

SOCIETY FOR VASCULAR TECHNOLOGY OF GREAT BRITAIN AND IRELAND

President – Rachel Harris; **Vice-President** – Mary Ellis; **Treasurer** – Rachel Cuming; **Ex-President** – Jackie Walton; **Conference Secretary** – Dominic Foy;
Secretary – Kate Sommerville, The Vascular Laboratory, The Middlesex Hospital, Mortimer Street, London W1N 8AA
Committee Members – Greig Butler; Maria Grouden

AUSTRALIA BECKONS ONCE MORE!

Ten to fifteen years ago it was very popular for surgeons having qualified in Australia, to come to Britain for a couple of years and "do Europe". Working as research registrars they would then sit their British FRCS exams, which needless to say they considered to be slightly inferior to the Australian examination and return to Australia to mop up all the prime consultancy posts!

With these links now firmly established, over recent years we now find British surgical registrars returning the compliment.

The department of surgery at Charing Cross Hospital, London has seen Mr. Alan Meek who initially spent a year in Brisbane eventually return to Sydney to take up a consultancy post in Vascular Surgery. Following on Mr. Shane Macsweeney the present Senior Registrar at Charing Cross, is to spend six months from January 1995 in Perth as a Vascular Surgeon.

The surgeons are not alone!

Kate Somerville the SVT secretary and previously vascular technologist at St. Thomas's, London, has already 'done' her year, having spent some time in a Sydney vascular lab before going to the Middlesex Hospital, London. Earlier this year we said goodbye to Qui Robinson when she emigrated to a vascular post in Sydney.

Now we must say goodbye to Nicci Stubbing our member in Stafford. She will be taking up a post as Vascular Nurse Consultant at the Royal Prince Albert Hospital, Sydney. This is truly the "Age of

Enlightenment". Mr. Gwynn has agreed for Nicci to take a sabbatical for one year! We welcome Pam Bailey a new recruit to vascular technology in her place and wish her well on entering this exciting field. No doubt the work load will have swelled sufficiently in one year to accommodate two vascular technologists on Nicci's return.

It is apparent that there is a desperate need for fully trained Vascular Technologists in this country. Of course the description "fully trained" depends greatly on the needs of the employer. It could describe someone who is considered by their superiors to be proficient in the non-invasive assessment of the carotid, vertebral, aortic, iliac and lower limb arteries, together with non-invasive assessment of the lower limb venous system. Adverts asking for trained technologists are lucky if they receive just one reply. Even the candidate's skills are often limited to just one area of the body.

For this reason we at Charing Cross have had to look further a field and are fortunate to welcome Mr. David Baker, yes you've guessed it an Australian vascular technologist from John Teasedale's lab in Perth. He comes to us work permit pending, via David Goss's lab in Kings College, London where he has spent the last nine months.

Hopefully as younger people are attracted to this wonderful field of vascular technology and employers are prepared to release their staff for short periods to embark on courses, this problem of supply and demand will be surmounted. Unfortunately as long as Australia beckons this task will remain more difficult.

**Mary Ellis, Vice-President,
Charing Cross Hospital, London.**

DATES FOR YOUR DIARY

- 23th NOVEMBER** 3rd Annual Conference, SVT Edinburgh (01202) 704566 to run back to back with
24th–25th NOVEMBER Society for Vascular Surgeons Annual Conference.
13th–15th DECEMBER The British Medical Ultrasound Society Scarborough 071 636 3714

1995

- 3rd–7th APRIL** World Congress of the International Union of Angiology London 071 725 6243
10th–11th APRIL 17th Charing Cross International Symposium Vascular Imaging for Surgeons
081 846 9887

PERIPHERAL VASCULAR ULTRASOUND:

R SFA I +8; Where Am I?

Within any vascular department, it is important to establish a recognised system of labelling ultrasound images and waveforms obtained from blood vessels. By ensuring this is done, confusion between different sonographers may be avoided, communication with clinicians is enhanced and review of scans at a later date may be more confidently performed. The method used in Newcastle is strongly structured whilst allowing the flexibility to cope with varying situations. The basic principle is that of a hierarchical nomenclature in which the label used always follows the same format, namely: **side – vessel name – position on vessel – view**
side: most peripheral vessels examined occur bilaterally and so the first part of any label should indicate right (R) or left (L). In the case of a unique vessel such as the innominate artery, this term would not be necessary.

Vessel name: the artery or vein is indicated by means of a short name, usually two or three characters long. If there is some doubt as to which vessel has been viewed, the label may be preceded by a question mark.

e.g. L ?SFA/collat – the vessel is possibly the superficial femoral artery or possibly a collateral.

Position on vessel: the position on the vessel may be given

- a) in general terms such as origin (orig), proximal (prox), middle (mid) or distal (dist) for arteries, where proximal implies towards the heart, and distal away from the heart. In the case of veins, where flow is in the opposite sense, the terms proximal and distal may be ambiguous. Therefore for veins it is suggested that terms are expressed relative to major landmarks such as above or below the knee (AK, BK) mid calf etc.

Labelling vessels in a general way is most useful when considering the whole vessel segment rather than looking at isolated lesions or points of interest.

e.g. R POP PROX – the proximal end of the popliteal artery.

L LSV AK – long saphenous vein above knee.

- b) relative to a superficial or easily palpable anatomical landmark such as the inguinal ligament, adductor tubercle (AT) or below jaw (BJ) as the most distal point the ICA can be detected.
- c) relative to an internal anatomical landmark visible whilst imaging, for example, a bifurcation (bif) or, in the case of a graft, proximal and distal anastomoses (PA, DA).

Relative positions are given in centimetres measured from the landmark. The suggested convention is to measure distances towards the heart negatively and away from the heart positively. This equates to the positive direction of flow in the arteries.

e.g. L ICA bif+3 –3 cm above left carotid bifurcation

R SFA AC – superficial femoral artery at adductor canal

L PTA MM-6 – posterior tibial artery 6 cm above medial malleolus

R graft PA +2 – graft 2 cm distal to proximal anastomosis

View: Lastly, when necessary to avoid ambiguity, the view used is indicated

e.g. transverse (trans) or longitudinal (long) section etc.

This system has been in use in Newcastle upon Tyne for several years and has proved to be both flexible and robust in practice. It is easily adaptable when new situations arise and aids in writing reports which are clear and concise.

*Crispian Oates
Principal Physicist,
Newcastle upon Tyne*

A Letter to the Editor

Dear Editor,

The article in Newsletter No. 6 "How safe is vascular ultrasound for vascular diagnosis?? Should the scan be 'canned'?" raises some important issues of which everyone involved in ultrasound scanning should be aware. However we would like to make some comments concerning the article and to update some of the information presented.

The maximum acoustic outputs given in Newsletter No. 6 are not representative of the current situation. A summary of the data from a survey of acoustic outputs measured in the Northern region between January 1991 and January 1994 is shown in Tables 1 & 2 (Henderson et al 1994). The maximum I^{SPTA} values measured in this survey are in Excess of 9 W/cm² in pulsed Doppler mode, 2 W/cm² in colour flow imaging mode and almost 1 W/cm² in B mode. The survey also showed a substantial overlap between the ranges of I^{SPTA} values measured in these three modes. Also, for some probes B mode I^{SPTA} values exceed those measured in M mode.

Although these high I^{SPTA} values are cause for concern, on its own I^{SPTA} is not a reliable indicator of the temperature rise that may be produced by a probe. Whilst it may be possible for a particular probe to produce a 1°C temperature rise for an I^{SPTA} of 100 mW/cm², this does not mean that all probes operating at I^{SPTA} values of 100 mW/cm² or more will produce temperature rises of at least 1°C. This is because the temperature rise produced by an ultrasonic field depends more on the spatial distribution of temporal average intensity than on its peak value. For example, we have calculated a maximum temperature of 0.38°C for a probe producing an I^{SPTA} of 1800 mW/cm² (Jago et al 1994). The calculation was based on a measured three dimensional I^{TA} distribution and used a homogeneous tissue model.

	Range (mW/cm ²)	Mean (mW/cm ²)	Median (mW/cm ²)	n
M mode	11.2-430	121	106	121
B mode	0.3-991	105.9	34.0	194
PD mode	173-9080	1659	1180	118
CD mode	21-2050	344	290	87

Table 1. Maximum I^{SPTA} values from diagnostic ultrasound probes in current clinical use in the Northern Region.

	Range (mW)	Mean (mW)	Median (mW)	n
M mode	1-68	20.6	9	24
B mode	0.3-285	77.8	75	45
PD mode	10-440	123.8	100	39
CD mode	15-440	119	90	29

Table 2. Total acoustic power values from diagnostic ultrasound probes in current clinical use in the Northern Region

Several studies have shown that the total acoustic output power is a far better indicator of ultrasonic heating potential than I^{SPTA} . The ranges of acoustic powers measured for M, B, pulsed Doppler and colour flow imaging modes are shown in Table 2. The maximum total acoustic powers measured were in excess of 400 mW for both pulsed Doppler and colour flow imaging modes and in excess of 200 mW for B mode. The overlap between the ranges is even greater for total acoustic power than for I^{SPTA} .

The distribution of I^{SPTA} and total acoustic power values from the survey are highly skewed with mean and median values well below half the maximum values. The types of scanner producing the high acoustic outputs are generally the more complex 'top of the range' scanning systems. These are the types of scanning system most often used for vascular diagnosis as they are the ones with pulsed Doppler and colour flow imaging as well as B mode facilities.

Incidentally according to A Physicist's Desk Reference (2nd edition 1989, American Institute of Physics, New York) the surface temperature of the sun is 5800 K.

References:

Henderson J., Willson K., Jago J.R. and Whittingham T.A. A survey of the acoustic outputs of diagnostic ultrasound scanners in current clinical use in the Northern Region. Submitted for publication to Ultrasound in Medicine and Biology.

Jago J.R., Mitchell G. Whittingham T.A. and Henderson J. Practical measurements of the distribution of time averaged intensity from medical ultrasound probes and its application to thermal modelling. Institute of Physics Annual Conference, April 1994.

Your Sincerely,

Jon Henderson & James R. Jago

COURSES

List of short and long courses for Vascular Technologists

• SHORT COURSES

Professor John Woodcock

University Hospital of Wales, Cardiff.

Three & Five day courses:

Small Tutorial groups with lectures & practical sessions where appropriate – grey scale functions, Doppler functions, Carotid scanning, lower limb, abdominal, general pathology patients. (Five day course only – tumors).

3 day date: Dates for 1995 to be arranged

Cost: £320.00 + VAT incl. accommodation & transport

£210.00 + VAT basic course registration

5 day date: Week commencing Mon. 14th Nov 1994

Dates for 1995 to be arranged

Cost: £1,005.00 + VAT incl. accommodation & transport

Tel: 01293-560772 – Ms Valerie Carus

Charing Cross Hospital, London.

A series of afternoon courses dealing with anatomy, pathology, clinical protocols, expert demonstrations and hands on experience.

Thurs 19th Jan 1995 – Ankle pressures & treadmill testing.

Thurs 2nd Feb 1995 – Upper limb arterial & venous.

Thurs 16th Feb 1995 – Lower limb arterial.

Thurs 2nd March 1995 – Visceral & renal arteries.

Thurs 23rd March 1995 – Carotid & Vertebral arteries.

Cost: single afternoon £75.00 all six for £395.00.

Tel: 081-846-9887 – Sue Hamblin

James Connolly Memorial Hospital, Dublin

Two day courses:

“A review course in Cerebrovascular Ultrasound” – dealing with basic physics, haemodynamics & spectral analysis, anatomy & scanning protocols, plaque morphology & transcranial techniques.

Dates: 17th & 18th November 1994

January 1995 date to be arranged.

A short course about venous assessment is also being set for early 1995.

Cost: £200.00 per short course.

Tel: 010-353-1-475-8683 – Amanda Johnson

• POST GRADUATE COURSES WITH VASCULAR MODULES

Most courses are modular and can be selected from quite a wide range in order to gain a medical ultrasound qualification – modules apart from vascular include research methods, physics, instrumentation & imaging, quality assurance, research critique, obstetric u/s, gynaecological u/s, general medical u/s, cardiac u/s, Paediatric/neonatal u/s, current issues in medical u/s.

N.B. Some courses may not offer **all** these modules and other university postgraduate modules may be available.

North West RHA: University College, Salford.

PgC, PgD, MSc in Medical Ultrasound. (u/s).

Day release (8-20 people per module)

Tel: 061-745-3212 – Judy Fisher

Northern & Yorkshire RHA: Leeds College of Health

PgD, MSc in Medical Ultrasound.

Block release

Tel: 01943-876151 ext 6310/6427 – Jean Wilson

Trent RHA: University of Derby

PgC, PgD, MSc in Medical Ultrasound.

Day release (1 per week – afternoon and evening)

Tel: 01332-245635 – Miss Gill Grimshaw

Trent RHA: Sheffield Hallam University

PgC, PgD in Medical ultrasound.

Day release or block release (subject to demand).

Tel: 01742-532588 or 01752-532543

– Ealine McInnes

• UNIVERSITIES IN THE PROCESS OF SETTING UP VASCULAR MODULES

University of Hertfordshire

PgC, PgD, MSc – Medical Imaging Science (Ultrasound), vascular & cardiac u/s module available subject to approval from 01/01/95

Tel: 01707-284966 – Regina Fernando

University of Portsmouth

PgC, PgD, MSc Medical Imaging – Clinical ultrasound Doppler Module being prepared subject to approval for 1995 (generally geared towards radiographers)

Tel: 0705-866-190

Cambridge School of Radiography

A distance learning course with comprehensive vascular modules is being set up at this moment. No date has yet been arranged for first enrollment.

Tel: 01223-217-394 – Stephanie Williams

• ARDMS – THE AMERICAN REGISTRY OF DIAGNOSTIC MEDICAL SONOGRAPHERS – RVT QUALIFICATION

Distance learning courses of a high standard in Vascular Technology, Physics & other areas of Ultrasound with currently a final examination to be sat in the States. 2368, Victoria Parkway, Suite 510, Cincinnati, Ohio 45206.

Tel: (513)281-7111

Please bear in mind that some of the higher degree courses in medical ultrasound have not been set up purely with vascular technologists in mind and it may be better to wait until the Cambridge course for Vascular technology is up and running. It may also be a good idea to take a look at the American RVT course, which though **not a UK based benchmark qualification** is a very good standard to achieve.

This is by no means a comprehensive list! Please could all those members who are running courses or know of any taking place, please could you let me know about them. Rachel Cuming, Department of Surgery, Charing Cross Hospital, London W6 8RF

Technical Update

IMEXDOP CT+ The Innovative Portable Doppler

The Imexdop CT+ is a portable Doppler that is new to the U.K. It is a surprisingly light and well balanced instrument. The integral handle, spiral flex and protective probe housings all contribute to its robust and durable design, making it aptly suited for the heavy demands expected in a vascular laboratory and vascular surgical ward. The neat, slot-in, wall or table mounted, charging stand is unique to the IMEXDOP CT+, ensuring that even with multiple users, the instrument is always fully charged and ready when **you** need it.

The IMEXDOP CT+ is supplied with one probe, from a range of four – 2MHz, 3MHz, 5MHz, 8MHz – interchangeable probes, which all have high Doppler sensitivity. The instrument has high quality built-in speakers; however, an earphone is still included.

All controls – on, off, volume up or down, are push pad and can easily be operated with one hand.

An LED display informs the user whether the system is switched on, is charging or has low batteries.

Special recording jacks enable the Doppler waveforms to be diverted to an external printer, such as a basic ECG machine.

For further information or to

arrange an evaluation of the IMEXDOP CT+, please contact BIBA Medical. Telephone: 071 731 6443 or Fax 081 878 3925.

POSITION REQUIRED USA REGISTERED VASCULAR TECHNOLOGIST

seeks new challenges in
Vascular Technology in
Europe.

Contact: Bruce Smith RVT.
2600 Bushnell #3
Cincinnati, Ohio, USA
45204
Tel: (513) 471-0169

Inaugural Meeting of the SVT – Dublin

The first local vascular technology meeting was held in Dublin on April 23rd, 1994, with great success. The morning started with a reminder from Mr. T. V. Keavney, Vascular Surgeon (St. Vincent's Hospital) of the clinical requirements needed from the Vascular Laboratories. Sometimes it is all too easy to forget the clinical outcome of the test results. This was followed by an interesting talk on Transcranial Duplex Examination by Ms. Suzanne Ruddle (James Connolly Memorial Hospital). Transcranial Duplex Colour Flow, which was unimaginable a few years ago, is now becoming an everyday occurrence in the Vascular Laboratory. Ms. Maria Grouden (St. James Hospital) then spoke of her experience in Duplex Scanning of recurrent Varicose Veins, which is indeed a vast problem and hopefully by the study of recurrent cases the initial treatment will improve. False Aneurysms were the next subject as presented by Ms. Fiona Fitzgerald (Beaumont Hospital), with a reminder that compression of these false aneurysms is not always as easy as you think. The meeting was

chaired by Dr. D. E. Fitzgerald, (James Connolly Memorial Hospital) who did a splendid job in keeping the questions flowing.

Following the presentations, Maria Grouden, committee member of the Society for Vascular Technology of Great Britain and Ireland gave us an overview of the Society. With the aims of the society in mind a business meeting was then held to decide on the direction of the local meetings to be held in Dublin. It was unanimously felt that the ideal situation is to form a chapter of the Society for Vascular Technology of Great Britain and Ireland and under the umbrella of the larger society hold local meetings at regular intervals. After a lively discussion, where everyone voiced their views, we then retired to a splendid lunch sponsored by Hospital Services Ltd.

Overall the meeting was a great success and it is hoped that another local meeting can be held in the near future. Experiences were shared, information exchanged and the lines of communication were opened. We look forward to our next chapter meeting and suggest you look to your local areas to do the same.

**Ann O'Shaughnessy, R.V.T.
Dublin**

3rd Annual Meeting of Society for Vascular Technology of Great Britain and Ireland

**Wednesday 23rd November 1994
The Assembly Rooms, Edinburgh**

Not to be missed! The society's first opportunity for its members to attend both their own AGM and the Society for Vascular Surgeons' meeting in one visit. This Autumn the SVS takes place on the subsequent Thursday 24th and Friday 25th November in Edinburgh. Hopefully this will attract members of both societies to attend both meetings and will forge strong links for the future.

**Registration enquiries to:
Dominic Foy Tel: 01202 704566**

Membership

Ordinary Membership:

Ordinary membership is open to all persons whose primary skill is non-invasive vascular investigations. Also persons involved in supervisory and/or educational roles in a clinical setting. Ordinary membership will include all vascular technologists, research nurses and those persons involved in aneurysm screening. Ordinary members have the right to vote and hold elected office.

All other society members are designated Associate members.

Associate

Membership:

Associate membership is open to all persons interested in the field of vascular technology, but who are not directly involved in non-invasive vascular investigations. Associate members will include interested surgeons, radiologists, company representatives, administrative staff etc. Associate members may not vote or hold office, but will otherwise enjoy the same rights and privileges as ordinary members.

SURNAME: FIRST NAME: TITLE:

WORK ADDRESS:

TELEPHONE:

JOB TITLE:

MEMBERSHIP

ELIGIBILITY: ORDINARY ASSOCIATE

APPLICATION TYPE: RENEWAL NEW MEMBER

DUES: The Membership fee is £10.00 for 1994/95 renewable on 1st September 1994. Please make cheque payable to: Society for Vascular Technology of Great Britain and Ireland.

SIGNATURE: DATE:

Completed application forms and cheques should be sent to:

Kate Somerville, Membership Secretary, Vascular Technologists, Vascular Laboratory, Department of Surgery, The Middlesex Hospital, Mortimer Street, London, W1N 8AA.