



**Australasian Society
for Ultrasound
in Medicine**

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ULTRASOUND BULLETIN

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Editor:

Dr Glenn McNally

Royal Hospital for Women, Sydney

Co-Editor:

Keith Henderson

ASUM Education Officer

Assistant Editor:

Margo Harkness

Queensland University of Technology

Contributions

Original research, case reports, quiz cases, short articles, meeting reports and calendar information are invited. Please send to the Editor, ASUM, 2/181 High Street, Willoughby 2068 Australia
Tel: 61 2 9958 6200 Fax: 61 2 9958 8002
Email: editor@asum.com.au

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Enquiries and bookings to:

Email: registrar@asum.com.au

Tel: 61 2 9958 7655 Fax: 61 2 9958 8002

Mail: ASUM, 2/181 High Street, Willoughby 2068 Australia

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Membership and General Enquiries

Email: asum@asum.com.au

Tel: 61 2 9958 7655 Fax: 61 2 9958 8002

Mail: ASUM, 2/181 High Street, Willoughby 2068 Australia

Website: <http://www.asum.com.au>

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Welcome to the May edition of the Ultrasound Bulletin. This quarter's bulletin provides an eclectic mix of interesting topics and articles. Helen Gofton and Gary Pritchard provide an excellent overview of echogenic intracardiac foci. This is of course one of the many so-called subtle markers for aneuploidy which cause so much counselling difficulty for many of us. They give an excellent overview of this problem and good practical advice for the approach to the isolated observation of echogenic intracardiac foci. Patient expectations and the issue of video taping of the 18 to 20 week obstetric examination has been fairly topical in recent times. Alison Webb has examined by a survey the expectations of patients regarding the "social" aspects of this examination. The discussion and conclusions are most interesting. Joe Polak and Ted Lyons have been recent visitors to Australia and participants at ASUM meetings. An excellent overview is provided from each of common scanning issues in vascular and gynaecologic ultrasound.

Our President Stan Barnett and our CEO Caroline Hong both give a clear overview of the current state and activities of the society and future direction. Stan refers to the important revision of the articles of association that were recently unanimously approved at an extra-ordinary general meeting. These of course are important changes which will improve the efficiency and productivity of Council and the supporting office.

Please enjoy this edition of the Bulletin. Again I would urge all members with a contribution to contact either myself, Keith Henderson or Margo Harkness. We have a large editorial board which is currently persuading and cajoling many of you to contribute and we look forward to your support in this regard.

Glenn McNally
Editor

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President's message



There are some major events to record so far this year. In March I presented a bid on behalf of ASUM to host the 12th World Congress of the WFUMB in Sydney, 2009. The bid process is somewhat complex and involves the preparation of a formal bid together with documentation for consideration by the WFUMB Administrative Council. A vote

will take place when the WFUMB Council meets next, at the time of the 2003 WFUMB Congress in Montreal. Two affiliated societies are preparing bids to host the 2009 Congress: the ASUM and the EFSUMB. The latter bid is issued by the BMUS and offers Edinburgh, UK as its host city. I am sure that both ultrasound societies are capable of creating an excellent scientific congress. However, I believe that the ASUM and Sydney offer an attractive and cost-effective option that will appeal to a larger number of congress delegates, particularly from the Asia-Pacific region. ASUM continues its commitment to develop linkages and to assist in the development of high standards of diagnostic ultrasound practice in our region. Following endorsement by the ASUM Council, I have agreed to take on the responsibility of convenor, should we be successful in winning the bid to host the WFUMB 2009 congress.

I would like to take this opportunity to strongly encourage ASUM members to attend the WFUMB Congress in Montreal next June. There will be a great opportunity for academic and social interaction. It would also help our bid process to have a strong presence at the meeting in Montreal. If we are fortunate enough to win the bid to host the 2009 WFUMB Congress there will be some opportunities for celebration. I have had discussions with the AIUM Secretariat (host of WFUMB 2003) and reached agreement to provide web-page links to the WFUMB congress.

THERE ARE ALSO MAJOR EVENTS HAPPENING CLOSER TO HOME

On April 20th at an extra-ordinary general meeting the proposed revision of the Articles of Association was unanimously approved. This change allows for the formation of a Constitution, as required by Australian Company Law, for ASUM as a registered not-for-profit organisation. The changes also included reducing the size of ASUM Council from 19 to 12 members to make it more efficient and cost-effective. The objective is to create an efficient unit of Councillors each having responsibility for a portfolio, either as Chair or as an active participant in a committee. The committees recommended by Council include; Executive, Finance, DMU Advisory and Sonographer Affairs, DDU Development and Medical Affairs, Standards of Practice and Safety, Education, Grants and Research, and Branch Liaison. These committees are created by Council to undertake specific functions, and may be changed as required. As we have contracted a Professional Conference Organiser (PCO) there is no longer a need to maintain a separate Scientific Meetings Committee

to prepare for Annual Scientific Meetings. This is now the responsibility of the local organising committee that creates the scientific and social program with advice and assistance from the ASUM Finance Committee, the ASUM CEO and the PCO.

The revised Constitution no longer specifically refers to the Exam Boards of the DDU or DMU. Instead, these Boards are regulated as committees of Council. This allows occasional changes in composition or size to be achieved through a more efficient means by Council approval rather than requiring a vote of the entire membership through Annual or Extra-ordinary General meetings. The Board of Examiners for the Diploma of Diagnostic Ultrasound currently comprises; President and Honorary Secretary together with no more than 10 medical members. The Board of Examiners for the Diploma of Medical Ultrasonography currently comprises; President and Honorary Secretary together with no more than 12 members, the majority of whom are sonographer members of ASUM.

The initiative of holding an Asia-Linkage Programme in conjunction with last year's annual scientific meeting has created widespread interest. We have been approached by a range of organisations interested in forming academic alliances to promote the process of international education and accreditation. A number of linkages have been established with ASUM members already having the opportunity to participate in training programmes in the Asia-Pacific region. I look forward to continuing to promote ASUM in achieving its goals of advancing standards of practice in our region. We are considering the establishment of a joint ASUM/Asian ultrasound educational meeting in the near future.

The Annual Scientific Meeting is a major showcase for ASUM professional activities and we are looking to a successful conference on Queensland's Gold Coast in September. We are looking forward to participation by visitors from Asia as a result of the successful interactions at the Asia-Linkage Program initiative at the last annual scientific meeting in Sydney, September 2001. We have established an exchange of invited speakers between ASUM and the Korean Society of Medical Ultrasound, and with Singapore. We will be looking forward to further opportunities to maintain similar linkages with other medical ultrasound societies and organisations in the Asia-Pacific region and elsewhere.

We are fortunate to have high standards of ultrasonographic practice within the ASUM. This is a great opportunity to demonstrate that professional aspect of ASUM, and I would encourage submitted abstracts from as many as possible of our sonographer, medical and scientist members. This year will see the introduction of the UL Plenary Lecture grant offered by ASUM. Our invited plenary speaker is Dr. Albert Lam. I look forward to a stimulating and successful 2002 Annual Scientific Meeting.

**Dr Stan Barnett PhD
President**

ASUM 2002 Adv

From the desk of the CEO



HAVE YOU LOOKED AT THE ASUM WEBSITE LATELY?

If you haven't, have a go at www.asum.com.au to keep abreast of new developments at ASUM. You will be able to read news often before they are published in the Bulletin.

If you wish to have anything posted on the ASUM website Noticeboard, all you have to do is email your message to ASUM at asum@asum.com.au. The ASUM website is updated by Tim Brown, Assistant Education Officer on a regular basis at the Secretariat. You will notice that the website is deliberately kept simple and easy to maintain by ASUM staff. The ASUM website reports more than 1000 hits per day.

WORLD FEDERATION FOR ULTRASOUND IN MEDICINE AND BIOLOGY(WFUMB) ASUM's bid to host the WFUMB 2009 Congress in Sydney

Council has appointed Dr Barnett to be the Convenor of the bid process. Dr Barnett and Scott Tempero of the Sydney Convention Visitors Bureau (SCVB), presented ASUM's bid to the WFUMB Administrative Council at its meeting in Nashville on 9 March 2002 for ASUM to host the WFUMB 2009 congress in Sydney. A lot of work has gone into preparing this bid. We are pleased to report that we have strong support from various organizations, including the Sydney Convention Visitors Bureau (SCVB) and the NSW Department of State and Regional Development. Another presentation will occur in Montreal at the WFUMB 2003 Congress when a decision will be made about the winning bid. ASUM will be sending an appropriate delegation to Montreal in June 2003 to host an ASUM booth to promote and raise the profile of the Society as part of the bid process.

Feedback received to date indicates strong support for ASUM. The WFUMB Executive has also accepted an invitation from the SCVB to host their WFUMB Executive Council meeting in Sydney in February 2003. This will be a great opportunity to showcase ASUM and Sydney to hold a world congress in 2009.

ASUM ASIA LINK PROGRAM

This is progressing well with strong international liaisons with Singapore, Malaysia, Korea and Thailand at the moment. The President of WFUMB and AFSUMB, Dr Hiroke Watanabe, in his letter to ASUM, said that the AFSUMB will promote strongly a joint activity on education between affiliated societies and ASUM. Discussions and meetings have progressed with other organisations for funding opportunities to help advance the ASUM Asia Link Program. Anyone interested in becoming involved in this program, please email me.

Some results to date include:

- Liaison meetings established for ASUM with Ultrasound Societies of Singapore and Malaysia in May 2002.
- The President and CEO are invited speakers to promote the ASUM Asia Link Program at the International Asian Vascular Society meeting in Singapore in May 2002.
- Thailand "train the trainer workshop" by an Australian sonographer.
- Malaysian Sonographer placement in Adelaide.
- Singapore Sonographer placement in Australia, in progress at time of writing this report.
- Liaison with the Australia Korea Foundation in progress to support the ASUM Asia Link Program.
- Invited speaker from ASUM to the Korean Medical Society for Ultrasound (KMSU) / ASDIR meeting in May 2002.
- Invited speaker from Korea to ASUM 2002 Annual Scientific Meeting.
- Ongoing communication with networks established in Singapore, Malaysia, Thailand, Taiwan, Korea and Japan.
- Establishment of relevant useful networks with the meetings and exhibition industry.
- The CEO was invited to attend a Corporate Asia launch by The Hon Alexander Downer, Minister of Foreign Affairs, on the trends of business in Asia in March 2002.
- A new ASUM Asia Link magazine with sponsorship from local and international organisations is distributed with this *Ultrasound Bulletin*.

NEW PRESIDENT ELECT ANNOUNCEMENT: DR GLENN MCNALLY

I am pleased to announce that Dr Glenn McNally has been appointed as President Elect of ASUM. He is currently the Editor of the Bulletin. We will be searching for a new editor to take over after the next AGM in 2002.

Glenn will take on the Presidency immediately after the AGM to be held at the Conrad Jupiters, Gold Coast on Saturday 21 September 2002.

CHAIRS OF COUNCIL COMMITTEES APPOINTED

- Chair of DDU Development and Medical Affairs Committee is Dr Matthew Andrews Email: mattx@alphalink.com.au
- Chair of DMU Advisory and sonographer Affairs Committee is Ms Janine Horton Email: jhorton@skg.com.au
- Chair of Research and Grants Committee is Dr Roger Davies Email: roger.davies@nwahs.sa.gov.au
- Chair of Standards and Safety Committee is Dr Stan Barnett Email: stan.barnett@csiro.au
- Chair of Education Committee is Dr David Rogers Email: drogers@xtra.co.nz
- Executive Committee Chair is Dr Stan Barnett, also President. Email: stan.barnett@csiro.au
- Finance Committee Chair is Dr Glenn McNally, also Treasurer. Email: gmcnally@ram.net.au
- Convenor of Scientific Program ASUM 2002 is Dr Neil Orr Email: n.orr@uq.net.au

If you have any issues to bring to the attention of the various committees, please contact the ASUM office or the relevant Chair of the Committee.

NEW DMU COORDINATOR APPOINTED

I am pleased to announce that James Hamilton is the new DMU Coordinator, appointed in February 2002. James is highly experienced in education administration and will bring many valuable skills to the position. He has settled very quickly in his new role and is handling the challenges with professionalism. He can be contacted through email at dmu@asum.com.au or through the ASUM office by phone. DMU candidates will soon get to know James as he will be communicating with them soon for the DMU examinations for 2002.

ASUM 2003 ORGANISING COMMITTEE APPOINTED

The ASUM 2003 Annual Scientific Meeting will be held from 4-7 September 2003 at Burswood International Resort, Perth, Western Australia. The Organising Committee will comprise of Dr Jan Dickinson, Ms Michelle Pedretti, Mrs Chelsea Hunter, the ASUM 2003 Finance Committee and Dr Caroline Hong, CEO from the ASUM Secretariat.

NEW CONSTITUTION TO REPLACE OLD MEMORANDUM AND ARTICLES

At the Special General Meeting held on 20 April 2002, a new Constitution of the Australasian Society for Ultrasound in Medicine was adopted. Please keep the copy which was distributed to members in the February 2002 issue of the ASUM Ultrasound Bulletin as the new Constitution.

DMU PREPARATION COURSE IN SYDNEY – A SUCCESS

More than 100 people attended and participated in the DMU preparation course held in Sydney from 20-24 February 2002. ASUM is grateful to the speakers and in particular to the Convenors, Margaret Condon (General & Obstetric), Cathy Hall (Cardiac) and Lucy Taylor-Turner (Vascular), who willingly contributed time and effort to the course. Tim Brown from the Secretariat is also to be congratulated for his organizational skills for this course.

ASUM O&G CONFERENCE IN SYDNEY 19-21 APRIL 2002 - A SUCCESS

Registrations and interest in this conference exceeded expected numbers and it was a positive outcome for all delegates as well as the presenters and sponsors. We are grateful to our sponsors, Acuson A Siemens, Medfin, Philips Medical Systems and Toshiba, who supported the conference and particularly to Dr Glenn McNally who convened the meeting with the support of Keith Henderson and Tim Brown from the ASUM Secretariat.

ASUM 2002 AT CONRAD JUPITERS RESORT GOLD COAST 19-22 SEPTEMBER 2002

Mark your diary now

Convenor: Roslyn Savage, Scientific Convenor: Neil Orr; Co Convenor: Geoff Stieler.

A conference brochure has been mailed out to you. Definitely a program not to be missed! Register your interest with asum@asum.com.au or with asum2002@icms.com.au

MARKETING AND PUBLIC RELATIONS

Council approved that PALIN Communications be contracted to conduct a media and public relations campaign for the ASUM Obstetric and Gynaecology Conference in April 2002. This is one of several strategies supported by ASUM to raise the profile of the Society whose purpose is to promote the highest standards of ultrasound practice.

ACCREDITED SONOGRAPHERS

Accredited sonographers recognized by HIC and ASAR are now eligible for FULL membership status in ASUM. Please spread the message and get any non member who is an accredited sonographer to apply for FULL membership now. For any membership application enquiries please email Marie Cawood at registrar@asum.com.au

MEMBER SERVICES

ASUM appointed Australia Synergi Global Travel Management in October 2001 (then called Jetset Business Travel) as the travel agent for ASUM business travel. Their services are also available to members who want an easy no fuss business travel arrangement. They can be contacted by email, phone, facsimile and have a toll free 24 hours line as well all year.

All hours Toll free within Australia ph 1800 251 946. All hours Toll free outside Australia (reverse charges) ph 61-2-9213 4300

For international business travel, contact the ASUM dedicated travel consultant, Veronica Aleman on ph 61-2-9213 4440 or email veronica.aleman@synergitravel.com.au

For domestic business travel, contact the ASUM dedicated travel consultant, Meredith Dunn on ph 61-2-9213 4341 or email Meredith.Dunn@synergitravel.com.au

For Corporate Leisure, you can ask for Cettina, Natasha, Helen or Emma on 1800 100 305 or ph 61-3-98288911 or fax 61-3-98288370.

Please do not hesitate to contact me if there are any questions regarding ASUM matters on 61-2-9958 7655 or email carolinehong@asum.com.au

Dr Caroline Hong
Chief Executive Officer

An excellent O&G Website

Dear Editor

I would like to draw the attention of members to the site 'www.thefetus.net'. It is a site dedicated to O&G Ultrasound and contains material for beginners to those who are looking for material beyond what is in text books.

The site contains

- over 3000 images including cine files;
- pdf files that can be printed out including fetal hearts, aneuploidy, twins, and skeleton;
- links for health care workers and parents;
- a case of the week (which I seem to be the only person in Australia who is attempting at present);

- a discussion group for difficult cases;
- the entire content of the London Fetal Medicine Foundation's CD ROM's on the first and second trimester ultrasound;
- a book shop which includes CD ROM's on fetal hearts, aneuploidy and the content of the site itself.

Unlike Peter Callen's site (www.fetalsono.com) it is 'free'. I think that a lot of members would find this to be a very valuable resource if they knew it existed.

Yours

Wes Cormick
Canberra Imaging Group

Privacy Statement

ASUM holds information in its database for the purposes of providing member services and providing information to members about educational activities and events considered to be of interest to members. The information in ASUM's database is collected directly from members, from databases held by its branches and members, and from public records. Personal information held by ASUM is not disclosed to other parties, but may be used by ASUM to distribute information (including advertising material) considered to be of interest

to members. You can request a copy of personal information we hold about you. We may charge a fee for providing this information to you, but you will be advised of any fee in advance. If you have a complaint about the way that we manage personal information we hold about you, you should contact the CEO, ASUM, 2/181 High St, Willoughby, NSW 2068 Australia; phone 02 9958 7655 fax 9958 8002. Your complaint will be investigated promptly.

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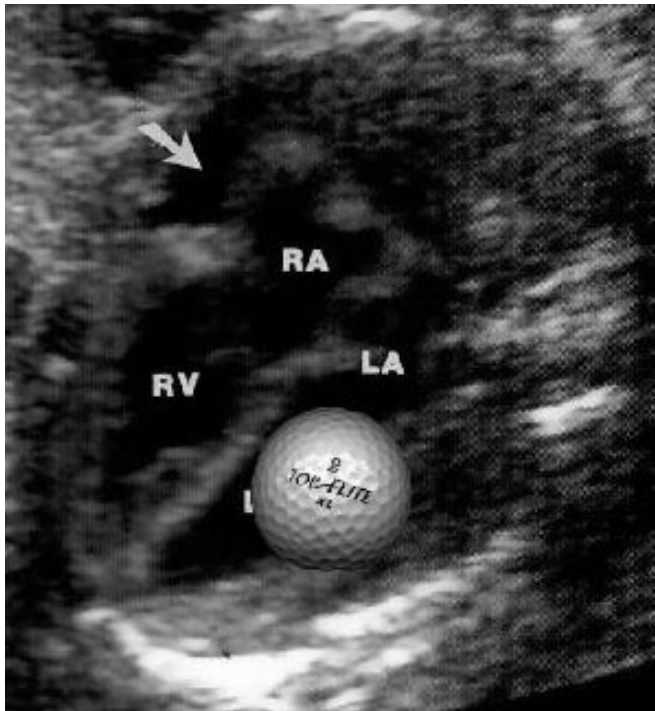
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The significance of an echogenic intracardiac focus at an 18 – 20 week morphology scan in a low risk Australian population.

Helen Gofton AMS, Brisbane Ultrasound for Women, Spring Hill, Queensland;

Dr Gary Pritchard MBBS FRACOG DDU, Obstetric and Gynecologic Sonologist, Brisbane Ultrasound for Women, Spring Hill, Queensland



Echogenic intracardiac foci are colloquially known as “golf balls”

Key Words: Echogenic Intracardiac Foci, Down Syndrome, Ultrasound

Abstract

An Echogenic Intracardiac Focus (EIF) refers to the distinctly echogenic reflector seen within the fetal cardiac ventricle at prenatal morphological examination. The prevalence of this finding is significantly higher in fetuses with Down Syndrome (DS) than in the chromosomally normal population. Some studies have also shown an increase in the incidence of cardiac defects. The dilemma that arises is whether the medical advisor has an obligation to inform the patient of this finding, and of its association with DS, knowing that there will be inevitable distress, anxiety and potential loss of the pregnancy from an amniocentesis when this information is given. This is of particular difficulty when an EIF is an isolated finding in an otherwise low risk woman.

This study examines our own data to determine the impact that an EIF has on detection of Down Syndrome and cardiac abnormality in a large number of low risk women.

INTRODUCTION

Echogenic intracardiac foci (EIF) are intensely echogenic reflectors seen in either or both the fetal cardiac ventricles.

Histologically they represent microcalcification in the papillary muscle. Its presence is an enigma since injury or damage to this muscle has not occurred, and most fetuses with this finding turn out to be completely normal. Their presence is not fully understood, as ectopic calcifications generally occur as a result of injury, infection or scarring in fetal tissue.

Echogenic intracardiac foci were first reported in the 1980s¹. Since this time much has been published regarding their significance. Examining recent literature reveals that controversy still exists as to their importance with various authors giving risk ratios from 1² to 7.4³. Current literature recognises that an EIF is a feature of Down Syndrome (DS)⁴. They also appear in many karyotypically normal fetuses, in particular in fetuses of Asian mothers⁵. As an isolated finding in a high risk patient, the presence of an EIF does not reduce the risk for chromosomal abnormality. It is appropriate to offer amniocentesis in these cases. Is it unclear if it is appropriate to apply the same principles to a low risk patient? In this litigious climate the dilemma becomes whether it is appropriate to discuss the finding of an isolated marker with a patient who would otherwise be considered low risk for DS. Mention of the mere possibility of a DS affected fetus would inevitably result in the exposure of a greater number of low risk patients to the risk of miscarriage from the amniocentesis for karyotype, which is the only way to exclude this diagnosis.

Much of the published data regarding an isolated finding of an EIF was taken from studies of high risk populations^{3, 6,7}. This study was designed to evaluate a low risk population to provide current evidence of the significance of the common finding of an EIF in that group.

STUDY DESIGN

The study was a retrospective analysis of the findings of women referred to the practice of Brisbane Ultrasound for Women between 1993 and 2001. The gestational age range was between 15 and 22 weeks.

Brisbane Ultrasound for Women is a tertiary referral private practice for Brisbane and the surrounding cities. All scans were performed by an obstetric sonologist (GP) or by one of four senior, experienced obstetric sonographers. The sonologist re-checked the findings of the sonographers in each case by a more limited examination. Since the practice is a tertiary referral centre, each patient was categorized at presentation into low risk (LR) if < 35years or high risk (HR) 35years. These risk levels were further coded to low risk with increasing factor (LRIF) and high risk with

An echogenic intracardiac focus at an 18-20 week morphology scan

increasing factor (HRIF) if additional testing had indicated a possible increase in the patient's risk level. These groups were then excluded from the study group. Therefore any patients meeting the following criteria were excluded from the study group of truly low risk patients

- past history of Down Syndrome
- an abnormal screening test (triple test, nuchal translucency test) in the current pregnancy
- a recent abnormal ultrasound at another practice.

Prospective recording of the biometry and morphological markers, together with any structural anomalies were performed prior to any karyotype results becoming available. During this time there was limited nuchal translucency risk assessment being performed, in Queensland. In addition, although many patients may have had a triple test performed, the results were not necessarily known in the practice at the time of the scan.

Morphological markers were defined as:

- **Nuchal skin fold (NSF)** greater than or equal to 6 mm in the off transverse view of the axial plane incorporating the cavum septum pellucidum and the cerebellar vermis, from the outer aspect of the skull to the outer limit of the skin.
- **Pyelectasia** defined as equal to or greater than 4mm in the anterior-posterior plane of the kidney.
- **Echogenic bowel** defined as echogenicity equivalent to nearby bone.
- **Echogenic intracardiac focus** as described in either cardiac ventricle.
- **Short proximal long bones.**

Previous analysis from our unit had shown that the presence of **both** observed/expected femur length (FL) of less than or equal to 0.93 **and** observed /expected humerus length (HL) of less than or equal to 0.92 had a higher sensitivity and lower false positive rate when compared to individual proximal long bones.

Expected FL = $-9.377 + (0.874 * \text{BPD})$

Expected HL = $-6.809 + (0.802 * \text{BPD})$

Structural abnormalities associated with Down Syndrome are cardiac defects, hydrops or cystic hygroma, and a ventriculo-atrial diameter of greater than 10mm. Whenever one of these conditions is found, amniocentesis is offered.

Follow-up was arranged by matching scan records with amniocentesis results, and with positive postnatal Down Syndrome karyotype from the local cytogenetics units or neonatal nurseries. Individual contact was made with the referring practitioner or patient in the remaining cases.

RESULTS

The study group comprised 13241 cases and their categorization into risk levels as shown in Table 1.

Table 1 Study Group categorized by risk level

	Low (LR)	Low increased (LRIF)	High (HR)	High increased (HRIF)	Total
No	8984	480	3597	180	13241
%	67.8	3.6	27.2	1.4	100

There were 13169 cases with normal karyotype and 72 with Down Syndrome

There were 698 fetuses with an EIF as shown in Table 2.

Table 2 Prevalence of all EIF in each risk category

	Low risk (LR)	Low increased (LRIF)	High Risk (HR)	High Increased (HRIF)	Down Syndrome
EIF present	410 (4.5%)	47 (10.1%)	203 (5.7%)	13 (7.2%)	25 (35%)
EIF absent	8563	419	3348	166	47
Total	8973	466	3551	179	72

The study confirms an EIF to be a feature of Down Syndrome as it was noted in more than one third of the Down Syndrome population.

Table 3 Prevalence of isolated markers in the study group

	Low Risk Group (n = 9022)	Down Syndrome (n = 72)
Echogenic Intracardiac Focus	3.8%	2.8%
Short Proximal Long Bones	5.8%	11.2%
Fetal Abnormality	0.4%	29%
Nuchal Skin Fold > 6 mm	0.55%	1.4%
Renal Pelvic Dilatation	1.8%	4.2%
Echogenic Bowel	1.2%	0%

Risk of Chromosome Anomaly

Isolated EIF

In the low risk group, an EIF was an isolated finding in 340 cases (3.8%) as demonstrated in Table 3.

In the Down Syndrome Group, an EIF was an isolated finding in 2 cases (2.8%).

The calculation of a likelihood (or risk) ratio is by the following method;

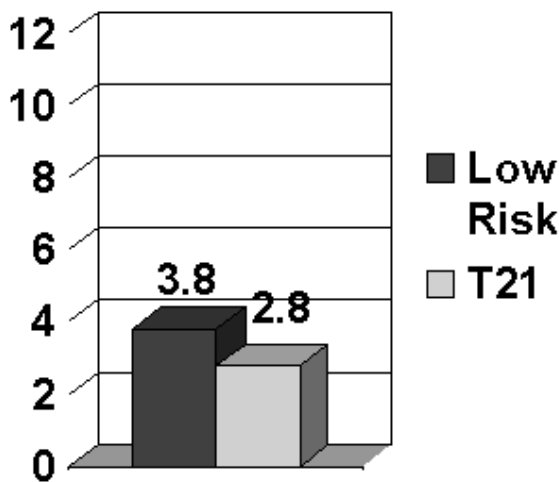
$$\text{Likelihood ratio} = \frac{\text{Prevalence of finding in the affected population}}{\text{Prevalence of finding in the unaffected population}} = \frac{2.8}{3.8} = 0.73$$

The likelihood ratio of an isolated EIF in the low risk group is statistically represented as 1.

The two DS fetuses in which there was an isolated EIF were both in high risk category and were detected by amniocentesis. One amniocentesis performed as a routine, and one in a 37-year-old woman whose scan showed an isolated EIF. She was counseled regarding these findings with an amniocentesis being recommended.

Graph 1 demonstrates that there is little statistical difference between the low risk group and DS group where an isolated EIF is the only finding at ultrasound examination. Therefore finding an isolated EIF at ultrasound in a woman who is otherwise low risk, does not alter her background risk.

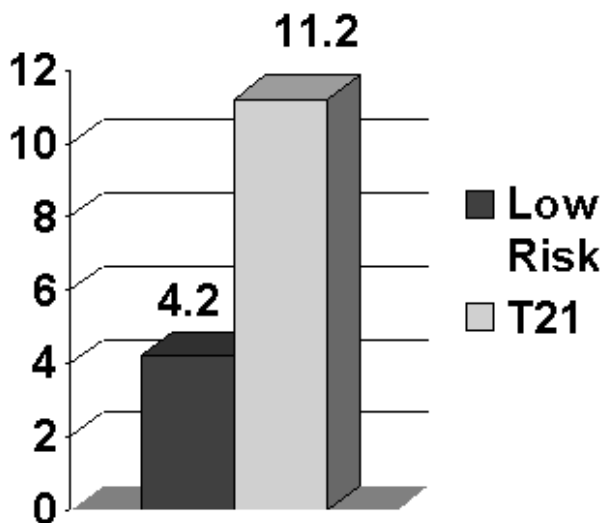
Short proximal long bones were seen in 42/72 (58%) of DS fetuses in the study compared to 532 of 9022 (5.8%) low risk patients. It is used as a marker for the detection of DS in this practice. It is recognized that not all practices measure both



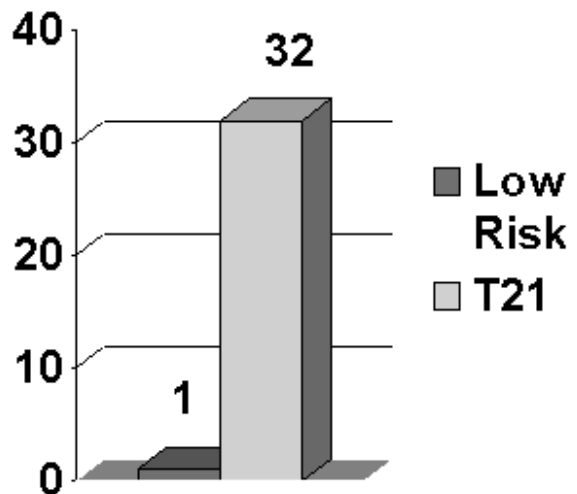
Graph 1 EIF as an Isolated Finding at Brisbane Ultrasound for Women

proximal long bones. By re-examining the data it is possible to calculate the likelihood ratios for ultrasound departments not using limb length as a feature. 8 of 72 (11.1%) DS fetuses had an isolated EIF when limb length was not considered and 388 of 9022 (4.3%) unaffected low risk pregnancies. The likelihood ratio is 2.6 as demonstrated in Graph 2. If limb length is not considered, a further 42 (0.5%) low risk women would be identified as at risk. One of the 8 DS fetuses occurred in a low risk woman. The diagnosis of DS for this pregnancy was only made after birth.

The prevalence of short femur (by the stated definition) in the DS population is 49 of 72 (68%) and 1233 of 9022 (13.6%) of low risk pregnancies. The finding of a combination of an isolated morphological marker – EIF and a short femur occurred in 6 of 72 (8.3%) of DS fetuses and in 65 of 9022 (0.7%) low risk women. The likelihood ratio is 11.8. The combination of EIF and both SPLB occurred in 6 of 72 (8.3%) of DS and 38 of 9022 (0.4%) of unaffected low risk pregnancies. The likelihood ratio of this combination is 20.



Graph 2 EIF as an Isolated Finding – Excluding SPLB as a marker



Graph 3 EIF + any other marker

EIF + any other marker

Graph 3 demonstrates the significant increase in likelihood ratio if an EIF is found in combination with any other marker(s) at ultrasound. 23 of 72 (32%) DS fetuses had this and it was also found in 93 of 9022 (1.0%) of unaffected low risk pregnancies, if only the femur is considered.

The likelihood ratio is calculated at 32, if an EIF is present with at least one other marker.

EIF + Trisomy 13

EIF has also been reported as a feature of Trisomy 13. In this study, echogenic intracardiac foci were found in 3 fetuses with Trisomy 13. Each of these cases had multiple other abnormalities consistent with Trisomy 13.

As an isolated finding, an EIF has an extremely low probability of predicting Trisomy 13, as this condition manifests itself with a well recognized pattern of malformations.

Risk of Cardiac Abnormality

There were 4 of 613 (0.65%) fetuses with normal karyotype from the low and high risk groups, where an EIF was found in association with a cardiac defect. These were all ventriculo-septal defects (VSD). There were 32 of 11879 (0.26%) chromosomally normal fetuses with a cardiac defect without an EIF. This is not a statistically significant difference.

We found 19% of the Down Syndrome fetuses in this study had an identifiable cardiac defect, most commonly an atrio-ventricular septal defect (AVSD). Only 2 fetuses had an EIF as well as an AVSD.

CONCLUSION

This study has confirmed the fact that an EIF is a feature of DS fetuses. It has also confirmed that it occurs in a significant proportion of the truly low risk population. This study has also shown that at least 8% (723 of 9022) of the low risk women have at least one morphological marker of the ones listed above when detailed ultrasound is performed. If short limb lengths are included, as they have also been shown to be a feature of DS, then 1320 of 9022 (14.6%) of the low risk

An echogenic intracardiac focus at an 18-20 week morphology scan

group have at least one of the reported features of DS detected at the antenatal scan.

There are two conflicting ethical principles present. The first is the patient's undeniable right to make an autonomous decision regarding her pregnancy, and the need for her to be informed of all of the findings pertinent to the ability to make that decision. The second is "non maleficence" – do no harm. The mere mention of the possibility of Down Syndrome causes considerable anxiety and much distress to the parents, particularly the mother. Many women then choose (or are persuaded) to risk the pregnancy by having an amniocentesis to prove that the fetus is not affected. With the current state of technology, it is not possible to have both complete knowledge and complete safety.

How do you decide with whom this finding should be discussed? This study was undertaken in a large number of low risk women to address this issue. In our opinion, detailed ultrasound and use of combined limb lengths as a feature of DS gives the following conclusions:

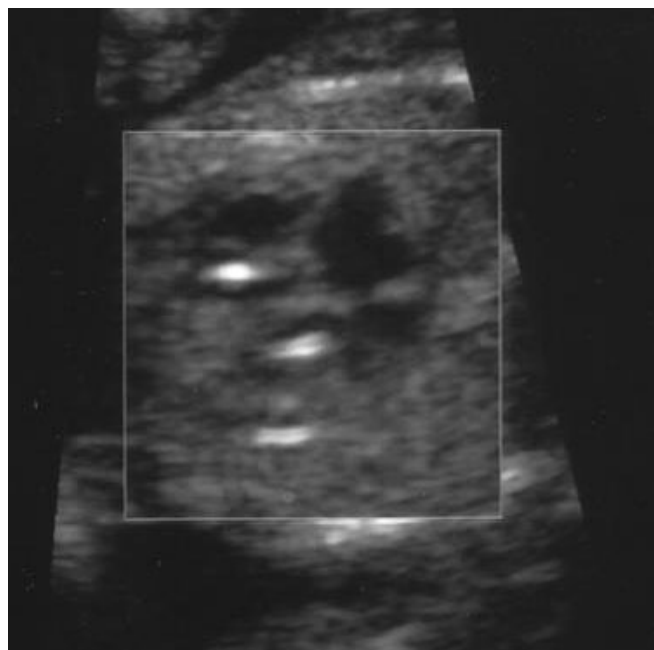
- An Echogenic intracardiac focus is confirmed as a marker for aneuploidy.
- As an isolated finding it is not feature of Trisomy 13.
- Our study confirms that an EIF seen in combination with any other marker for DS, significantly increases the risk of the fetus being affected and therefore warrants discussion and consideration of amniocentesis.
- If the patient is considered high risk by age or by a previous positive screening test, then an isolated EIF confirms that status and would warrant discussion and consideration of amniocentesis.
- An isolated EIF does not alter the risk for the fetus having a cardiac abnormality. However a detailed cardiac assessment should remain a priority at morphological examination as an undiagnosed cardiac abnormality has significant impact on the outcome and management of the pregnancy.
- In our practice, finding an isolated EIF in the low risk woman would mean that she requires no further investigation.
- In other practices where:
 - for whatever reason, a thorough search for any other abnormalities or markers cannot be performed, or
 - further history or investigation reveals that the woman is not truly low risk (age, prior history, negative screening tests)

referral to a specialist centre should be considered. In this latter case, careful explanation, without inducing panic, is required.

We would like to acknowledge the tireless work of Margo Harkness, Monica Pritchard, Neil Pennell and Sue Williams in helping compile this study.

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Echogenic intracardiac foci in both fetal cardiac ventricles.

Survey of expectant parents presenting for the 18-20 week fetal ultrasound: their opinion on the videotaping issue and expectations of the scan

Alison L Webb DipAppSc (MRT) GradDipAppSc (Medical Ultrasonography), AMS, Senior Sonographer at the Christopher Kohlenberg Department of Perinatal Ultrasound, Nepean Hospital, Penrith

ABSTRACT

This ultrasound department does not provide a videotape of any routine ultrasounds. The reasons behind this protocol include concern that a videotape may be used as legal evidence, prudent limitation of exposure at the fetus to ultrasound, and the possibility of the sonographer being distracted. A further concern is that by providing a video service we might inadvertently promote the entertainment aspect of prenatal ultrasound rather than emphasise its medical importance.

The department undertook a survey of 150 expectant mothers arriving for their routine 18-20 week fetal anomaly scan (FAS), and as many expectant fathers who were present and willing to participate (53 agreed). It seemed paramount that expectant parents should get the opportunity to express their opinion on the videotaping issue as to date, published material has stated the opinions of ultrasound professionals and assumptions of our patients' expectations.

Whilst it was determined that the majority of expectant parents do desire a videotape of their FAS, the majority in our catchment area are quite satisfied to receive a few still images of their baby instead of a videotape. It was also learned that the majority of expectant parents are ill-informed of the limitations of prenatal ultrasound.

BACKGROUND

The Christopher Kohlenberg Department of Perinatal Ultrasound is within Nepean Hospital which is a University teaching hospital in the Wentworth Area Health Service. It is a tertiary referral centre dealing with a large proportion of high risk pregnancies. 10,249 obstetric and gynaecological scans were performed in this unit in 2001.

There are five major ultrasound practices operating in Penrith, and of these only one provides prenatal videotapes.

RECRUITMENT OF PARTICIPANTS

A number of expectant mothers were offered a survey form containing 11 questions on their arrival to the ultrasound department for their routine fetal anomaly scan (FAS). Any woman's partner who was present was invited to participate on a separate survey form. 150 expectant mothers and 53 expectant fathers participated giving a total of 203 participants.

The survey form was completed prior to entering the ultrasound room and responses were confidential. The collection of data took approximately 4 weeks after which

the information was tabulated and analyzed using EXCEL.

Expectant parents were excluded from the study if their pregnancy was known to be abnormal.

DEMOGRAPHICS

Figure 1 Gender

SEX	NO OF PARTICIPANTS	(%)
Female	150	73.9%
Male	53	26.1%

Figure 2 Age groups

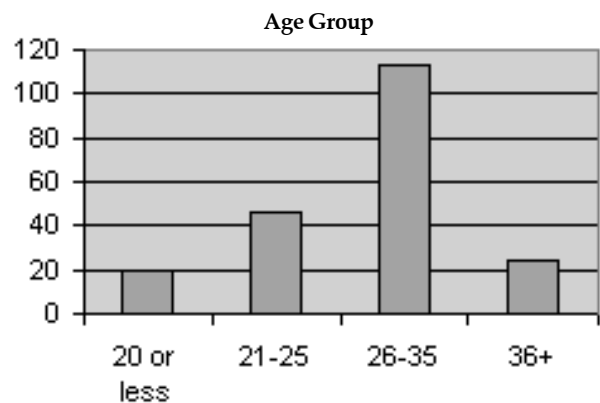


Figure 3 Parental status at time of study

PARENTAL STATUS	NO OF PARTICIPANTS	(%)
Parents	122	60.1%
Non Parents	81	39.9%

AIM OF THE STUDY

To encourage ultrasound departments to consider their individual videotaping policies in light of any new information obtained from this study.

QUESTIONS TO BE ANSWERED

1. Do the majority of expectant parents desire a videotape of their child's 18-20 week ultrasound (FAS)?
2. Are the majority of expectant parents satisfied to receive 3-4 still images of their child instead of receiving a videotape of the ultrasound? (As is departmental protocol).
3. Of those expectant parents who desire a videotape, why do they want it? Why do others not want a videotape?

Survey of expectant parents presenting for the 18-20 week fetal ultrasound

4. Is it a minority of expectant parents who consciously consider obtaining a videotape of their child's routine ultrasound for legal evidence?
5. Do younger expectant parents (up to 25 years) put a greater emphasis on 'non medical' expectations of the FAS (for example, the gender)?
6. Are younger expectant parents (up to 25 years) more likely to desire a videotape of the ultrasound?
7. Are the expectant mothers more likely to desire a videotape of the ultrasound than the expectant fathers?
8. Of those expectant parents who want a videotape of the ultrasound, are the majority prepared to pay for it?
9. Do the majority of the expectant parents presenting for the FAS have a limited knowledge of the limitations and medical significance of this examination?

THE SURVEY QUESTIONS

Each survey form was accompanied by an information sheet briefly outlining the study. All questions (apart from question 11) were set out in a 'cross a box' format. When applicable, 'yes', 'no' and 'no preference' or 'not sure' boxes were provided.

Figure 4 Survey questions

1	Please indicate your sex/ gender.
2	What is your age group? (20 years or less, 21-25 years, 26-35 years or 36 years+)
3	Have you become a parent before?
4	What things do you hope to see or find out from the ultrasound today?
5	Have you ever been to an 18-20 week pregnancy ultrasound before, either for your own or someone else's baby?
6	Do you believe that ultrasound can pick up <u>all</u> defects in unborn babies, such as Down Syndrome or a hole in the heart?
7	If a videotape of your baby's ultrasound was available, would you wish to have one, and why?
8	If you could have a videotape of the ultrasound, would you be happy to pay for it? If yes, how much would you be prepared to pay?
9	If you were to get a videotape, would you rather a tape of the whole ultrasound, <u>or</u> an edited 3-5 minute tape showing selected features of the baby (such as the face, hands and feet)?
10	At the end of today's scan, you will be given 3 or 4 small photos of your baby to keep. The pictures are of similar quality to those displayed on the waiting room wall, but smaller, ie. 7.0 x 9.5 cm. Are you quite happy with this?
11	Do you have any further comments?

RESULTS

1. Do the majority of expectant parents desire a videotape of their child's ultrasound (FAS)?

Yes. A total of 166 of the 203 participants wanted a tape of their routine FAS (82%).

12 parents (6%) said that they would definitely not like a tape if it was available, and 24 (12%) had no preference.

While a majority desired a prenatal video, 18% of participants either definitely did not want a tape or did not consider it a priority.

2. Are the majority of expectant parents satisfied to receive 3-4 still images of their child instead of receiving a videotape of the ultrasound?

Yes. 171 participants (84%) indicated that they were happy with the current protocol.

Whilst many people did indicate that they were satisfied with just the still images, some used the comment section to add that they hoped the videotapes would "come in some day".

3a. Of those expectant parents who desire a videotape, why do they want it?

This question provoked 6 main responses:-

RESPONSE	(%)
Keepsake	42%
Show family/ friends	24%
Show child when older	23%
Other *	7%
Show baby's siblings	5%
Have video of other children	3%

* 'Other' response includes for future record, to see movement or because video is available.

Only 3 of the 203 participants indicated that they would like a videotape of the ultrasound for "future medical reference" or other terminology suggestive of obtaining a tape for legal evidence.

3b. Of those expectant parents who did not want a videotape what were their reasons?

6 % (12 participants) definitely did not desire a videotape, and 12% (24 participants) did not have any preference.

Of those 12 parents who definitely did not desire a videotape:-

- 10 were female and 2 were male,
- 9 were already a parent and 3 were first time parents,
- 8 had attended a FAS before and 4 had not.

It appears that when the pregnancy is not the first, the parent is less likely to desire a videotape of the FAS.

Reasons given for definitely not desiring a videotape included-

"We would never watch it", "Not important" and "Not necessary", "Photos are good enough", "Going over the top, a picture is enough", and one woman wrote, "In the past I have been provided with photos and video on separate occasions. I looked at the photos many more times than the video- I guess you can't hang a video on your fridge!"

4. Is it a minority of expectant parents who consciously consider obtaining a videotape of their child's routine ultrasound for legal evidence?

Survey of expectant parents presenting for the 18-20 week fetal ultrasound

Yes, it appears to be. As mentioned, only 3 participants stated they would like a videotape of the ultrasound for "future medical reference". This however is a difficult question to answer and a difficult question to ask anyone in theory. Although the majority of participants desired a full unedited tape, it was generally for 'non legal' reasons.

5. Do younger expectant parents (up to 25 years) put a greater emphasis on non-medical expectations of the FAS (for example, the gender)?

There was little difference between the expectations of younger expectant parents and those of the older expectant parents. The majority of participants in both age groups were concerned with the health of their baby amongst other things.

Participants were able to indicate as many things that they would like to see or find out from the ultrasound (FAS).

This elicited 7 main responses, of which people chose either one, or up to four answers:-

RESPONSE	(%)
Healthy normal baby	86%
Baby's gender*	54%
Dates/ size of baby	9%
See baby's growth	7%
Just to see*	6%
See movements	2%
'Other'	2%

(5 participants did not answer this question).

* = response designated as 'non medical'.

Responses from younger expectant parents (up to 25 years)

39/66 (59%) selected at least one non medical answer with another medical answer/s.

5/66 (8%) selected **only** non medical answer/s.

Responses from older expectant parents (26 years +)

68/136 (50%) selected at least one non medical answer with another medical answer.

9/136 (7%) selected **only** non medical answer/s.

6. Are younger expectant parents (up to 25 years) more likely to desire a videotape of the ultrasound?

Yes, although the majority of expectant parents in all four age groups desired a video.

AGE GROUP	DESIRE VIDEO (%)
20 years and less	100%
21-25 years	84%
26-35 years	81 %
36 years +	67 %

These results were predicted. Note that the desirability of a video clearly drops with the increasing age of the expectant parent.

7. Are the expectant mothers more likely to desire a videotape of the ultrasound than the expectant fathers?

No, the responses were similar.

Of the 150 women:

- 123 (82%) desired a videotape
- 9 (6%) did not desire a videotape
- 18 (12%) had no preference.

Of the 53 men:

- 43 (81%) desired a videotape
- 3 (7%) did not desire a videotape
- 7 (12%) had no preference.

8. Of those expectant parents who desire a videotape of the ultrasound, are the majority prepared to pay for it?

Yes, if possible.

Willing to pay	= 85% (172 participants)
Not willing to pay	= 8% (17 participants)
No preference	= 7% (14 participants)

What amount is considered reasonable?

Nominated price ranged from \$5 to \$50. Those willing to pay larger amounts were in the older age groups (26 years +), whilst those not willing to pay as much tended to be in the younger age groups (25 years or less). Between \$10 and \$20 was the average response.

9. Do the majority of the expectant parents presenting for the FAS have a limited knowledge of the limitations and medical significance of this examination?

Yes, based on the responses for question 6 concerning ultrasound's ability to detect abnormalities (refer to Figure 4).

In question 6:

- 29% (57 of 203) got the correct answer (ultrasound cannot pick up all defects in unborn babies)
- 20% (40 of 203) got the wrong answer (selected that ultrasound can pick up all defects in unborn babies)
- 52% (105 of 203) were undecided.

Were those participants who were already a parent better informed?:-

Already a parent:

- 31% got correct answer

Not a parent already:

- 24% got correct answer

Being a parent already did not significantly improve one's knowledge of the limitations of ultrasound.

Did older expectant parents perform any better? :-

AGE GROUP	CORRECT ANSWER (%)
20 years or less	10%
21-25 years	24%
26-35 years	26%
36 years	63%

Older expectant parents were more informed about the limits of the FAS.

* Were those participants who had attended a FAS in the past more informed?:-

Never been to a FAS before :

- 24% (20 of 82 participants) got correct answer

Survey of expectant parents presenting for the 18-20 week fetal ultrasound

- 10% (8 of 82 participants) got wrong answer
- 66% (54 of 92 participants) were undecided

Have been to a FAS before :

- 31% (37 of 120 participants) got correct answer
- 27% (32 of 120 participants) got wrong answer
- 42% (50 of 120 participants) were undecided

Participants who had attended a FAS in the past did not score significantly better in this question. In fact they were more likely to select the wrong answer. This shows that when expectant parents attend a FAS they are not arriving informed of the limits of prenatal ultrasound, and they are leaving no better informed.

DISCUSSION

The importance of a videotape of the FAS to the expectant parents, and parental satisfaction with this department's no videotape policy

The majority of participants did desire a videotape if it was available. However, the majority of expectant parents were satisfied with this department's protocol of receiving a few still images although it was clear that a lot of the participants would like to see videotapes eventually 'come in'.

Some participants were unhappy with the quality of the paper (thermal) we provide, and might be more content not to receive a videotape if we could improve the paper with something more robust and less likely to fade. This is something that this department has yet to address.

The expectant fathers who participated were just as likely to desire a videotape as the expectant mothers. However, as the age of the expectant parent increases it seems that the importance of a videotape decreases.

Participant knowledge and understanding of the limitations of prenatal ultrasound/ FAS

It was gratifying to learn that the majority of participants, irrespective of their age and parental status and whether they have attended a FAS in the past are concerned with the health of their baby (amongst other things) when they present for their routine FAS. Only a few were concerned only with 'non medical' things. That only 6% of participants were concerned with learning the gender of the baby only came as a surprise to sonographers in this department. No doubt all sonographers can relate to having frustrating days when the 'sex of the baby' is all important.

What is a concern is that the majority of participants irrespective of their age, parental status and whether they have attended a FAS in the past, are inadequately informed of the limitations of the FAS and prenatal ultrasound in general. Of note, a few participants after completing their survey form approached the sonographer performing their scan to ask the correct answer to the "question about the defects". Also two participants made the following comments-

"I believe all risks to the baby caused by the ultrasound should be explained to us".

"More info should be given to find out exactly what the ultrasound detects".

Whether the responsibility for divulging this information should rest with the referring medical practitioner before the FAS or with the sonographer/ ultrasound department prior to performing the FAS, remains to be resolved in this department and possibly others.

The major benefits to having well informed expectant parents prior to the FAS are:-

- i. One could expect that if expectant parents are aware that the ultrasound cannot detect all fetal defects they might be less willing to begin a legal case should the baby be born with an undiagnosed abnormality.
- ii. The expectant parent does not go away with a false sense of security from the ultrasound.
- iii. The expectant parent may better understand that the FAS is a medical procedure and whilst it should be a pleasant bonding experience for the parents there is the possibility that the fetus might be found to have an abnormality which is minor or severe.

The necessity of informing expectant parents of the medical implications of the FAS seems especially important in departments already providing videotapes to ensure that the entertainment aspect of the FAS is not overestimated.

Willingness to use a videotape as legal evidence

It was decided that the participants would not be directly asked if they would use a videotape of the FAS as legal evidence if the circumstances arose, as the expectant parents might feel obliged to say what we want to hear.

Whilst only 3 participants indicated that they would like a videotape of the ultrasound for "future medical reference" whether a true minority of expectant parents would proceed to legal action (following a child being born with an undiagnosed condition) is difficult to determine unless all expectant parents being asked the question have been in that situation.

CONCLUSION

The first changes this department needs to implement are-

- i. To improve parental knowledge of the limitations of prenatal ultrasound.
- ii. To replace our thermal paper with a more robust alternative.

Then perhaps a further study could be performed to determine whether the expectant parents are more content with our policy.

Despite the fact that the majority of expectant parents did desire a videotape of the FAS the concerns remain the same, in that there is the risk of a tape being used as legal evidence, increasing the examination time for the purpose of obtaining a video, the chance of the sonographer being distracted with the video and the possibility of promoting the entertainment aspect of the FAS.

ACKNOWLEDGEMENT

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Carotid stents: Imaging pre and post placement

Joseph Polak

This article is the abstract of a paper delivered by Professor Polak at the ASUM Vascular Workshop in July 2001. The talk is available on videotape (tape 25/137 in the ASUM Videotape Library).

Diagnostic performance of carotid ultrasound in the NASCET and ACAS studies

Results of the diagnostic accuracy of carotid ultrasound in the centers participating in the NASCET study published in 1995¹ showed that the sensitivity and specificity of carotid ultrasound were 68% and 67% respectively. The methodological issues that may have played a role include the following: variations in patient selection, in imaging device performance and variations in the imaging protocols^{1, 2, 3}. The lack of a standard imaging protocol is believed to be the major reason for the poor diagnostic performance of carotid ultrasound in NASCET.

The effect of imaging device is certain, at least based on the experience derived from ACAS. In ACAS, the specificity of carotid ultrasound was above 95%⁴ and gave consistent values once a standard protocol had been adopted⁵. Despite the fact that all ACAS centers had to show evidence of a strong correlation between Doppler measurements and carotid arteriography (on 50 studies), between center variations were still dramatic⁴. The possibility that differences in imaging devices or imaging protocols could also have had an effect on diagnostic performance has been suggested by other groups^{3, 6, 7}.

Optimal use of carotid Doppler in the evaluation of carotid surgery/stent patients should take these issues into consideration and adopt a strategy that attempts to circumvent the problems that have plagued the NASCET and ACAS studies.

Velocity Parameters

Various velocity parameters will be used for estimating the severity of carotid stenosis. The peak systolic velocity (A)

and the end-diastolic velocity (B) are measured at the point of maximal narrowing in the carotid artery. (Figure 1)

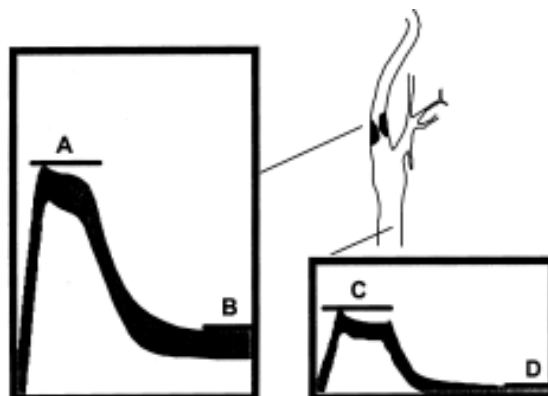


Figure 1

The peak-systolic velocity of blood in the common carotid artery, specifically a point of 2 to 4 cm from the bifurcation (C), is used to calculate a ratio of the velocity in the internal carotid artery to that in the common carotid artery. The internal carotid artery to common carotid artery peak-systolic velocity ratio offers the following advantage: it corrects for alterations in cardiac output or cardiac arrhythmias. This advantage must be weighed against the increased error associated with the mathematical operation of dividing one number by another number. The common carotid artery velocities are typically higher by 10 to 20 cm near the origin (so-called low common carotid)^{8, 9} and decrease when nearing the level of the carotid bifurcation. Blood flow patterns tend to be relatively consistent and close to laminar pattern approximately 3 cm from the level of the carotid bifurcation. A consistent estimate of common carotid artery peak-systolic (or diastolic) velocity is therefore made at this point in the absence of any lesion or plaque formation. (Figure 1)

Table 1 Doppler velocity cut-points for determining 70% or more stenosis of the internal carotid artery consistent with NASCET (18).

Author	Parameter(s)	Accuracy
Hunink et al (2)	ICA peak systolic velocity \geq 230 cm/sec	sens .80, spec .90
Moneta et al (10)	ICA/CCA peak systolic velocity ratio \geq 4.0	sens .91, spec .87
Faught et al (11)	ICA peak systolic velocity \geq 130 cm/sec and ICA end diastolic velocity of \geq 100 cm/sec	sens .81, spec .98
Neale et al (12)	ICA peak systolic velocity \geq 270 cm/sec and ICA end diastolic \geq 110 cm/sec	sens .96, spec .91
Hood et al (13)	ICA peak systolic velocity \geq 130 cm/sec and ICA end diastolic velocity \geq 100 cm/sec	sens .87, spec .97
Carpenter et al (14)	ICA peak systolic velocity \geq 210 cm/sec or ICA / CCA velocity ratio \geq 3.0	sens .94, spec .77 sens .91, spec .78
Chen et al (15)	ICA peak systolic velocity \geq 125 cm/sec and ICA end diastolic velocity \geq 135 cm/sec	sens .76, spec .93

Velocity cut-points for detecting significant stenosis of the internal carotid artery

Many papers have compared various Doppler velocity values for distinguishing stenosis severity above or below a certain cut point for 70% (NASCET) or 60% (ACAS) stenosis. Some of these papers are shown in table 1^{2, 10, 11, 12, 13, 14, 15}. With the recently published results of the NASCET study it becomes, once again, necessary to detect patients who have carotid artery lesions causing a stenosis of 50% or more^{16, 17}. The cut-points published in the papers shown in Table 1 share a common characteristic: the cut-point is selected on the basis of optimizing sensitivity, specificity or overall accuracy. Implicit to this approach of using Doppler ultrasound is the fact that some form of correlative imaging will be performed. In addition, the sonographer is being asked to make a very specific decision and to determine whether a patient has a stenosis above or below 70% (or 60%). This implies the ability of distinguishing a 69% (59%) stenosis from a 70% (60%) stenosis. The Doppler technology is imperfect and shows enough variation in measurement that this approach may lead to errors in identifying potential surgical candidates.

Grading the severity of internal carotid artery stenosis

The degree of stenosis can be directly estimated from the Doppler velocity¹⁹. In essence, a given velocity corresponds to a certain degree of stenosis with the addition of an error due to sonographer, device and patient variability. The resultant estimate of the degree of stenosis includes a certain range. In table 2 are the results of a regression curve between percent stenosis as measured using the NASCET method and peak-systolic velocity measured by Doppler ultrasound. A peak-systolic velocity of 155 cm per second corresponds to a 50% diameter stenosis. However, this estimate can vary

Table 2 Estimated internal carotid artery stenosis severity based on peak-systolic velocity in the internal carotid artery.

Peak-systolic velocity (cm/sec)	Estimated % ICA stenosis	Lower 95% confidence interval	Higher 95% confidence interval
125	43	37	49
150	49	42	56
155	50	43	58
175	54	46	62
200	58	50	67
210	60	51	69
225	62	53	72
250	66	56	76
275	69	58	79
285	70	59	81
300	72	61	83
325	74	63	86
350	77	65	89
375	79	67	91
385	80	68	92
400	81	69	94
425	83	70	...
450	85	72	...
500	88	75	...
525	90	76	...

between 43 and 58% (95% confidence intervals; Table 2). It is therefore possible, given a certain Doppler velocity, to give an estimate of the severity of an internal carotid artery stenosis. The same principle can be applied to regression curves comparing end-diastolic velocities or the peak-systolic velocity ratios to the degree of carotid artery stenosis. The Doppler velocity measurement is used to estimate the degree of stenosis and the errors that are inherent to the use of Doppler technique are taken into consideration when reporting the final value.

Grading of the severity of carotid stenosis is subject to difficulties with a tendency for the velocities to overestimate stenosis severity in cases: 1) of contralateral high grade stenosis^{20, 21}, 2) of recent endarterectomy and 3) following stent placement²². A protocol should adjust for this possible confounding by acquiring Doppler velocity estimates in the internal carotid artery as far above the lesion and/or stent as possible and by requiring color Doppler images of the carotid artery.

Imaging protocol (before stent)

Gray scale frequency: 5MHz or above (less than 7MHz);

Doppler frequency: 3 to 5 MHz

Perform transverse sweep of the study artery from low carotid to 3 cm above the flow divider	Videotape segment as an aid to lesion localization: the duration 5 to 15 seconds
Longitudinal imaging (gray scale and color Doppler) of the low common carotid artery and Doppler velocity waveform	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the mid common carotid artery	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the cephalad portion of the common carotid artery	Videotape segment and freeze image on duplex display for Doppler velocity measurement (3 cm from flow divider)
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (anterior projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (lateral projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (posterior projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery 1 to 3 cm cephalad to the lesion (best of 3 projections)	Videotape segment and freeze image on duplex display for Doppler velocity measurement at 1, 2 and 3 cm

Carotid stents: Imaging pre and post placement

Imaging protocol (after stent placement)

Gray scale frequency: 5MHz or above (less than 7MHz);

Doppler frequency: 3 to 5 MHz

Perform transverse sweep of the study artery from the low carotid to 3 cm above the flow divider	Videotape segment as an aid to lesion localization: duration 5 to 15 seconds
Longitudinal imaging (gray scale and color Doppler) of the low common carotid artery and Doppler velocity waveform	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Longitudinal imaging (gray scale and color Doppler) of the mid common carotid artery	Videotape segment and freeze image on duplex display for Doppler velocity measurement
Identify stent if lower end in common carotid or below flow divider; Measure length of stent on longitudinal image by centering on 1. Frozen gray scale and 2. Frozen color Doppler image	
Longitudinal imaging (gray scale and color Doppler) of the cephalad portion of the common carotid artery	Videotape segment and freeze image on duplex display for Doppler velocity measurement (3 cm below flow divider or lower if stent extends into low common carotid artery)
Identify stent if lower end in internal carotid or above flow divider; Measure length of stent on longitudinal image by centering on 1. Frozen gray scale and 2. Frozen color Doppler image	
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (anterior projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement mid stent and lesion
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (lateral projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement mid stent and lesion
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery centered on the lesion (posterior projection)	Videotape segment and freeze image on duplex display for Doppler velocity measurement mid stent and lesion
Longitudinal imaging (gray scale and color Doppler) of the internal carotid artery 1 to 3 cm cephalad to the (best of 3 projections)	Videotape segment and freeze image on duplex display for Doppler velocity measurement at 1, 2 and 3 cm lesion above stent

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Abnormal premenopausal vaginal bleeding Gynecological causes

Edward A Lyons MD FRCP(C) FACR, Professor of Radiology and Obstetrics & Gynecology, University of Manitoba, Winnipeg, Manitoba

This article is the abstract of a paper delivered by Professor Lyons at the ASUM Annual Scientific Meeting in Sydney 2001. It is reproduced in the Ultrasound Bulletin in response to demand from members who attended the meeting but were unable to obtain a copy of the abstract. The talk is available on videotape (tape 25/139 in the ASUM Videotape Library).

The most common gynecological causes of premenopausal bleeding are adenomyosis, submucous fibroids, polyps, dysfunctional bleeding and less likely, endometrial carcinoma.

Ultrasound is and should be the method of choice in identifying the exact cause of the bleeding. One would always begin the study with a transvesical exam, empty the bladder and proceed to the endovaginal exam. The endovaginal study provides the sonographer and sonologist with a high resolution, magnified view of the uterus, myometrium, endometrial canal and adnexa. In addition, it provides a unique opportunity to "palpate" the pelvic organs and to "visualize" the site of pain or tenderness. This is very helpful in making the diagnosis by correlating the ultrasound and clinical findings. I believe also that a color Doppler study should also be a part of every study. It will help confirm and in some cases identify pathological processes.

There are two major types of abnormal vaginal bleeding, 1) excessively heavy periods or menorrhagia and 2) bleeding between periods or metrorrhagia.

Menorrhagia or hypermenorrhea is an increased volume or duration of menstrual flow sometimes associated with clots. Sudden heavy flow or "gushing" is always abnormal. The usual gynecological causes are adenomyosis, submucous fibroids or hormonally based dysfunctional bleeding. Endometrial hyperplasia and malignant tumors are the least common causes.

To date there has been a great deal of confusion in differentiating fibroids from adenomyosis. I personally had never made the diagnosis of adenomyosis using ultrasound until 2 years ago. After studying a series of patients and hysterectomy specimens, the diagnostic criteria for each became obvious. We are now making the diagnosis of adenomyosis on 5 or 6 patients every single day

The principle characteristics and differentiating features are:

Fibroids:	Adenomyosis:
Often in nulliparous women	Usually multiparous
Discrete mass	Ill-defined
Hypoechoic periphery	Asymmetric myometrial thickening
Hypo, iso or hyperechoic	Mixed echogenicity
Cysts are very uncommon	Cysts are very common

Vessels peripheral	Vessels usually central
Diffuse shadowing	Streaky shadowing
Non-tender on palpation	TENDER on palpation
Calcify late or after pregnancy	Don't calcify

Fibroids or Leiomyomata are said to be present in 20-25% of women in the reproductive age group. They are often asymptomatic and grow only during the reproductive years under the influence of estrogen. In menopause they tend to shrink or even disappear, except for patients who are on hormone replacement therapy. There are frequently several fibroids at once and may be of varying size. Abnormal uterine bleeding is said to be present in 30% of these patients, particularly if the fibroid is in a submucous location. Bleeding may be due to vascular engorgement and /or erosion of the overlying endometrial membrane.

Sonographically fibroids are distinct, well-defined masses with a hypoechoic periphery. They may be hypo, iso or hyper-echoic with distal attenuation of sound or shadowing. Depending on their location and size they may distort the endometrial cavity or the serosal surface. They may lie within the endometrial canal and occasionally prolapse out of the cervix. Fibroids that undergo hyaline or cystic degeneration will become echogenic and tend to be soft and non-tender on palpation. Cystic areas are uncommon in fibroids although they certainly do occur.

It is very useful to assess the vascularity of fibroids. Recent literature suggests that of the 45% of fibroids that have central vascularity, half of those will show a growth of the mass within one year.

A saline hysterosonogram is very helpful in identifying the exact relationship of the fibroid to the mucosa and its potential resectability. It may also be of value to assess the vascularity in the periphery of the fibroid just under the mucosa.

Treatment of fibroids is done only on a symptomatic basis. If there is a large mass causing pressure or pain, or if the fibroid has grown rapidly a hysterectomy is commonly performed. In younger patients, a myomectomy is done to preserve the uterus and its reproductive capacity. Myomectomy can then be done at laparotomy or for submucous masses, hysteroscopically. The initial therapy, if any, may be medical with the administration of gonadotropin-releasing hormone (GnRH) agonists to shrink the mass enough to relieve symptoms or in preparation for surgery.

Adenomyosis is a condition where endometrial glands and stroma are present within the myometrium at least 2 mm from the endomyometrial junction. In hysterectomy specimens it is a common finding said to be present from 8-40% of routine sampling of uteri. It regresses after

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Abnormal premenopausal vaginal bleeding -Gynecological causes

menopause as it responds mainly to the presence of estrogen. Post-menopausal patients on hormone replacement therapy or Tamoxifen which is mildly estrogenic, will not have regression of the disease process or its symptoms. Adenomyosis is seen most often in multiparous women and is very uncommon in nulliparous ones.

The most common complaints are:

- 1) Menorrhagia or heavy periods. These are often associated with clots and may even be reported as gushing of blood. These can usually be traced back to a time after childbirth.
- 2) Dysmenorrhea or painful periods. These may vary in length from 1 or 2 days to lasting throughout the cycle. The cramps respond well to an anti-prostaglandin medication.
- 3) Pelvic tenderness or dyspareunia. Painful intercourse is often an indication of tender uterus or adnexa. Tenderness, which is usually focal, can be elicited by using the endovaginal probe but one must remember to ask the patient.

Sonographic diagnosis depends on the following features: myometrial inhomogeneity, myometrial cysts often subendometrial in location, streaky shadowing and uterine tenderness. These signs may vary during the cycle and repeat studies are often required. The cysts specifically may be seen throughout the cycle but are more likely seen during the secretory phase around day 19. We routinely repeat the study on day 19 if there is a suspicion of adenomyosis based on history or sonographic features.

Dysfunctional uterine bleeding is defined as the absence of an identifiable pathology and is a diagnosis of exclusion. The endometrium likely outgrows its blood supply and is sloughed in an irregular manner. It occurs more commonly in adolescents and perimenopausal women. Treatment is with a higher than normal dose of oral contraceptives for 3 - 6 cycles.

Metrorrhagia or intermenstrual bleeding

Intermenstrual bleeding occurs any time between normal periods. The most common cause is spotting which is associated with ovulation. This can be documented with a rise in basal body temperature. Endometrial polyps are the

next most common cause followed by carcinoma of the endometrium or cervix.

Endometrial polyps are protruding stromal cores with mucosal surfaces projecting into the endometrial canal. They may be sessile or polypoid on a stalk. There are common at all ages but increase in frequency after 50 years of age. They may be single or multiple. Most arise in the fundus and project downwards. Adenocarcinoma rarely develops in a polyp.

The diagnosis can be made sonographically but the transvesical examination is least sensitive. On an endovaginal study, features include: 1) an oblong echogenic mass occasionally with fluid around it, 2) cysts in the endometrial polyp 3) a prominent feeding artery on color doppler with a typical pulsatile flow, or 4) nothing at all. Polyps are best visualized in the first half of the menstrual cycle, the proliferative phase when the endometrium is least echogenic. In the second half of the cycle, the echogenic endometrium may completely mask the presence of the polyp.

Using the endovaginal transducer as an examining probe one can see the polyp move with pressure applied to the uterine fundus or body.

Hysterosonography or fluid installation into the endometrial canal is very helpful and usually diagnostic. This will detect even small polyps that are virtually invisible by other sonographic studies.

Direct visualization by hysteroscopy is also an excellent method of diagnosis. It is being used more frequently and replaces the x-ray procedure of contrast hysterosalpingography.

Treatment may be with dilatation and curettage with an Overstreet polyp forceps or removal under direct visualization by hysteroscopy. Without direct visualization, polyps are often missed during a D&C.

Finally, vaginal bleeding may be due to **Systemic** or **Local** causes. Systemic causes are uncommon and may be due to hypothyroidism, liver disease and blood dyscrasias or coagulopathies. Local causes may be due to infection, neoplasia or other local causes involving the **Vulva and vagina**: atrophy, trauma **Cervix**: Polyps **Uterus**: oral contraceptives or IUCD.

Paediatric case study - Intussusception

Lyndal Cohen

HISTORY

6 month old patient seen in casualty for abdominal pain. Suspected of having an intussusception. Drawing up knees with pain, 'red currant jelly' stools, lethargic with bouts of abdominal pain and cramping.

DISCUSSION

There are fluid filled bowel loops with increased peristalsis suggestive of a small bowel obstruction. A well-defined cyst mass measuring about 2 x 1.9cm in diameter is seen in the inferior aspect of the right kidney. This appears to have a

vascular pedicle with surrounding bowel loops consistent with a lead point to an ileo-colic intussusception. There is free fluid in the peritoneal cavity. The cyst is surrounded by well defined echogenic inner walls consistent with a duplication cyst. Some debris is seen within the cyst. Vascular flow signal is shown in the intussusception and pedicles of the cyst.

DIAGNOSIS

Intussusception with a duplication cyst as a lead point.

Note: Figure 7 is on page 28.



Figure 1 Cystic structure demonstrated inferior to the right kidney.

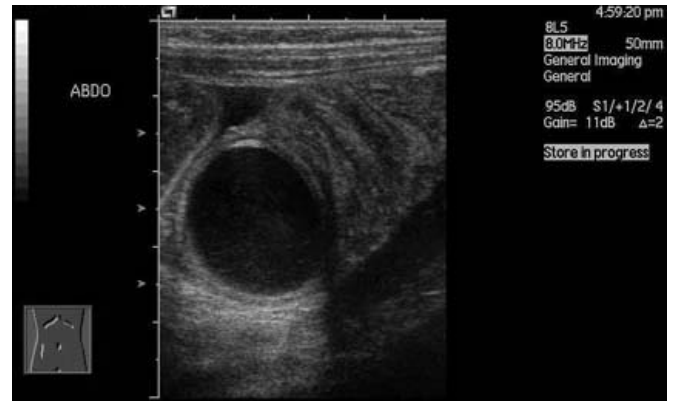


Figure 4



Figure 2 Transverse view through the intussusception.

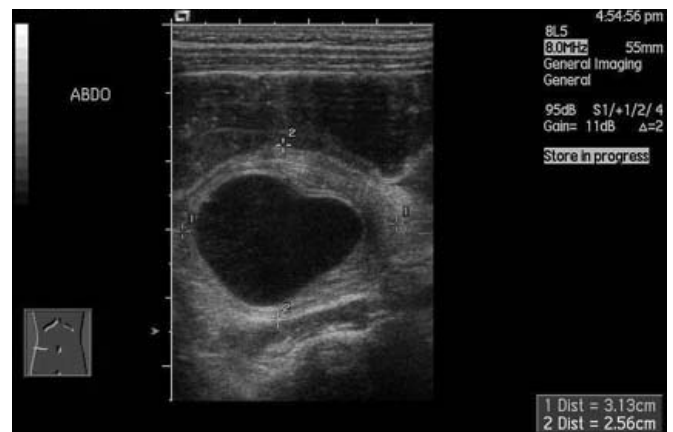


Figure 5 Transverse view of the duplication cyst with thickened wall.

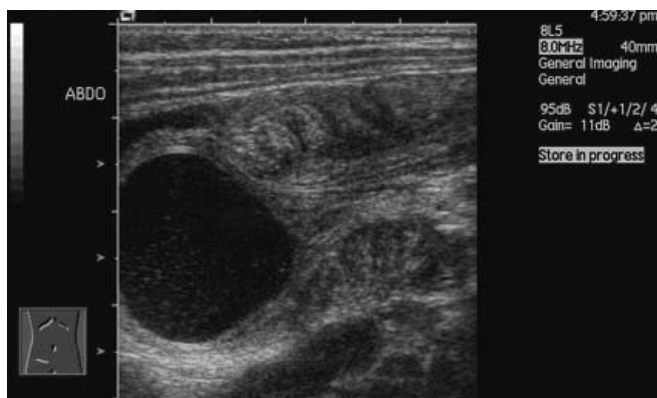


Figure 3 Longitudinal view through the intussusception demonstrating cystic structure as the lead point.

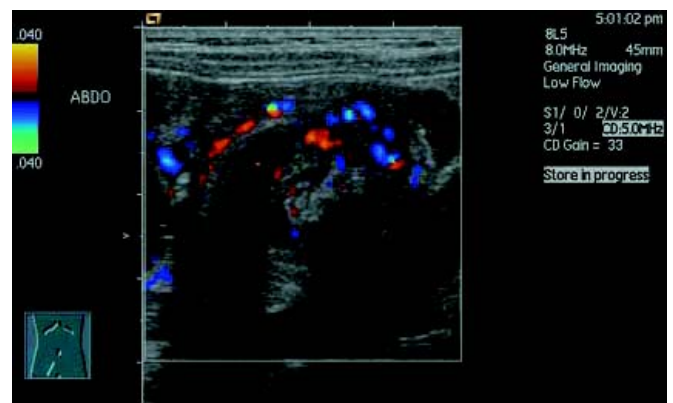


Figure 6

DALCROSS PRODUCTS P/L

Cardiovascular Case Study

Lucia Pemble

HISTORY

This 84 year old female with no past history of DVT presented with a 2 day history of posterior calf pain and swelling. A venous duplex ultrasound was performed to assess the patency of the deep and superficial veins of this patient's right leg. The veins were examined from the groin to the ankle with the patient supine but in a reverse

Trendelenburg position (to aid visualisation of calf veins). B-mode imaging with transverse compression was the technique employed and supplemented with PW Doppler and power imaging. The thigh veins were normal. The proximal popliteal vein depicted a loose mobile tongue of thrombus. Scans performed are illustrated in figures 1-7. What is the likely diagnosis? Answer is on page 30.

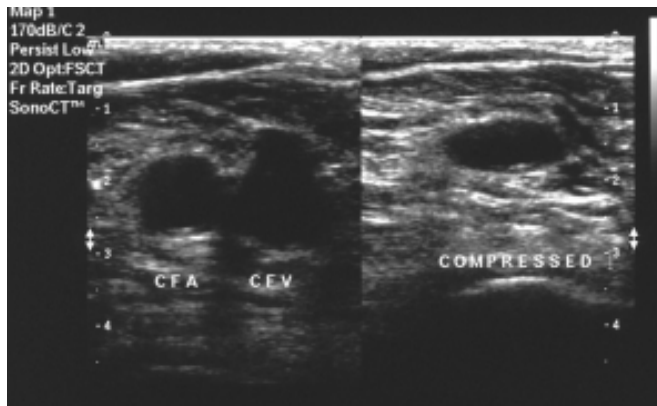


Figure 1 B-mode of CCA/CFV in dual screen depicting complete coaptation of CFV within transducer pressure on skin.



Figure 4 Transverse B-mode image of popliteal vein and artery. Double arrows illustrate the location of non-adherent thrombus.

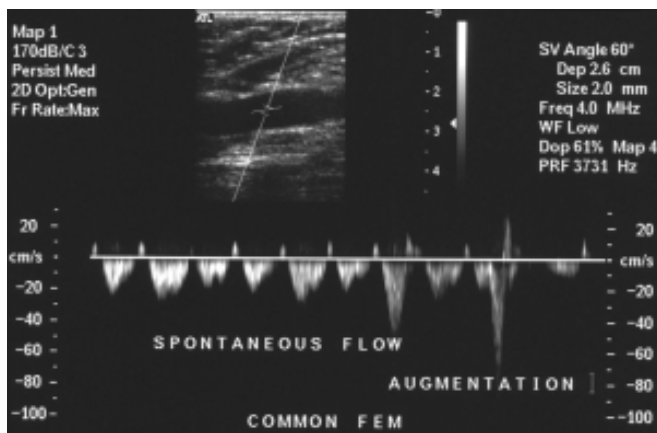


Figure 2 CFV, PW Doppler signal depicting spontaneous flow and brisk flow with augmentation.



Figure 5 Transverse B-mode image shows intraluminal echoes in the SSV and one medial gastrocnemius vein.

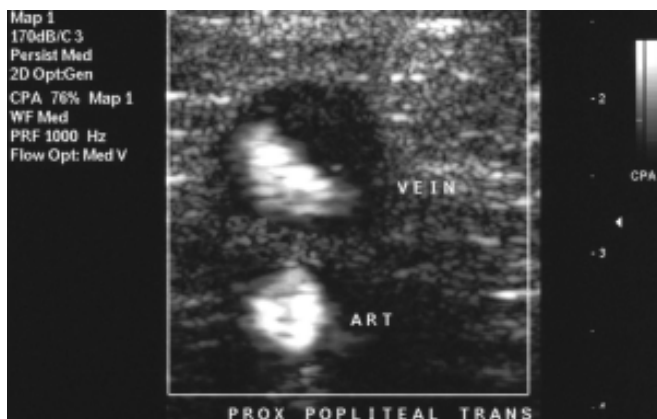


Figure 3 Transverse image of popliteal vein and artery using 'power angio' to depict flow channel. Partially occlusive thrombus is seen within the popliteal vein.

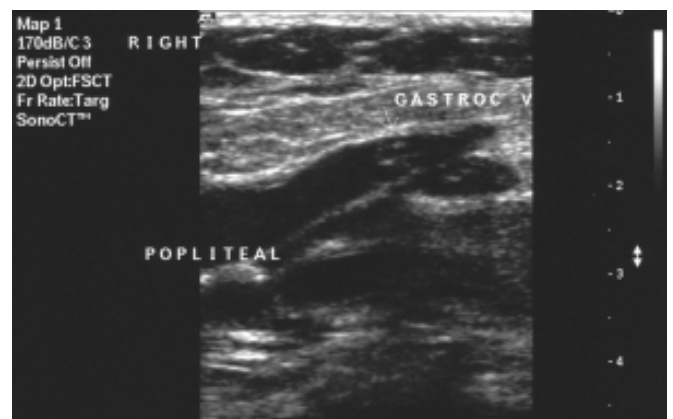


Figure 6 Longitudinal B-mode image shows intraluminal echoes in gastrocnemius vein do not extend into popliteal vein.

Cont'd on page 28

Vascular ultrasound crossword puzzle

QUESTIONS

ACROSS

1. What do the initials TEA stand for?
6. Name the carotid artery with a typically high resistance waveform.
7. Blood clot in the superficial femoral vein is a _____.
8. The initials of a synthetic bypass graft composite material.
10. An arterial branch of the coeliac axis.
11. The resistance to flow in normal, resting leg arteries.
12. The flow direction in normal vertebral arteries.
13. The name of the deposit within arteries which can lead to luminal narrowing.
15. The extracranial carotid vessel with characteristically low resistance flow.
16. A descriptive term relating to a type of aneurysm.
17. The resistance to flow in healthy kidneys.
18. The name given to a vein which is a superficial continuance of the SSV along the posterior thigh, joining the LSV.
19. The name of an ultrasound contrast agent produced by Schering.
21. The name of the confluence between the deep and superficial veins at the fossa ovalis.
22. Patients with VBI often experience this sensation.
24. Aliasing occurs at 1/2 this value, the _____ limit.
27. The direction of left vertebral artery flow in a patient with left subclavian steal syndrome is described as _____ grade flow.
28. The PW Doppler control you would adjust to remove the "thump" from an arterial signal is known as the _____ filter.
29. The ratio obtained by division of the PSV in a renal artery, by the aortic PSV at the level of the renal arteries.
31. AAA stands for abdominal aortic _____.
32. The term used to describe portal vein blood flow towards the liver.
34. The term which is used to describe the 3 most common factors which contribute to thrombus formation.
35. The name of the symptom experienced by a patient with

significant carotid bifurcation disease where temporary visual defects are produced.

37. The name of the American doctor who had a fundamental role in the early development of duplex diagnostic criteria for the classification of carotid artery disease.
38. The vascular qualification one can obtain through ASUM.
39. The name of the ratio produced by dividing ankle systolic pressure by arm systolic pressure.

DOWN

1. The name given to hemispheric neurological symptoms which persist for less than 24 hours.
2. The acronym used to describe colour Doppler settings, which display negative frequency shifts as blue and positive frequencies as red.
3. The outermost layer of a blood vessel wall.
4. The condition where the neurovascular bundle is compressed producing symptoms in the arm.
5. Pain that develops in leg muscles with exercise that is relieved by rest.
7. The combined modality of B-mode imaging and PW Doppler.
9. Blood flow direction in the hepatic veins.
13. An alternative expression for peak arterial velocity.
14. A poisoning that can occur in patients using medication for the control of migraine.
20. By modification of the Doppler equation the frequency shift measured by PW Doppler can be converted into blood flow _____.
23. The middle layer of the blood vessel wall.
25. the number of leaflets in a venous valve.
26. The syndrome where blood flow to the left arm is rerouted due to Lt subclavian occlusion.
30. Inflammation of the wall of an artery.
33. The name of the colour modality which represents the amplitude of the Doppler signal is known as amplitude imaging or _____ angio.
36. PW Doppler stands for _____ wave Doppler.

Cont'd from page 23

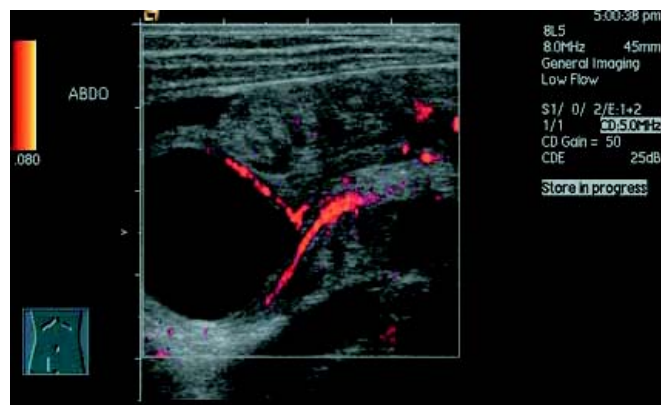


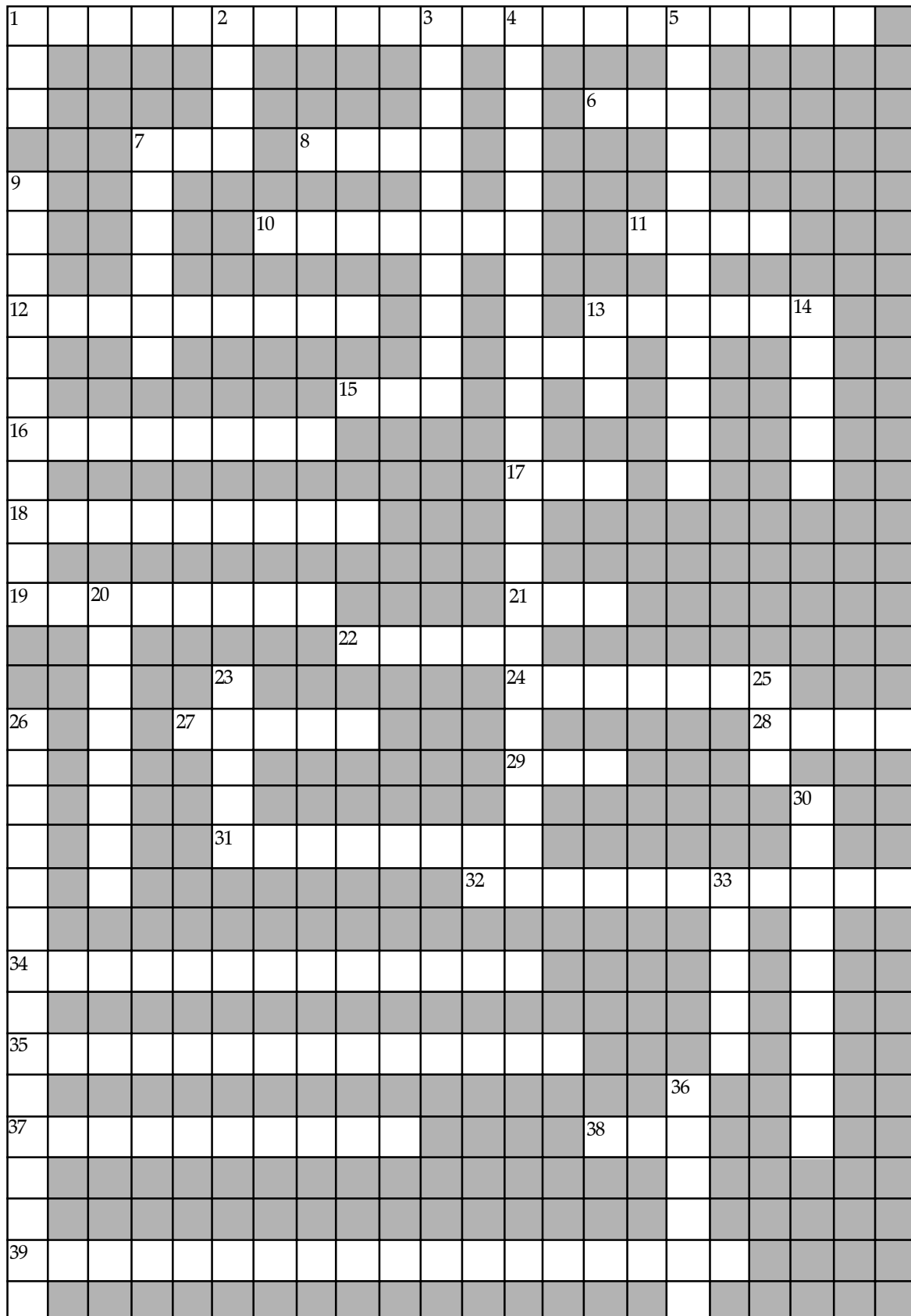
Figure 7

Cont'd from page 27



Figure 7 Transverse B-mode image shows intraluminal echoes in the SSV and one medial gastrocnemius vein and incompressibility of these veins.

Vascular ultrasound crossword puzzle



Cardiovascular case study - Answer

DIAGNOSIS

Superficial thrombophelbitis with extension into the popliteal vein.

This is evidenced by the presence of non-adherent, mobile thrombus of the proximal popliteal vein which extended from the SSV. Real time B-mode showed the mobility of this

thrombus. The SSV had an echogenic lumen with no evidence of compression or 'Power angio' flow. One medial gastrocnemius vein was thrombosed also (this did not extend into the popliteal vein). Only some of the images of the complete study are shown here.

Lucia Pemble

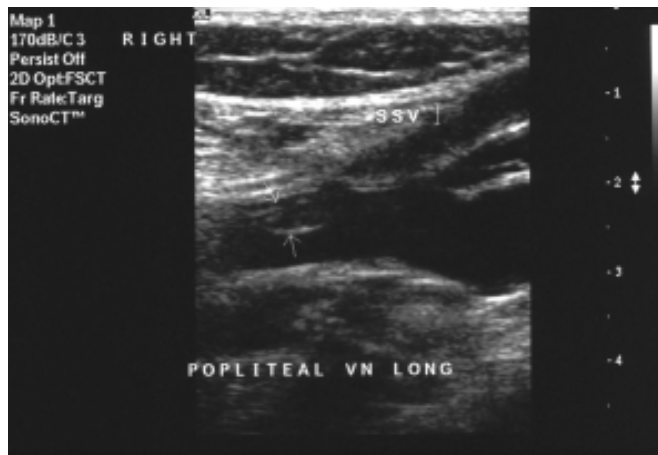


Figure 8

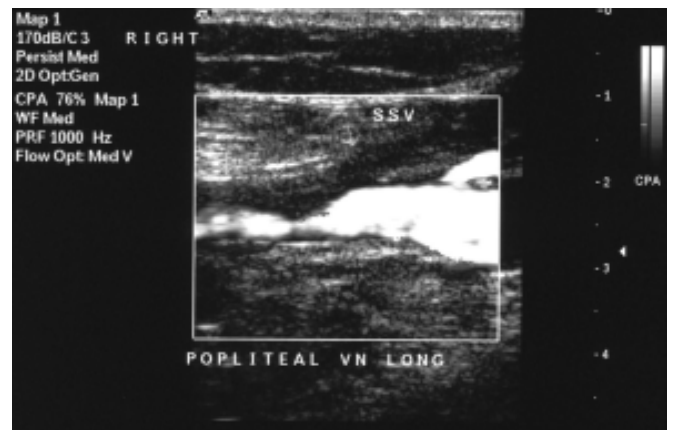


Figure 10 As per Images 8 and 9 but with 'Power Angio' to depict partial channel of flow.

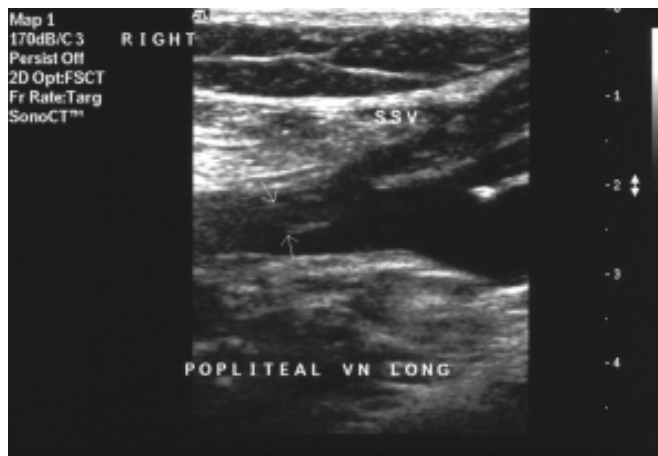


Figure 9

Figures 8 and 9 Longitudinal B-mode image depicting the SPJ with extension of thrombus from SSV to the popliteal vein.

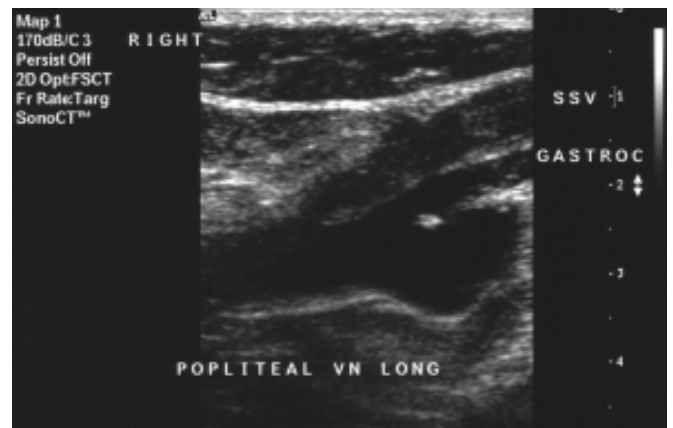


Figure 11 Long B-mode of SPJ and gastrocnemius /popliteal confluence.

Vascular ultrasound crossword answers

ACROSS

1. thromboendarterectomy
6. ECA
7. DVT
8. PTFE
10. hepatic
11. high
12. antegrade
13. plaque
15. ICA
16. fusiform

17. low
18. Giacomini
19. levovist
21. SFJ
22. dizzy
24. nyquist
27. retro
28. wall
29. RAR
31. aneurysm
32. hepatopetal

34. Virchows triad
35. amaurosis fugax
37. Strandness
38. DMU
39. ankle brachial index

DOWN

1. TIA
2. BART
3. adventitia
4. thoracic outlet syndrome
5. claudication

7. duplex
9. hepatofugal
13. PSV
14. ergot
20. velocity
23. media
25. two
26. subclavian steal
30. arteritis
33. power
36. pulsed

Book Reviews

Title: The Core Curriculum – Ultrasound
Author: William E Brant
Publisher: Lippincott Williams and Wilkins
Year: 2001-12-20
Approximate cost: \$A250.80

This well presented book lives up to both its title and the author's goal in the preface of the book. Brant's goal is "....a succinct, yet detailed and heavily illustrated reference for the busy resident alone in the radiology department in the middle of the night."

The book comprises fifteen chapters and five hundred and eleven pages. This, at first inspection, may seem rather lengthy for a "succinct" reference book. The reason for this is largely due to the to the number of good quality and comprehensive images which are studded throughout. The images are up-to-date and relevant. Indeed this is the flavour of the book, which covers a multitude of common topics with discussions that are very relevant to a modern ultrasound practice, particularly those with registrars in training. While intended for radiology registrars, the book would also be very relevant to sonographers studying at DMU Part 2 level (or university equivalent).

The layout of the chapters is well structured to assist the reader to absorb the fundamentals. Relevant points are made in point form for easy access and reading. The diagrams and tables are clear and concise, as is the relevant labelling of the ultrasound images.

Each chapter begins with a simple explanation of relevant ultrasound anatomy. For example Chapter 2 (Abdominal Ultrasound) covers the liver and begins with a diagram of Couinauds segments of the liver. This gives the reader an important refresher for the ensuing conditions the author goes on to describe.

In each chapter there is a discussion of the pitfalls and artefacts, which are relevant to that particular area. This includes the first chapter, which describes the basic "knobology" of the ultrasound machine and general ultrasound artefacts, relevant to all scanning.

A minor criticism is that all the colour Doppler images are displayed on 16 pages located centrally within the book. These images are referred to at various points spread throughout the book. Presumably the central layout is the result of printing cost issues rather than for ease of access by the reader, as at times this style of presentation can be somewhat cumbersome.

No weight has been given to clinical symptoms/signs and the book contains little physics. This however is in line with the authors' initial goal and indeed these areas are covered well in other ultrasound texts.

The references are relevant and up-to-date.

Overall the book is impressive and a necessary addition to the library of all ultrasound practices where there are radiology registrars and sonographers in training. A text well worth the read!

Dr Alex Taylor MB BS (Hons) FRACR

Title: Textbook of Diagnostic
 Ultrasonography 5th Edition
Author: Sandra L Hagen-Ansert
Publisher: Mosby
Published: 2001
Approximate cost: \$A515

The fifth edition of Textbook of Diagnostic Ultrasonography by Sandra Hagen-Ansert is a beautifully presented, special Silver Anniversary Edition. It is a terrific tribute to the author who has had over 25 years of involvement in the development and teaching of sonographic techniques. In 1995 I reviewed the 4th Edition of this text, for the ASUM Bulletin, when it moved from a single volume to a 2-volume set. I highly recommended the previous edition to all general sonographers, from students to the more experienced, and this book has always been on the recommended text list for my students. Previous editions have presented detailed information in comprehensible form, aimed at sonographers, and have represented excellent value for money.

The 5th edition has continued this tradition. It has been extensively revised and updated and includes many new features, particularly new images, revised anatomy diagrams and color photographs of pathology specimens. The visual design of the book has been updated with extensive use of color highlights and "focus charts" to assist the student sonographer in his or her studying.

The 2- volume set format remains, with volume 2 now being dedicated entirely to obstetrics and gynecology, with many new and expanded chapters. A notable new addition is a chapter on ethics in obstetric scanning. Volume 1 covers most aspects of general sonography; abdomen, superficial structures, pediatrics, vascular applications and two introductory chapters on echocardiography.

As in previous editions, the text is aimed primarily at sonographers and this is reflected in the emphasis on the practical aspects of technique and the presentation of excellent and relevant anatomical, pathological and clinical information. I'm sure many departments involved in the training of student sonographers have previous editions of this text as an important part of their libraries. In my opinion, this text has been sufficiently updated and revised to warrant updating the library with this new edition. As in the past, it represents terrific value for money, as far as textbooks are concerned, and should be affordable for many student sonographers individually.

In summary, a highly recommended text for student sonographers, more experienced sonographers and those involved in training and teaching. Congratulations to the author on 25 years of dedicated service to ultrasound education.

Margo Harkness
 Senior Lecturer in Medical Ultrasound
 Queensland University of Technology.

Book Reviews

Title: Ultrasound in surgical practice: basic principles and applications
Editors: Jay K Harness & Dennis D Wisner
Publisher: Wiley-Liss, Inc, New York 2001
Total no of Pages: 531 pages
Approximate cost: \$A312

The stated design of this text is as an introduction into the world of ultrasonography, with applications, concepts and techniques for the surgeon. However, irrespective of its target audience, an ultrasound textbook should provide an up to date and adequately thorough overview of technology and its applications. In this respect, and in others, the book fails to meet its objectives: There is no discussion of broadband transducer technology or of power Doppler and, at best, brief mention of the place of colour Doppler in many clinical situations. Similarly, the explanations of various probes is relatively superficial.

For text aimed at surgeons, there are surprising omissions: eg., the urinary tract is rather poorly covered and the prostate not at all. In the sections dealing with renal masses (complex cysts and tumours), the place of Doppler is not even discussed. Testicular ultrasound gets one paragraph in the 516 main pages of the text. Couinaud's concept of segmental anatomy is ignored in the main liver segmental anatomy section on pages 82 and 83.

There are some redeeming aspects to the text. Two chapters, one on the breast and the other on the thyroid and parathyroid, both written by Harness and one co-author, shine out in an otherwise disappointing textbook (although again, Doppler does not really figure in these chapters). Similarly, it appears odd that the place of colour Doppler is not discussed in many inflammatory conditions.

The illustrations, overall, could be better. The only colour plates in the book, which all relate to the chapter on vascular imaging, generally failed to reflect what more modern technology can achieve. There are no examples of power Doppler use and ultrasound contrast agents are not mentioned.

Other chapters include intra-operative and laparoscopic ultrasound, endoluminal ultrasound of the rectum, transoesophageal endosonography and echocardiography and ultrasound in the intensive care unit. The standard in these chapters is rather variable, but generally satisfactory.

In summary, this is a somewhat ordinary text and the suspicion is that, while for imaging experts there are much better texts around, the surgeons targeted by this volume are sophisticated and would also be disappointed by its scope and content. Generally, too many relatively recent technological advances do not receive the place they richly deserve (even in the chapter on technological advances), and too many organ systems and techniques could have been better covered.

Alain Lavoipierre
Director CT and Ultrasound
Cabrini Medical Imaging

Title: Musculoskeletal Ultrasound 2nd Edition
Authors: Marnix T van Holsbeeck, Joseph H Introcaso
Publisher: Mosby, 2001
Approximate cost: \$A363.00

It is a pleasant duty to review the second edition of this book, the first edition of which has become a classic text since publication 11 years ago. The whole text has been expanded from 319 to 628 pages with 6 additional contributors. All chapters include more images, new diagrams, box summaries and some information on the use of color Doppler and power Doppler.

Text is again divided into chapters on pathology according to tissue type (muscle, tendons, bursae, ligaments, joints, skin and bone) and according to regional anatomy. Chapters on the elbow, wrist and hand, hip, knee, and ankle have been considerably updated to include many more topics and more detail. For example, the hip chapter includes a useful section on 'hip snaps, locks and clicks'. The shoulder chapter has been completely revised by Ronnie Ptasznik.

One of the two new chapters is entitled 'Pathophysiology and Patterns of Disease' and discusses muscle rupture, tendon rupture, tendon degeneration, tendonosis, chronic overuse and ligament tears, providing useful detail on the pattern of conditions such as rotator cuff tendinopathy. However the pathophysiologic difference or relationship between tendon degeneration, tendonosis and chronic overuse is not made clear. Acute tendinitis has not been discussed although it had been in the tendon chapter. The interchangeable use of the terms tendinitis and tendonosis throughout the book is confusing at times.

The new interventional ultrasound chapter is a useful addition covering such topics as aspiration of soft tissues (haematoma, abscess, calcium, seromas), aspiration and injection of joints, synovial biopsy, tumour biopsy and hookwire localization.

Musculoskeletal ultrasound has progressed considerably since the first edition of this text and the experience of the authors contributes to a very useful second edition for all users of ultrasound.

Dr Patsy Robertson

Beresford Buttery Overseas Traineeship

Since its foundation GE Medical Systems has constantly been at the forefront of research and technical innovation, with GE today being recognised as a world leader in the supply of diagnostic imaging systems.

It is with great pride that GE has the opportunity to offer an annual traineeship in the field of obstetric and gynaecological ultrasound, in memory of Beresford Buttery FRACOG, DDU, COGUS who made an inestimable contribution to his profession.

The award will cover attendance at an appropriate educational program at the Thomas Jefferson Research and Education Institute in Philadelphia and will include tuition fees, economy airfare and accommodation for the duration of the course (usually 4 days).

The award will be made to applicants:

1. who seek to further develop their skills and experience in obstetric and gynaecological ultrasound
2. have as a minimum qualification Part 1 of the DDU or DMU (or equivalent) or have been awarded the DDU or DMU (or equivalent) within the last 5 years (since 31 December 1997)
3. have been a financial member of ASUM for a minimum of 2 years prior to the closing date

Applications should include:

- ❖ a *curriculum vitae*
- ❖ details of current and post employment, particularly in the field of obstetrics and gynaecology;
- ❖ testimonials from two referees in support of the application including contact address and telephone number;
- ❖ an outline of professional goals and objectives;
- ❖ an indication of benefit from award of the Traineeship.

The successful applicant is asked to provide a written report on return from the course at Thomas Jefferson Research and Education Institute.

Applications addressing the criteria should be forwarded by **Friday 28 June 2002** to:

GE Beresford Buttery Overseas Traineeship
c/- ASUM
2/181 High Street
Willoughby NSW 2068 Australia



GE Medical Systems
Ultrasound

ASUM invites members to apply for the following Scholarships

Giulia Franco Scholarship for New Presenters

Sponsored by Toshiba
Applications close 7 June 2002

This scholarship commemorates Giulia Franco who, throughout her career, contributed enthusiastically to education in ultrasound.

The scholarship will fund the Registration Fee as well as necessary accommodation and travel costs associated with attending the ASUM Annual Scientific Meeting up to a maximum value of \$1600. The recipient will also be offered entrance to Toshiba Further Education Programs for Graduate Level Study.

This Scholarship is available to scientific, sonographer or medical members of ASUM who have completed their DMU or DDU or equivalent qualification, have been a member for at least 2 years prior to the closing date for papers for the Annual Scientific Meeting and have not previously had a paper or poster accepted for presentation at an ASUM or College meeting. In 2002 one Scholarship may be awarded.

The award of this scholarship is conditional upon the recipient:

- having an original paper, that has not been previously published or presented, accepted for presentation at the Annual Scientific Meeting,
- attending the Annual Scientific Meeting as a full registrant and meeting his/her obligations as a presenter, and
- providing the paper in a form suitable for publication in the *ASUM Ultrasound Bulletin*.

In awarding the scholarship, the judges will take into consideration the quality of the paper which is submitted, and the applicant's explanation of the benefit to their clinical practice that they expect to derive from attendance at the Scientific Meeting.

Letters of application together with an abstract of the paper should be posted to: ASUM Toshiba Scholarships, 2/181 High St, Willoughby, NSW 2068, Australia. Applications must be received by the ASUM office no later than Friday 7 June 2002.

Toshiba ASUM Annual Scientific Meeting Scholarships

Each scholarship will fund the Registration Fee to attend the ASUM Annual Scientific Meeting up to a maximum value of \$800. Recipients will also be offered entrance to Toshiba Further Education Programs for Graduate Level Study.

These Scholarships are available to scientific, sonographer or medical members of ASUM who have completed their DMU or DDU or equivalent qualification and been a member for at least 2 years prior to the Scientific Meeting. In 2002 up to 3 Scholarships may be awarded.

Applicants will be required to submit a case study in a format suitable for publication in the ASUM Ultrasound Bulletin. These cases will be judged on the following criteria: interesting nature of the case, demonstration of sound scanning technique and adherence to accepted protocols, image quality, and the quality of the evaluation of the case. Presentations should be about 500 words with 2 or 3 images.

The award of these scholarships is conditional upon the recipients agreeing to provide a written report on those sessions of the Scientific Meeting that they attend and find most useful. This report should be approximately 500 words and be suitable for publication in the ASUM Ultrasound Bulletin.

Letters of application together with case studies should be posted to ASUM Toshiba Scholarships, 2/181 High St, Willoughby, NSW 2068, Australia. Applications must be received by the ASUM office no later than Friday 7 June 2002.

Applications will be judged, and scholarships awarded by a panel appointed by the ASUM Council.

No member can receive one of these scholarships more than once in any 5-year period.

In Touch with Tomorrow
TOSHIBA

Adjudication of prizes and awards at the ASUM Annual Scientific Meeting

Information for presenters and contributors to the scientific program

Due to the generosity of ASUM Corporate Members a range of prizes and awards are offered for proffered presentations at the Annual Scientific Meeting. Prizes and awards are for specifically designated purposes as described on the published list of prizes and awards.

Adjudication of the prizes and awards is undertaken by an Adjudication Panel, under the auspices of the ASUM Education Committee. The Adjudication Panel is normally chaired by the Chairman of the Education Committee and has, as its members, persons selected by the Chairman, in consultation with others as required. Selection of panel members is based on considerations including professional expertise, geographical location to ensure a balance of representation, a balance of sonologist, sonographer and scientist members, and willingness to participate.

In order to conduct the adjudication of prizes and awards in the most objective and equitable way guidelines for adjudication and scoring sheets are used by the panel. The stated purpose of the prize or award, usually as agreed to in consultation with the sponsoring Corporate Member, is a major factor in determining the eligibility of contributions for a particular prize or award.

For the purpose of prizes and awards, contributions to the scientific program are broadly categorised into 4 groups:

1) Oral presentation of a descriptive clinical or literature review type

These may include a case study description, the description

of a new technique or a literature based review of a particular topic.

2) Oral presentation of original research

This type of presentation will typically describe the methodology, results and conclusions of scientifically conducted, original research.

3) Poster presentation of a descriptive clinical or literature review type

These may include a case study description, the description of a new technique or a literature based review of a particular topic.

4) Poster presentation of original research

This type of presentation will typically describe the methodology, results and conclusions of scientifically conducted, original research.

Eligibility for particular prizes and awards is based on the nature of the presentation, professional category of the presenter and other criteria as described in the relevant prize or award description. In submitting a presentation for consideration for prizes and awards, contributors are advised to read the list of prizes and awards, and their descriptors, carefully.

Adjudication Guidelines

The following lists the components of a presentation that are considered by the adjudicators during assessment. The categories and suggested weighting of each component are

ASUM 2002 32nd Annual Scientific Meeting Prizes

ASUM Corporate Members again generously support the Annual Scientific Meeting prizes to be awarded at the conference dinner during ASUM 2002 in Gold Coast (19-22 September)

Best Research Presentation Award

sponsored by **Acuson A Siemens Company**

Value \$1500

to be awarded for the best proffered research paper

Best Sonographers Research Presentation Award

sponsored by **Philips Medical Systems**

Value \$2000

to be awarded for the best proffered research paper by a sonographer

Best Clinical Presentation Award

sponsored by **Acuson A Siemens Company**

Value \$1000 plus a shield

Education

guides only and may be modified as appropriate by the adjudicators.

1) Oral presentation of a descriptive clinical or literature review type

	Suggested Weighting
Introduction	5%
Acknowledges Chair and audience	
Sets the scene, why topic was chosen	
Aims/ hypothesis/purpose clearly stated	
Content	50%
Describes the problem/issue/technique in detail	
Discussion relates to, and is supported by relevant literature	
Literature is appropriate and current	
Comprehensive coverage	
Relates topic/ issues to local context/ conditions	
Conclusion	5%
Summary of discussion/major points	
Outlines recommendations for future work	
Presentation	10%
Clear and audible	
Systematic structure, references cited appropriately	
Slides well sequenced, relate to verbal text and easily viewed	
Well timed	
Originality/ Value of topic	30%
The topic shows an originality of approach	
The topic is relevant and beneficial to the profession	

2) Oral presentation of original research

	Suggested Weighting
Introduction	5%
Acknowledges Chair and audience	
Sets scene - refers to literature and work already done in the field	
States aims/hypothesis clearly	
Methodology	10%
Describes the materials and methods used	
Describes study design	
Describes sampling methods	
States any variables	
Results	20%
Presented clearly and concisely	
Appropriate use of statistics	
Results are valid	
Discussion	20%
Outlines limitations of study	
Original thought/analysis of results is evident	
Relates to, and is supported, by relevant literature	
Conclusion	5%
Summary of findings	
Outlines any recommendations for future work/ action	
Originality/ Value of research	30%
The topic displays an originality of topic/ approach	
The research is relevant and beneficial to the profession	
Presentation	10%
Clear and audible	

Systematic structure, references cited appropriately
 Slides well sequenced, relate to verbal text and easily viewed
 Well timed

3) Poster presentation of a descriptive clinical or literature review type

	Suggested Weighting
Introduction	5%
Sets scene - refers to literature and work already done in the field	
Indicates why topic was chosen	
States aim clearly	
Content	50%
Describes the problem/issue/case in detail	
Approach to problem/ issue/ technique is valid	
Discussion relates to, and is supported by, current literature	
Original thoughts on topic are evident	
Conclusion	5%
Presents summary of findings	
Outlines any recommendations for future research/ action	
Design	10%
Logical, easy to follow	
Information presented concisely, references cited appropriately	
Text eye catching and easily viewed	
Important points well illustrated	
Originality/ Value of topic	30%
The topic displays originality of topic/ approach	
The research is relevant and beneficial to the profession	

4) Poster presentation of original research

	Suggested Weighting
Introduction	5%
Sets scene - refers to literature and work already done in the field	
Indicates why topic was chosen	
States aim/ hypothesis clearly	
Content	50%
Methods clearly outlined	
Results clearly presented with appropriate and valid use of statistics	
Outlines limitations of study method	
Original thought/ analysis of results is evident	
Discussion relates to, and is supported by, relevant literature	
Conclusion	5%
Presents summary of findings	
Outlines any recommendations for future research/ action	
Design	10%
Logical, easy to follow	
Information presented concisely, references cited appropriately	
Text eye catching and easily viewed	
Important points well illustrated	
Originality/ Value of topic	30%
The topic displays originality of topic/ approach	
The research is relevant and beneficial to the profession	

ASUM VIC Branch

Greg Davison Memorial Lecture

Date: Tuesday 21st May commencing at 6:30pm

Venue: Mercy Hospital for Women

Contact: Margaret Condon, Ph: 03 9216 8613

Ultrasound Lecture Series for 2002

The ASUM Lecture Series has been prepared to help ultrasound trainees prepare for the ASUM DMU Lectures, for registrars in training and for those who would like a broad update in a particular area of ultrasound.

Abdomen/Paediatrics Series

April 24	Liver, Spleen, Pancreas	Matthew Andrews
May 1	GB and Biliary Tree	Patsy Robertson
May 8	Renal/Bladder	Prue Neerhut
May 15	Abdo Doppler Intervention	Rob Gibson
May 29	Paediatric Ultrasound	Anna Moon

Small Parts/Musculoskeletal Series

June 5	Thyroid and Testis	Colin Styles
June 12	Breast	Allison Rose
	Prostate	Alain Lavoipierre
	Eye	Nick Mantell
June 19	Musculoskeletal Ultrasound	Ron Ptasnic
June 26	Shoulder	Frank Burke
July 3	Knee	Steven Kiss

Vascular Series

July 10	Peripheral Venous	Geoff Matthews
July 17	Carotid Doppler	Paula King & Jacqui Brown
July 24	Lower Limb Arterial Doppler	Ken Myers

Cost per Series: ASUM members \$50
Non-members \$60

Venue: Radiology Seminar Room
Royal Melbourne Hospital

Date: Wednesday evenings 6:30pm-8:00pm

Registration: ASUM Lecture Series
C/o Dr Alex Taylor
Department of Radiology
Post Office The Royal Melbourne Hospital
PARKVILLE VIC 3050
Fax: 03 9342 8369

ASUM SA Branch

May: Musculoskeletal Ultrasound with speaker Dr Neil Simmons

July: Breast Ultrasound

September: Paediatric Ultrasound with speakers Mr Lino Piotto and Dr Tony Smith

Contact: Stephen Bird, Ph: 08 8297 0588; Email: sjbird@ozemail.com.au

ASUM ACT Branch

Journal Club Program for 2002

Monday 13th May

Uterine Artery Doppler in Pregnancy

Jan Curren/Prof David Ellwood

The Canberra Hospital Imaging Department Conference Room 5:30 pm

Saturday 1st June

'The end is in sight': Third Trimester Ultrasound (sponsored by Philips Medical Systems)

- Third trimester measurements with live scanning
- Biophysical profile, placenta, cervix
- Colour and Doppler in the third trimester
- Multiple pregnancies
- Panel Discussion

Speakers include: Prof David Ellwood, Petrina Jenkins, Vanessa Pincham, Dr Greg Kesby.

The Canberra Hospital Auditorium 9:30am-3:30pm

For more information contact: Pam Cooke, NCDI, PO Box 303 Woden ACT 2606, Fax: 02 6281 4261, Email: cookefm@austarmetro.com.au

Monday 8th July

Lumps and Bumps in the Neck

Dr Jeremy Price

John James Hospital Conference Room 5:30pm

Friday 26th July

The Best Way to Ultrasound: Ergonomics for Sonographers
Val Gregory/Guest Physiotherapist

Dinner Meeting-NCDI, 28 University Avenue, Canberra City.

Monday 12th August

2nd Trimester Foetal Abnormalities Part II

Dr Wes Cormick

John James Hospital Conference Room 5:30pm

ASUM QLD Branch

A day of tutorials and workshops will be run in June, specifically designed to assist Part 2 DMU candidates prepare for the 2002 examinations.

Date: June

Venue: Australian Institute of Ultrasound

Contact: Roslyn Savage, Ph: 0417 720 875; Fax: 07 3881 2464

ASUM WA Branch

DMU Part 2 Preparation Course

Date: Friday 28th to Sunday 30th June

Venue: Royal Perth Hospital.

Contact: Michelle Pedretti, Ph: 08 9400 9030, Email: michelle.pedretti@maynegroup.com.au; pedrets@aol.com

NZ ASUM

Annual Scientific Meeting 2002
July 18-21, 2002
Le Grand Hotel, Victoria Street, Hamilton

- Keynote Speaker:** Philippe Jeanty MD PhD
- Optional Programme:** DMU Preparation Course
Vascular Workshop
- Social Programme:** Dinner Evening
Nature Walk
- Sponsored by:** Acuson and Siemens Med Solutions
GE Medical Systems Ultrasound
Kodak
Philips Ultrasound
Toshiba
- Contact:** Martin Necas exiled@clear.net.nz

Invitation:

It's our pleasure to extend our warmest invitation to ultrasound professionals to join us in Hamilton for NZ ASUM Annual Scientific Meeting 2002. Exciting academic programme, optional vascular workshop, plentiful social happenings and relaxed friendly Hamiltonian atmosphere will make this meeting a captivating and fun event for all. We're looking forward to seeing you in Hamilton!

DMU Technical Seminar

"A Physics top-up program designed specifically for candidates of the Diploma in Medical Ultrasound Parts 1 and 2."

The program does not attempt to cover the content of the DMU Syllabus but gives guidance on how candidates should approach the exams. It revises areas of content in the Physical Principles of Ultrasound and Instrumentation Syllabus that experiences has shown present problems to a significant number of candidates.

Faculty: Mark Bryant, Mike Dadd and Louise Morris.

Venue: University of Sydney, Cumberland Campus, Lidcombe, NSW.

Date: Saturday 27th to Sunday 28th July 2002.

Cost:	Early bird fee*	Late fee
Members	\$286	\$396
Non Members	\$506	\$616

* Early bird rate finishes on Friday 28th June 2002

Contact: Tim Brown, Tel (02) 9958 6200; Email : tbrown@asum.com.au

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Proudly Sponsored by

Chris Kohlenberg Teaching Fellowships 2002

(Sponsored by GE Medical Systems Ultrasound)

In 2002 the Education Committee plans programs in the Victoria and New South Wales branches for the 2002 Teaching Fellows. Details of these programs will be published in the May Bulletin

The Chris Kohlenberg Teaching Fellowship was established by ASUM in association with **GE Medical Systems Ultrasound** to increase the opportunity for members outside the main centres to have access to quality educational opportunities. It has been awarded annually since 1998 to provide educational opportunities for members in New Zealand, Queensland and New South Wales Northern Territory, Western Australia, South Australia and Tasmania. It is named to commemorate Dr Chris Kohlenberg, who died while travelling to educate sonographers.

Branches wishing to propose programs for the 2003 Teaching Fellows should, in the first instance, contact Keith Henderson ph (02) 99586200 fax (02) 99588002 email khenderson@asum.com.au

Nominations and proposals should be addressed to: The Education Officer ASUM 2/181 High St Willoughby 2068 Australia, and should be received before 22 November 2002.

ASUM Workshop Interventional Ultrasound

25-27 October 2002

Melbourne

Convenor: Matthew Andrews

This exciting program of lectures by leading Australian practitioners is supported by hands-on workshop sessions and includes:

Biopsy

Abcess Drainage

Breast Intervention

Prostate

Foreign Body Removal

A registration brochure will be included with the May issue of the *Ultrasound Bulletin* and on ASUM's internet site: <http://www.medeserv.com.au/asum>

ASUM Image Database

The second issue of the ASUM Image Database is included on a CD-ROM with this issue of the Bulletin. The purpose of the database is to provide members with a library of good images to assist in their own education, and provide examples to use when teaching others. This issue includes more than 200 images, and 15 video segments. Some of these are organised into 39 teaching cases. Others are provided as good examples of pathology or normal anatomy.

ASUM plans to release further issues to members each membership year. We invite members to assist by submitting cases. A typical teaching case will have a few lines on clinical presentation, a series of images for inspection, perhaps with some comments about technique. The diagnosis should then be provided, perhaps with accompanying literature about the case. Additional supporting images may be appropriate, which may be from other modalities, eg an angiogram for a vascular case. Images can be submitted either as JPEG or TIFF files in PC format, as film. A pro forma for image case contribution is on the CD-ROM, or may be obtained by contacting ASUM.

For further information contact Keith Henderson, Education Officer, ASUM, 2/181 High Street, Willoughby NSW 2068 Australia ph: 02 9958 6200 fax: 03 9958 8002 khenderson@asum.com.au

To Run the Database

The performance of this program will depend upon the specifications of your computer system. It will run more slowly on older systems and those with slower CD-ROM drives.

Windows

Insert the CD into your CD-ROM drive. It should run automatically. If it does not run automatically, run d:\start.bat (where d is the name of the CD-ROM drive). If you do not have a web browser installed on your computer, you can start the database by running d:\aidb folder\aidb.exe (where d is the name of the CD-ROM drive).

System Requirements

To use your database on the Windows platform, you need the following minimum equipment and software:

- an Intel compatible 486/33 PC or higher
- at least 16 MB of RAM
- a hard disk with at least 20 MB of free space
- a CD-ROM drive
- Windows 95 or later, with Internet Explorer 4.0 or later, or Windows NT 4.0 (with Service Pack 3 or later). Note The application requires the shfolder.dll and comctl32.dll files, which are installed by Windows NT 4.0 with Service Pack 3 (or later) or by Internet Explorer 4.0 (or later).

The database contains some video segments. To run these you must have Quicktime4 installed on your computer. Quicktime4 installation files are included on this CD-ROM. To install Quicktime4, select "Install Quick Time 4" from the menu screen, or run d:\qt\quicktimeinstaller.exe (where d is the name of the CD-ROM drive). The sponsor material contains some PowerPoint presentations. To view these you must have PowerPoint installed on your computer.

Mac OS

The CD-ROM distributed with this Bulletin is for PC only. If you require a MAC version, please return the CD with a request for a MAC replacement.

System Requirements

To use the MAC version of the database on the Mac OS platform, you will need the following minimum equipment and software:

- a Power Macintosh or Mac OS computer with a PPC 601 processor or higher
- at least 16 MB of RAM
- a hard disk with at least 24 MB of free space
- a CD-ROM drive
- System 8.1 or later

The production of this CD-ROM has been assisted and sponsored by:



GE Medical Systems
Ultrasound

PHILIPS
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David Ellwood & Kaye Griffiths “heroes” in “Peoplescape” – 2001 Australian Centenary of Federation Celebrations

“When the six Australian colonies came together to form a nation in 1901, they did so only after the people voted in favour of this step. In the history of the world no other nation has been formed as a result of a popular vote” - Geoffrey Blainey, Historian & Chairman of the National Council for the Centenary of Federation.

Australia’s Centenary of Federation celebrations were the most decentralised celebrations in the nation’s history. They began in Sydney on January 1 in the very park, where the original uniting ceremony had taken place and culminated in the finale event of the Centenary of Federation - the Peoplescape, through November and December - on the lawns of the Parliament House in Canberra, the final “home” of Australia’s government.

What was “Peoplescape”?

It was one of the largest community art installations in Australia. Peoplescape consisted of 4000 “life-size” figures placed between the old and the new parliament houses. From 1997, Australians had been deluged with requests to nominate a “hero” for Australia’s Federation history. The Peoplescape represented somebody’s hero, bringing together stories from the city; country; the outback; the past and present, from the famous, the infamous and the unknown. It represented and applauded the diversity and individual contributions of ordinary Australians. The two ASUM heroes shared the lawn with Nobel Prize winners, other medical/scientific pioneers, landmark politicians, important artisans/entertainers, and particularly great and generous social activists. Betty Churcher, former Director of the Australian National Art Gallery, chaired the Peoplescape Selection Committee.

Two ASUM members are presented for your interest. Their nominations have been transcribed from the “peoplescape.com.au” website. Only the “theme” of their “.scapes” have been sought from interviews.



DAVID ELLWOOD - (nominated by Kellie Branscomb)

What contribution has this person made?

Professor Ellwood is a practicing obstetrician at the Canberra Hospital’s Fetal Medicine Unit. He specialized in high-risk pregnancies. He was the foundation Professor of Obstetrics and Gynaecology of the Canberra Clinical School University of Sydney. He introduced the subspecialty of Fetal Medicine to Canberra Hospital in 1994. He has developed and successfully delivered a teaching program for students. Since he has been at Canberra Hospital, the Neonatal Intensive Care Unit has been fully developed. Professor Ellwood has undertaken research into postnatal depression and formulated policy for women and children’s health, particularly in the ACT and New South Wales.

Why is this person important?

In May 1999, we were thrilled to discover that we were expecting twins. There being no obstetricians in Cooma, we were referred to Professor Ellwood. At the twenty-six week ultrasound a growth problem was detected in one of our babies. He explained to us that the pregnancy could not proceed to term due to the stress the little baby was experiencing. He had to decide on the timing of the birth to give both babies the best chance. We had weekly ultrasounds until thirty-one weeks when he said that I was to go into hospital the following week. Professor Ellwood delivered our beautiful daughters, Emily and Kelsey. The midwives of the antenatal ward were very kind to me, and the staff of the Neonatal Intensive Care Unit, were exceptional. We remain eternally grateful to Professor Ellwood and to all those involved with the care of Emily and Kelsey.

Kellie Branscomb’s Theme for her hero

David Ellwood’s photo is above a flower motif, which is central to her story. The motif consists of a stem, leaf and blossom (the centre). The stem glues the leaf and blossom together (after that 26 week scan). The leaf has a collage of photos of the sonographers, councillors, obstetrician, midwives, and Neonatal Intensive Care personnel at Canberra Hospital. This leaf absolutely nourishes the blossom. The blossom is the final product, and displays photos of the “true blossoms”-Emily and Kelsey and their loving and grateful parents. David, the gardener, nourishes the whole.

KAYE GRIFFITHS – (nominated by Michael Griffiths)

What contribution has this person made?

Kaye has entered her 30th year in Medical Ultrasound research and has several scientific papers published, as well as having her name entered in the Smithsonian Institute in

the USA. She is the president of the World Federation of Sonographers and is highly respected by her colleagues and the medical fraternity, nationally and internationally. Her curriculum vitae attests to her dedication and continuing interest in her research. These many years are a testament to her desire to educate, contribute and enhance the quality of life in everyone.

Why is this person important?

Apart from being the most important person in my life and my partner in life (married for nearly 27 years), Kaye is important to many people in the field of medical research, for her contributions over the decades. Therefore I am immensely proud of her, as are many others.

Michael Griffiths' Theme for his hero

The figure features scattered landmark images of ultrasound machines and new examinations developed and designed in Australia, throughout the 70's, and to which Kaye made a contribution – O&G greyscale and abdomen studies; paediatric brain anatomy identification; US breast cancer diagnostic criteria; Doppler diagnoses in the fetus and adult. Prominent vascular images are dedicated to Kaye's current



haemodynamic research. Central to the figure is a nomograph of Australia's contribution to medical ultrasound, since 1959.

To explore this site, and view images of all 4000 heroes, go to peoplescape.com.au

Introducing ASUM's new DMU Coordinator, James Hamilton

BADipEd DipCat GradDipRE MEdAdmin MACEA

The Australasian Society for Ultrasound in Medicine (ASUM) welcomes James Hamilton as the new DMU Coordinator. James joined ASUM in mid February this year and brings with him extensive experience in administration developed over the years in educational, commercial, managerial and military roles.

James was a Naval Officer in the 70s and then trained as a school teacher. He graduated Bachelor of Arts and Diploma of Education in 1981 from Macquarie University. Over the next ten years he worked as an English, History and Computing Teacher before joining a multinational computing company as a Computer Consultant. In 1992 James returned to teaching and school administration. Along the way, he studied part-time towards three additional, postgraduate qualifications, culminating in a Master of Educational Administration from the University of New South Wales. James is a member of the Australian Council of Educational Administrators. His experience working in educational administration, management and industry ideally suits his present role, where he brings enthusiasm, a light sense of humour, a commitment to client services and a flair for efficient administrative processes.

His Curriculum Vitae states that his first love is "the enjoyment of fine food and wine" but those who know

him would argue that his interests in Golf, Rugby, Hiking and intelligent conversation rival everything else. "I feel quite at home working for ASUM. I enjoy working with really professional people and the office has a truly Asia/Pacific feel to it, with an equal mix of Aussie, Kiwi and Asian backgrounds. Working with Australians and New Zealanders also feels natural to me. Seeing my partner is a Kiwi, an ex-academic, trained as a Food Technologist and employed in the food industry, I could not go wrong working at ASUM. I am used to the funny accent and I own a T-shirt that says "I support two rugby teams ... Australia and whoever is playing New Zealand." Seriously, my wife and I spend our time between Australia and New Zealand and while we support our separate countries in sport, we equally enjoy what good food and wine both have to offer."



Vascular DMU Preparation Course

Part 1 of the DMU Prep Course had to be partially cancelled due to a fall in numbers however the Physics component was offered and several students attended these lectures. Part 2 of the Prep Course contained a small group of students which allowed for a great rapport to be established. The success of the DMU Prep Course lies with the lecturers generously giving of their time to help these students in their preparation for the DMU Exam. The DMU Prep Course specifically for the vascular candidates provided a foundation upon which to build for further study towards the DMU Exam and gave students confidence. Several

changes were implemented into the curriculum due to feedback from previous attending students such as, a critical thinking session enabling a student to analyse a piece of literature and extract the relevant information. This skill is particularly helpful in answering written questions. The students absorbed all the lectures like sponges, we all enjoyed our time during the Prep Course and look forward to another Prep Course next year.

Lucy Taylor-Turner
Vascular Convenor

O & G Ultrasound Workshop, Sydney, 19-21 April

The focus of the workshop this year was imaging in the gynaecologic patient. This is probably been underemphasised when compared to obstetric ultrasound educational activity and it was felt that the time was right to re-emphasise pelvic scanning.

The meeting was held in Sydney at the Sheraton on the Park Hotel. Overseas guest speakers were Dr Anna Parsons from the University of South Florida, Tampa and Dr Andreas Lee from the University of Vienna. Australian speakers included Gary Pritchard, Glenn McNally, Chee Hiew, Albert Lam, Sarah Colley, Andrew McLennan, Greg Kesby, Simon Meagher, Don Marsden and Peter Dietz.

On Friday the 19th April four day long workshops were run. These included "Office Scanning" for the specialist obstetrician and gynaecologist, "Paediatric Scanning", "3D Ultrasound" and a nuchal translucency course. All workshops were fully subscribed and have received favourable feedback from participants.

The series of lectures on Saturday the 20th and Sunday the 21st covered areas such as the role of ultrasound in cancer screening, pelvic floor assessment, evaluation of pelvic pain,

abnormal bleeding, the role in infertility assessment and the emerging role of 3D scanning. Anna Parsons, as always, gave several superb lectures which remained very practical and focused on the needs of those performing ultrasound examinations. Andreas Lee gave a very balanced overview both in his workshop and lectures on the role of 3D ultrasound and the way it is developing. Quite clearly multi-planar imaging will assume a larger role in routine pelvic assessment.

Some audiovisual problems were experienced during the first session on the Saturday however were resolved and the overall feedback from registrants has been extremely positive.

ASUM would like to acknowledge the generous support given by trade sponsors in helping to make the meeting a success and achieve its aims. Registration numbers were very high no doubt indicating the strong interest that exists in the ultrasound community in improving the performance of gynaecologic imaging and more activity from ASUM will be directed towards providing education in this area.

Glenn McNally



New Members January – March 2002

102 new members consists of 51 full, 36 associate and 15 trainee.

FULL MEMBERS

Scott Baines	VIC
Tarsha Basheer	SA
Ezra Berley	NSW
George Bogiatzis	QLD
Gabrielle Casper	NSW
Lewis Chan	NSW
Peter Chu	VIC
Arvind Deshpande	QLD
Bimalka De Silva	NSW
Hung Duong	NSW
Emil Gayed	ACT
Philip Hall	VIC
Anne Harkness	NZ
Shirley Harrison	QLD
Keith Hartman	NSW
Eric Hu	VIC
Anthony Jackson	VIC
Li Hong Jia	NSW
Piang Jiang	NSW
Jenni Jones	NT
Anthony Joseph	NSW
Hilary Joyce	NSW
Violette Kazmierski	NSW
Alka Kothari	ACT
Adrian Kwok	NSW
Kit Lam	NSW
Lynette Lisle	QLD
Glenn Lowe	NSW
Michael McEvoy	SA
Liz McKenna	QLD
Brad Milner	NSW
Lisa Morrell	QLD
Dilip Naik	NZ
Eva Newberry	NSW

Tamara Nowland	NSW
Andrew Ong	NSW
Monica Pahuja	VIC
Jeremy Pereira	VIC
Madeleine Petroni	NSW
Maria Quin	NZ
Faisal Rashid	NSW
Peter Reynolds	TAS
John Schmidt	NSW
John Shirley	NSW
Bridget Sutton	QLD
Edwin Tam	NSW
Mark Teoh	VIC
Linda Treweek	QLD
Barbara Vanini	QLD
Mark Westcott	SA
Belinda Wu	NSW

Elizabeth Maher	NSW
Cathy Martin	NSW
Cristine Melhem	NSW
Rachael Milos	NSW
Georgina O'Sullivan	VIC
Maria Ovin	NSW
Christine Phillips	NSW
Catherine Phu	NSW
Emir Roberts	NZ
Rachel Schreiber	SA
Denise Sheldrick	NSW
Janie Tang	VIC
Melissa Temby	SA
Irina Tepliakova	ACT
Lyndall Travers	NSW
David Treloar	SA
Antonina Volikova	WA
Elizabeth Whalan	NSW
Sherida Williams	QLD

ASSOCIATE MEMBERS

Nicola Allen	NSW
Rebecca Barnes	SA
Rachael Barrell	NSW
Lynn Brown	SA
Sandra Carter	NSW
Yuen Wai Chiu	NSW
Taryn Coulter	SA
Graeme Dedman	WA
Wayne Doble	VIC
Judith Donovan	SA
Jayne Doolan	NSW
Che Douglas	QLD
Sonia Ferraro	VIC
Lisa Forman	WA
Micaela Gumbley	NSW
Renae Hornsby	NSW
Penny Koh	VIC

TRAINEE MEMBERS

Natalia Andreianova	NZ
Ruth Arnold	NSW
Con Arronis	NSW
Clare Campbell	VIC
Victor Chen	QLD
Clive Jankelowitz	VIC
Sonya Jessup	VIC
Keith Joe	VIC
Fredrick Joshua	NSW
David King	SA
William Moir	VIC
Aiden O'Loughlin	NSW
Wayne Stuart	SA
Rodney Teperman	VIC
Adrian Ziino	VIC

Further DMU Exam Results 2001

DMU Part I Examination

The following Candidates passed the Part I Examination:

Diep, Lien	WA	General
Haider, Reshma	NSW	General
Napthali, Rosemary	NSW	General
Woodhouse, Sharyn	NZ	General

DMU Part II Examination

The following Candidates passed the Part II Examination:

Abdelmalek, Rebekah	NSW	General
Bryant, Marcus	WA	Cardiac
O'Connor, Gregory	NSW	General
Sanford, Jacqueline	WA	General
Wild, Sarah	NZ	General
Zeng, Bing	NZ	General

DDU 2002 Examination Dates and Fees

Part I Examination Fee

A\$385.00 (includes GST) for ASUM Members
A\$660.00 (includes GST) for Non members

Part II Examination Fee

A\$660.00 (includes GST) for ASUM Members
A\$935.00 (includes GST) for Non members

Part II Casebook Fee

A\$275.00 (includes GST)

Fees quoted above are from 1 July 2000 and may be subject to change.

PLEASE NOTE THE FOLLOWING INFORMATION PERTAINING TO THE NEXT DDU EXAMINATIONS

2002 Part I

Part I written examination will be held on Monday 20 May 2002. Closing date for applications Monday 25 March 2002

2002 Part II

Casebooks for 2001 Part II DDU Examination must be submitted by Monday 21 January 2002 and accompanied by the prescribed fee of A\$275.00 for all participants.

Part II written examination will be held on Monday 20 May 2002. Closing date for applications Monday 25 March 2002.

Part II oral examination will be held on Saturday 15 June 2002 in Sydney, (except Cardiac candidates, who will be examined in Melbourne on a date yet to be determined).

NB Applications received after the closing dates will not be accepted. All applications must be submitted on the original form as photocopies are not acceptable. All applicants are advised to read through the DDU handbook. For the latest copy, please contact ASUM on 61 2 9958 7655.

DMU 2002 Examination Dates and Fees

DMU Calendar 2002

26 April 2002	Closing date for applications for an exemption
31 May 2002	Closing date for Part I and Part II applications
24 August 2002	Part I and Part II Written examination
October 2002	Part II Practical and OSCE examinations
December 2002	Part I Statement of Attainment mailed Part II results mailed

DMU Fees 2002

	ASUM Members	Non Members
Part I	A\$450.00 + GST*	A\$800.00 + GST*
Part II	A\$800.00 + GST*	A\$1200.00 + GST*

* GST applies to Australian Residents only

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Please apply in writing to the Asst. Director of Human Resources, American Hospital Dubai, P.O. Box 5566, Dubai, United Arab Emirates: Fax: 971-4-336-0068, e-mail: hr_supervisor@ahdubai.com, website: <http://www.ahdubai.com>

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Reply to: Radiologist on Fax 9630 2675

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If this position suits your skills and lifestyle, then we would be pleased to hear from you. There may also be opportunities for additional work at local private practices.

If you have any queries please contact:

Ultrasound Team Leader - Vanessa Dawson 0064 (07)5798123

Radiology Manager - Jill Wright 0064 (07)5798117

Closing date: 27th May 2002

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Enquiries and applications should be directed to Julie Raper, Chief Sonographer, Central West Nuclear Medicine and Ultrasound, PO Box E176, ORANGE NSW 2800; Phone: (02) 6362 0285; Fax: (02) 6362 0061



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Ultrasound events

Wed 29 May 2002 - 6 days QUT. Cardiac Ultrasound Continuing Education Series. *Venue:* Melbourne *Contact:* Margo Harkness Ph: 07 3864 2490; Email: m.harkness@qut.edu.au

Fri 31 May 2002 Closing date for DMU Part 1 and Part 2 written examination applications *Contact:* DMU Coordinator, 2/181 High Street, Willoughby NSW 2068; Ph: 02 9958 0317; Email: dmu@asum.com.au

Sat 1 Jun 2002 ASUM ACT Branch. Third Trimester Ultrasound. *Venue:* The Canberra Hospital Auditorium *Contact:* Pam Cooke Fax: 02 6281 4261; Email: cookefm@austarmetro.com.au

Sat 15 Jun 2002 DDU Part 2 oral examination, Sydney, Australia (except Cardiology candidates) *Contact:* DDU Coordinator, 2/181 High Street, Willoughby NSW 2068; Ph: 02 9958 7655; Email: ddu@asum.com.au

Tue 25 Jun 2002 BMUS Workshop. "The Oxford Debate". *Venue:* University of Oxford *Contact:* BMUS Ph: 44 0 20 7636 3714; Fax: 44 0 20 7323 2175

Fri 28 Jun 2002 - 3 days ASUM WA Branch. DMU Part 2 Preparation Course. *Venue:* Royal Perth Hospital *Contact:* Michelle Pedretti Ph: 08 9400 9030; Email: michelle.pedretti@maynegroup.com.au; pedrets@aol.com

Wed 3 Jul 2002 - 5 days Euroson 2002: 14th Congress of the

European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) *Venue:* Palace of Culture, Warsaw, Poland *Contact:* Imaging Diagnostics Department, Brodno Country Hospital, ul Kondratowicza 8, 03-242 Warszawa, Poland; Ph: 48 22 811 9677; Fax: 48 22 811 9591; Email: usgptuwj@euroson.edu.pl

Mon 8 Jul 2002 ASUM ACT Branch. Lumps and Bumps in the Neck. *Venue:* John James Hospital Conference Room, 5:30pm *Contact:* Pam Cooke Fax: 02 6281 4261; Email: cookefm@austarmetro.com.au

Mon 8 Jul 2002 - 6 days QUT. Cardiac Ultrasound Continuing Education Series. *Venue:* Brisbane *Contact:* Margo Harkness Ph: 07 3864 2490; Email: m.harkness@qut.edu.au

Thu 18 Jul 2002 - 4 days NZASUM. Annual Scientific Meeting 2002. *Venue:* Le Grand Hotel, Victoria Street, Hamilton *Contact:* Martin Necas Email: exiled@clear.net.nz

Fri 26 Jul 2002 ASUM ACT Branch. The Best Way to Ultrasound: Ergonomics for Sonographers. *Venue:* Dinner Meeting: NCDI, 28 University Avenue, Canberra City *Contact:* Pam Cooke Fax: 02 6281 4261; Email: cookefm@austarmetro.com.au

Fri 9 Aug 2002 - 3 days RANZCR NZ Branch Annual Scientific Meeting *Venue:* Millennium Hotel, Queenstown,

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- ⊙ Oct 12th-13 Ultrasound Techniques in O&G
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- ⊙ Nov 16th-17th Musculoskeletal Ultrasound Techniques

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Phone: (07) 55266655

Fax: (07) 55266041

Email: sue@aiu.edu.au

Program Information: Sue Davies

Registration Information: Sally Ashwin



New Zealand *Contact*: RANZCR New Zealand Branch Ph: 64 4472 6470; Fax: 64 4472 6474; Email: nzbranch@ranzcr.org.nz

Mon 12 Aug 2002 ASUM ACT Branch. Second Trimester Foetal Abnormalities Part II. *Venue*: John James Hospital Conference Room, 5:30pm *Contact*: Pam Cooke Fax: 02 6281 4261; Email: cookefm@austarmetro.com.au

Sat 24 Aug 2002 DMU Part 1 and Part 2 written examination. *Contact*: DMU Coordinator, 2/181 High Street, Willoughby NSW 2068 Ph: 02 9958 0317; Email: dmua@asum.com.au

Wed 11 Sep 2002 - 4 days 15th Congress of International Perinatal Doppler Society. *Venue*: Hilton Hotel, Prague, Czech Republic *Contact*: <http://www.guarant.cz/IPDS2002>

Thu 19 Sep 2002 - 4 days ASUM 2002. 32nd Annual Scientific Meeting of the Australasian Society for Ultrasound in Medicine. *Venue*: Jupiter's Casino, Gold Coast, Queensland, Australia *Contact*: ASUM, 2/181 High Street, Willoughby NSW 2068; Ph: 61 2 9958 7655; Fax: 61 2 9958 8002; Email: asum@asum.com.au

Sun 22 Sep 2002 - 8 days Radiology in Southern France. Faculty includes Dr Faye Laing. *Venue*: Hotel du Palais, Biarritz, France *Contact*: D Beatty Crawford Ph: 001 440 256 1803; Fax: 001 440 256 4607; Email: radint@ameritech.net

Thu 3 Oct 2002 - 3 days Annual Convention Society of Diagnostic Medical Sonographers (SDMS) *Venue*: Atlanta, Georgia, USA *Contact*: 12770 Coit Road, Ste 708, Dallas, TX 75251, USA; Ph: 1 972 239 7367; Fax: 1 972 239 7378; Email: bplater@sdms.org

Thu 3 Oct 2002 - 4 days 53rd Annual Scientific Meeting of The Royal Australian and New Zealand College of Radiologists *Venue*: Adelaide Convention Centre, Australia *Contact*: Conference Organisers: Aldron Smith Management Ph: 03 9645 6311; Fax: 03 9645 6322

Mon 7 Oct 2002 - 5 days Asian and Oceanian Society for Paediatric Radiology and Australasian Society for Paediatric Imaging. *Venue*: National Wine Centre, Adelaide/Kangaroo Island, South Australia *Contact*: Dr Roger Davies, The Queen Elizabeth Hospital, 28 Woodville Road, Woodville, SA 5011; Website: www.cdnpac.com/conference

Wed 9 Oct 2002 BMUS Nephrology Workshop/5th BMUS Interventional Ultrasound Workshop. *Venue*: Sheffield, England *Contact*: BMUS Ph: 44 0 20 7636 3714; Fax: 44 0 20 7323 2175

Wed 16 Oct 2002 - 5 days Congress of the Mediterranean African Society of Ultrasound (MASU) *Venue*: Int Conference Centre, Kampala, Uganda *Contact*: Prof. Henry Kasozi, Mulago Hospital, PO Box 7051, Kampala, Uganda;

Ph: 256 41 53 0137; Fax: 256 41 53 0412

Sat 19 Oct 2002 - 2 days ASUM Interventional Workshop *Venue*: Melbourne *Contact*: ASUM, 2/181 High Street, Willoughby NSW 2068; Ph: 61 2 9958 7655; Fax: 61 2 9958 8002; Email: asum@asum.com.au

Fri 25 Oct 2002 - 3 days Annual Convention Society of Radiologists in Ultrasound *Venue*: Fairmont Hotel, San Francisco, CA, USA *Contact*: Susan Robers, Admin Director, 44211 Slatestone Court, Leesburg, VA 20176-5109, USA; Ph: 1 703 729 4839; Fax: 1 703 729 4839; Email: info@sru.org

Fri 1 Nov 2002 - 5 days 12th World Congress on Ultrasound in Obstetrics and Gynaecology. *Venue*: Hilton, New York, NY, USA *Contact*: Ms S Johnson, Ex Dir, ISUOG, 3rd fl, Lanesborough Wing, St George's Hospital Medical School, Cranmer Terrace, London SW17 ORE, UK; Ph: 44 20 8725 2505; Fax: 44 20 8725 0212; Email: johnson@sghms.ac.uk

Wed 11 Dec 2002 - 3 days BMUS 34th Annual Scientific Meeting *Venue*: Manchester International Conference Centre, England *Contact*: 36 Portland Place, London W1B 1LS UK; Ph: 44 0 20 7636 3714; Fax: 44 0 20 7323 2175; Email: bmus2002@bmus.org; Website: www.bmus.org

2003 13th World Congress on Ultrasound in Obstetrics and Gynaecology *Venue*: Israel *Contact*: Ms S Johnson, ISUOG Sec, 3rd fl, Lanesborough Wing, St George's Hospital Medical School, Cranmer Terrace, London SW17 ORE, UK; Ph: 44 181 7252505; Fax: 44 181 7250212; Email: johnson@sghms.ac.uk

2003 19th Annual congress International Society "The Foetus as a Patient" *Venue*: Barcelona, Spain *Contact*: Dr FA Chervenak, MD, Cornell Univ Dept of OB/GYN, 525 East 68th Street, New York, NY 10021, USA; Ph: 1 212 746 3184; Fax: 1 212 746 8717; Email: mad2011@mail.cornell.com

Fri 30 May 2003 - 3 days Australian Sonographers Associations 10th Annual Conference *Venue*: Hilton Hotel, Adelaide *Contact*: Elaine Trevaskis Ph: 03 9585 2996

Sun 1 Jun 2003 - 6 days 10th Triennial World Congress of the World Fed. For Ultrasound in Medicine and Biology *Venue*: Montreal, Quebec, Canada *Contact*: American Inst For Ultrasound in Medicine, 14750 Sweizer Lane, Suite 1001, Laurel, NMD 20707-5906, USA; Ph: 1 301 498 4100; Fax: 1 301 498 4450; Email: cvalente@aium.org

Thu 4 Sep 2003 - 4 days ASUM 2003. 33rd Annual Scientific Meeting of the Australasian Society for Ultrasound in Medicine. *Venue*: Burswood International Resort, Perth, Western Australia *Contact*: ASUM, 2/181 High Street, Willoughby NSW 2068; Ph: 61 2 9958 7655; Fax: 61 2 9958 8002; Email: asum@asum.com.au

Who's Who in ASUM Office?

Caroline Hong (Chief Executive Officer)

Ph: 61 2 9958 7655
Fax: 61 2 9958 8002
carolinehong@asum.com.au

Tim Brown (Assistant Education Officer)

Ph: 61 2 9958 6200
Fax: 61 2 9958 8002
education@asum.com.au

Marie Cawood (DDU Co-ordinator)

Ph: 61 2 9958 7655
Fax: 61 2 9958 8002
registrar@asum.com.au

Jim Hamilton (DMU Co-ordinator)

Ph: 61 2 9958 0317
Fax: 61 2 9958 8002
dmu@asum.com.au

Keith Henderson (Education Officer)

Ph: 61 2 9958 6200
Fax: 61 2 9958 8002
khenderson@asum.com.au

Iris Hui (Executive Assistant to CEO)

Ph: 61 2 9958 7655
Fax: 61 2 9958 8002
asum@asum.com.au

Chris Phippen (Accountant)

Ph: 61 2 9958 7655
Fax: 61 2 9958 8002
accounts@asum.com.au

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Robert Zanier 02 4283 5920 mobile 0407 069 307

Excelray Australia Pty Ltd (Medical Imaging Solutions)

David George 02 9888 1000

GE Medical Systems (Logia)

Luke Fay 02 9846 4000

Harcourt Australia (Medical Books and Journals)

Paul Barry 02 9517 8999

InSight Oceania (SonoSite)

John Walstab 02 9907 4100

Mayne Health (Comprehensive Health)

Daniel Clark 0401 710 462

Medfin Aust P/L (Leasing Finance for Medical Practitioners)

Barry Lanesman 02 9906 2551

Meditron Pty Ltd (Acoustic Imaging, Dornier, Kontron)

Michael Fehrmann 03 9879 6200

Peninsular Vascular Diagnostics (Vascular Ultrasound Educ)

Claire Johnston 03 9781 5001

Philips Medical Systems Australasia P/L (ATL, HP, Agilent)

Shelley Burnside 02 9947 0100

Rentworks Ltd (Medical Leasing Equipment)

Don Hardman 02 9937 1074

Schering Pty Ltd (Ethical Pharmaceuticals)

Philip Owens 02 9317 8666

Shimadzu Medical Systems (Shimadzu)

Dennis Tramosljanin 02 9898 2444

Toshiba (Aust) P/L Medical Division (Toshiba)

David Rigby 02 9887 8003

Peninsula Vascular Diagnostics Pty Ltd at Frankston Victoria

Peninsular Vascular Diagnostics has been providing vascular ultrasound education for 11 years.

The education programs consist of "one on one" preceptorships and the annual workshops.

The Vascular ultrasound preceptor program has recently been redesigned and now consists of modular units. The units have been divided into anatomical regions and also levels of experience. Physics, pathology, and practical scanning techniques are comprehensively covered. Training can be organized for the absolute novice or for the experienced sonographer who would like to "fine tune" their skills.

A successful teaching program begins with forward planning prior to the arrival of the participant. The booking

process involves a short questionnaire that covers the learning needs of both the participant and the employer. This ensures that the course content is suited and relevant to the individual. Training revolves around "hands-on" scanning sessions, with tutorial breaks to reinforce the practical elements. Full comprehensive notes are provided to compliment the modules.

Each year P.V.D. organizes a Vascular workshop. The emphasis is on exploring the latest trends within Vascular Ultrasound. The workshop for 2002 will be in June, at AMA building Parkville, Victoria. See the advertisement this issue.

For further details contact Rebecca Long or John Donlan on 03 9781 5001.

Guidelines for authors

Authors are invited to submit papers for publication in the following categories. Final responsibility for accepting a paper lies with the Editor, and the right is reserved to introduce changes necessary to ensure conformity with the editorial standards of the *Bulletin*.

ORIGINAL RESEARCH

Manuscripts will be subject to expert referee prior to acceptance for publication. Manuscripts will be accepted on the understanding that they are contributed solely to the *Bulletin*.

QUIZ CASES

A case study presented as a quiz, involving no more than three or four images and a paragraph briefly summarising the clinical history as it was known at the time. It will pose two or three questions, and a short explanation.

CASE REPORTS

Case reports are more substantial presentations resembling short scientific papers which illustrate new information, or a new or important aspect of established knowledge.

FEATURE ARTICLES

Feature articles are original papers, or articles reviewing significant areas in ultrasound and will normally be illustrated with relevant images and line drawings. Feature articles are commissioned by the Editor who will indicate the size and scope of the article.

FORUM ARTICLES

Members are invited to contribute short articles expressing their observations, opinions and ideas. Forum articles should not normally exceed 1000 words in length. They will not be refereed but will be subject to editorial approval.

CALENDAR ITEMS

Organisers of meetings and educational events relevant to medical ultrasound are invited to submit details for publication in the *Bulletin*. Each listing must contain: activity title, dates, venue, organising body and contact details including name, address, phone number, facsimile number (where available) and email address (where available). Notices will not usually be accepted for courses run by commercial organisations.

CORPORATE NEWS

Corporate members are invited to publish news about the company, including structural changes, staff movements and product developments. Each corporate member may submit one article of about 200 words annually. Logos, illustrations and tables cannot be published in this section.

FORMAT

Manuscripts

Manuscripts should be submitted in triplicate in print and on PC formatted diskette as MS Word documents.

- Font size: maximum 12, minimum 10
- Double spacing for all pages
- Each manuscript should have the following components: Title page, abstract, text, references, tables, legends for illustrations.

- Title Page should include the following:
 - ❖ Title of manuscript, the full names of the authors listed in order of their contribution to the work, the department or practice from which the work originated, and their position.
 - ❖ Corresponding author's name, contact address, contact telephone number and facsimile number (where available) for correspondence.
- Abbreviations may be used after being first written in full with abbreviation in parentheses.
- Relevant references should be cited using the Vancouver style, numbered according to the sequence of citation in the text, and listed in numerical order in the bibliography. **Vancouver style format should be used.** Examples of Vancouver style:
 1. In-text citation: Superscript
 2. Journal article: Britten J, Golding RH, Cooperberg PL. Sludge balls to gall stones. *J Ultrasound Med* 1984;3:81-84
 3. Book: Strunk W Jr, White EB. *The elements of style*. (3rd ed.) New York: Macmillan, 1979
 4. Book section: Kriegshauser JS, Carroll BA. The urinary tract. In: Rumack CM, Wilson SR, Charboneau JW, eds. *Diagnostic Ultrasound*. St Louis, 1991:209-260

Abstract

All manuscripts for Feature Articles and Original Research must include an abstract not exceeding 200 words, which describes the scope, major findings and principal conclusions. The abstract should be meaningful without reference to the main text.

Images

Images may be submitted as hard copy (in triplicate) or in digital format. All images sent must have all personal and hospital or practice identifiers removed. Please do not embed images in text. Separate images are required for publication purposes. Figure legends must be provided for the images. Hard copy images should be presented as glossy print or original film. Any labelling should be entered on the front of the glossy print using removable labels (eg Letraset). (Please send one copy of illustrations without labelling as this can be added electronically prior to publication.) On the back of the print include the authors name, figure number and a directional arrow indicating the top of the print. Digitised graphics should be supplied on PC formatted 3.5" diskette, ZIP disk or CD, which must be clearly labelled with the author's name and the names of the image files. JPG or TIFF files are preferred. ZIP disk and CD will be returned after publication if requested. Please do not submit images direct from CPD cameras as these may present problems.

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