportunity every year. It is my time to review, reflect and update myself on the recent evidence base, and meet like-minded colleagues. Thank you."

Managing the care gap: implementing evidence-based practice in primary care

This session highlighted gaps between musculoskeletal research evidence and current primary care practice, and considered how these gaps can be addressed.

Mark Porcheret (Keele University) considered barriers to implementation of the NICE osteoarthritis guidelines, and showed how far core non-pharmacological interventions (education, exercise and physical activity, weight loss) and first-line analgesics are taken up in day-to-day primary care practice.

Oliver Hart (Sheffield NHS) described a new spinal pathway in Sheffield which treats people at risk of long-term chronic pain and disability. Stakeholder engagement has included local GPs who are mandated to use the screening tool, providing physiotherapists with adequate resources, and involvement of orthopaedics and neurosurgery. There are fewer referrals to physiotherapy and secondary care, while the increased complexity of physiotherapy referrals shows that low-risk patients are remaining in primary care.

David Oliver (City University) discussed falls and fractures in the frail elderly. Key components of best practice are holistic multi-factorial assessment of all elderly people who have fallen, integrated services for falls and fractures in all health systems, and provision of anti-resorptive therapy plus calcium and vitamin D. Primary prevention of fragility fractures and more effective management in primary care were highlighted as key goals.

Edward Roddy and Elaine Hay

Oral abstracts: Science

This session showcased six science abstracts chosen as oral presentations and included two of the three Young Investigator awards (Jonathan Baker and Martin Fitzpatrick, both PhD students).

Jonathan Baker (Newcastle University) discussed the role of protein kinase D in the activation of matrix metalloproteinases in chondocytes eluding to a potential new target to treat OA.

Then **Rachel Bayley** (University of Birmingham) described her work looking at the effect of the disease associated PTPN22 variant R620W on neutrophil function. PTPN22 is a phosphatase Lyp which has strong associations with RA and other autoimmune diseases.

Martin Fitzpatrick (University of Birmingham) showed how metabolomics can distinguish different metabolic profiles in monocyte/macrophage subsets, and coined a new description of macrophage metabotypes.

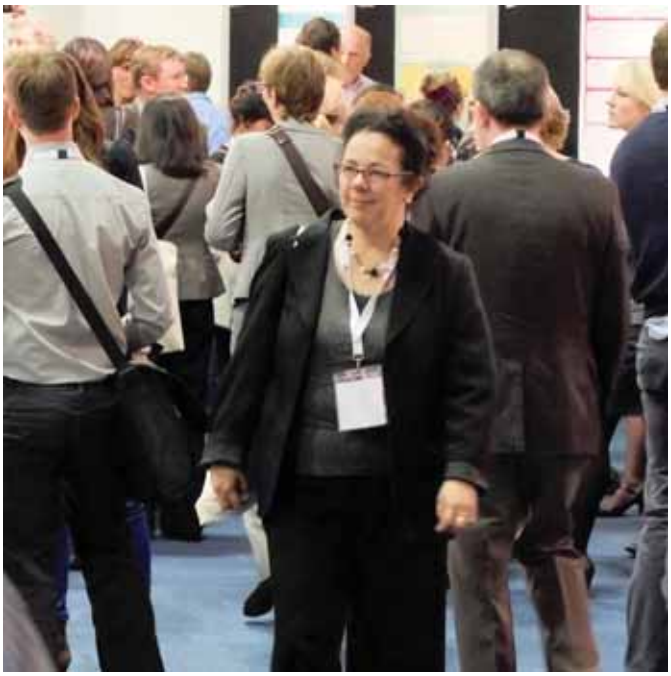
Helen McGettrick (University of Birmingham) showed how fibroblasts taken from patients at different stages in the development of RA affect the pattern of leucocyte recruitment using a co-culture model of fibroblasts with endothelial cells.

Munitta Mutana (University of Sheffield) described her work on the function of the recently described gene C5orf30 identified in genome wide associations studies in RA.

Finally **Anne-Marie Quirke** (University of Oxford) discussed the role of autocitrullination in the breach of tolerance in RA.

The session further demonstrated the importance of basic science to advance translational medicine for patient benefit.

Costantino Pitzalis and Chris Buckley



Qiong Wu, Medical student, Imperial College London

"I'm very glad I came, and was given the opportunity to experience presenting at a major conference. I would definitely recommend students to come in the future."

The emerging role of epigenetics in rheumatic diseases

This session explored how epigenetic control of gene expression might play a role in the pathogenesis of common rheumatic diseases, and the potential to therapeutically target key epigenetic-regulatory pathways. **Esteban Ballestar** (Bellvitge Biomedical Research Institute of Barcelona), opened the session with a review of epigenetic alterations in autoimmune diseases. He highlighted the change in the epigenome with ageing that may contribute to age-related inflammatory diseases such as rheumatoid arthritis (RA) and osteoarthritis (OA). He outlined the changes in DNA methylation in different cell types in autoimmune diseases including RA and SLE and the role and dynamics of the epigenetic signature in both osteoclastogenesis and differentiation of dendritic cells. Progress has been underpinned by new ultra high throughput technologies such as next generation sequencing and DNA methylome arrays.

The second presentation was by **John Loughlin** (Newcastle University), who outlined current knowledge on the role of epigenetics in the pathogenesis of OA. Since the pathology in OA revolves around a single cell type, the chondrocyte, the potential impact of cellular heterogeneity in interpreting epigenetic data is less of a problem, however the accessibility of cartilage is a problem. He outlined the potential interplay between OA genetic susceptibility and epigenetics with the observation that the penetrance of risk alleles that mediate their effect by altering gene expression can be modulated by DNA methylation. An example of this is the OA associated SNP rs143383 in the growth differentiation factor 5 gene GDF5, which in its C-allele form creates a CpG site that shows differential methylation between OA and non-OA patients.

The final presentation was by **Rab Prinjha** (GSK Stevenage), who presented the results of recent studies on novel therapeutic agents that specifically target key epigenetic regulatory mechanisms and which have potent anti-inflammatory activities. He described a study of a novel H3K27 demethylase inhibitor that has profound anti-inflammatory activities including suppression of TNF production in acute inflammation. This confirms the potential that agents targeting specific epigenetic pathways may be effective in the treatment of inflammatory conditions such as RA.

Gerry Wilson and Chris Buckley

PhD and postgraduate student network

This year's event aimed to help students to understand the need to communicate their project and their own skills to interested parties, such as existing and potential funders, lay public, potential collaborators and potential supervisors who might take a new researcher under their wings. Attendees included nurses, physiotherapists, physicians, laboratory students, sports students and foreign exchange students.

Sarah Hewlett talked about who they might need to give their message to, followed by **Caroline Flurey** on how they might do this if they only had five minutes. Then the students practised presenting themselves and their projects to each other.

Sarah Hewlett and Annette Bishop

BHPR: Clinical update on axial spondyloarthropathy (ASpA)

Advances in the diagnosis and management of ASPA

Stefan Siebert (University of Glasgow), introduced case studies to stress the difficulties around early diagnosis. Advances in imaging, and genetic and pathogenic studies have led to a better understanding of these conditions and their common pathways.

He explained how non radiographic axial spondylarthropathy differs from the prototype ankylosing spondylitis, and explained the burden and comparative outcomes in axial spondylarthropathy, linking these to early diagnosis and treatment. Future challenges are to devise more appropriate, accurate and specific predictive outcome measures on which to base research into treatment. Stefan discussed the advantages and disadvantages of current disease activity measures.

He described the significant advances in the treatment of AS and axial SpA with the introduction of the TNF-inhibitors and genetic research. New data also supports the continued use of NSAIDs, which appear to have a beneficial effect on the inflammatory process in slowing down bone formation, and physiotherapy as part of the management strategy for these patients. The introduction of effective therapy has required the development of better disease activity measures that are likely to be drive clinical management decisions in the future.

Current assessment in ankylosing spondylitis, and the importance of a bio-psychosocial approach

Jane Martindale (Wrightington Wigan and Leigh NHS Foundation Trust and Lancaster University), also discussed the challenges in assessment of disease activity, which continue to rely upon self-reported outcome measures. She emphasised the importance to both clinician and patient of using accurate metrology to monitor disease status. Psychological status may influence a person's perception of their disease status.

She outlined issues of the potential impact of social and work status, co-morbidity and lifestyle, and showed the correlation between high baseline disease and greater functional limitations associated with feelings of helplessness; psychological status is linked to disease activity and quality of life. Jane explained the bio-psychosocial health model and its importance. She suggested a a bio-psychosocial approach to assessment and illustrated how a clinician can use this to gain a more detailed understanding of the impact of this condition on a person's life, in order to make informed choices about individual management.

Ankylosing spondylitis individual personal care plan.

Claire Jeffries (Solent NHS Trust) discussed the concept of personalised care plans for people with long term conditions such as ankylosing spondylitis AS, and stressed the importance of supporting people to make well informed choices on a day to day basis to manage their condition.

Individualised personalised care plans (IPCP) should address the patient's needs, beliefs and goals, and include:

- key facts about AS and self-management concepts
- guidance and management concepts for secondary conditions
- exercise principles for AS and associated conditions
- self-monitoring sections including goal setting
- national and local sources of support.

The patient owns the care plan and decides with whom they choose to share the information; they also choose which sections are most beneficial to support management of their condition(s).

Sue Gurden and Lindsey Hooper

Sam Norton,
Statistician, Kings College London

"It's a great opportunity to network and socialise, as well as hear about cutting edge developments."

Oral abstracts: Pathogenesis

Stephen Gadola (University of Southampton) presented his work on iNKT cells in early arthritis – these previously poorly described cells have a narrow repertoire of immune receptors that can now be studied using tetramer technology to pull out cells with different specificities. This work showed a dramatic shift in the repertoire in untreated early RA that was linked to disease activity. There is great potential here not only for greater understanding of early RA, but also for a new class of RA biomarkers.

Most of us have heard of PTPN22 as a recently discovered gene that contains mutations that can predispose to RA, but controversy still surrounds the function of the PEP protein this gene encodes and what part it plays in disease. **Cristina Sanchez-Blanco** (King's College London) presented controversial work in collagen-induced arthritis that suggested loss of PEP amplifies disease, despite increases in numbers of Treg cells.

Elena Lugli (University of Oxford) presented her prize-winning work examining levels of citrullination in lung tissue from patients with COPD or incidental disease controls in smokers and non-smokers. The lung may be the site where tolerance is broken to citrullinated proteins leading to CCP positive RA; Elena's intriguing data suggest that citrullination in the lung is probably present in all of us at similar levels, including non-smoking individuals with little other pathology.

Maria Di Cicco (Queen Mary University of London) presented ongoing work dissecting the relationship between lymphoid organisation in tissue biopsies and early disease outcome, which ties into national observational and interventional programmes aimed at developing tailored treatment for patients with RA. Maria's work links the extent of lymphoid organisation to disease activity and development of RA in a large cohort of patients.

Mohammad Hussein Al-Mossawi (University of Oxford) further implicated KIR3DL2 positive CD4 T cells in ankylosing spondylitis, illustrating selective polarisation of these cells towards an IL-17 secreting subtype that is known to drive disease.

Finally, **Cassandra Hong** (King's College London) demonstrated robust data linking the chemokine CCL2 and the cytokine IL-6 with scleroderma renal crisis. This work has immediate translational potential as high serum IL-6 after renal crisis predicted poor renal outcome – an area where biomarkers are urgently required.

Andrew Filer and Justin Mason

Juleka Wajed,
Specialist Registrar,
South Thames, London

"The conference is a great opportunity to learn about new developments in rheumatology; as well as catch up with friends and colleagues."

Oral abstracts: Genetics

The abstracts demonstrated the breadth of rheumatological problems to which genetic analysis is now being applied: from inflammatory joint and muscle disease to chronic widespread pain. Methods ranged from candidate gene and genome-wide association studies to exome and RNA sequencing. It was apparent from the presented abstracts that increasingly more complex genetic questions are being asked. In particular many studies attempted to demonstrate genetic variants and gene expression profiles associated with particular disease subphenotypes; for example an association of HLA alleles with disease subphenotypes in psoriatic arthritis and an association of RNA expression profiles with inflammatory and non-inflammatory myositis.

Other authors asked whether genetic factors influenced treatment response to anti-TNF biologics. Heritability estimates suggested that this was, at least in part, the case and some tantalising pre-analysis genome-wide association plots of genetic variants associated with treatment response were shown. Examples were seen of how novel techniques may facilitate the extraction of additional informative information from genetic data where standard SNP-phenotype association may be difficult to detect due to issues with statistical power. For example the identification of an association between pain sensitivity and a network of angiotensin II pathway genes was identified where individual variants failed to meet high levels of significance.

Discussion emphasised, as always, the importance of sample size and accurate phenotyping in quality genetic studies.

Benjamin Rhodes

Measuring disease activity workshops: psoriatic arthritis and RA

These workshops looked at why and how to measure disease activity, updating delegates and giving them practical experience in small groups.

Laura Coates (University of Leeds) discussed the measurement of disease activity and minimal disease activity in psoriatic arthritis. This included the importance of measuring a 66/68 joint count rather than the rheumatoid 28 joint count, measuring enthesitis and dactylitis and using the psoriatic arthritis severity index (PASI). **Peter Taylor** (University of Oxford) looked at what measuring disease activity in RA should achieve, and the role of imaging, and **Jill Firth** (Pennine MSK Partnership Ltd) discussed DAS scoring. **David Pickles** (Chapel Allerton Hospital) described the application of the nail psoriasis severity index (NAPSI) in practice.

Lively practical sessions allowed delegates to discuss questions with facilitators **Victoria Chamberlain** (Central Manchester University Hospitals Foundation NHS Trust), **Karen Partridge** (Pennine MSK Partnership Ltd), David, Laura and Jill.

Each workshop concluded with an interactive quiz by **Michael Backhouse** (University of Leeds), which gave participants the opportunity to practice some of their new scoring skills and reinforced the key messages of the sessions.

If you were unable to attend the workshop, or would like further training on assessment techniques, BHPR are running a two day course on *Assessing and examining patients with inflammatory arthritis* in December 2013. Further details are available at www.rheumatology.org.uk/ahp-course-2013.

Kate Gadsby and Michael Backhouse

Stefan Siebert,
Senior Lecturer in Rheumatology, University of Glasgow, and Consultant, NHS Greater Glasgow and Clyde

"The conference is a great networking opportunity - I get to meet and collaborate with like-minded colleagues, and benchmark clinical practice especially in the spondyloarthritis field."

Stronger together: we unite to create one society for all rheumatology health professionals

At the AGMs of the **British Society for Rheumatology** and **British Health Professionals in Rheumatology,** members unanimaously approved the integration of the two charities. They agreed that, just as people with rheumatic conditions needs to be treated by a team of medical professionals who are knowledgeable about them and their condition, including consultant rheumatologists, physiotherapists, occupational therapists, and specialist doctors and nurses, so one society should represent this team of experts. From 1 May 2013, BHPR is no longer an independent charity; instead it will operate as a section of BSR.

Thank you to all the outgoing officers, including **Ian Rowe** and **Kuntal Chakravarty**. Congratulations to the following people:
Simon Bowman is the new President-elect of the BSR.
Michael Backhouse is the new BHPR President-elect

Other committee changes:
BSR Assistant Honorary Treasurer - **Colin Pease**
Chair of the Education and Training Committee - **Sanjeev Patel**
Chair of the Clinical Affairs Committee - **Neil Snowden**
Hon Secretary - **Simon Allard**

New Regional Chairs:
Wales - **Rhian Goodfellow**
Scotland - **Euan McRorie**
South East Coast - **Vijay Hajela**
South West - **Catherine Laversuch**

BSR The British Society for Rheumatology

BHPR British Health Professionals in Rheumatology

Commissioning in a cold climate

This well-attended seminar provided a range of perspectives from patients by **Ailsa Bosworth** (NRAS), a view of the strategic/big picture challenges from **Paul Corrigan,** and what BSR is doing to inform commissioners of the many issues - currently poorly understood - for patients with rheumatic conditions.

At short notice **Peter Kay,** the newly appointed MSK National Clinical Director for England, presented his perspective of the challenges ahead to a large mixed audience, just over half of whom were consultants. He asked delegates a number of questions, and they gave some interesting answers, including those below.

72% of attendees said that rheumatology services should have a hospital base integrated with the community.

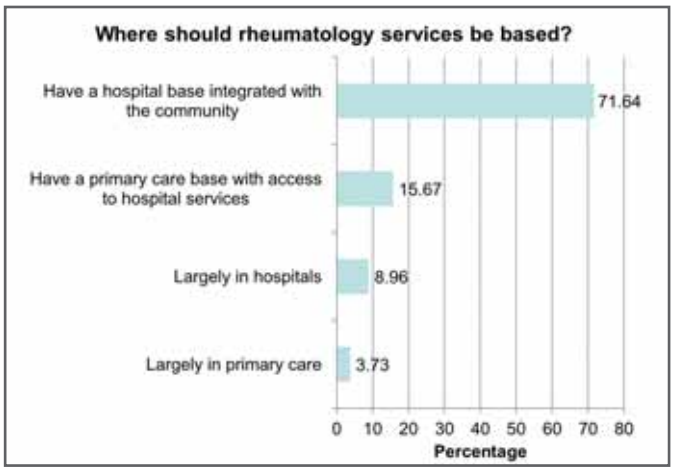
70% said their preferred model would be integrated MSK services across secondary and primary care.

84% said the relevant specialty (as opposed to the professional groups) should be responsible for training and assessing musculoskeletal practitioners

98% of delegates agreed that there should be recognised training / competency certification for allied health professionals and nurses involved in rheumatology and musculoskeletal services.

(As part of our development of a wider understanding of commissioning in the NHS, BSR will run further seminars on commissioning during the year.)

Philip Ainsworth




Peter Kay

Advances in cartilage biology: towards a better understanding of osteoarthritis

This session showed evidence from cell-based and in vivo models of osteoarthritis and linked these with human disease. It gave attendees an understanding of the molecular pathways which impact on osteoarthritis and where these might translate into new therapeutic approaches or explain ongoing clinical trials.

Wim van den Berg (Radboud University Nijmegen) gave a clear overview of key factors shown in vivo to be involved in osteoarthritis. He explained the dual role of TGFbeta in both tissue repair and destruction and focused on the importance of inflammation in osteoarthritis, highlighting synovial involvement and the role of alarmins. This was shown to be key in mouse models of inflammatory osteoarthritis and to correlate with disease progression in man.

Jessica Bertrand (Muskuloskelettale Medizin, Munster) presented new data on the role of mineralization in osteoarthritis. She demonstrated that loss of nucleotide pyrophosphatase phosphodiesterase 1, which regulates the pyrophosphate pathway, induced osteoarthritis-like changes in bone and cartilage. This enzyme was shown to decrease in osteoarthritic cartilage.

Francesco Dell'Accio (University of London) addressed cartilage homeostasis and the pathways mediating injury and repair. He showed the stages leading to tissue regeneration, coordinating the role of stem cells and matrix remodeling. He focused on Wnt-induced pathways, showing the interplay between canonical and non-canonical signalling needed to maintain cartilage integrity.

Tonia Vincent (Kennedy Institute of Rheumatology) focused on pain mechanisms in osteoarthritis. She showed the kinetics of the pain response in a model of osteoarthritis and demonstrated that soluble mediators of pain could be produced by chondrocytes themselves. She explored the links between structural changes and pain. She ended by highlighting possible adverse effects of anti-NGF therapies that are currently in clinical trial.

Ian Clark

2013 delegate feedback

"The conference is the highlight of my year. I learn something new every time I go and enjoy meeting old friends and making new ones. Thank you for a great three days."

"Unmissable for any MSK professional"

"Excellent conference: all my learning needs were achieved in just three days."

Oral abstracts: RA clinical

The first presentation, by **Paul Emery** (University of Leeds), described a post hoc analysis from the early RA OPTIMA study - which compared the combination of adalimumab with methotrexate against methotrexate monotherapy. Long-term clinical and functional outcomes were similar in both groups provided methotrexate non-responders were able to receive adalimumab. However, radiological outcomes were better with initial combination therapy.

Peter Taylor (University of Oxford) presented week 24 safety and efficacy data from a dose ranging study of baricitinib in methotrexate incomplete responders with RA. Baricitinib is a novel, oral inhibitor of JAK1 and JAK2 in the JAK-STAT signalling pathway. Baricitinib gave significant improvements in the assessments of disease activity over 12 weeks and responses were maintained for an additional 12 weeks of treatment. The safety signals were comparable to those seen in previous studies using baricitinib.

A second presentation by **Paul Emery** reported week 24 data from ADACTA, which compared tocilizumab monotherapy with adalimumab monotherapy in patients with established RA in whom methotrexate was inappropriate, ineffective or not tolerated. There was a statistically significant difference in favour of tocilizumab in a range of measures. Most adverse events were similar in both groups, though transaminase and LDL elevations and neutrophil reductions were seen more frequently in tocilizumab patients.

Michael Maldonado from Princeton, USA, reported data from the AMPLE trial, which compared abatacept with adalimumab in RA patients receiving methotrexate. It showed subcutaneous abatacept to have comparable efficacy to adalimumab on efficacy measures, including radiographic progression, in patients receiving methotrexate. Safety was also broadly similar between groups. These results help fuel the debate about the order in which biologics should be given, indicating on a group basis efficacy, safety and ease of administration seem broadly comparable between biologics.

Chadi Rakieh (University of Leeds) presented the results of an observational study of 122 ACPA positive patients with non-specific musculoskeletal symptoms but without definite inflammatory arthritis when first seen. Thirty-eight patients developed clinical synovitis when followed for a median of 12 months and 33 patients met ACR EULAR 2010 criteria for RA. Patients who progressed to clinical synovitis had higher power-Doppler ultrasound scores when first seen. Such patients represent a group with imminent RA who may be suitable for interventional studies: a risk-benefit analysis of such intervention will be important.

The final presentation, by **Helen Wright** (University of Liverpool), was a more laboratory-focussed study. Her aim was to determine if gene expression signatures in neutrophils correlate with disease activity or response to biologic therapy in RA patients. She found that RA neutrophils had a gene expression signature indicating activation in vivo by interferons. The interferon gene expression signature was most evident in patients who achieved subsequent clinical responses to TNF inhibitor therapy. The expression of these interferon genes may be a useful predictive marker of response to TNF inhibitors in RA patients, though further confirmatory studies are needed before these measures are used in clinical practice.

Patrick Kiely and David Scott

BHPR plenary orals

Gordon Hendry (University of Western Sydney) offered insights gained from an exploratory trial of a multidisciplinary foot care programme for young people with JIA, highlighting the benefits of multidisciplinary team working and showing that ultrasound influences clinical decision making.

Jill Firth (Pennine MSK Partnership) highlighted the huge impact that foot ulceration can have on our rheumatoid population, affecting 10-13% during the course of the disease. Her work looked at the predictors for this, over and above the known risk factors for diabetic foot ulceration. HAQ (which corresponded strongly with age) and deformity appear to be the key variables.

The value of short courses for clinicians to enhance their patients' self management strategies was shown by **Emma Dures** (Bristol Royal Infirmary). Her qualitative study indicated that clinicians found such training useful and changed practice but did require ongoing clinical supervision to hone their technique.

Ross Wilkie (Keele University) looked at the relationship between pain and social participation in older adults with osteoarthritis. The extent of musculoskeletal pain at baseline predicted restriction of social participation at six years.

Sam Norton (King's College London) presented QOL findings from the ERAN study which confirmed that people with RA score lower than the general population in both mental and physical domains, but improvements do occur over the first year. There appears to be a window of opportunity to target interventions early in the course of the disease.

Finally, **Janet Harkess** (Victoria Hospital) presented a reminder to all clinicians to ask the 'work question' and direct anyone with work related issues to occupational therapy colleagues for prompt advice and appropriate intervention.

Lindsey Hawley

Getting to grips with the use of social media tools in rheumatology

Ronan Kavanagh *@RonanTKavanagh* gave us an overview of how he keeps up to date - using social media and other more traditional methods.

@RonanTKavanagh
Link to the rheumatology podcast from yesterday's social media session here buff.ly/14R9PWh #rheum2013

@RonanTKavanagh
For rheumatology researchers interested in making use of social media nice data here: dx.plos.org/10.1371/journa… #rheum2013 HT @Eric-Topol

How to tweet references and topics: social media at #rheum2013 by @RonanTKavanagh pic.twitter.com/4Ut-LageZsK

Using a professional Facebook page #rheum2013 RK http://t.co/jsyt7kii04

Info from @RonanTKavanagh on #methotrexate vidpre-scriptions on the @clearmd site http://t.co/2VYpNfM9xs

@RonanTKavanagh
For rheumatology researchers interested in making use of social media nice data here: dx.plos.org/10.1371/journa… #rheum2013 HT @Eric-Topol

Next, **Ruth Grosart** *@Roo_fi* from NRAS explained how she had worked with Dr Martin Lee in publicising his epic 'Round the Isles' kayaking expedition around Britain. She had used Facebook and Twitter to get the message out to a wide audience and gain support with the public and the media. This had helped to raise money for NRAS and keep up the interest and support throughout his trip. She had acted as a 'buffer' between the patient and the doctor, to avoid ethical and professional dilemmas caused by direct contact.

Finally, **Anne Marie Cunningham** *@amcunningham* summarised her (extensive) experience of using social media.

10 reasons to connect with social media... for all you sceptics out there! http://t.co/sf2QHFPPz7

Article level metrics the new impact factor at Social media session http://t.co/cMIXL3GNMD

Academics can interact on social media to defend and disseminate their research http://t.co/WOfXYuWwng

Are you in the Trough of Disillusionment with Technology? http://t.co/uYdvfVuYZR

Philip Gardiner

To see the whole of Philip's article, please visit http://storify.com/philg76/rheumatology-2013-the-year-of-the-twitterbird

New insights on the pathogenesis and treatment of crystal arthritis

In Gout: should we treat to target?, **Pascal Richette** (Universite Paris 7) emphasised that treatment should aim to lower serum urate below its physiological saturation point, and discussed the merits of different target levels of serum urate. He highlighted the need to combine pharmacological and non-pharmacological modalities and described best practice for use of urate-lowering drugs.

Geraldine McCarthy (Mater Misericordiae University Hospital) then discussed pathogenesis and treatment of calcium pyrophosphate crystal deposition (CPPD), and reviewed recent advances in our understanding of crystal-induced inflammation and subsequent joint degeneration. She described current treatment approaches, mainly directed at relieving joint inflammation, and highlighted the paucity of direct evidence to support most interventions for CPPD. She described potential targets for new treatments, in particular, inhibitors of interleukin-1 directed at the NALP-3 inflammasome.

Michael Doherty (University of Nottingham) described genetic and environmental risk factors for hyperuricaemia and gout. Epidemiological evidence shows that the prevalence and incidence of gout is rising. He described the role of heritability, genetics of renal uric acid excretion, constitutional factors such as age and gender, metabolic syndrome, nutrition, renal disease, drugs and toxins in the aetiology of gout.

Edward Roddy and George Nuki

Mark Lazarus,
Consultant Rheumatologist

"It's been very enjoyable meeting other doctors and scientists with similar interests. I particularly enjoyed the Heberden Oration and Heberden Round, which were very interesting."

BSR News

Commissioning: what we are doing to help

To help members talk to commissioners, we have created a 'commissioning toolkit' which summarises the changes to the NHS introduced by the Health and Social Care Act, and has tools to help healthcare professionals to develop new skills, support the move towards integrated services, and support CCGs. Each hospital in England has a hard copy, and members can download the pdf free from www.rheumatology.org/commissioning-support/

We have also published pdf diagrams on our website to help to explain the different rheumatic and musculoskeletal conditions, and how these are treated. One pair of diagrams shows how the different health professionals and services in a rheumatology MSK medical and long-term conditions service support patients, and another pair shows the different types of conditions rheumatologists treat, in order of volume and cost of treating them. Members can download the diagrams from www.rheumatology.org/member-publications/

In addition, we held a commissioning workshop for regional chairs at the end of March, and the very popular *Commissioning in a cold climate session* at Rheumatology 2013 (see p 13). A further workshop is planned for 5 July – we will publish details in our enews.

E-learning: gain rheumatology CPD where and when it suits you

We have teamed up with the Royal Society of Medicine to create www.rheumatologylearning.com, a new e-learning website that offers peer-reviewed video lectures and interactive learning modules on a range of topics in rheumatology. Health professionals can gain CPD credits for revalidation at times and in places to suit their busy lives.

All pilot lectures and modules are free to view for BSR/RSM members and for non-members who register on www.rheumatologylearning.com. BSR/RSM members pay £12 per CPD credit, non-members £25.

The lectures are accompanied by simultaneous slide presentations, and the interactive modules include helpful figures, tables, and images as well as questionnaires. We will continue to add new modules and lectures and develop the website - please do give us your feedback.

Healthcare Quality Improvement Audit contract success

The Healthcare Quality Improvement Partnership (HQIP) has awarded our bid with Northgate Public Services the three-year contract to develop a national clinical audit for inflammatory arthritis as part of the National Clinical Audit and Patient Outcomes Programme.

The audit will provide comparative details of the assessment, management and outcomes for patients. With the help of the regional chairs, the audit will ensure that key insights are tailored to local regions, and results will help clinicians improve the quality of care for patients and control their joint inflammation. For patients the aim is that they will be more aware of their care and more able to take control of their personal health.

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