

HR-UK

Heart Rhythm UK



# NEWS

November, 2005

## President's letter

Welcome to another edition of HRUK News which might possibly be the last edition of HRUK News sent out as a paper copy. We want to use your subscriptions wisely, and spending money on the postal service for several hundred paper newsletters several times per year is not the most economical way of distributing information. We are a high-tech society, and we are sure that virtually all of our members have e-mail addresses, and it is our intention to send regular news bulletins by e-mail from 2006 onwards. We already have a note of most of our members' e-mail addresses, but if you have changed your e-mail account recently, or if you think that we might not have the correct e-mail address for you, please let us know – the contact details are included in this newsletter.

There are important changes afoot in the administration of our society. For over 20 years Beverley Charters has been providing secretarial and administrative support to the British Pacing and Electrophysiology Group (and to its successor, Heart Rhythm UK). She has been a resource of inestimable value over the years, and has been a constant source of support and information to presidents, council members and society members since the earliest days of our society. Heart Rhythm UK is an affiliated group of the British Cardiac Society, and for logistic reasons we are now accepting the British Cardiac Society's offer of administrative and secretarial support for council meetings, membership database, and collection of subscriptions. Susannah Gray of the British Cardiac Society will be directly involved with HRUK's administration, and she can be contacted at the BCS offices at Fitzroy Square in London (020 7383 3887) and by email: [grays@bcs.com](mailto:grays@bcs.com). Beverley's expertise will continue to be valued by all who know her, and she will still be involved with some of our projects in the future. I would like to take this opportunity to thank her for all the work she has done for the society over the years, for helping us through the difficult restructuring problems in recent times, and for her continued support and friendship, and on behalf of the society I wish her well in her future endeavours.

**Annual Scientific Sessions – 2005-06** The Annual Scientific Sessions for the current year will take place on **Friday, March 24<sup>th</sup> 2006**. The venue will not be familiar to many of you, but I am assured that it is an excellent conference venue. The National Motorcycle Museum does not sound like the most typical venue for a medical conference, but it has excellent facilities and it has an ideal location in the Midlands, situated close to the motorway network and Birmingham International Airport. It is easily accessible by air, by train, and by car ... and even by motorcycle. Further details are available elsewhere in this newsletter, and the programme will be forwarded to you soon. The programme will start around 10a.m. that day, so overnight accommodation should not be required for most delegates. The programme will feature presentations on implementation of the National Service Framework chapter on arrhythmias and sudden cardiac death.

**Annual Scientific Sessions – 2006-07; UK Heart Rhythm Conference** The Annual Scientific Sessions for the following year will take place in September 2006. These sessions will be incorporated into a new 3-day conference, details of which can be found elsewhere in this newsletter. The dates for your diary are **September 19-21, 2006**. It is planned that the UK Heart Rhythm Conference will incorporate our educational course (which has been run successfully in Cambridge for several years), the HRUK Intervention meeting (pioneered in London in September 2005), parallel sessions on device therapy, the

EP Masterclass (which also took place in London in September 2005, sponsored by Bard), and our Annual Scientific Sessions. The venue for this meeting will also be the National Motorcycle Museum, and we hope that it will become the premier event in the annual calendar for all of us in the UK with an interest in the investigation and management of cardiac rhythm disorders. The conference will be co-organised by Heart Rhythm UK and the Arrhythmia Alliance, and will incorporate meetings organised by patient charities as well as our professional organisation.

**NICE Guidance on ICDs:** By the time you read this, the updated NICE guidance on ICDs should be imminent. This has been a long and arduous process, and throughout the process the NICE committee has been advised by three of our members, Campbell Cowan, Janet McComb and John Morgan. We congratulate them on their efforts, and also on the editorial they have written (along with John Camm) which has recently been published in *Heart* online. The views of doctors, physiologists and nurses caring for patients with arrhythmias and patients at high risk of sudden death have been made plain to NICE, as have the views of patients' organisations, and we fervently hope that our views will be taken into consideration when the guidance is published.

**HRUK Education:** The educational courses took place at the Moller Centre, Churchill College, Cambridge, on September 20-22 2005. As always, we are trying to improve the format and quality of the educational courses, and feedback from members and delegates is always welcome. One suggestion is that in future we should concentrate on more local courses rather than a single national course – but the level of enthusiasm and oversubscription for the national course would suggest that there is still a need for such an event. Next September the course will be incorporated into the UK Heart Rhythm Conference (see above), but looking beyond 2006 we might consider changing the format. Please make your views known to Neil Davidson or any of the council members.

**HRUK Exam:** There is still time to register for the exam, which will take place on **Friday December 9<sup>th</sup>, 2005**. It will be held in four centres – London, Manchester, Glasgow and Belfast. Further details are available elsewhere in the newsletter.

**Website:** We have been lacking a major presence on the web in recent years, especially since the untimely death of Tony Rickards in May 2004. Guy Haywood has taken responsibility for setting up a website, and this should be up and running within the next few weeks. The website address will be [www.hruk.org](http://www.hruk.org). It will include links to other relevant organisations, including the British Cardiac Society, the Arrhythmia Alliance and the individual organisations which make up the alliance, the Department of Health, and the MHRA.

**Make your views known:** Our society survives on the goodwill and enthusiasm of its council and its members, and we strive to provide the sort of service which our members wish to receive. To achieve that, we need to have feedback from our members. In particular, please let us know if there are particular issues that you want us to address, or particular information you want posted on our website.

Derek Connelly

## HRUK Exam

The HRUK certificate of accreditation examination is just round the corner and I thought I would pen a few words in respect of this. I took over as Chair of the Exam Committee in May, although because of the events of July 7<sup>th</sup> we have only had one meeting, in Cambridge in September.

There was general agreement on the Committee to increase the number of questions and duration of the exam. I am just finalising the questions at the moment but it will probably be in the order of 70 and we will allow 90 minutes for the exam. If this changes, I will let everyone know at the time of the exam.

We are still planning to hold the exam in Glasgow, Belfast, Manchester and London unless there are insufficient numbers to justify a centre. The make-up of questions will be similar to last year i.e. approximately 50% pacing related, 25% ICD related and 25% other (including ECGs, clinical, heart failure etc.).

Candidates will still need to complete a logbook but there will be stricter monitoring of the marking of these to ensure they are dealt with promptly.

Looking to the future, with the launch of HRUK, we are looking at the function of the exam now there are NASPE exams and EHRA exams and we would not wish to duplicate the function of these exams. We feel there is still a place for the HRUK certificate but as the Society is diversifying with

nurses, EP physiologists, doctors etc. we are looking at the question of "one size fits all" and it may be that the certificate needs to be adapted to meet the needs of the different groups. It may be that we will maintain a core of common questions but have separate questions aimed at nurses or EP or doctors. This will be discussed in more detail over coming months and I will feed back the Committee's plans in future newsletters.

If anyone has any thoughts as to how they think the exam should develop I would be interested in any comments or questions.

Nick Linker  
Chair, HRUK Exam Committee

## HR UK NURSES

The nurses group continues to grow and I am pleased to find that I am receiving regular membership enquires from specialist arrhythmia nurses and other cardiac nurses from around the country. It has been a busy few months for the nurses group with many requests for job descriptions and business cases indicating potential further increases in the number of arrhythmia nurses. The excellent communication network that we have now established is extremely beneficial particularly for nurses who are newly appointed to these roles.

### Education for Nurses

The annual two day educational meeting for nurses interested in the specialty of arrhythmia management has now been running for three years. In 2003/4 this was organised and hosted by myself and took place in Middlesborough. However this year's event was held in Oxford and hosted by specialist arrhythmia nurses Angela Griffiths and Nicola Meldrum from The John Radcliffe hospital in Oxford. The event was as usual a phenomenal success and was attended by many nurses from across the country. The ongoing plans to amalgamate both professional and patient events to form an annual heart rhythm conference are welcomed by the nurses group and we look forward to holding next years nurse meeting as a parallel event within this conference.

There continues to be great demand for education specifically designed for arrhythmia nurses and until recently this was the only source available to this discipline. However in October of this year Medtronic ran a two-day course for nurses, which focused on the topics of pacing, implantable cardioverter defibrillators and cardiac

resynchronisation therapy devices. It was an excellent course and prior to the event we were inundated with requests from nurses around the country wishing to attend. Subsequently there are plans to run this course again early next year. If you are interested in attending please forward your details to me at [jayne.mudd@stees.nhs.uk](mailto:jayne.mudd@stees.nhs.uk)

Traditionally the HRUK/BPEG exam has been specifically designed for physiologists/doctors and very few nurses actually attended the preparation course or sat the exam. This was discussed at the last HRUK council meeting and a decision has been made to restructure the exam for 2006. The plan is to have a generic set of questions suitable for all disciplines along with separate questions for the various disciplines. I hope this will encourage more nurses to attend the scientific conference and to sit the exam.

### Patient Information

A number of HRUK nurse members and Sue Jones, physiologist from St Georges in London are currently working with the Arrhythmia Alliance Committee members to develop patient information leaflets. The Implantable Cardioverter Defibrillator and Pacemaker leaflets are now complete and EPS/Ablation, atrial fibrillation, loop recorder, and tilt testing leaflets will soon be available. The multi disciplinary approach to developing these leaflets has proven to be a great success. The leaflets can be viewed and copies can be requested at [www.arrhythmiaalliance.org.uk](http://www.arrhythmiaalliance.org.uk)

Jayne Mudd  
Cardiac Rhythm Management Nurse Practitioner

## European Live AF Ablation Meeting Birmingham 27th ~28th October 2005

Mike Griffith and Howard Marshall recently hosted a superb live AF course at the Queen Elizabeth Hospital Medical Centre funded by Biosense Webster. Live cases were relayed to an international audience of approx 60 who had varying experience of AF ablation. The live cases were moderated by Edward Rowland and the audience were able to watch very instructive cases performed by a panel of international guest operators ably assisted by the home team! The lectures were interspersed by lectures from Wyn Davies, Edward Rowland, Laurent Macle, David Kean and Peter Kistler. We were privileged to see 3 different strategies employed employing CARTO (Biosense-Webster) employing CARTO Merge. Laurent Macle from Quebec demonstrated the Bordeaux technique of pulmonary vein isolation (PVI) and also gave a superb talk on Lasso signal interpretation. Howard Marshall performed a Wide Area Circumferential Ablation (WACA) procedure complemented by lasso guided isolation and Sabine Ernst demonstrated the Hamburg double Lasso encircling technique.

In the evening we were treated to a wine tasting and culinary treat in the heart of rejuvenated Birmingham. On the Friday via a live transmission from Milan, Carlo Pappone performed a speedy WACA procedure on his way to Japan!

As always with live courses there was much learnt from seeing the practical issues in action and all the delegates were very impressed with the organisation and the clinical skills of the operators. Well done Mike and Howard!

Steve Furniss

## EP data base

Dear colleagues,

Jonathan Sibley of Biosense is going to help roll out the data base. There are three ways in which people can enter their data.

1. Direct to CCAD
2. Commercial company (Tomcat/Dendrite) has export file fro CCAD
3. Home grown data base writes their own export file.

**The direct to CCAD is easy;**

Email the CCAD Support team at [helpdesk@ccad.org.uk](mailto:helpdesk@ccad.org.uk)

Tel: 020 7391 8028 with the following details:

User Name, title job etc

Database to which access is required e.g CRM - EPS

User email address

On receipt CCAD will set up a user account and send out an ID file with a copy of conditions of access which you must reply to in order to gain access the CRM - EPS application.

When you receive this you will need to get by email an ID and a password. You then need to install, probably through your IT department the programmes on the computer you intend to enter data. This computer must be networked and have a way through to CCAD, which you almost certainly have through MINAP. You need to uninstall old copies of Lotus notes first. You should encourage the installer to read the instructions with the disc, and make full use of the helpdesk.

Jonathan will be emailing you all soon to establish who is the lead EP IT person at your Trust, and I will then survey the UK to establish which option you are interested in, with the name of your commercial IT system.

I plan this to be email driven to save paper and time. Many thanks in advance for your help.  
Mike Griffith [michael.griffith@uhb.nhs.uk](mailto:michael.griffith@uhb.nhs.uk)

## Dr Gerry Kaye

Dr Gerry Kaye left the United Kingdom for a new post, and a new life, in Brisbane, Queensland, Australia, in June 2005.

Gerry studied medicine at the University of Manchester, graduating in 1978. He trained in cardiology in London and Leeds, and in 1992 he was appointed consultant cardiologist at the regional cardiac centre in Castle Hill Hospital, Cottingham, near Kingston-upon-Hull, East Yorkshire.

His contributions to electrophysiology in the United Kingdom are quite unique. For many years he ran the Hull Electrophysiology Course, which was the only foundation-level “live action” electrophysiology course in the country. The course was always popular and oversubscribed, and several doctors and physiologists experienced their initial enthusiasm for electrophysiology through attending one of Gerry’s courses. He was ably assisted in these courses by Steve Furniss and Campbell Cowan, and also by one or more visiting lecturers / operators each year.

Gerry continued to be active in research throughout his years in Hull, publishing papers on haemodynamics of arrhythmias and aspects of pacemaker and defibrillator therapy. He was a major driving force in the NICE guidelines on dual chamber pacing, and also sat on the review board for the NSF chapter on arrhythmias and sudden cardiac death. Most recently, and right up until the week he departed these shores, he worked tirelessly with Adam Fitzpatrick on writing the training document for advanced training in arrhythmia management for specialist registrars in cardiology.

We look forward to continuing to meet Gerry at international meetings, and we hope that he will contribute a regular “letter from Australia” to HRUK News, to keep us informed of developments in Antipodean electrophysiology.

We wish him and his family every success in their life down under.  
Derek Connelly

## Dates for your Diary

### Friday 9<sup>th</sup> December 2005

13.00 – 15.00 HRUK/BPEG Certificate of Competence

#### Examination

Sites are located in **Belfast, Glasgow, London and Manchester**

Registration deadline is 25<sup>th</sup> November. Details available from [hruk@bcos.demon.co.uk](mailto:hruk@bcos.demon.co.uk)

### Friday 24<sup>th</sup> March 2006

#### HRUK Annual Scientific Meeting

will be held at The National Motorcycle Museum, Birmingham.

### Monday 24<sup>th</sup> – Thursday 27<sup>th</sup> April, 2006

#### British Cardiac Society Annual Scientific Conference & Exhibition

Scottish Exhibition & Conference Centre, Glasgow. Further details from [www.bcs.com](http://www.bcs.com)

### Tuesday 19<sup>th</sup> – Thursday 21<sup>st</sup> September 2006

#### The UK Heart Rhythm Congress 2006

This will be held at The National Motorcycle Museum, Birmingham. This is the first joint meeting between all the groups, and will incorporate the 'Cambridge' Course, the Annual Scientific meeting, Intervention meeting, HR UK Nurses meeting, 'Bard' Masterclass and patient group meetings.

Details of all these meetings will be available in the near future. Please register your interest by emailing [arrhythmiaalliance@stars.org.uk](mailto:arrhythmiaalliance@stars.org.uk)

## A retrospective audit examining adherence to Heart Rhythm UK guidelines for pacing in patients with sick sinus syndrome (SSS) without AV block

Nicholas Battersby, Raoul Jacob. Medical Students, University of Birmingham

**Introduction** Atrial pacing is thought to be the most suitable approach to patients with SSS without AV block. Factors supporting this practice include a lower incidence of AF, improved exercise tolerance and a lower cost associated with AAI/Rs compared with DDD/Rs.

Current Heart Rhythm UK guidelines advise that AAI/R is superior to DDD/Rs for people with SSS without any evidence of AV block. Despite this, adherence to these recommendations for AAI/R is low amongst clinicians. In 1998, Clarke *et al.* documented rates of adherence of 5.5%. We wished to evaluate this adherence rate for 1999-2004 and also investigate the

incidence of AV block as the development of AV block is thought to be one factor causing reluctance to implant AAI/Rs.

**Methods:** The electrophysiology database at the Queen Elizabeth Hospital, Birmingham, was used to identify patients with SSS. This identified 800 patients that had an atrial lead ( $\pm$  a ventricular lead) implanted between 1999-2004. We reviewed the notes of these patients to identify those with SSS, generating a patient population of 179 people.

The parameters noted included age, gender, implantation date, period of follow-up, the type of sinus node disease, whether AAI/R or DDD/R was implanted, the Wenkebach rate, the presence of AF and the development of AV block.

**Results:** One hundred and seventy-nine people with SSS were reviewed, 25% were lost to follow up and further 5% died, producing a final study population of 123 patients. The mean age of the population was 71 years; males received significantly more DDD/R (56%) compared to females (**44%**) (**p=0.03**).

The development of AF was found in 10% of AAI/R insertions compared with 19% of DDD/Rs, this was not found to be a significant difference.

Twelve of the patients treated for SSS had AV block at the time of pacing, these patients all received DDD/Rs. Thirty-nine percent of patients with SSS without AV block received AAI/R and 61% received DDD/R. The development of AV block in patients treated for SSS was 1.6% during the 5 year period.

**Discussion** Heart Rhythm UK guidelines clearly outline that patients with SSS without AV block should receive atrial pacing. Our results show that this occurred in 39% of cases, which is a significant increase compared with a similar study by Clarke *et al*, 1998, of 5.5%. Although this figure is considerably higher than the national average, it is still lower than suggested. This increase in adherence saved the trust approximately £65,000 over a 5 year period. Similar national rates could save up to £517,000 annually. Accounting for upgrading pacemakers in patients that develop AV block, a perfect adherence rate to Heart Rhythm UK guidelines would have saved the trust a further £101,000 over a five year period. Nationally over the same time frame £6.6 million may have been saved.

It is encouraging to find an improvement in compliance with Heart Rhythm UK guidelines for SSS without AV block but why is the compliance not greater? The main argument for using DDD/R over AAI/R relates to the occurrence of AV block. Our results showed that the number of patients that developed AV block was 1.6%, which was comparable to the annual rate of 1.7% observed in a recent retrospective study. All patients with AV block received DDD/R inline with Heart Rhythm UK guidelines. Importantly these patients became symptomatic, both patients presented with dizziness, but did not come to harm. The risk of developing AV block may be one key reason, and has proved to be an important factor in America due to subsequent litigation.

Atrial pacing is not recommended by Heart Rhythm UK purely because it is cheaper than dual pacing. A recent study by Neilsen *et al*, showed that left atrial diameter was increased significantly in the DDD/R group but not in the AAI/R group, this was thought to contribute to AF rates. This may be caused by the non-physiological positioning of the ventricular lead and the difficulty in predicting the pattern of the AV node. This study did not demonstrate an increased AF rate in the DDD/R group, possibly due to insufficient study numbers. It is also thought that dual pacing is associated with an increased risk of thromboembolic events, congestive cardiac failure and mortality but the currently ongoing DANPACE trial is expected to settle this atrial vs dual chamber debate.

**Limitations** The large proportion of patients that we lost due to transfers (25 %) reduced the statistical power of the study. This high transfer rate was due to the opening of cardiac facilities in Worcester.

**Recommendations** We would encourage a further increase in adherence of single chamber pacing to a value higher than 39%. In order to optimise AAI/R insertion we recommend a re-audit looking specifically at the rate of AV block and the consequences of

developing AV block. Finally, we recommend routinely documenting in the pacing notes why dual chamber pacing was chosen or not chosen.

*We would like to thank Drs Gammage and Marshall for permission to audit their activity.*

## References

Skanes AC, Krahn AD, Yee R, et al. Progression to chronic atrial fibrillation after pacing: the Canadian trial of physiological pacing. CTOPP Investigators. J Am Coll Cardiol 2001; 38: 167-72.

Appraisal consultation document – dual chamber pacing. NICE.  
<http://www.nice.org.uk/page.aspx?o=216113>. Accessed 8/11/05.

Clarke KW, Connelly DT, Charles RG. Single chamber atrial pacing: an underused and cost effective pacing modality in sinus node disease. Heart 1998; 80:387-389.

Kristensen L, Nielsen JC, Pedersen AK, Mortensen PT, Andersen HR. AV block and changes in pacing mode during long-term of 399 consecutive patients with sick sinus syndrome treated with an AAI/ AAIR pacemaker. Pacing Clin Electrophysiol 2001;24:358-65.

Kristensen L, Nielsen JC, Mortensen PT, Pedersen OL, Pedersen AK, Andersen HR. Incidence of atrial fibrillation and thromboembolism in a randomised trial of atrial versus dual chamber pacing in 177 patients with sick sinus syndrome. Heart. 2004;90(6):661-6.

## Meetings, meetings, e-meetings...

Have you ever wanted to discuss a problem or question with a fellow HRUK electricians? I know I have! Well help may be at hand.

Those of you with children will no doubt be familiar with the ease with your kids engage in multiple conversations in near real time, often with web cams, via the internet using messaging programs such as MSN. Such technology is also applicable to us, I believe, and I'd like to know if there is interest in developing a web based forum for the UK's EP community.

I've been evaluating various packages and so far the best seems to be Macromedia Breeze Meeting and this would be accessible to anyone within NHS net. I envisage a web-based forum that would meet either on an ad hoc basis or at regular intervals to share cases. The suggestion is that the meeting would be hosted by one person, perhaps with a second person moderating and with material presented via powerpoint uploaded to the web. Static images aren't a problem and I'm investigating the feasibility of video or moving EP images being shown. Obviously a web cam and mike are very useful but text based input may be sufficient. A small pilot project is being prepared to see if we can link Newcastle to Plymouth – if that's possible, the rest should be easy (eternal optimism is obviously essential for this sort of thing!)

At this preliminary stage I'm looking to see if there is any interest in such a venture. I will also be trying to check on the e-address list of members so if your email address has changed let me know. Please contact me if you're interested or with any suggestions.

Steve Furniss  
[steve.furniss@nuth.nhs.uk](mailto:steve.furniss@nuth.nhs.uk)

# Welcome to New Members

*We are delighted to welcome the following new and returning members, who have joined HRUK/BPEG in recent months:*

Susanne Armstrong  
Senior Sister, ICD's & Cardiac  
Rehab,  
University Hospitals of Leicester

Helen Eastwood  
Cardiac Physiologist  
Huddersfield Royal Infirmary

Martin Moss  
Hospital Practitioner  
Maidstone DGH

Kyle Ashfield  
Cardiac Physiologist  
Royal Victoria Hospital, Belfast

Andrew Elkington  
Cardiology SpR,  
Musgrove Park Hospital

Uthirapathi Nagarajan  
Staff Grade Cardiologist  
Hemel Hempstead Hospital

Beverley Bates  
Cardiac Physiologist, The Heart  
Hospital, UCL

David Farrington  
Chief Clinical Physiologist  
Royal Liverpool and  
Broadgreen University  
Hospitals

Donna Norman  
Senior Cardiac Physiologist,  
St. Mary's Hospital

Stephanie Bayne  
Senior Chief Cardiac  
Physiologist  
Royal Brompton Hospital

Eva Fox  
Senior Cardiac Physiologist,  
AMNCH, Dublin

Claire O'Gorman  
Basic Grade Physiologist,  
Beaumont Hospital

Emma Beale  
Senior Cardiac Physiologist  
Royal Bournemouth Hospital

Joanne Gourdie  
Senior Cardiac Physiologist  
Freeman Hospital, Newcastle

Marie Prince  
Cardiac Physiologist,  
City Hospital

Gill Binns  
Chief Cardiac Physiologist  
Calderdale Royal Hospital

Frances Hancock  
Senior CCP,  
Cardiothoracic Centre,  
Liverpool

Alison Pusey  
Senior Chief Technician,  
St. Mary's Hospital

Helen Burgess  
Senior Cardiac Physiologist  
Wythenshawe Hospital,  
Manchester

Jenny Harnett  
Cardiac Physiologist  
Maidstone DGH

F Russell Quinn  
SpR in Cardiology,  
Glasgow Royal Infirmary

Cheryl Carr  
Cardiac Physiologist (MTO3)  
Wythenshawe Hospital,  
Manchester

Julie Henderson  
Senior CCP  
Cardiothoracic Centre,  
Liverpool

Siva Ratnatheepan  
Chief Cardiac Physiologist  
Epsom & St Helier  
University Hospitals NHS Trust

Claire Chitty  
Arrhythmia Specialist Nurse  
London Bridge Hospital

Sarah Justice  
Chief Clinical Physiologist  
Kent & Sussex Hospital

Lisa Rogers  
CSO4,  
Kings Mill Hospital

Kerry Connor  
Senior Clinical Physiologist  
Leighton Hospital

Karikalan Kandasamy  
Locum Consultant  
Royal Cornwall Hospital

David Shailes  
Senior Cardiac Technician  
Southend General Hospital

Ian Culshaw  
Senior Clinical Physiologist  
Cardiothoracic Centre,  
Liverpool

Kim Mills  
Cardiology MTO4  
Birmingham Children's  
Hospital

Alison Shennan  
Senior Chief Physiologist,  
St Helier Hospital

Lucy Davies  
Cardiology MTO3  
Princess Royal Hospital

Olivia Miskimin  
Chief Physiologist &  
Clinical Educator  
Trafford General Hospital

Sharon Sherwood  
Principal CCP,  
St. Mary's Hospital

Maxine Dodd  
Arrhythmia Specialist Nurse  
Manchester Royal infirmary

Tracey Molyneux  
Senior Chief Clinical  
Physiologist  
Royal Liverpool & Broadgreen  
University Hospital

Anna Simpson  
Chief Cardiac Technician,  
AMNCH, Dublin

Rebecca Spiby  
Clinical Physiologist,  
Cardiology  
Solihull Hospital

Andrew Watson  
Managing Director,  
Cardiocare Ltd

Emma Wagg  
Senior Cardiac Physiologist  
Maidstone Hospital

Joanne Turner  
Senior Cardiac Physiologist,  
Freeman Hospital,  
Newcastle-upon-Tyne

Lee-Anne Whitaker  
Senior Clinical Physiologist  
Bradford Royal Infirmary

## Blackouts: proposed NICE Guideline

One of the issues that emerged strongly in the DoH Expert Reference Groups for the NSF for Arrhythmias, was management of blackouts or transient loss of consciousness, (T-LOC). There are problems with terminology, misdiagnosis, (and often the wrong treatment), no diagnosis, (and therefore no treatment), and difficulties with patients caught in the wrong Care Pathway.

Terminology is particularly confusing. Definitions of “fits”, “seizures”, “funny turns” and “faints” are unclear. “Seizure disorder” denotes epilepsy in the USA, but Roget’s Thesaurus defines a seizure as: “*the act or an instance of seizing or the condition of being seized. A sudden attack, spasm, or convulsion, as in epilepsy or another disorder. A sudden onset or sensation of feeling or emotion.*” Reflex Syncope has numerous synonyms, including; vasovagal, neurocardiogenic, vasodepressor, neurally mediated hypotension and bradycardia syndrome, emotional fainting, pallid breath holding spells, pallid infantile syncope, reflex anoxic seizure, reflex asystolic syncope, malignant vasovagal syncope. Emergency departments use “collapse? cause”. American authors use “syncope” to denote any T-LOC, including epilepsy, whereas European authors have tended to reserve syncope for “T-LOC due to transient global impairment of cerebral perfusion causing collapse”. We prefer T-LOC, and reserve judgement about the pathophysiology being; a primary dysfunction of the brain, (usually epilepsy), a primary dysfunction of the circulation, (i.e. syncope), or a primary dysfunction of the psyche, (psychogenic blackouts), until after thorough clinical evaluation backed up where possible by laboratory evidence. Patients broadly understand the term “blackout”, and it does not imply or confer a diagnosis. It is always worth noting that a TIA cannot cause syncope. A TIA is “a transient loss of neurological function due to local impairment of cerebral bloodflow”, and T-LOC “is a transient loss of consciousness without neurological deficit”. Propagating this lesson may save many unnecessary carotid Dopplers, and possibly some carotid procedures.

Misdiagnosis is a common problem, especially for epilepsy when the true diagnosis is convulsive syncope. In Reflex Syncope, abnormal limb and facial movements and loss of bladder, and sometimes bowel, control are common. Fifty per cent of us faint during life, but only about 1% have a label of epilepsy. Misdiagnosis rates are between 20 and 40%, with higher rates in children. The diagnosis of epilepsy is made by clinical evaluation, not by laboratory tests. An EEG may be used by a neurologist to define an epilepsy syndrome, and it is often unhelpful in diagnosing epilepsy, especially between T-LOC episodes, (inter-ictal EEG). Currently, far too many patients are labelled as epileptic after evaluation by a generalist, but by the same token, many patients with Reflex Syncope are seen in neurological clinics, e.g. “First-Fit” clinics. Neurologists who run these clinics say that more than 50% of referrals are patients with Reflex Syncope, not epilepsy. Epilepsy is a serious diagnosis with important implications for interuterine health, growth, development, education, employment and reproduction. Misdiagnosed patients who have had children damaged in utero have received large compensation settlements. It is important to understand that many epilepsy syndromes may

occur without collapse, (collapse is defined as “abrupt loss of postural tone, with or without T-LOC”), e.g. partial seizures, partial complex seizures and juvenile myoclonic epilepsy.

Many patients with “collapse?cause” and T-LOC leave hospital without a clear diagnosis. Many have recurrences where the patient repeats the prolonged hospital stay, and often the same tests. Research from Newcastle has shown that many elderly patients with “falls” actually have a blackout prior to the fall, and for many reasons, including amnesia, this is not reported. This can lead to care of a broken hip on an orthopaedic ward, but no pacing, for a transient bradyarrhythmia. Newcastle data shows a very high yield of likely transient bradyarrhythmias on orthopaedic wards, and a very cost-effective benefit for pacing. In Central Manchester, despite the confounding effect of many coding problems, it is clear at least 250 patients admitted acutely with T-LOC in 2003 consumed 3,500 bed days, and the majority left hospital undiagnosed. In UK neurology clinics, only 4% of patients have an ECG. This is of major concern, and could be put right quite cheaply, as well as promptly, because a number of patients will have evidence of a primary electrical disease, such as Brugada Syndrome or LongQT syndrome. Many doctors rely on a 24hour Holter monitor to exclude an arrhythmia cause of T-LOC, but all such Holter studies consistently show that the yield of ambulatory monitoring is about 1%, making it useless and costly. Event monitoring is slightly better, but has a yield of <20%. Tilt-table testing is now being used by neurologists. Unfortunately, this is also a provocative test performed out with spontaneous typical symptoms. The yield of tilt-testing is clearly related to the pre-test likelihood of a positive or negative test, making it much less useful for the uncertain cases where clinical evaluation doesn't give good clues. Further, the additional yield of drug-provocation during tilt is clearly obtained at the expense of specificity. The best data is data obtained during a spontaneous episode of T-LOC, and this is currently only obtainable with implantable ECG recorders. These have a 6 month yield of over 80%, and are very reliable for diagnosing brady- or tachyarrhythmias. They will soon have much-enhanced automated data-collection, and a three-year battery life. Unfortunately, they do not collect data on blood-pressure and brain activity during a spontaneous T-LOC, and so also have important limitations. Nevertheless, the forthcoming report of the ISSUE 2 investigators, which randomised patients to a conventional workup versus Reveal-based strategy, will show considerable diagnostic and cost-effectiveness benefits for Reveal.

Care-pathways are needed that permit close collaboration between specialties in localities where T-LOC patients are being managed, which are overwhelmingly DGHs. Patients need to get a risk-based triage in the acute setting, and features that suggest epilepsy or arrhythmic syncope, (especially where there is evidence of structural heart disease), should prompt referral to the respective specialist neurologist or electrophysiologist, (as outlined in the NSF for Arrhythmias). However, they also need rapid access that prevents treatment with anti-epilepsy drugs because the wait for neurological evaluation is too long, and Rapid Access Blackouts Clinics, (as required by the NSF for Arrhythmias), should help patients “circulate” in the triage phase before conclusions are drawn, and a misdiagnosis results. A further advantage is that by managing a lot of “routine” referrals in the triage phase, more urgent and convincing cases of epilepsy and arrhythmic syncope can be seen more quickly. Of particular importance to these clinics is the governance structure, which cannot be based on an ad hoc arrangement, and needs supervision by a neurologist and cardiologist/electrophysiologist, with time provided to go through case-histories “off-line”. Such Care Pathways are now approved by the Department of Health, including models for the configuration and governance of Blackouts Clinics, and are available on their website, and on the Arrhythmia Alliance website. Copies are due to be distributed to all GPs and A&E's soon and are available with this newsletter.

One of the confounding factors has been that in the last 2 years, the DoH/NHS/NICE have released an Epilepsy Guideline, a Falls Guideline, and an NSF Chapter on Arrhythmias and Sudden Cardiac Death. It is highly likely that many of these patients have Reflex Syncope, but they could be managed in three different ways in three different parts of the hospital. Now there is the prospect of a NICE Guideline on Blackouts, and I have been asked by NICE to recommend cardiology / EP / neurology etc colleagues to establish a working group. The first meeting with NICE is on November 17th.

If NICE decide to approve this guideline development, we will probably need more electrophysiologists, arrhythmia nurses and cardiac physiologists. Anyone interested in participating should contact me either directly or via HRUK and nominations/proposals would be welcome.

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## URGENT ~ Email addresses required!!!!!!!

If you are planning to attend the British Cardiac Society Annual Scientific Conference in Glasgow in April 2006 then we need your email address. Registrations for the conference will be starting soon so we need to collect a full HRUK database of email addresses in preparation. To qualify for the affiliated group discount you will need to verify your HRUK membership by providing your email address, which will be matched to the one held on the HRUK membership database.

Please send Susannah Gray your email address by contacting [hruk@bcs.com](mailto:hruk@bcs.com). Having a full record of email addresses will also aid communication within HRUK. Your email address will not be given out to any third party without your permission and it will only be used by HRUK to pass on any relevant membership information. Please contact Susannah Gray, the new HRUK administrator, with your email address today. [hruk@bcs.com](mailto:hruk@bcs.com)

## HRUK Contact details

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