



# THE BRITISH HIP SOCIETY

NEWSLETTER - August 2016

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Stephen A Jones  
Hon Secretary  
British Hip Society

Dear BHS Member,

Welcome to the 2016 British Hip Society Newsletter. We hope that you find the contents of this both useful and enjoyable reading. Of course in addition the British Hip Society website can also be accessed for more detail.

Inside after an update from our President we the revisit the theme of infection, building on the very well received topic in focus session from the most recent BHS meeting in Norwich.

In articles that may well be of particular interest to our younger members you can learn details of the travels of our successful fellows, with the superb experiences that are highlighted in both our North American and European Fellowships. At the end of August through until the BOA meeting in Belfast the BHS will be hosting our American counterparts as they visit on the reciprocal fellowship. Applications for the 2017 Rothman-Ranawat Travelling Fellowship remain open until 31<sup>st</sup> August.

The 2017 British Hip Society meeting will be in London with of course Fares Haddad as President the confirmed dates are 1<sup>st</sup> - 3<sup>rd</sup> March.

Yours sincerely,

Stephen A Jones  
Honorary Secretary

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## THE PRESIDENT WRITES

### Fares Haddad



2016 has been busy for British Hip Society President and for the executive as a whole. Hip arthroplasty has continued to make the news in a variety of guises and the BHS and the BOA have collaborated extensively to deal with media queries and press releases. Some of these have related to metal on metal but several other issues have generated debate.

There clearly is some concern within our community about the impact of the Getting It Right First Time initiative on surgical decision-making and patient choice. We have been asked to provide a commentary on this and have stressed that BHS members would use the best available information to guide their patients, choose their implants and optimise outcomes.

We have stressed that GIRFT has highlighted some unexpected variation in many areas around the country and helped surgeons consider data to guide their practice. It should not, however, impose rules or/and mandate implant choices. Surgeons should be free to evaluate their patients carefully and choose the optimum procedure and implant for every patient.

As BHS president, I have been able to sit on the MHRA Expert Advisory Group that John Skinner has led for a number of years. This is working hard to help the MHRA produce new metal-on-metal follow-up guidance, which now should be available by the time you read this. I was very pleased that the MHRA recognised the excellent work of the British Hip Society in producing the best practice in hip arthroplasty blue book in 2012; amongst other things this defined clear rational criteria for follow up. We will of course continue to work in an advisory capacity to help the MHRA and all other reputable organisations who need input in relation to hip disorders and hip surgery.

The BHS have led the way by providing guidance on issues such as metal-on-metal arthroplasty and the mixing and matching of implants, and we will endeavour in future to ensure that that guidance continues to be produced in a timely fashion to guide surgeons. Likewise, important issues such as theatre discipline are critical to hip surgery, and the excellent presentations on this from the British Hip Society meeting in Norwich will be summarised and made available to our members.

One of the challenges facing many surgeons within their Trusts remains the drive for chemothromboprophylaxis. The outstanding presentation from Jay Parvizi in Norwich highlighted the fact that Aspirin should probably increasingly have a role in this setting. There have also been recent publications to support that. The BHS, through its newsletter and online publications will try and help surgeons with such local debates in future.

The BHS president also sits on various NJR committees including the Data Quality Committee.

I was very pleased to see the work being undertaken by Martyn Porter and the NJR to validate and improve its baseline data and analyses. The strong message that the British Hip Society and its members have given that NJR about the quality of the data and the importance of supporting transparency whilst not releasing potentially inaccurate surgeon level data has been well heeded. It is nevertheless important that every surgeon and every unit engages with their own data so that we can produce the best possible information in NJR outputs.

Likewise, it will be useful for the BHS to have continued input at every level of the NJR in order to contribute to the excellent progress that is taking place, but also to continue to remind those who over-interpret observational data of its limitations notably in areas such as infection or thrombo-prophylaxis.

The BHS is very proud of the Non Arthroplasty Hip Register. The smaller registries such as the NAHR, still have a long way to go in their development and utilisation.

The TORUS group put forward by the BOA presents a number of opportunities and challenges which are being carefully considered. The critical issue is increasing the uptake and compliance whilst not losing control of the data and ensuring that the British Hip Society continues to have a key decision making role in how the NAHR data is used.

The BHS continues to engage with ODEP and Beyond Compliance. These are very important products of British surgery that must be supported and must continue to evolve to meet the needs of their end users.

We need to work collaboratively with industry to ensure that we can continue to evolve hip surgery and innovate in the right direction whilst avoiding some of the mishaps of recent years. We need to ensure that hip implants are evaluated in as a methodologically sound way as possible, and that includes high quality re clinical basic research, controlled introduction including RSA studies and critical comparisons with current standards prior to translation to the wider population. Some of this requires well-funded dedicated studies and refined research techniques, and some requires population-based analysis; both will be critical in order to continue to innovate safely and improve outcomes.

Many of you will increasingly become aware of the private healthcare information network (PHIN) initiative. This has been given powers by the Competition and Markets Authority to increase transparency in private healthcare. All hip surgeons who work in private practice will start to receive information about this and data will be collected in private hospitals. The BHS is represented on the board of FIPO and FIPO will continue to negotiate with PHIN in order to ensure that inappropriate data is not released into the public domain. We will continue to support transparency whilst canvassing for appropriate validated data to be used.

In the autumn, we will all regather in Belfast where the British Hip Society presence will be most strongly felt on Wednesday 14th September 2016 when we will have a free paper session in the morning and have two revalidation sessions in the afternoon on complex primary arthroplasty and current thoughts and techniques in approaches and bearings in primary hip arthroplasty. We also have the privilege of listening to an excellent Charnley lecture on the evidence base in hip surgery by Professor Don Garbuz from Vancouver, Canada and to a keynote from David Beverland on how to optimise primary arthroplasty.

The British Hip Society also takes great pride in exposing our young committed hip surgeons to the rich variety of hip surgery that is seen worldwide and the opportunity to join the excellent Rothman-Ranawat Fellowship in the USA starting at the American Academy of Orthopaedic Surgery meeting in San Diego in March 2017 has come up. The call for applications will be within this newsletter, and we will interview in Belfast during the BOA meeting. We also hope to provide some other fellowship opportunities but these are being finalised at present.

Looking towards 2017, I am very pleased to confirm that the BHS meeting 2017 will take place 1 March 2017 to 3 March 2017 in Westminster. This is a new location for the meeting and will provide a spectacular backdrop. We will continue with the Wednesday to Friday 3 days format for the meeting. The American Association of Hip and Knee Surgeons have agreed to be our guest society and will be providing a symposium and a number of posters at the meeting as well as some excellent speakers.

We also hope to encourage surgeons from Scandinavia, Italy, Germany and other interested societies to submit their research and join us. The arthroplasty care practitioners will also be joining us for what should be an educational and stimulating meeting.

We have taken on board the views of our membership at the annual general meeting in Norwich and will raise funds through advertising in the programme and through fellowship initiatives rather than having industry presence exhibiting at the meeting. The unique nature of the British Hip Society annual meeting whereby we gather in a forum that is ideally suited for free and uninhibited discussion should therefore continue.

I have travelled widely over the last few months and communicated extensively about British Hip Society events and plans for the future. I feel privileged to represent our thriving society.

Fares Haddad

President British Hip Society

## BOMBS & BACTERIA!

John Nolan



**John Nolan**  
BHS Immediate Past President

“We only have to be lucky once, you will have to be lucky always!” Words of the IRA to Margaret Thatcher and her colleagues following the Brighton bombing in October 1984.

Actually, the same could be said to be true for the relationship between bacteria and surgeons carrying out hip replacements!

And we **can** influence that “luck”.

At the 2016 BHS meeting in Norwich in March, Ian Stockley and Fares Haddad ran an update, identifying the on-going challenges with respect to peri-prosthetic hip joint infection.

Together with contributions from Jai Parvizi, our British Hip Society Presidential Guest Lecturer from The Rothman Institute in Philadelphia, Mike Reed from Northumbria and Lorenzo Drago from Milan, we learnt of some of the things that we can do as surgeons to reduce the risks of infection in our hip replacement patients.

Some of it is common sense. The importance of reporting infections using clear and consistent definitions, as part of high quality surveillance programmes that provide complete and accurate data is key. Paradoxically, the best reporting units may appear to have the highest infection rates although in reality this is unlikely to be the case.

We know that most peri-prosthetic infections originate in our theatres. It is entirely possible that the target-based culture in the NHS over the last 15 years, distracted from a true quality agenda.

Theatre staff can become de-sensitised to the critical disciplines that represent acceptable orthopaedic theatre behaviour. They may adopt the less careful approaches taken by their colleagues in other surgical specialties, within PFI hospital buildings that no longer formally distance the orthopaedic unit from general theatres. Theatres within which, staff seem much less concerned about exposure to the small numbers of bacteria that we know can devastate a hip replacement.

As useful and usable space in our theatres shrinks due to the accumulation of kit and computers brought in to collect yet more data and often housed around the periphery of our operating rooms, the “safe” area for movement of staff around the sterile trolleys diminishes and greater vigilance is required.

Some members of our theatre teams may fail to appreciate the potentially ominous consequences of frequent theatre door opening and associated increased theatre traffic.

There is unequivocal evidence that these poor practices lead to increased colony counts and surgical site infections. They may challenge the evidence base for the correct and consistent wearing of masks in theatre and for our reluctance to compromise on protecting the laminar flow enclosure area, attempting sometimes to denigrate the evidence base, whilst failing to understand that study evidence may be neither possible nor sensible to test.

Theatre staff are unlikely to share with or really understand the personal disincentives that surgeons are exposed to, to try to prevent infections in our patients. Managing patients with infected joint replacements is stressful, time-consuming and expensive, not least for us, when the infection originated under our care. We rely on their professionalism in a non-specific way, to do the right thing when they are working with us.

The increasing focus on surgeon level and departmental level outcomes should encourage us to engage our theatre colleagues and involve them in the quality agenda.

The continuing implementation of Getting It Right First Time (GIRFT) will help to continue to focus the minds of our Trusts. Opportunities do exist for us to disseminate outcome data by inviting members of our theatre teams to our departmental clinical governance meetings and through the reciprocal dissemination of departmental outcome data at their theatre governance sessions. Informed and engaged staff are much more responsive and receptive to all of these ideas.

We are the (only real) advocates of our patients and we owe it to those patients to continue robust representation on their behalf in order to minimise our infection rates.

Novel and encouraging technologies to help in the diagnosis and treatment of infected joint replacements are evolving all the time but the spectre of increasing rates of infection and resistant organisms mandates that prevention (as always in medicine) is better than cure.

On a personal note, I would like to thank the members of the BHS executive committee for all of their help and support throughout my presidential year. The executive comprises an inspirational group of individuals with seemingly unlimited energy and capacity for ideas and work, to whom I am extremely grateful.

John Nolan

Immediate Past President, BHS

# INFECTION PREVENTION – LESSONS FROM THE NORTH

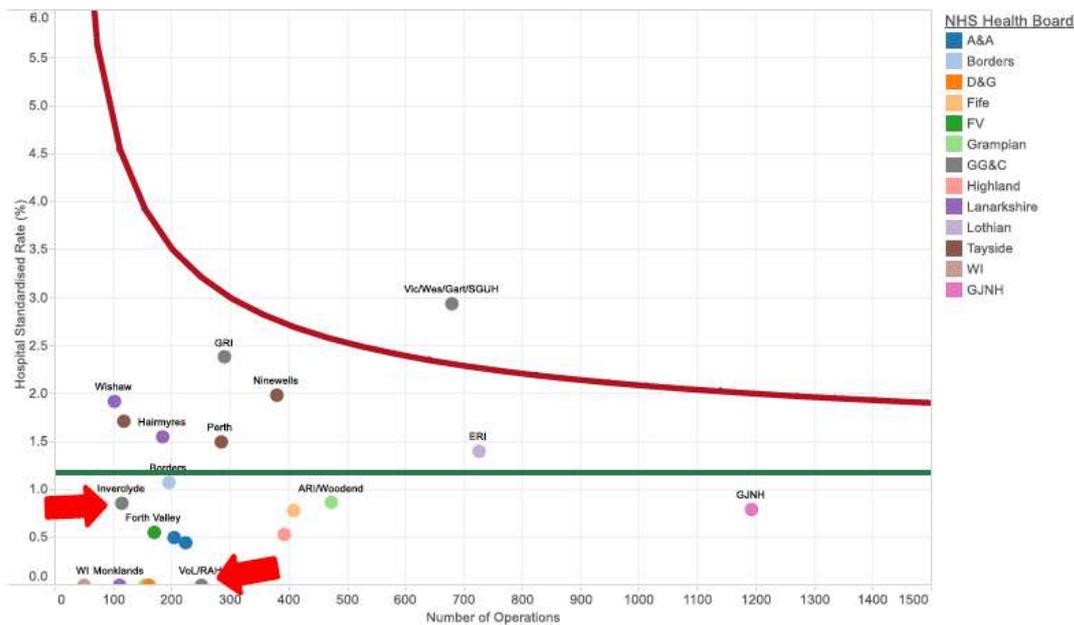
## Dominic Meek



**Dominic Meek**  
BHS Member at Large

The Queen Elizabeth University Hospital (QUEH), Glasgow’s largest teaching hospital was officially opened July 2015 by Her Majesty the Queen. It was the result of a 5-week staged amalgamation of 3 teaching hospitals into one centralized unit for the South of Glasgow.

There was a incremented increase in theatre activity back to full capacity. Things appeared to be going according to plan but then there appeared to be some anecdotal reporting of increased hemiarthroplasty and elective orthopaedic cases presenting with infections. The hospital was then identified by Scottish Arthroplasty Project as an outlier for infection (Fig 1) and locally our surgical site surveillance reported an increase in infection to 5%.



The trends of sum of Denominator\* for Standardised Hospital Rate\*\* and SMOOTHED. For pane Standardised Hospital Rate\*\*:  
Color shows details about HB. The marks are labeled by HB and Hospital. Details are shown for Standardised Scotland Rate\*\*.

**Figure 1 - Hospital identified as outlier for infection by Scottish Arthroplasty Project**

This triggered an immediate formation of a multidisciplinary team to review the situation supported effectively by the management. The team included orthopaedic consultants, theatre and ward sisters, bacteriology consultants, bed, theatre and orthopaedic management. What was apparent that it was difficult to have exact metrics of the problem? Was it a clinical problem or a spike?

Discussion with infection control and bacteriologists suggested there was a sustained increase in surgical site infections (SSI). A working list of issues to address developed. Initially weekly and then subsequently monthly reporting occurred.

The new hospital is entirely single room, orthopaedics having 4 wards each comprising of 28 beds. This had created some confusion as to whether ring fencing was required in such an environment. There was some conflict in advice between infectious diseases consultants who felt it mitigated screening versus bacteriological advice that MRSA screening should remain for elective orthopaedic cases with ring-fencing to reduce the possibility of infection. The latter was clarified and all elective patients were to be admitted to a ward where MRSA screened patients were the only admissions.

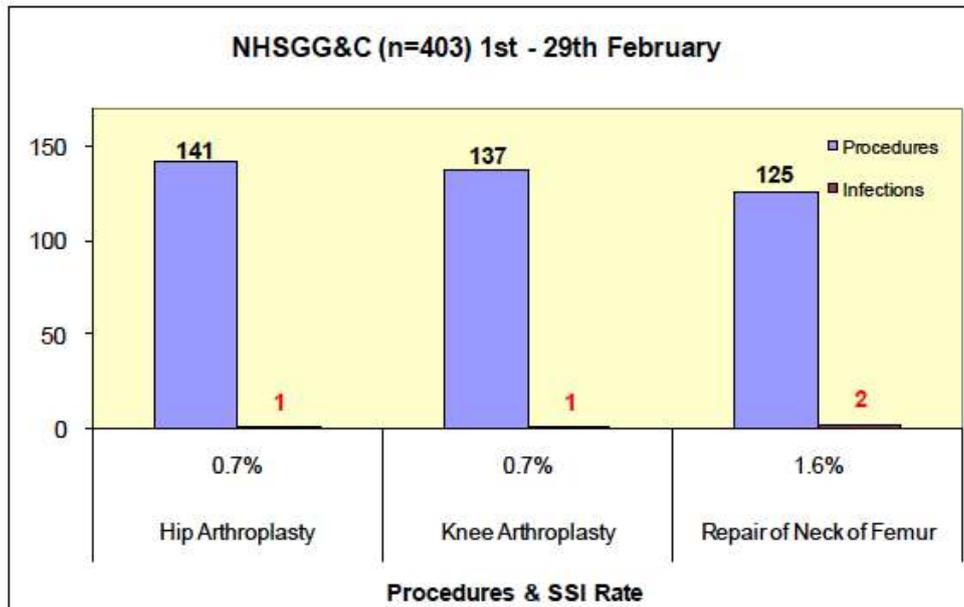
Certain known parameters were established. Laminar flow was checked and found to be compliant. There had been no change in antibiotic cement, use of theatre attire and body exhaust suits. No issue existed regarding time between cases, as there was a minimum of 45 minutes. There had also been no change in antibiotic prophylaxis (single dose cefuroxime 1.5g at induction). Sterilization of instruments is provided at an off site facility which had previously had some issues. However, there were no obvious problems on assessment this time.

However, there was variation in skin prep – both alcohol based betadine and chlorhexidine solutions were being used (but the latter had been changed from 2% to 0.5% concentration without any surgeons knowledge). This was corrected to allow 2% chlorhexidine to be used. One consultant subsequently took control to produce the protocol for all consultants to use the same surgical prep protocol for all hip and knee arthroplasties. In addition, on the wards it was highlighted that poor hand hygiene by doctors was reported at the monthly audit meeting. This has subsequently improved as a consequence.

We are now implementing the Hip Fracture Quality Improvement programme (HIP QIP; Northumbria) to provide the highest quality of integrated care. In our unit, hemiarthroplasties particularly were recorded with a higher rate of infection. It was noted that not all cases had a consultant present; therefore consultants are now always present in the theatre. If after 20 minutes the trainee is not successfully meeting the timelines for completion of the operation then the senior surgeon takes over. As a part of this quality improvement program, we are implementing the use of high dose dual antibiotic impregnated cement in hip fracture patients.

Perhaps most importantly the prep room and personnel flow in theatre was a particular issue. Critically it was apparent that the wrong advice on theatre entry had been given. Actually on balance it would increase the potential for infection based on particle studies subsequently performed. Now corrected the entry to the prep room is barred during operations. In addition, it was noted that renal transplant patients in one adjoining theatre were with shared with the prep room. This was moved, as these patients were not elective cases. Anaesthetic doors were also checked and found that the surrounding seals were inadequate. This was duly corrected.

Theatre attire was also raised. The blood transfusion fridge was actually in the theatre suite and attended by outside clothed personnel and this was stopped. Also theatre dress particularly with regard to our anaesthetic colleagues re-entering theatre without re-changing was monitored. Auditing of wearing gloves and aprons for positioning patients was undertaken.



**Figure 2** - Since implementation of all of the above measures infection rates have returned to normal national levels

Patients are now positioned in the anaesthetic room, which avoided too many people in the theatre. There is a review underway of air warmers and use of hotdog heating blankets instead. Reinforcement of these measures and theatre discipline was established by creating theatre champions. In addition, we have established weekly MDT meetings on infection with the bacteriologists rather than ad-hoc sporadic reporting.

In summary, there was probably an accumulation of multiple problems that lead to the increased infection rate. By systematic small changes such as stricter theatre discipline and supervision and the establishment of regular audits and review meeting with multidisciplinary groups on infection in the hospital with regards to orthopedics, it has resulted in the reduction of infection.

We are pleased to say that infection rates returned to normal national levels and continue to improve with no particular problems in the last report (Fig2). We feel this represents an example of implementing the principals of Getting it Right First Time.

Dominic Meek  
BHS Member at Large

## BHS EDUCATIONAL EVENTS – LOOKING BACK, LOOKING FORWARD

### Jonathan Howell



**Jonathan Howell**  
Editorial Secretary

I would like to start by congratulating John Nolan and my predecessor, Andrew Manketlow, on an exceptional Annual Meeting of the British Hip Society at St Andrew's Hall, Norwich, on 16<sup>th</sup>-18<sup>th</sup> March.

The meeting combined a range of instructional sessions covering diverse topics including implant development, revision of the femur, periprosthetic infection and a Presidential Guest lecture from Javid Parvizi on VTE prophylaxis. There was an excellent session on establishing networks for specialist work and a presentation from the BMA on proposals for the new consultant contract.

This year saw the introduction of case presentations and discussions in the lunchtime slots. These proved to be a very popular addition to the meeting and one that I believe that we should continue to offer in the future. We will also be featuring a session on complex case presentations at this year's BOA meeting in Belfast – more on that below.

The BHS annual meeting has always been a forum for presenting new research, so it was fantastic that so much new research was presented this year – 42 podium presentations and 68 posters displayed. It is encouraging to see so many medical students and junior doctors presenting their research at the BHS Annual Meeting and I hope that is a trend that will continue into the future.

To that end I want to encourage all of you to submit your research for next year's meeting in London. Once again we will be using an online abstract submission process, through the BHS website. More details will be sent in due course but I want to make an early announcement that the **deadline for abstract submission this year will be 4<sup>th</sup> December 2016.**

This will give us enough time for the panel of judges to assess the submissions and for the Executive to communicate the decision of the panel to authors before the Christmas break. We have found in the past that this timetable helps to give presenters sufficient time to prepare their papers, thus ensuring the quality of the meeting overall.

Plans are already underway for the meeting of the BHS in London on 1<sup>st</sup> – 3<sup>rd</sup> March 2017. Fares Haddad has secured Central Hall in Westminster for the meeting, which will be a fantastic venue and we hope that it will prove to be a popular destination and that attendance will be high. Fares has been in discussion with the American Association of Hip and Knee Surgeons (AAHKS), who have confirmed that members of their society will attend our annual meeting, which will add to the debate and cross-fertilisation of ideas.

Further exciting opportunities for the meeting exist in two new developments that we are looking at, one called Talking Slides and the other is the development of an app for the meeting.

The Talking Slides initiative provides the opportunity for the Society to film and record presentations at the meeting for playback at a later date on demand. The Executive have seen a pilot of Talking Slides and are planning to share that with the members ahead of next year's AGM. Recording of the meeting would require a change to our Constitution and we would, of course, have to discuss that at the AGM.

For several years now our meeting has been coordinated by Jai Mistry from Concept Events and his involvement has been a great success in improving organisation and planning of the meeting, which has gradually grown in size over the last decade. I am now working with Jai on the development of an app for next year's meeting, which I hope will facilitate two-way communication between the organisers of the meeting and the attendees.

This brings me to my final note on communication, because I would encourage all of you to get involved with the running of the BHS and the annual meeting. If you would like to suggest a "Topic in Focus" for next year's meeting, if you would like to be involved with the abstract selection process, if you would like to chair a free-paper session or if you have any suggestions for how we may improve the meeting, please feel free to contact me at [jrhmail@icloud.com](mailto:jrhmail@icloud.com)

With best wishes to you all

Jonathan Howell

Editorial Secretary

# NATIONAL JOINT REGISTRY UPDATE – CLINICIAN FEEDBACK & OUTLIER MANAGEMENT

Peter Howard

The NJR commenced data entry in April 2003, and began the assessment of implant and surgeon performance with respect to revision of linked primaries in 2007. The process has been one of evolution since then, involving mainly surgeons and statisticians, using standard health assessment methods and presentation of data, and aligning these with other registries to facilitate comparisons.

The use of the PTIR (Patient/prosthesis incidence revision rate) and funnel plots are widely understood and an easy method of portraying revision outcomes, but have limitations – in particular the limited ability to adjust for case mix. The PTIR method “assumes” a steady rate of revision with time, but revision for all causes is higher in the first 12 months or so. Funnel plots however have much wider confidence intervals for lower volumes & follow-up time and thus to some extent compensate for this.

Both surgeon and prosthesis data are now examined with implants that have become outliers and subsequently been withdrawn excluded from the analysis (after 3 years have passed from this occurring), and are presented in tandem with all implants together. This has the effect of “lowering the bar” for all surgeons and implants but gives a better representation of contemporary practice. In addition to this, at each 6 monthly review the last 5 years of primary entry data is examined separately.

This effectively excludes most metal on metal implants, and for surgeons and units enables comparisons to be made to see if changes in practice have affected outcomes.

Data accuracy, predominantly with respect to completeness, has been an on-going concern. Had data entry been mandatory from the outset, with payment per case directly linked to compliance, then this would have been much less of an issue. Nonetheless great progress has been made. In 2015 overall compliance was 96%, with 70% of units achieving over 90% compliance. Data accuracy remains one of the NJR’s main objectives.

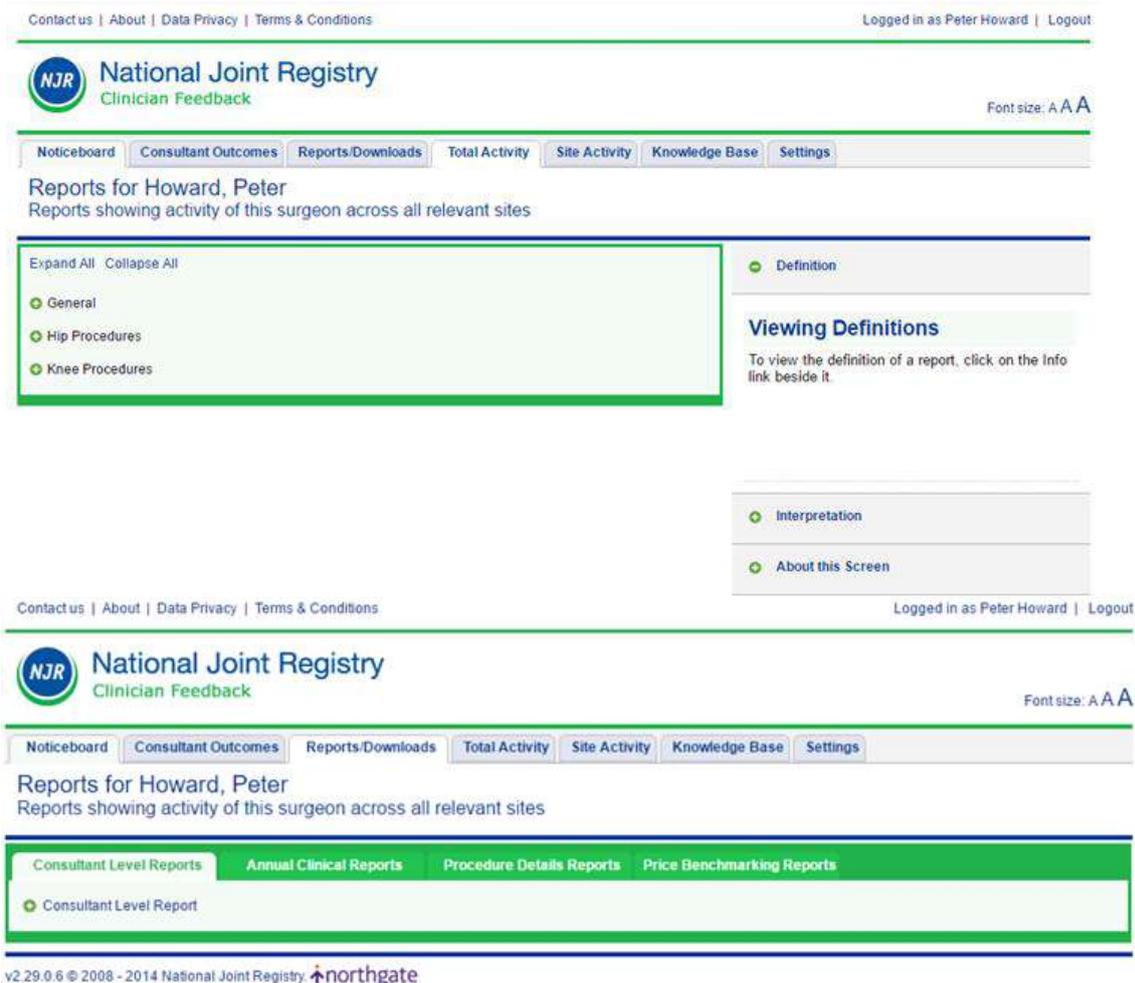
### Clinician feedback website changes and surgeon reports

The clinician feedback website completed some important upgrades in June/July 2016. The funnel plots showing the last 5 years of data have been added, as has access to the Trust Annual Reports for each unit that individuals work in.

The annual surgeon report enables, at the click of one button, a pdf download summarising a surgeon’s activity and data. This report is intended for use in appraisal – the BOA, BHS and BASK believe it should be mandatory for surgeons engaged in arthroplasty surgery to produce it for this, and for unit meetings along with GIRFT data.

The ability to download details of all primaries entered into the NJR “went live” on Clinician Feedback about a year ago, enabling surgeons to access details of all the primary cases attributed to them that have been uploaded, along with their current status (Deceased/viable/revised). The latest upgrade enables details of all revisions to be downloaded as well – whether linked to primaries or not. The status of these patients is also available. For many surgeons who undertake revisions this will be the first time ever that they have been able to see how many of their revisions have been revised subsequently, and the reasons why. Potentially sobering!

*Screenshot showing opening screen after Clinician Feedback Login*



*The consultant level report is in the first tab of “Reports/Downloads”, details of all primaries and revisions can be found and downloaded from “Procedure details reports”*

Of the consultant surgeons who are “in scope” for publication on the NHS choices website in 2016 65% have accessed the clinician feedback website since January 2015. However 35% have not. It is to be hoped that greater usage of unit meetings, and the insistence of the production of national audit data for appraisal, will together push this figure upwards. It remains the case however that significant numbers of surgeons who have become outliers have never accessed their data to that point.

The NJR is regarded as a reporting body. Surgeons whose mortality or revision rates lie above the 99.8% control limits are notified of their status, and their Responsible Officer informed 6 weeks later. In general it is suggested that this should initiate a local audit. From this year surgeons who lie between the 95% and 99.8% will also be notified to alert them of their status. It is hoped however that as time passes all surgeons will already be aware of their successive positions on the funnel plots so that this will not come as a surprise to them and hopefully they will already have taken steps to remedy the situation

Peter W Howard

BHS President Elect

Surgeon member NJR Steering Committee and Chair of implant Performance and Surgeon Outlier

# NON-ARTHROPLASTY HIP REGISTRY UPDATE

Marcus Bankes

During the last 2 years the BOA have hosted Quality Outcomes Meetings with the leads of the non-joint replacement orthopaedic registries, of which the Non-Arthroplasty Hip Registry (NAHR) is one. These meetings were held to support the development of new registries particularly in order to meet data best practice standards, improve quality and assist with the administrative elements of running these new registries. As a result of these discussions the BOA has proposed a more formal structure, called the Trauma and Orthopaedic Registries Unifying Structure (TORUS).

The main feature of TORUS is that the registries will share an operating framework, e.g. a consistent approach to consent. This will prevent each registry having to "*re-invent the wheel*" each time some element of it needs to change. The BOA will also provide a central support function covering data governance, contracting and managing registry suppliers and resolving day-to-day enquiries thereby reducing the burden on individual registries.

Following discussions of the BHS executive and the Non-Arthroplasty Hip Registry steering group, the NAHR will be part of TORUS along with the British Spine Registry, the National Ligament Registry, The UK Knee Osteotomy Registry and audits led by the British Orthopaedic Foot and Ankle Society and the British Limb Reconstruction Society. There is a general feeling that the profile of all the non-joint replacement registries will be increased as part of this collaboration which will ultimately improve compliance by surgeons, hospitals and patients alike.

This is an exciting time for the Non-Arthroplasty Hip Registry which has already benefited from work done as part of this collaboration by helping to provide an updated unified contract with Amplitude, our registry supplier. There has been some particular discussion about the BOA becoming a joint data controller with the British Hip Society. It is envisaged that both the British Hip Society and the BOA would have joint responsibility for controlling the purpose of the data processes, i.e. producing registry reports but the BOA would have the main responsibility for controlling the manner of the processing, particularly regarding data governance and contracting with Amplitude. It is this second roll which is particularly helpful to the registry, an example of which would be the investigation and management of a data breach. The BOA would also encourage a degree of harmonisation between the registries, thereby providing familiarity and influence.

I must personally thank Julia Trusler who is the Quality Director of the Quality Outcomes Programme at the BOA as well as current and past presidents of the British Hip Society and BOA for launching the TORUS project which I know will benefit surgeons, hospital and most importantly patients.

Marcus Bankes

NAHR

# THE DEVELOPING CHALLENGE OF FOLLOW-UP AFTER HIP ARTHROPLASTY

Andrew Manktelow

Follow up protocols after Total Hip Arthroplasty vary widely across the UK. Even more diverse arrangements are in place in other parts of the world, many with different health economic considerations. There is little doubt that historical arrangement of 'open-ended', regular routine clinical and radiological review is unnecessary, likely unpopular with our patients and unlikely to be cost effective. Bolz et al, describe the potential savings in reduced clinical review, albeit in a different healthcare system. The authors also detail the methodological challenges when modelling the cost effectiveness of potential changes in protocol (1). With the predicted increase in hip arthroplasty numbers it will become 'ever less' cost effective or clinically beneficial, to fill clinic slots with satisfied patients with minimal, if any, clinical need.

The purpose, potential benefit and practicality of follow up, is viewed differently by surgeons, arthroplasty practitioners, rehabilitation colleagues, healthcare managers and patients. That patients 'value' follow up seems clear (2). In this review of 105 patients undergoing joint arthroplasty surgery, 72% of patients felt it important that they were kept under continued follow up, with 82% feeling they should be under yearly or biannual review. Interestingly, 30% of patients felt that identifying whether other joints might need review, was a major benefit of follow up. Patients differed as to how long they thought follow up should continue, with 33% keen for review up to 80 years old. That follow up is thought to be beneficial should not be a surprise. Few patients having bought a new car will not expect to have things checked over at intervals, both to ensure optimum function and to identify any particular 'asymptomatic' immediate or potential concerns. We as consumers in this circumstance also appreciate that this intervention is not always truly 'cost effective'.

For surgeons, follow up provides a mechanism to be aware of our outcomes and to deal with obvious clinical or radiological concern, as well as to be available to answer and address patient anxiety or unexpected problems. Many feel that this can be achieved and coordinated more effectively by colleagues such as nurse and arthroplasty practitioners. Those colleagues, (Arthroplasty Care Practitioners Association for example) should and will most certainly contribute to planning what is optimum follow up. Similarly, our management colleagues, in the face of an ever more challenging healthcare environment, clearly need, and will require, us to put in place cost effective pathways to address all requirements.

Continued contribution to, and enhancement of, the 'Beyond compliance' pathway, will help address follow up of new or significantly altered implants. Similarly, National and International Registers should be in a position to identify specific concerns and facilitate enhanced or additional follow up and review, when and where increased revision rates are identified. The MHRA, in discussion with representative bodies, such as the BHS, will continue to advise in circumstances where there are established issues, such as MOM bearings, of both large and small diameter and hip resurfacing. There are other potential issues, such as trunnion/taper wear concerns, that may yet be identified as requiring 'special measures'.

It is important that we as clinicians are able to demonstrate if, and why, we feel follow up review is in the best interests of our patients, our healthcare economy and our revision burden. We need to be in a position to communicate this to other relevant stakeholders in our healthcare community. To do this, we need to be more clear, consistent and organized in our evaluation of the various options available.

Particularly in the UK, with the DOH drive to discharge arthroplasty patients back to primary care colleagues, we need to ensure that a robust and effective process is in place for our patients. Haddad, writing in 2007, identified the potential concerns of devolving responsibility for joint arthroplasty follow up to primary care. (3)

It is crucially important that work continues to help identify specific circumstances where follow up is of greatest clinical benefit. We need to understand why lysis, that can, in some circumstances remain asymptomatic yet catastrophic, occurs in some, but not all patients in an apparently similar clinical environment. We need to understand more about the influence of different clinical activity and component alignment environments. With this information, we could target situations where we feel follow up is most important. We should be innovative in our use of technology and be objective, consistent and honest in our review and actions.

It has been argued, on review of 22,000 hip arthroplasties, over 38 years and in a single unit, that follow up remains essential (4). However, others would argue that following a 'standard' cemented hip replacement in a patient over a 'certain' age, that follow up is not helpful. In apparent support of the latter, Lawton et al, showed that only 20% of patients undergoing revision surgery were identified as a consequence of review at routine follow up clinic (5).

In making decisions, we need to understand that many of our patients will out-live what was expected at the time of index surgery. They will want to maintain activity levels. Managing asymptomatic wear, resulting in bone lysis, fracture and possibly instability, in the elderly could be a costly challenge. With variation in adopting more 'wear resistant' polyethylene, concerns with earlier generations of uncemented sockets and the use of larger heads, asymptomatic, but potentially catastrophic lysis, could yet increase our revision burden in the imminent future.

Simple, potentially remote radiological review, possibly with the addition of a functional clinical score, could identify those at risk well in advance of any disaster. All this could allow for a very much more conservative, cost effective and clinically successful revision.

The BOA, in association with the BHS, and following discussion with professional bodies, patient groups and other interested parties, has previously provided guidance on what is expected (6). The existing 'blue book' document describes the rationale behind targeting clinical follow up in specific groups, and with particular implant types that are more likely to require revision.

Similarly identifying the potential aetiological concerns that could negatively influence the outcome or increase the relative financial burden of any required revision. The document advocates the involvement of the arthroplasty practitioners, potentially in a remote setting, in the process and is clear on the requirement for expert and experienced radiological review.

At this years BHS meeting in Norwich, there were a number of presentations detailing local arrangements for 'virtual' or remote review clinics. There is obvious complexity in coordinating a remote system. The healthcare community needs to determine who should be responsible for prompting and funding any evaluation. Subsequently, who is responsible for interpretation and acting on the information, then communicating the outcome to our patients. All will have considerable resource implications.

The BHS should lead on ensuring that colleagues are supported, as required, to collect, evaluate and interpret all the important clinical and radiological information. We need to ensure we are cost and clinically effective in following up our patients. We need to communicate with our political, management and primary care colleagues, when and why we feel review is important. Putting in place robust arrangements to ensure the required information is indeed collected and attended to.

In an ever, and likely increasingly, challenging financial environment, the difficulties that surround follow up arrangements will continue. It is important we review and debate this challenge. As specifically interested caring and responsible surgeons, we must work to ensure we create what is best for our health care environment, our potential revision burden but, of course, most importantly, for our patients.

Andrew Manktelow  
BHS Vice President

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## THE ROTHMAN RANAWAT AMERICAN HIP SOCIETY TRAVELLING FELLOWSHIP 2016

“Time to think”

Matthew J Wilson

“You can always get your money back, you can even get your reputation back but you can never get your time back...”

These wise words from Dr Rothman represent one of the many pearls of wisdom that we, the Rothman Ranawat fellows, picked up during an incredible tour of ten major US Orthopaedic Centres. This prestigious fellowship is the brainchild of Dr. Adolph Lombardi and is an evolution of the original UK/ American travelling fellowship introduced in 2003.

The original fellowship involved two young British surgeons travelling to US orthopaedic centres, with two American surgeons on a reciprocal trip to the UK on alternating years. This did however mean that US surgeons were denied access to a major American tour and therefore, in 2013, the (American) Hip Society launched the Rothman-Ranawat fellowship. This annual tour replaced the biennial UK trip and now two Americans, one International and one British surgeon travel together on a North American trip, starting at the Hip Specialty day at the annual AAOS meeting.

The fellowship is funded by generous donations from members of the Hip Society and is named after the two primary donors, Dr. Richard Rothman from Philadelphia and Dr. Chitranjan Ranawat from New York. The British Hip Society (BHS) interviews and selects the British fellow at the Annual meeting of the British Orthopaedic Association (BOA). Suitable applicants are expected to be under 45 years of age and have demonstrated a commitment to the field of hip surgery through publications and other academic activity.

Preparation for the trip involved careful negotiation with my Hospital Trust, my colleagues and, most importantly, my long-suffering family. Once this had been cleared we were introduced to Lisa DuShane from the Hip Society whose peerless administrative skills made light work of preparing the exhaustive and exhausting schedule for the trip and the seemingly endless paperwork required by the human resources departments of our host sites.



HSS - Fellows with Dr Ranawat at the Union Club, New York (L-R - Mr Matthew Wilson, Dr. Derek Amanatullah, Dr. Bharath Logonathan, Dr. Atul Kamath)

I travelled to the Annual Meeting of the AAOS in Orlando at the beginning of March 2016 and met my first travelling colleague from Shalby Orthopaedic Hospital in India, Bharath Logonathan, in the salubrious venue of an Orange County Walmart's for a final Mantoux test to complete our Infectious Diseases paperwork. The following day, the Hip speciality day of the AAOS, Bharath and I caught up with our other new companions, Dr. Derek Amanatullah from Stanford Hospital and Clinics in California and Dr. Atul Kamath from Penn Medicine in Philadelphia.

The four of us shared the first of many coffees and stories of home and work and waited to be presented to the Hip Society by Dr. Ranawat that afternoon.

Later in the evening we were honoured to be guests of the Hip Society at their annual dinner and saw the handing over of the presidency from Dr Berry to Dr Rubash. Like the BHS, the Hip Society is a closed society but unlike the BHS, membership is limited to 100 surgeons and during the course of the meeting we saw several new inductees of varying ages and experience welcomed as members, including a rare international membership awarded to our very own Fares Haddad.

As the British Hip Society grows year on year, I can certainly see the benefits of a smaller, selective society. The ability to make powerful decisions quickly is a benefit of any small group and perhaps the time has come for the BHS to look again at its core values. North America, much like the UK, has very few surgeons who specialise purely in hip or knee surgery and a combined society, The American Society of Hip and Knee Surgeons (AAHKS – pronounced ‘arr-kus’), caters for lower limb surgeons with an annual meeting attended by the majority. The smaller and more selective Hip Society and Knee Society attract more specialised groups of surgeons who focus mainly on one area although a few surgeons are members of both. It is an interesting model and one which the BOA together with the BHS and the British Association of Knee Surgeons (BASK) may wish to look at more closely and perhaps consider forming a BAHKS (‘bar-kus’) alongside smaller sub-specialist societies with limited membership.

The following day we set off to our first destination, Rush Orthopaedics and DuPage Hospitals in Chicago and thereafter continued to stops in: Vancouver;

Mayo Clinic in Rochester, Minnesota; Hospital for Special Surgery in New York; Omaha, Nebraska; Medical University of South Carolina at Charleston; The Rothman Institute in Philadelphia; Anderson Clinic in Virginia; New Albany Medical Centre in Ohio and finished at Massachusetts General Hospital (MGH) in Boston.

We spent approximately three days at each venue with one day travelling in between and at each location we were made to feel like truly special guests. While some Units ran business as usual with full lists in all theatres, many units took a great deal of time organising special cases, academic afternoons and tours of laboratory facilities and the variety offered by both types of visit was very welcome. It was great to see the Rothman Institute and Hospital for Special Surgery at full steam and get an idea of the efficiency of their systems but also wonderful to be part of events such as the Engh Academic afternoon in Washington. The opportunity to present in the Ether Dome at MGH, where the first operation under anaesthesia was performed, was a particular highlight.

At every center we had the opportunity to present some of our own research on total hip arthroplasty. Dr. Amanatullah spoke on the outcome of modular and non-modular revision uncemented stems. The issue of modularity and metal ion debris was a frequent point of discussion. Additionally, we observed numerous revision total hip arthroplasties for adverse reaction to metal debris. The majority of these revisions were with non-modular, fluted, tapered stems. While these systems are powerful, they require significant experience to utilise properly. The take home message was that modularity in this stem design is titanium on titanium and may offer advantages to the infrequent user.

Dr. Kamath presented the issue of obesity in arthroplasty. He raised the question about having a threshold for body mass index given the increased risks involved to the reconstruction and the patient. There are no firm answers, but there was a great deal of discussion and almost everyone agreed that guidance from the main orthopaedic societies are needed based on good evidence and registry data. This has implications for guiding surgeons on the current literature, interfacing with healthcare payers, and informing patients about the true risks posed by excessive weight.

Dr. Loganathan presented a thorough summary of bearing options in total hip arthroplasty, with some excellent historical quotes and images from the beginning of the development of hip replacement. It is clear that the bearing surface remains the biggest challenge, and many of the issues we face today as revision hip surgeons are home grown. The issue of large heads, taper corrosion, metal ion toxicity, ceramic fractures and squeaking are issues created beyond the era of a 22-mm head, monoblock, stainless steel, cemented Charnley total hip arthroplasty. In essence, all of us would do well to look at history when planning for the future.

I was tasked with talking about the management of infection in hip arthroplasty, an issue that causes surgeons many sleepless nights. I presented the excellent results from my own unit, where only cemented primary femoral stems are used and reconstructions following infection commonly involve femoral impaction grafting. I also presented Exeter data on the use of a cemented articulating spacer that functions well enough to obviate the need for second-stage re-implantation in over two-thirds of patients (i.e., a functional one-stage procedure).

I discussed the INFORM randomised control trial into one vs. two stage revision for infection from Professor Blom's Unit in Bristol and in which Exeter are a recruiting center. On the back of this, the US has secured funding to run a similar trial but in a country that does not use cemented stems or cemented revision techniques, there is a great deal of concern about antibiotic delivery in those cases randomised to one-stage revision

Several areas were common to all sites we visited, particularly those of Direct Anterior Approach (DAA) hip replacements, day-case arthroplasty and dual operating lists. The rise of DAA surgery in the USS has been rapid and young surgeons are emerging from fellowships having only been trained in this approach. Many were convinced by the rapid recovery offered by this approach but many of these had previously performed a lateral, trans-gluteal approach and so perhaps had a slightly skewed view with no knowledge of what can be achieved with a well-done posterior approach. Nevertheless, the uptake of this surgery is remarkable and, as some surgeons quietly admitted to me, has a lot to do with marketing in a country driven by private practice and the need to differentiate. At more than one academic meeting, a US surgeon asked for a show of hands as to 'who *still* does a posterior approach'!

Day-case arthroplasty is also prevalent in many 23-hour surgery centres and again driven largely by marketing but the enhanced recovery protocols and excellent physiotherapy and nursing care in these units are impressive and make this a safe and viable option for carefully selected patients. Whether the average NHS patient has an appetite for going home the same day of a hip or knee replacement remains to be seen but, in financially challenging times, it is certainly worth exploring.

Perhaps the most striking thing all four of us noticed was the efficiency in all the units we visited and the level of team work that went in to making the day start and proceed smoothly. All units started early with the whole day being shifted forwards and knife to skin on the first patient was rarely after 7.30am. The ability of surgeons to run dual theatres, moving from one theatre with a fellow opening and closing to another theatre with a resident or surgical assistant doing the same is rarely possible in overcrowded NHS theatres but worked well in the hospitals we visited.

The whole issue of running dual theatres was a hot topic of debate during the fellowship, with a federal investigation underway following a severe complication in a patient being operating on in one of two theatres being run in parallel by a single surgeon. The outcome of this investigation is not yet known but there are concerns this practice, which can work well in staggered starts, may be finally consigned to the history books. The biggest problem trying to replicate this in the UK is the lack for theatre space, or perhaps we simply have too many surgeons who spend too much time on managerial tasks and not enough time operating.

The historic and beautiful city of Charleston in South Carolina was a new stop on the fellowship. After the frenetic activity in New York and Philadelphia, this University Hospital offered a slightly slower Southern pace with some excellent surgery and academia under the steady stewardship of the newly appointed Professor Vinnie Pellegrini. It was also the only place you are like to see a huge chondrosarcoma removed by a tumour surgeon wearing cowboy boots.

A visit to Kevin Garvin's Unit in Omaha, Nebraska was a treat and the fact that Warren Buffet, one of the richest men

in the world, lives here in a modest house on a busy road reflected the relaxed feel of this mid-west city. Dr Garvin and his colleagues were impressive and an excellent academic afternoon saw us deep in discussion with microbiologists looking at new methods of preventing biofilms and fascinated by stories from the doctors in charge of the Biocontainment Unit, one of the few centres in the US that dealt with patients from the Ebola outbreak. A trip to the engineering department in Nebraska had us entertained by the energetic Dr Hamadi who is working on a variety of impressive hand-held navigation systems he was very keen to demonstrate.



*MGH - Rothman-Ranawat fellows outside Mass. General Hospital, Boston. (L-R - Dr. Atul Kamath, Dr. Derek Amanatullah, Dr. Bharath Logonathan, Mr Matthew Wilson)*

The scale of philanthropy from surgeons and patients in North America was staggering and most hospitals use this to the benefit of their staff and patients. Facilities for staff were second to none in many units and the morale of staff was clearly above that of those in the UK. The Mayo Clinic receives \$400million every year in donations alone and the research facilities are extraordinary. Dr. Rob Trousdale treated us to a session on DAA and periacetabular osteotomies in the cadaver lab, a facility open to fellows and residents to use at any time to practice approaches and operations with full equipment matching that in theatres.

Dr. Padgett at the Hospital for Special Surgery in New York kindly arranged for us to have a hands-on demonstration of the Mako robot using sawbones. Whilst this early generation machine needs some refinement, the opportunities in removing human error in arthroplasty surgery are clear and it is a technology we need to embrace as it develops. Once again, the challenge in the UK is funding with each robot currently costing about \$1million.

Vancouver offered a refreshing taste from home with the Canadian state healthcare system suffering similar funding issues to that in the UK. However, the tight-knit unit of Drs Duncan, Masri, Garbuz and Grenaidus have made this centre one of the premier arthroplasty units in North America and show what can be done as long as you have the right team. A flight to Columbus saw the four of us visit another great unit headed up by Dr Adolph Lombardi who is credited with setting up the Rothman-Ranawat fellowship and securing the funding for it and for that all four of us were truly grateful. Dr Lombardi's generosity in time, wisdom and supercars is legendary and we felt privileged to have the opportunity to spend time with him in theatres, to meet his family and visit his spectacular home.



*Vancouver - Assisting Dr. Clive Duncan with a revision THR for peri-prosthetic fracture.*

On reflection, the opportunity to spend personal time with these great surgeons was as important as the operative observations. A night at the home of Dr Richard Rothman with Jay Parvizi and his team being gently ribbed as the guy from Exeter who still uses 'concrete' was only to be expected!

Dr Harry Rubash kindly organised a lunchtime dinner with Dr William Harris in his eponymous room at Mass. General. Hearing about the history of American Hip surgery from one of the founding members of the Hip Society was a treat and one none of us will forget. Special mention is also reserved for Dr Chitranjan Ranawat who as well as arranging for us to see a Broadway show on a rare day off, took us for an intimate dinner at his private members' club in Manhattan. After several large aperitifs there followed a gentle interrogation of where we saw ourselves in five years' time. Each of us then had Dr Ranawat's analytical mind review our thoughts and share a career's worth of advice on how to make it happen and where we could improve. Leadership was a common theme, however, before being a leader in our fields we were advised that first we needed to be leaders in our teams, leaders in our units and leaders our hospitals.

As Dr Rothman told us, you can never get your time back but if you can convince your colleagues and family to give you five weeks away for professional leave, there cannot be many better ways to spend it than in the company of like-minded surgeons visiting some of the most illustrious orthopaedic institutes in the world. I highly recommend it.

Matthew Wilson

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## BHS EUROPEAN TRAVELLING FELLOWSHIP 2015/16

### Centre for Hip Arthroplasty, The Radboud University Medical Centre (RUMC), Nijmegen, The Netherlands

N Amir Sandiford & Simon Jameson

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This unit is one of the major teaching hospitals in Holland and remains the main centre for acetabular impaction grafting. We both made contact with Professor Schreurs during our time as Exeter Hip Fellows. The RUMC forged strong bonds with the Exeter team during the 1980s and 90s while developing impaction bone grafting techniques. Schreurs' team frequently visit Exeter to teach aspiring hip surgeons, with many arthroplasty fellows travelling to Nijmegen to further increase their exposure to impaction grafting techniques. While on the Exeter hip arthroplasty fellowship it seemed the right time to propose a visit to Nijmegen, and the British Hip Society kindly awarded us their European Travelling Fellowship at their meetings in March 2015 (Jameson) and 2016 (Sandiford).

Nijmegen is a University town in the east of The Netherlands close to the German border, around 60 miles inland from Amsterdam. It lies within the vast Rhine delta region on the banks of the River Waal (a tributary of the Rhine) and is considered the oldest settlement in The Netherlands. Whilst much of the original Roman architecture was destroyed during the Second World War (we have since learned this was unfortunately caused by unintentional allied bombing.....although this is still a contentious issue as who actually dropped the bombs is still disputed!), some of the medieval architecture remains, especially around the popular *Grote Markt* area.



**RUMC**



**Grote Markt**

Nijmegen has several hospitals performing orthopaedic surgery, but complex hip and revision procedures as well as surgery in young patients are carried out at the RUMC. The RUMC is a large teaching hospital with almost 1000 beds, level 1 trauma services and a full complement of surgical specialties on one site. The orthopaedic department is in state of the art facilities with modern wards, offices and a 3-level theatre complex constructed within the last 5 years. The RUMC hip team comprises Prof Wim Schreurs and Dr Wim Rijnen (who together carry out the complex work), and Dr Sebastian Van der Groes (who helps provide the primary hip 'production line'). The team carry out around 250 primary hip replacements (the majority of which are complex or in young patients) and around 100 revisions per year.

The hip reconstruction philosophy of the unit is based on robust clinical evidence and many years of experience and attention to detail. They are rightly proud of having no loss to follow up particularly in their group of over 850 young patients. Uniquely in the Netherlands they use solely cemented implants for all their work. Impaction grafting is used in the majority of cases. The Exeter V40 stem and Contemporary Flanged cup (Stryker) are routinely used with Simplex cement, based on evidence from Exeter, the national joint registries and their own work. Head sizes are mostly 32mm (evidence based, good compromise between wear and stability), but they also use 28mm and sometimes 22mm if required. Ceramic heads and highly cross-linked polyethylene are not used (the rationale being that there is less evidence for these than the tried and tested prostheses, rather than any specific cost considerations). They use polyethylene constrained cups where necessary, and dual mobility (cemented Biomet Advantage) if dislocation is a high risk.

The introduction of impaction bone grafting techniques began in the 1970s under Prof TJJ Slooff and developed over the 80s and 90s in collaboration with the Exeter group, during which time Prof Schreurs wrote his thesis on the integration of impaction bone grafting into host bone. The impaction bone grafting technique has always been used in combination with a cemented cup and stem. The department has performed extensive clinical follow-up studies to investigate the durability, clinical outcomes and cost effectiveness of this technique in different cohorts of patients. Long-term radiographic and clinical follow-up (including PROMs) data is recorded on all patients less than 50 years at the time of surgery and all revisions. For example, the group have published their 20 to 25 year results on a cohort of 42 young patients who received acetabular impaction grafting (AIG), with an overall cup survival of 73% at 20 years (aseptic survival 85%) and 56% at 25 years (77%) [1]. They have reported the benefits of restoring bone stock in these patients, with histological studies to confirm the theory of graft integration [2] and, in terms of long-term outcome and material costs, have shown this technique to be superior when compared to the use of cementless implants to reconstruct the acetabulum [3].

Revisions are always performed in combination with impaction bone grafting. When the bone defects are extensive this technique is combined with wire mesh to reconstruct the acetabular side. Their 20 to 25 year results for consecutive acetabular revisions show overall survival of 75% at 20 years [4].

As in the UK, many units in the Netherlands use cementless primary implants and porous coated revision prostheses together with augments. Whilst Schreurs and Rijnen acknowledge that these techniques are possible and currently show good early- to mid-term survival, their experience and long-term follow-up of the AIG and cemented cup technique precludes the use of this newer technology in their unit. Moreover, their technique is standardised and all the materials required (either prostheses, bone grafting tools or allograft) are readily available. The national bone bank is onsite (although administration is independent of the hospital) with immediate availability of allograft, either as bulk or pre-milled into different sizes depending on the technique requirement. The team are very particular about the graft and their impaction technique. Studies have demonstrated the removal of cartilage and pre-washing improves integration, and use of appropriate sized chips provide stability and prevents early failure.

The ability to effectively use impaction grafting techniques is an important option hip surgeon who regularly performs complex primary and revision procedures to be cognisant with, and the evidence supports its use when carried out correctly and with the appropriate indications. The volume of impaction grafting used in Nijmegen has allowed us to gain a good experience of this procedure in a relatively short period of time and has given us confidence to use this in specific patients in our practice. The ability to understand their philosophy, witness their operative technique in detail and have an in-depth discussion regarding the technique has made this fellowship an invaluable part of our development.

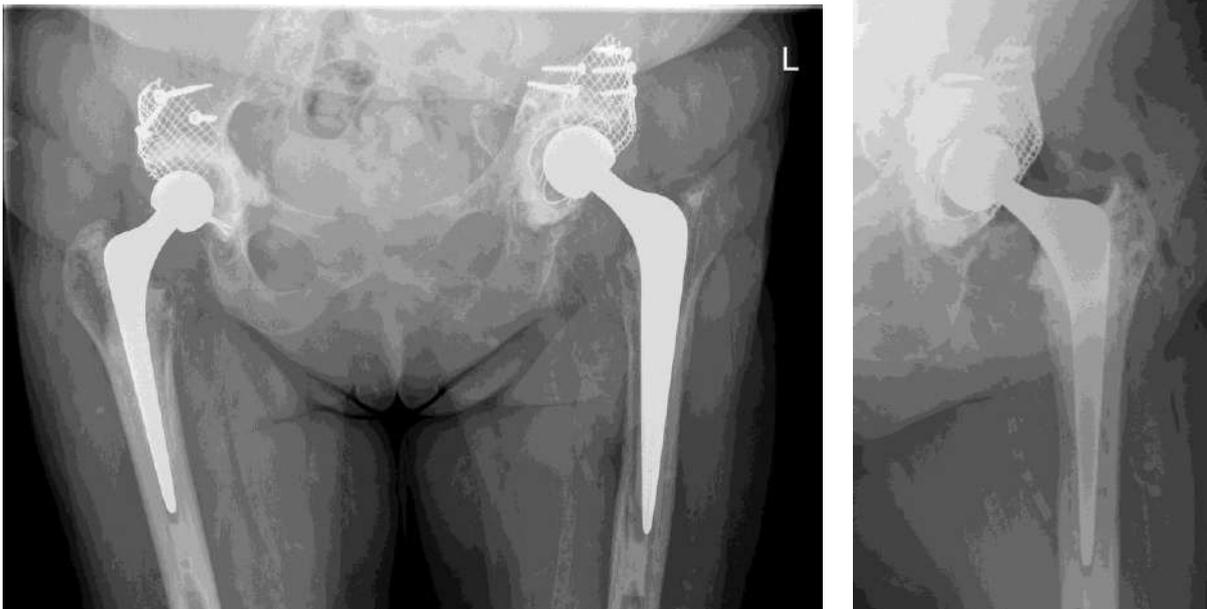


Post-op AP pelvis radiograph, bilateral THRs with AIG for Hartofilakidis type A dysplasia

The experience we've had of another health system has been very interesting. Patients in the Netherlands are obliged to have health insurance to cover the costs of their medical care, which is provided by general hospitals, teaching hospitals and privately run clinics. Waiting times are similar to well-performing units in the UK and there is no possibility to 'queue jump' if self-funding. Traumatologists with general surgical training tend to do most of the trauma in Netherlands, although orthopaedics provide some on-call cover occasionally at RUMC. There is currently much debate surrounding adequate operative exposure for surgeons doing trauma in the Netherlands, similar to discussions surrounding the provision of trauma care in the UK.

Residents train for 5 years in orthopaedics with an optional short fellowship period. Residency programmes rotate through a small number of hospitals to include academic, complex and DGH type hospitals. Exams are taken each year and assessment is competency based, without any specified requirement for index procedure volumes. Unfortunately there are few jobs for trained orthopaedic surgeons due to an oversupply of training numbers.

A typical day begins at 7.45am in a modern meeting room where residents, students and consultants meet to discuss the planned surgical programme for the day. This is then followed by a brief with the theatre team at 8am, and time of incision is routinely around 8.30am. Three cases are performed on every list (usually a simple primary followed by complex primaries or revisions). X-rays are carried out at the end of each case and theatre finishes at 4pm. A meeting to debrief at 4.15pm follows, where all the x-rays are reviewed and complex cases seen by residents in outpatients or the ER are discussed as well as the theatre lists for the following day. This experience has been invaluable as part of our hip arthroplasty training and has allowed us to build on the skills and knowledge we acquired while on the Exeter fellowship and in our current jobs. We would like to thank the team at Nijmegen for allowing us the opportunity to visit their unit, participate in operations on their patients and discuss their techniques. We would also like to thank the BHS for awarding us their European Travelling Fellowship. It has made an invaluable contribution to our development as revision hip surgeons.



*Pre-op AP pelvis radiograph, previous bilateral AIG, loose femoral stem left side & Post-op AP radiograph left hip, femoral impaction grafting*

N Amir Sandiford & Simon Jameson

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**This newsletter has been edited by Stephen A Jones**

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