

**Nominations to
BMUS Council**

**WHERE HAVE ALL
THE ULTRASOUND
PHYSICISTS GONE?**

**Greetings
from Dartmoor**

**IT'S ALL ABOUT
PROBE HYGIENE!**

**2017 ASM
Update**

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Moor News – Greetings from Dartmoor

“April dress’d in all his trim hath put a spirit of youth in everything”

As I write this column the sun is shining (even on Dartmoor) and the blossom is bursting into life confirming that spring has finally arrived. The pleasure of being able to drive into and home from work in the sunlight makes everything feel a little better and even a previously grumpy old ultrasound consultant feels a little younger and more cheerful. I hope that the new season has also lightened your spirit as we look forward to a scorcher of a summer, as promised in The Sun with the memorable headline “Happy Phew Year: 2017”.

In ultrasound news is the recent publication of the Sonography Workforce Review by the Centre for Workforce Intelligence (CfWI). This review was commissioned by the Department of Health and Health Education England (HEE) to inform decisions on short and long term workforce plans in diagnostic ultrasound. The makeup and demographics of the ultrasound workforce in England is unknown for many reasons, not least because sonography is not currently a regulated profession in the UK, and there has been little incentive for organisations to collect accurate data on the ultrasound workforce. Anyone working in ultrasound in the NHS will be all too familiar with the problems of trying to deliver a high-quality service and deliver “hands on” training for students in the face of a severe shortage of trained sonographers. You will be unsurprised to find that the main findings of the survey show;

1. That the majority of diagnostic ultrasound examinations are performed by sonographers
2. High vacancy rates, dependence on agency, locum and bank staff
3. A lack of experienced ultrasound practitioners with sufficient time available to deliver ultrasound training.

HEE will use the information from this survey to undertake a workforce modelling project to inform decisions on commissioning and investment for the future. The survey has confirmed that a postgraduate diploma in medical ultrasound is the most common qualification held by the ultrasound workforce in the UK. You will probably be aware that different pathways of sonographer training are currently being considered and,

in some cases implemented, to address the workforce shortage; these include incorporating direct entry to ultrasound at first-degree level. BMUS continues to provide expert opinion to HEE and other interested parties to ensure that any route of training maintains the highest standards of ultrasound practice and produces sonographers that are adequately trained to meet the needs of NHS employers. BMUS will maintain its position that the acquisition and reporting of an ultrasound examination cannot be separated (<https://www.bmus.org/mediacentre/news/bmus-statement-sonographer-workforce-review/>) and will also continue our campaign for “sonography” to become a registered profession by the HCPC.

In May we will be seeking nominations from members for election to BMUS Council, details will be posted on the website and in this newsletter. Please do consider putting yourself forward for election. One of the greatest strengths of BMUS is its multidisciplinary membership which must be reflected in the makeup of the BMUS Council. We would be particularly pleased to receive applications from medical physicists this time, but applications from all disciplines will be welcomed.

Work is progressing well towards the BMUS ASM in Cheltenham this December, Peter Cantin and his team have drawn up a wide ranging and exciting scientific programme that should provide interest and education for all of us working in ultrasound. There will be the traditional BMUS social programme and the opportunity to explore the cultural centre for the Cotswolds. BMUS has been asked to contribute to an ultrasound exhibit in the medical wing of the Science Museum; I hope to be able to give you more information on this exciting collaboration later this year. 2018 will be the 50th anniversary of BMUS and work is already underway on next year’s ASM to mark this historic occasion.

I wish you all a very happy summer and hope to see as many of you as possible in Cheltenham later this year.

Simon Freeman
BMUS President



Nominations to BMUS Council - 2018



In accordance with the Memorandum and Articles of the Society, applications are invited from resident UK BMUS members for several vacant positions, which arise at the end of the current year, on BMUS Council.

BMUS Council comprises a maximum of 18 members, 12 of whom are elected from the membership of the Society. This elected group is currently represented by 4 Clinicians, 2 Physicists and 6 Sonographers. Under the Society's Articles the minimum numbers required from each speciality is two members.

Nominations are therefore invited from all specialties to fill these vacancies, however to maintain an appropriate balance on Council, applications from Physicists and Clinicians would be particularly welcomed at this time.

The online application will close at midnight on Sunday, 2nd June 2017

To submit a nomination please use the online form which is available on the BMUS website homepage under the 'News' section on the right hand side.

Please note that nominees must be proposed and seconded by two members of the Society and should include a brief summary of their present position and relevant activities within their submission, therefore please ensure that you have this information prepared before beginning your submission. No member may make more than one nomination.

Dr Emma Chung
Honorary Secretary

Grumpy Old US Consultant

Weasel words

"Weasel words" is one of the author's battle cries. No idea why or when I adopted it so I thought I would do some in depth research to check it carried the information I wished. Dr Google to the rescue:

Weasel word - Wikipedia

https://en.wikipedia.org/wiki/Weasel_word

A **weasel word**, or anonymous authority, is an informal term for words and phrases aimed at creating an impression that a specific or meaningful statement has been made, when instead only a vague or ambiguous claim has actually been communicated.

Which is pretty much what I intended to convey. So I would like to share a few examples of this foul practice. The first is a

habitual offender in US reporting, the others picked up in a couple of minutes looking at output from a recent US list.

1. *The bile ducts are prominent.*
2. *The pancreas could not be positively visualised.*
3. *Spleen is grossly enlarged and measures approximately 18.6 cm.*

To deal with these in reverse order, "approximate" cannot reasonably apply to a US measurement to one decimal place as interobserver and intraobserver error is in the order of 5mm. So what is "approximately" doing in the sentence? What is it intended to convey to the reader?

Paradoxically I suspect it is intended to protect the sonographer from the error inherent in the measurement.

Positively visualised?? Take the word positive out and there is no change in meaning so what is it there for? I suspect it is a stylistic flourish intended to disguise the technical failure to find the pancreas (was oral water given??).

"Prominent" is a valid descriptor. The prominent thing "stands out" more than the reporter expects or is used to. But what is the reader to make of this observation?

The result is often another imaging examination, but looking for what?

When a structure is considered prominent, this begs the question:

Is the structure more / less echogenic than usual or is the background tissue more / less echogenic than usual? It is



generally a question of contrast. Simple example is the relative brightness of vessel walls in the hepatic liver because the oedematous parenchyma is relatively echopoor. The reverse occurring when the vessel walls become less conspicuous in the fatty liver.

But the interpretation of "prominent" must be made by the reporter and not left to the reader!

Good practice requires regular audit of our reports and this is a perfect opportunity to score reports for the presence of unnecessary words (adding no meaning) or words that confuse the reader.

Good luck.

Obituary

Professor Peter N.T. Wells CBE FRS FREng FMedSci FLSW

It is with great regret that we announce the death of Professor Peter Wells following a short illness. Peter was one of the best known and highly regarded figures in the world of medical ultrasound. He influenced many in the UK ultrasound community both professionally and personally, and he will be very much missed. For those of you who attended the 2015 Annual Scientific Meeting in Cardiff, you will recall that we were honoured to have Peter deliver the keynote 'Donald MacVicar Brown Lecture'. The video of this lecture is available to members within the Cardiff 2015 footage on the BMUS website.

After education at a highly respected Bristol school Peter was lured temporarily in 1954 into the world of advanced technology offered by GEC, a prestigious electrical company. There he worked as a student apprentice and studied at the University of Aston. In 1958, he obtained the BSc in Electrical Engineering. He soon realised that medical physics presented a worthwhile career and he attended a course held at the General Hospital in Bristol by Dr Herbert Freundlich. He took up appointment as a Physicist in the Bristol General Hospital with a special interest in ultrasound. A treatment for Meniere's disease was under evaluation by the local ENT surgeons. It involved irradiating the semi-circular canals with ultrasound. The existing equipment was unsatisfactory and Peter was given the task to investigate the controlled production of ultrasound. He successfully developed not only a stable generator, but also a variety of measurement techniques and was awarded an M.Sc. for his thesis. His PhD came from investigation into the "biological effects of ultrasound", involving the study of nerve conduction in the giant squid axon. At that time interest in diagnostic uses of ultrasound was increasing and the application ideas were only limited by the available technology.

Peter with Ken Evans and Frank Ross built one of the World's first articulated arm B-scanners in 1964, modelled after the electronics of the bulky Dasonograph from the Donald group in Glasgow. He also constructed the first water immersion automated ultrasonic breast scanner and developed the first catheter mounted endosonographic probe outside of Japan. In cardiology an accurate time-position recording instrument was built. Most of these devices were in clinical uses for many years until commercially available equipment appeared to replace them.



In 1969 he was one of three authors to demonstrate the feasibility of pulsed Doppler and became the first person to describe the directivities of Doppler transducers. His research on the applications of Doppler ultrasound continued until his retirement. His other important pioneering work included the design of dynamic focusing with annular array transducers, acoustic speckle, the measurement of blood flow volume rate and the quantitation of Doppler blood flow signals. Gray-scale ultrasound was reinvented in the 1970s and Professor Wells was again at the forefront providing sound experimental reasons for its implementation. The boom in diagnostic use which followed was accompanied by an increasing awareness of the possibility of biological hazard resulting from scans. Again help was forthcoming in the form of a chart derived from a review of world literature. This chart formed the basis of several national standards and contributed significantly to the "100milliwatt guideline".

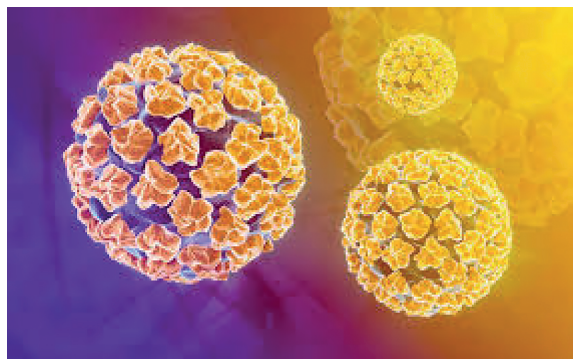
In 1972, he was appointed Professor of Medical Physics at the Welsh National School of Medicine in Cardiff. After a brief tenure, Peter replaced Herbert Freundlich on retirement as Head of the Bristol Medical Physics Department. He returned to Bristol as Area Physicist and, in 1978, he was awarded a DSc by Bristol University. In 1982 he became Chief Physicist at United Bristol Healthcare NHS Trust, the post he held until his retirement.

During his career Peter contributed to more than 15 books and 250 scientific articles, and was recognised as an exceptional mentor,

teacher, scientist, researcher and friend. He had lectured extensively in the United Kingdom and in over 20 countries abroad.

Peter was President of the British Medical Ultrasound Society during 1973 and 1974, and was also President of the British Institute of Radiology, and the Institute of Physics and Engineering in Medicine. He chaired the Science Council's 'Science in Health' Group, Radiation and Oncology Congresses, and the Royal Academy of Engineering's Focus on Biomedical Engineering. His contribution to medical ultrasound was outstanding, and had been recognised by the honorary memberships and fellowships conferred upon him, including honorary membership of the Royal College of Radiologists and honorary fellowships of the Australasian College of Physical Scientists in Medicine, the American Institute of Ultrasound in Medicine, and the Fellowship of Engineering.

On receiving the Sir Frank Whittle Medal, one of the Academy of Engineering's highest accolades for his outstanding achievements in medical engineering over six decades, Peter is quoted as saying: "I hope to go on being involved in research forever. It's the interest of the work – you don't do it for the money. You do it because it's interesting, and working in healthcare, you see some benefits. There's a real satisfaction that when people have their ultrasound scans, they are using technology I helped to develop." - See more at: <http://www.raeng.org.uk/news/news-releases/2014/september/ultrasound-imaging-pioneer-peter-wells-to-receive#sthash.AHH2wkix.dpuf>



HPV now showing at a probe face near you

It's all about probe hygiene!

Pamela Parker
Development Officer

Taking a break from education for a while my new favourite topic is infection control. Move over “How Clean is Your House” I’m upgrading to “How clean is your probe”!

The eagle eyes amongst you will have seen the recent notification in BMUS Ultrapost regarding the latest publications related to probe hygiene and disinfection guidelines. In the most recent revision of the Society and College of Radiographers and the British Medical Ultrasound Society “Guidelines of Professional Ultrasound Practice (2017) a round-up of available guidance on ultrasound probe cleaning and disinfection was published.

The guidance forms a section of the recently published revision to the ‘Guidelines for Professional Ultrasound Practice’, Section 1.7, page 15. This is available to download from the SCoR or BMUS websites and includes:

The NHS Scotland published ‘Guidance for the decontamination of semi-critical ultrasound probes, semi-invasive and non-invasive ultrasound probes’ (March 2016)

<http://www.hps.scot.nhs.uk/documents/hai/infection-control/guidelines/NHSScotland-Guidance-for-Decontamination-of-Semi-Critical-Ultrasound-Probes.pdf>

The following published information (2014) applies to Wales. Welsh Health Technical Memorandum 01-06.

There is a section within on cleaning and disinfecting transvaginal and transrectal probes

[http://www.wales.nhs.uk/sites3/Documents/254/WHTM 01 D06 Part C.pdf](http://www.wales.nhs.uk/sites3/Documents/254/WHTM%2001%20D06%20Part%20C.pdf)

The SCoR published general advice and an overview in September 2014. This includes reference to two Medicines and Healthcare Products Regulatory Authority (MHRA) alerts.

The hyperlinks to the two MHRA alerts are:

<https://www.gov.uk/drug-device-alerts/medical-device-alert-reusable-transoesophageal-echocardiography-transvaginal-and-transrectal-ultrasound-probes-transducers-failure-to-appropriately-decontaminate>

<https://assets.digital.cabinet-office.gov.uk/media/5485ac42ed915d4c100002a7/con065543.pdf>

Most recently the Australian Society for Ultrasound in Medicine published “Guidelines for Reprocessing Ultrasound Transducers”

<http://onlinelibrary.wiley.com/doi/10.1002/ajum.12042/pdf>

Confused? Rest assured – BMUS is here to help.

BMUS aims to produce pragmatic and practical guidance which is mindful of time and finance constraints during 2017. However, guidance will need to adhere to published evidence and not conflict with the current alerts and guidelines already in place in some parts of the UK.

Do you have any strong views or would like to input? Please do get in touch at office@bmus.org.

Where have all the ultrasound physicists gone?

As the number of ultrasound physicists in UK hospitals reaches its lowest point in decades, how can we demonstrate that physics still remains relevant within the NHS?

A recent workforce survey of Medical Physics staff supporting ultrasound in the UK conducted by the Institute for Physics in Engineering and Medicine (IPEM) confirms that hospital ultrasound physicists are becoming increasingly rare. The report highlights worryingly low level of ultrasound physics support. In recent years, a large number of physicists have retired, and since fewer trainee Clinical Scientists are choosing to specialize in ultrasound, experts in ultrasound are unlikely to be replaced. In IPEM's survey staff were found to spend less than 20% of their time supporting ultrasound, focusing instead on other areas of Diagnostic Radiology and Radiation Protection.

Despite being the second most commonly used imaging technology in the NHS, after X-rays, there are no legislative requirements for the safe use of ultrasound. Although some hospitals have Quality Assurance (QA) processes in place to confirm that ultrasound equipment is working as expected, QA is typically misdirected, patchy, and low on the list of hospital priorities. The introduction of simple routine equipment checks by users provides a valuable opportunity for clinical staff and physicists to work more closely together to agree an appropriate level of QA for specific diagnostic applications and to better understand clinical concerns. Currently ultrasound physicists tend to be distant from clinical users, and have a tendency to focus purely on the technology, rather the context of the use of ultrasound within the patient pathway. For ultrasound scientists based within a Radiation Protection culture, QA all too often exists in a silo, performed without considering the clinical end-point, and with little or no feedback to users.

I would argue that ongoing annual QA cycles are distracting ultrasound physicists from the real job of Clinical Scientists within the NHS, which is to smooth the introduction of new technologies and service improvements into clinical practice. Hospital ultrasound

physicists need to be actively involved in the training of clinical staff and able to assess whether ultrasound measures are reliable and fit for purpose. Only a few weeks ago, I was saddened to see the deaths of several babies at Shrewsbury and Telford Hospital NHS Trust reported in the national news highlighting a failure of Doppler ultrasound equipment to clearly distinguish maternal from fetal heart-rate). Tragically, these deaths might have been avoided by developing a Doppler system that simultaneously monitors both mother and fetus to automatically compare heart rates and avoid any potential for ambiguity. Perhaps, better collaboration between physicists and obstetricians could have helped to solve this problem years ago.

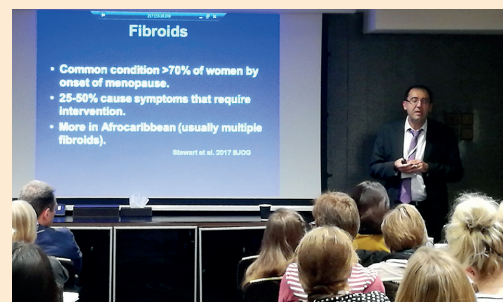
NHS hospital physicists are ideally placed to accelerate integration of ultrasound methods into clinical practice. Similarly to Clinical Scientists in other areas of medical physics, such as radiotherapy or MRI, our goal should be to accelerate the introduction of emerging ultrasound technologies such as elastography techniques, vector Doppler, and contrast enhanced ultrasound towards routine use within the NHS. Although part of this process may involve assessing and calibrating the functioning of medical devices, our main aim should be to offer a sound scientific foundation for practitioners to advance their clinical practice to the benefit of patients and the NHS. This would incorporate user-led QA processes that are commensurate and fully integrated with practice. Physicists should try to avoid letting routine testing of machine specifications distract them from the important job of evaluating and improving ultrasound services.

In my view, BMUS members of the ultrasound physics community could provide a valuable contribution toward shaping the role of ultrasound physicists within the NHS. BMUS is keen to encourage more ultrasound physicists and technologists to get involved with the Society and will soon be calling for new Council members. I hope that some ultrasound physicists will seriously consider putting their names forward.

Emma Chung
Honorary Secretary

Gynaecology study day 2017

April 27th saw the start of the BMUS study day programme with a full day of Gynaecology lectures. The day started with the basics of the pelvis but soon moved on to cover the more challenging aspects of Gynaecology with Mr Haitham Hamoda, a specialist in reproductive health from Kings College Hospital, talking about fibroid mapping, and Dr Andrea Sanderson, a Consultant Radiologist from Mid Yorkshire Hospital NHS Trust, assessing Endometriosis and Ultrasound vs MRI.



Dr Susanne Johnson, from Princess Anne Hospital, Southampton ran two very interactive sessions either side of lunch looking at imaging the ovaries and IOTA and putting theory into practice. Dr Johnson's presentation style was perfect for the after lunch lull getting all delegates involved and interacting with the material.

Dr Anne Marie Coady, a Consultant Radiologist from Hull and East Yorkshire NHS Trust, followed with a look at Ultrasound of the cervix and vagina, the middle part of the day was completed by Mr Philip Harris, a Consultant Obstetrician and Gynaecology from Wrightington Wigan and Leigh NHS Trust, discussing Advanced Ultrasound: HYCoSy. Mrs Pamela Parker, Ultrasound Manager from Hull and East Yorkshire NHS Trust completed the day discussing professional issues including, Duty of Candour, Auditing and Reporting.

Feedback from the delegates was really positive. For those members who were not lucky enough to secure a place on this Study Day, there will be a half day of Gynaecology followed by an afternoon session on Early Pregnancy on Friday 8th December at the Annual Scientific Meeting in Cheltenham. Additionally a further Gynaecology Study Day is being planned for the early half of 2018. **We hope to see many of you there!**



Update on BMUS ASM 2017.

Peter Cantin

Spring is well and truly upon us and BMUS 2016 is fast becoming a distant memory.

Preparations for the BMUS Annual Scientific Meeting 2017 are now well underway, ensuring that December 2017's programme is as informative and entertaining as previous years.

The amount of planning and preparation that goes into making BMUS such a successful event year-on-year is enormous. Stream leads are allocated to each subject area in February and work very hard in ensuring that the scientific and practical sessions are informative, relevant and entertaining. They are responsible for the subject areas, lecture titles and speakers for each of their sessions.

The Scientific and Education Committee oversee this process and try and plan the overall programme so that delegates are able to attend as many talks relevant to their own interests as possible. While this may sound simple, it always proves to be an unexpectedly complex task, ensuring that the needs and requirements of delegates are met as far as possible.

The manufacturers are also making preparations to show us their latest equipment, innovations and techniques. A walk around the exhibition hall is both fascinating and fun, but it can sometimes be difficult to then go back to our own departments and carry on working with our existing equipment, which might not seem quite as good in comparison!

Finally, The BMUS office is the backbone of the operation. Joy, Emma, Tracey and Amanda put an enormous amount of effort, dedication

and skill into ensuring that the scientific and social aspects of the ASM run smoothly and seamlessly.

The ASM programme brief has now been finalised and will be published shortly. There is the usual mix of lectures, practical sessions, and master-classes which should provide something for ultrasound practitioners of all backgrounds, clinical and professional interests.

The call for papers is also to be made soon. This enables any ultrasound practitioner to share their research or clinical work in either poster format or by oral presentation. BMUS has always provided a gentle and appreciative atmosphere in which less experienced presenters are encouraged to present their work. The mixture of established and newer presenters allows BMUS to retain its fresh feel and I very much hope that members continue to submit their work for inclusion in the ASM.

Finally, the venue is new to BMUS but Cheltenham racecourse provides an iconic backdrop. It is very well laid out for BMUS purposes. The exhibition hall is large giving a relaxed space with which to talk to manufacturers and meet up with old friends. There is also ample space for the poster exhibition.

All in all, the 2017 ASM is shaping up to be an extremely good meeting. While December may seem a long way off, the organising team are already working hard to ensure that the ASM retains its seamless and well-organised appeal.



BMUS Study Days 2017

Each year, BMUS runs a varied programme of study days and events throughout the year. These are spread across the country and differ from year to year.

During 2017, we will be running a number of study days that cover core areas such as Gynaecology, MSK and Head and Neck as well as popular areas such as Paediatrics and Abdominal.

All these courses carry BMUS CPD points.

For programme and registration, visit www.bmus.org

June

Head and Neck

6th June 2017

Kings CEUS Paediatric Course

19th & 20th June 2017, London

Dublin Summer School

23rd & 24th June 2017, Dublin

September

Abdominal

5th September 2017, Manchester

Oxford Ultrasound Study Day

9th September 2017, Oxford

Paediatrics

29th September 2017, Leeds

October

Obstetrics

13th October 2017

December

Ultrasound 2017

49th Annual Scientific Meeting

6th – 8th December 2017,

Cheltenham