Dr Shawn Choong

The use of STIC workshop

This workshop covers the basic concepts of practical application of volume imaging for fetal cardiac scanning. In particular Dr Choong will demonstrate the use of the spatio-temporal image correlation (STIC) technology for the fetal heart examination including volume acquisition, multiplanar reconstruction and offline analysis. There will be an emphasis on hands on instruction.

Assoc Prof Robert Cincotta

Antenatal detection of vasa praevia: we can make a difference

Vasa praevia is a condition in which fetal vessels, unsupported by the umbilical cord or placenta, run on the fetal membranes in the lower uterine segment near the cervix. Rupture of these vessels prior to or at the time of delivery can be associated with a very high perinatal mortality rate. Antenatal diagnosis of this condition with ultrasound is readily available, alters management and significantly decreases the risk of fetal loss.

We performed an audit of prenatally diagnosed cases of vasa praevia and the clinical outcomes from a tertiary referral ultrasound centre, over a five-year period. There were 34 cases suspected in 25,492 scans over five years. There was one loss from an APH, which occurred prior to planned elective admission to hospital. The characteristics of these cases that led to their diagnosis, outcomes and the risk factors will be described.

The presentation will discuss how to identify vasa praevia on ultrasound. Demonstration of the various artifacts that sonographers encounter that may lead to a misdiagnosis will be discussed.

Diagnosis of this uncommon condition can make such a huge impact on survival. We will present guidelines for sonographers when performing an obstetric examination, to help identify vasa praevia.

Dr Wes Cormick

Ductal breast cancer

Ductal cancer is the most common form of breast cancer. Cure relies on finding cancers when they are small and have not yet spread. I will describe the high resolution imaging of the breast ducts and abnormal findings in different diseases.

Enlargement of Ducts: fibrocystic disease, apocrine metaplasia, duct hyperplasia, cancer

Duct Fibrosis: intraductal fibrosis, periductal fibrosis, fibrous obliteration of ducts

Inflammation: periductal oedema, iso/hypo-echoic wall thickening, flow within and around wall, periductal calcification

DCIS: Distended duct, solid material in duct, periductal inflammation, periductal fibrosis.

Dr Wes Cormick

Breast implants

I will discuss the ultrasound assessment of breast implants.

- Capsule
- Folds
- Soft tissues.

The plastic implant has an envelope. This becomes surrounded by a fibrous capsule. If the implant leaks there are intracapsular ruptures, which result in various stages of collapse. If the silicone gets out of the capsule there is extracapsular rupture.

Dr Wes Cormick

Thyroid FNA and recurrence

I will discuss the technique of performing thyroid FNA then cover the important features of postoperative recurrence of thyroid cancer.

Criteria for doing FNA include: solitary, indistinct contour, hypoechoic, heterogeneous, microcalcifications, edge shadowing, no halo, thick halo, increased perfusion, chaotic perfusion, taller than wide, ectopic thyroid tissue, contradictory reports, crowing, PET positive, Non Dx FNA, abnormal nodes, family Hx, radiotherapy, PHx cancer, male, < 20 years, > 70 years, elastography.

Important features are local recurrence in the thyroid bed or abnormal lymph nodes. I will discuss relevant findings in the nodes: size, site, shape, septations, cystic, calcium, cortex, colloid, hilum, echogenicity, mobility and perfusion.

Dr Wes Cormick

Paediatric renal ultrasound

I will discuss normal anatomy of the neonatal and paediatric kidney, how high resolution imaging of the cortex and pyramids is important, and the patterns in different pathologies. I cover findings in:

- Urinary infection
- Hydronephrosis
- Cystic renal disease
- Congenital abnormalities
- Renal tumors.

In infection, “cortical” scarring may involve the columns of Bertin. Renal involvement in a lower urinary infection raises the possibility of urinary reflux and includes:

- Echogenic pyramids
- Echogenic central sinus
- Thicken pelvi calyceal system.

Dr Wes Cormick

Enthesis score

By introducing a score system for the enthesis we hope to bring uniformity to reporting and it can act as a checklist when performing the examination. I will discuss each point and show how we use it:

1. Enthesophytes
2. Fibrocartilage
3. Bone erosions
4. Tendinitis
5. Tendon perfusion
6. Tendon tears
Dr Fabrizio Costa

Technique for T3 spectral Doppler

The addition of Doppler flow studies of maternal and fetal vessels has provided a tool where the physiology of the maternal-fetal unit can be assessed. This information can provide the physician and the patient with vital information for a subsequent approach to the pregnancy. The purpose of this presentation is to describe an overview of Doppler ultrasonography and clinical utility of Doppler flow studies in the prediction of adverse pregnancy outcomes in low- and high-risk populations. The use of fetal Doppler blood flow studies has become common in the evaluation and management of pregnancies complicated by conditions such as suspected fetal growth restriction and red blood cell isoimmunisation to guide intrauterine therapy and delivery.

Assoc Prof Julia Drose

Basic cardiac anatomy

This lecture reviews the fetal cardiac anatomy that should be recognised and evaluated when performing a fetal echocardiogram. The standard ultrasound views necessary to thoroughly evaluate the fetal heart will be discussed. Additionally, technical factors that may influence the performance of a fetal echocardiogram will be discussed.

Sonographic criteria and characteristics of normal findings and structures are presented.

Assoc Prof Julia Drose

Common fetal heart abnormalities

This lecture covers some of the more frequently encountered fetal cardiac abnormalities. Specific ultrasound characteristics will be reviewed, as well as subtle findings that may alert the sonographer or sonologists that an abnormality is present.

The lecture will consist of several case reviews.

Assoc Prof Julia Drose

Basic fetal cardiac Doppler

This lecture reviews when colour/spectral Doppler should be utilised in performing fetal echocardiography. Structures that should be evaluated with Doppler will be covered, as well as proper cursor placement. Normal and abnormal waveform patterns and colour Doppler appearances are covered, as well as normal velocity ranges where applicable.

Prof Jill Cook

The Role of compression in tendinopathy

Tensile overload is thought to be the key factor in the onset of tendinopathy. Despite this, the pathology is fibrocartilage-like suggesting that compressive loads may be another form of overload. The lecture will examine the load imposed on tendons and present evidence to support compressive load as an aetiological factor in tendinopathy.

Dr Richard Dowling

Testicular ultrasound

This mainly pictorial presentation on testicular imaging covers the imaging findings of torsion, infection, trauma and tumors, as these are the commonest pathologies encountered. Attention will also be made to less common entities such as epididymal masses, rarer testicular pathologies and some pitfalls in scrotal imaging.

Dr Julie Gregg

Ultrasound of the foot and ankle

The foot and ankle perform important and complex roles. Bony fractures, tendon and ligament injuries are common. Ankle impingement is a common complaint characterised by a painful reduction in ankle motion that is caused by pathology that is osseous or soft tissue in nature, either developmental or acquired. In this presentation, the sonographic evaluation of the foot and ankle will be reviewed. The importance of dynamic assessment will be discussed, with particular reference to ligament integrity and degree of laxity.

Assoc Prof Martin Healey

Does pelvic ultrasound have a role in management of pelvic pain?

The symptoms of acute and chronic pelvic pain in women are associated with a range of possible diagnoses that span multiple specialities. Assessment of pelvic pain therefore requires a thorough history and examination so that investigations can be appropriately focused. A scattergun approach tends to become expensive and time-consuming without often providing clear answers.

Pelvic ultrasound on the surface has revolutionised investigation of pelvic pain, with increasingly crisp imaging as the underlying technology has improved. The research needed to obtain the full potential from such improvements has been marked by its paucity.

This presentation will briefly review the relevant possible diagnoses in acute and chronic pelvic pain. The role of ultrasound in these situations will be discussed as well as areas where there is potential for ultrasound to have a much greater impact.

Ms Elvie Haluszkiewicz

Ultrasound in the Indigenous population

Prof Fiona Stanley recently said: “It’s not a surprise to know that most of the services provided to aboriginal people – and we don’t just mean health, but education, child protection, juvenile justice and so on – are failing to turn around the poor outcomes for aboriginal health.”

Over many years there have been a host of services, programs, plans and missions undertaken to address this situation, and we could be forgiven for sensing despair that we have failed to make a difference.

This presentation considers ultrasound, and medicine in general, in the indigenous population and canvasses possible reasons which may contribute to the poor outcomes so widely reported.

Ms Elvie Haluszkiewicz

Interpreting/performing the vascular ultrasound

During an ultrasound examination, a great deal of information is gathered and processed for documentation. Haemodynamic Doppler information is acquired as a separate electronic process but displayed together with B-mode information in the resultant image. Understanding and applying the associated physics is pivotal to performing and interpretation of a Doppler study.

This presentation follows on from Knobology with the vascular study, de-coding Doppler and explaining waveforms.
Mr Phillip James
Musculoskeletal ultrasound – shoulder
Shoulder ultrasound can be a difficult and challenging discipline. The workshop will demonstrate a simple systematic approach to shoulder ultrasound. Participants will all get an opportunity to practise shoulder scanning and will see examples of common shoulder pathology.

Ms Jane Keating and Ms Catherine Fennell
Portal venous Doppler workshop
This workshop will demonstrate the scanning technique essential to a successful interrogation of the liver and portal system for the assessment of portal hypertension. It will also include discussion on the criteria to diagnose the evidence of portal hypertension, including research performed by Prof Robert Gibson at the Royal Melbourne Hospital.

Ms Jane Keating
Benign liver lesions, when can we be sure?
Conventional ultrasound, being readily available, economical and safe remains the imaging modality most widespread throughout the world in detecting liver lesions.

Differentiation of benign and malignant liver lesions on ultrasound provides a persistent challenge, due to similar imaging characteristics and extensive differential diagnosis.

Why is it so important to be “sure” that the lesion is benign on ultrasound alone? With a correct diagnosis we can eliminate additional imaging, and thus provide the patient with the least possible risk and cost, and most importantly decrease patient anxiety.

When can we be “sure” that the lesion is benign on ultrasound alone? This paper will attempt to answer this question, and will include requirements for an effective diagnostic scan, as well as describe the typical ultrasound features of benign liver lesions, including pseudo lesions, cystic lesions, haemangiomasa, adenomas, and focal nodular hyperplasia.

Reference will also be made to our experience at the Royal Melbourne Hospital with contrast enhanced ultrasound (CEUS). The development of CEUS has dramatically extended the role of ultrasound to enable definitive liver lesion characterisation and has increased our diagnostic confidence of benign liver lesions.

Ms Paula King
Ultrasound signs of acute cholecystitis: myth, mindset or fact
In an acute general hospital setting, the ultrasound request “RUQ pain F.I. ?? Cholecystitis” is a regular event. How well are we doing this routine examination and do we answer the question?

The ultrasound criteria for assessment of acute cholecystitis will be looked at in this presentation with attention paid to the landmark paper for this pathology. Images from the “real world” of the afterhours emergency department scan will be shown.

Results from an in-house survey of sonographers and sonologists favorite ultrasound pointers for acute cholecystitis will be reviewed.

The question is: have we led ourselves up the wrong garden path?

Criteria used
Worksheet obsession and cases that don’t fit in will be looked at in this session…

All with your hands on the probe…

Ms Paula King
Renal and Mesenteric Vessels Workshop
Let’s look at what renal artery and mesenteric duplex involves in the real world.

Get your hand on the probe and this session will provide you with lots of handy hints to get the best out of an abdominal duplex examination…

Possible criteria for mesenteric and renal artery duplex will be discussed…

Mr Ryan Kiss
Ultrasound of the Elbow Workshop
This workshop will involve a live scanning demonstration with a focus on patient positioning, locating key anatomical landmarks and diagnosing various pathologies encountered during an ultrasound study of the elbow. Attendees will have the opportunity to scan a patient’s elbow during this session.

Mr Greg Lammers
Musculoskeletal hand ultrasound workshop
Ultrasound of the hand is not necessarily a difficult exam and can make a big impact on patient management. The two things you need to do are:

1. Like all our ultrasound, be well read. Below are references that will let you do this.
2. You all (well should have) eight fingers and two thumbs to practice on.

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10. http://www.physysportsmed.com/issues/1998/06jun/lairmore.htm
11. http://www.handuniversity.com/topics.asp?Topic_ID=29
In fact, carotid duplex is so well trusted as a diagnostic technique in determining the management pathway. Scanning can accurately characterise the degree of stenosis, and thus, is crucial in the assessment of patients suspected to harbor a carotid stenosis. Duplex carotid artery imaging has a leading role in the assessment and management of carotid lesions.

**Dr Barry Leahey**

*Topic: aortic endoluminal stent grafting*

Abdominal aortic aneurysms are a common and potentially fatal condition, particularly in the elderly. Endoluminal stent grafting has become much more widespread in the treatment of this condition. This talk will briefly review etiology, incidence and complications of abdominal aortic aneurysms and then discuss in more detail the mechanics of endoluminal stenting. Postoperative complications and follow up and the role of postoperative ultrasound will be addressed.

**Ms Kimberly McConchie**

*Ultrasound monitoring of IVF cycles – what parameters are we measuring and what does it all mean?*

Approximately 57,000 IVF cycles are conducted in Australia annually. This means that thousands of IVF women will pass through our ultrasound doors every year. By better understanding the IVF process, in particular the workings of both stimulated and frozen embryo transfer cycles, we can provide IVF clinics with the most accurate anatomical and physiological data possible to guide their treatment decisions.

IVF can be a potentially harrowing experience for our patients. This session aims to offer the participant insight into what these women must go through before they reach our doors and how as practitioners, we can help to make their journey as smooth as possible.

**Mr Martin Necas**

*Breast ultrasound: beyond the black hole*

Sonography is an important imaging modality in the detection of breast cancer. However, cancer of the breast has a variable appearance on ultrasound examination. The common and less common sonographic signs of breast cancer will be reviewed.

Techniques will be discussed to improve the sensitivity and specificity in the diagnosis of both malignant and benign breast lesions.

**Ms Tanya McDonald**

*Contrast enhanced ultrasound*

The workshop will be a practical guide to the use of contrast in ultrasound. Covering aspects such as preparing the contrast and setting up ideal parameters on the ultrasound unit, the workshop should be useful to those just starting to use contrast, as well as those wanting to optimise the examination. The workshop will also focus on liver lesions and enhancement patterns for various liver pathologies.

**Mr Martin Necas**

*Carotid artery imaging*

Carotid artery duplex has a leading role in the assessment of patients suspected to harbor a carotid stenosis. Duplex scanning can accurately characterise the degree of stenosis, which is crucial in determining the management pathway. In fact, carotid duplex is so well trusted as a diagnostic examination that vascular surgeons are generally happy to operate on the basis of a duplex scan alone. This presentation will review the rationale for performing carotid duplex imaging, haemodynamic considerations, techniques for stenosis assessment, interpretation and criteria and some of the less common carotid pathologies.

**Dr Wayne Lemish**

*Breast ultrasound: beyond the black hole*

Sonography is an important imaging modality in the detection of breast cancer. However, cancer of the breast has a variable appearance on ultrasound examination. The common and less common sonographic signs of breast cancer will be reviewed.

Techniques will be discussed to improve the sensitivity and specificity in the diagnosis of both malignant and benign breast lesions.

**Mr Martin Necas**

*Interpreting arterial waveforms*

Detailed understanding of haemodynamics, Doppler technology and spectral Doppler waveform interpretation can be tremendously useful during vascular assessment of just about any body region in patients from first trimester fetuses through to the end of life. Spectral Doppler waveforms contain a tremendous amount of diagnostic information. However, it is also important to recognise that spectral Doppler waveforms represent flow events obtained at selected sample sites over short periods of time, so extrapolation of volume perfusion of the target arterial bed from waveforms alone must be done with caution. This presentation will review a wide range of interesting haemodynamic circumstances in both arterial and venous system and will demonstrate how subtle waveform observations can provide critical diagnostic clues to a more accurate and more efficient diagnosis.

**Mr Martin Necas**

*Upper limb arterial and venous workshop*

The upper limb presents some unique challenges to sonographers. The limb is remarkably easy to scan from the axilla peripherally, however, most of the pathology affecting the arteries and veins is usually confined to the area of the upper chest and thoracic outlet where access is very difficult. The purpose of this workshop is to demonstrate the techniques involved in accessing these difficult areas and to provide the participants with the necessary technical and diagnostic skills to successfully tackle duplex scans in this region with confidence.

**Mr Martin Necas**

*Imaging upper limb arteries and veins*

The upper limb presents some unique challenges to sonographers. While the limb is remarkably easy to scan from the axilla peripherally, most of the pathology affecting the arteries and veins is usually confined to the area of the thoracic outlet where access is very difficult. The purpose of this presentation is to review the range of pathologies affecting the arteries and veins of the upper extremities with a focus on the underlying pathological processes, duplex techniques, auxiliary techniques, diagnostic pitfalls and some of the less common pathologies that one may encounter.

**Mr Martin Necas**

*Deep vein thrombosis workshop*

Assessment of the deep veins for DVT is one of the most common radiology examinations. The purpose of this workshop will be to provide a detailed overview of the techniques involved in accurate and time efficient deep vein examination with focus on detailed modern colour Doppler techniques for the assessment of the difficult regions including the calf veins and Iliac veins.

Further Information can be obtained from:

- 12 www.anatomy.tv
- 13 www.eatonhand.com

http://tinyurl.com/ASUM2011HandWorkshop
Ms Jenny Parkes

**Breast and axilla ultrasound in breast cancer**

This workshop will display the scanning techniques of the axilla and extended axillary scanning for higher-level lymphadenopathy. Scanning techniques for the breast will also be reviewed if required by the attendees.

Ms Jenny Parkes

**Salivary gland workshop**

Today’s workshop will outline the scanning procedure for the salivary glands (including intraoral technique), review the reasons why we scan the salivary glands and discuss some of the scenarios and pathology that may be encountered.

Dr Pramit Phal

**Ultrasound of the tongue**

The tongue is readily accessible to sonographic assessment with a small footprint, high frequency probe. This underutilised technique demonstrates particular utility in the assessment of squamous cell carcinoma of the tongue, where it is comparable to MRI in assessment of local tumour staging. This talk will address relevant anatomy, indications, sonographic technique and potential pitfalls.

Dr Sophie Piessens

**Ultrasound diagnosis of deep infiltrating endometriosis – a step-by-step approach**

Surgical treatment of deep infiltrating endometriosis is complex, particularly when bowel nodules are present. Recent literature suggests that transvaginal ultrasound allows accurate assessment of bowel or bladder involvement, vaginal nodules or pouch of Douglas obliteration.

Patient care is improved by identifying the subgroup of patients who would benefit from referral to an endometriosis expert and/or bowel surgeon. This presentation gives a step-by-step approach to the preoperative transvaginal ultrasound diagnosis of deep infiltrating endometriosis involving the bowel, the bladder and the uterosacral ligaments.

Dr Jayshree Ramkrishna

**The fetal heart**

My presentation for the Obstetric Registrars Skill Day will focus on the clinical implications and management of fetal cardiac abnormalities.

Mr Rex de Ryke

**The Christchurch earthquake: the ultrasound story**

There are hundreds of stories, positive and negative, tragic and inspiring following the Christchurch Earthquake on 22nd February 2011. This is the story of the Christchurch Radiology Ultrasound Department. This presentation covers events within the hospital and the use of ultrasound imaging as the initial imaging modality for large numbers of casualties via the FAST ultrasound scanning technique.

Ms Michelle Rodeh

**Introductory lower limb arterial duplex scan workshop**

Arterial duplex scanning provides direct anatomic and physiologic information for the referring doctor to aid in the determination of whether surgical or conservative treatment is required when a patient presents with peripheral vascular disease.

The purpose of this workshop is to help those performing arterial duplex scans by giving information and hints on how to perform this type of scan and reinforcing the difficulties in performing the procedure by live scanning. The main aim is to give the relevant details that should be obtained from an arterial duplex scan.

Ms Michelle Rodeh

**Advanced lower limb arterial duplex scan workshop**

The purpose of this workshop is to give a background in the surgical procedures being carried out by the surgeons and the requirements of post-surgical ultrasound surveillance. This is an opportunity for the attendees to learn more about the procedures and obtain the necessary information from the duplex scan to give to the surgeon with live scanning.

Mr Peter Russell

**Ultrasound in the evaluation of erectile dysfunction**

Erectile dysfunction (ED) is described as the inability to obtain or maintain an erection sufficient for intercourse. ED can be the result of endocrinologic, psychogenic, pharmacologic, neurogenic and vasogenic factors.

Following careful clinical evaluation to exclude factors other than vasogenic, colour Duplex examination (CDE) may be performed to evaluate the integrity of the vascular anatomy. CDE may be used to determine the quality of arterial inflow as well as the efficiency of the veno-occlusive mechanism.

By understanding the anatomy and physiology of the erectile mechanism, a more meaningful duplex examination can be performed.

This presentation will review the anatomy, physiology and mechanism of erectile function as well as the aforementioned factors that may be implicated in ED. The technique and diagnostic criteria of both normal and abnormal findings, as well as the interpretation of results, will be discussed.

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Dr Anthony Schelleman

**Hepatic ultrasound before, during and after RFA of liver tumours**

This session covers patient, lesion, ablation procedure and equipment selection in local treatment of malignant hepatic tumours, particularly radio-frequency ablation, in both metastatic disease and primary liver tumours. Contraindications and special precautions will be reviewed, as well as tips to optimise localisation of subtle lesions.

Dr Anthony Schelleman and Dr Tom Sutherland

**Radiofrequency ablation and biopsy of the liver – a practical guide workshop**

Radiofrequency ablation (RFA) of tumours is a rapidly expanding field with an increasing body of evidence to support its use as a minimally invasive alternative to surgery. Initial studies focused on RFA of focal liver lesions, however the techniques have been employed in multiple sites including lung, kidney, adrenal, bone and breast.

This workshop offers a practical hands-on experience and

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The purpose of this workshop is to help those performing arterial duplex scans by giving information and hints on how to perform this type of scan and reinforcing the difficulties in performing the procedure by live scanning. The main aim is to give the relevant details that should be obtained from an arterial duplex scan.
“buttonology” for those interested in RFA techniques. Multiple different needle types and units will be available with models to allow practice on liver samples. Participants will be offered guidance and advice with respect to needle selection, needle positioning, treatment times and patient preparation and selection.

Dr Melanie Seale

Urinary tract obstruction

Urinary tract obstruction (UTO) is a common clinical problem and indication for ultrasound examination. Relevant clinical terms will be defined, a brief outline given of imaging modalities available for assessment of UTO, with the main focus on ultrasound, which is the imaging modality of choice for assessment of most cases of UTO. Technique and potential pitfalls will be discussed and illustrated with clinical cases.

Ms Martine Shields-Chadwick

Musculoskeletal ultrasound – knee workshop

A patient often can tell you the how, when and where of acute/overloaded/chronic knee pain. There is tendency to target knee ultrasound in good faith to the sore spot leaving the global assessment to MRI.

Not today... beyond the patellar tendon. This workshop challenges the participant to perhaps revise or extend their scanning techniques. To revisit global anatomy of the anterior thigh/quadriceps muscles in particular and an advanced knee protocol.

Discussion will include detailed anatomy, terminology and the clinical correlation of common sporting injuries.

Mr Mark Smyth

Musculoskeletal ultrasound – ankle workshop

This workshop will demonstrate scanning technique for evaluating the tendons, ligaments, and bony landmarks of the ankle. Common sites of pathology will be shown, including acute and chronic conditions. Techniques for dynamically assessing the ankle will be discussed.

Hands-on participation will be encouraged in a supportive environment.

Dr Manfred Spanger

Interventional radiology in the investigation and management of cerebral venous insufficiency

Much popular attention has recently been focused on the entity of chronic cerebrospinal venous insufficiency (CCSVI). While the understanding of this condition is being developed, many Multiple Sclerosis patients have been fixated on a single Italian study showing benefit in certain patient groups. This has led to overwhelming pressure from patient advocacy groups to offer treatments for CCSVI despite evidence not yet at a level to satisfy most radiologists or any neurologists. As a consequence, treatment is difficult to find, unfunded and always under threat. I will go through the theoretical underpinning of the condition and the treatment thereof.

Dr Nicola Stephens

Thyroid nodules: to FNA or not to FNA?

Aims

1. Thyroid nodule epidemiology to explain the significance of the issue
2. Clinical factors to be aware of when evaluating thyroid nodules
3. Sonographic characterisation of thyroid nodules with particular reference to benign vs. malignant features
4. Role of scintigraphy in determining need for FNA
5. Leave alone nodules: to furnish the listener with an approach for future practice
6. Overview of malignant nodules: to clarify which nodules do require FNA
7. Describe a report format to aid future practice.

Dr Tom Sutherland

CEUS of splenic lesions

Focal splenic pathologies are uncommon compared with disease of other abdominal viscera. However, a diverse range of pathologies occur within the spleen and are being more frequently encountered as imaging techniques advance and as many disease processes are modified by new treatments.

Focal lesions may be congenital (splenunculi, cysts), infectious (bacterial, tuberculous, parasitic and fungal), inflammatory (sarcoid), neoplastic (haemangioma, lymphoma primary and secondary, metastatic) and vascular (infarction).

This review will discuss the evidence of contrast enhanced splenic ultrasound and provide illustrative examples of focal splenic lesions likely to be encountered by general radiologists and sonographers. Although many imaging findings overlap, a thorough understanding of the underlying pathologies that involve the spleen and the use of second generation sonographic contrast agents, can help to narrow the differential diagnosis.

Ms Faye Temple

Liver Segments and Doppler of the Liver Workshop

It is important to be accurate when documenting liver lesions. This workshop covers Couinauds classification of liver segments and other areas of anatomical interest as well as assessment of the vasculature of the liver. Any other areas of interest can be covered – come armed with questions.

Ms Sue Walker

What’s new in CMV?

Congenital cytomegalovirus is now the leading infective cause of perinatal neurological handicap. While perinatal CMV infection has potentially devastating consequences, the prevention, diagnosis and treatment of CMV embryopathy remains challenging. This talk will address current controversies in the management of CMV, including the role of screening for CMV in pregnancy, fetal diagnosis following maternal seroconversion, the role of in-utero therapy, and the value of ultrasound and MRI in the diagnosis of the affected fetus.

Ms Sue Walker

Ultrasound in the growth restricted fetus

It has been said that “if you are born small, you keep dying all your life”. Fetuses that are small for gestational age are more likely to suffer perinatal death, neonatal and childhood morbidity, and many adult diseases have their origins in fetal life.

Ultrasound has an important role in the prediction, diagnosis and surveillance of the growth-restricted fetus. Ultrasound can uniquely provide a window into the adequacy of the uteroplacental circulation, as well as assessing fetal vascular and behavioral adaptations in the face of worsening hypoxia and acidosis. This talk will address the role of ultrasound in the diagnosis and management of preterm and term fetal growth restriction.
Mr Daniel White
The appendix – finding the hidden treasure

Appendicitis is one of the most frequently requested referrals in any ultrasound department. It is also one of the more difficult structures to locate. This presentation will introduce the embryology and anatomy of the appendix with some rare anatomical variations. In addition we will explore techniques, tricks, tips and key landmarks to improve visualisation of the appendix. Clinical presentation, accompanying features and other differentials will also be discussed.

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Mr Robert Ziegenbein
Venous Incompetence Workshop

There are a number of ultrasound techniques at the disposal of sonographers to make an accurate assessment of a patient’s variceous veins. These include the use of colour and spectral Doppler, augmentation techniques and altering the patient’s posture. All of these techniques are designed to augment venous blood in sufficient quantity so that a maximal reflux duration can be observed and the criteria of significant reflux can be accurately assigned to those veins if appropriate.

Participants will perform and be guided in these imaging techniques to achieve both efficient and accurate assessment of venous incompetence and in the appropriate anatomical identification of the superficial veins which contribute to venous incompetence.

Ms Marilyn Zelesco
Contrast Enhanced Ultrasound Assessment (CEUS) of Crohn’s disease activity

The assessment of disease activity is central to the management of Crohn’s disease (CD). Transabdominal ultrasound (US) offers many advantages to patients with CD, who are typically young and require frequent imaging. US is beneficial as it is non-invasive, accurate1 and easily repeatable. Furthermore, it does not utilise ionising radiation and is relatively inexpensive.

In recent years, second generation contrast agents in combination with low mechanical index harmonic US allows systematic analysis of bowel wall microcirculation. Several studies have correlated CEUS with clinical, biochemical and endoscopic measures of inflammatory activity in CD. However, many have assessed qualitative parameters only from CEUS and results to date have been inconsistent2–5.

The purpose of this study was:

• To determine whether quantitative parameters obtained from CEUS are independent predictors of CD activity as measured endoscopically
• To assess the differences in enhancement patterns of the mucosa and submucosa of the bowel wall
• To investigate the interobserver reproducibility in measurements obtained from CEUS
• To utilise the CEUS in the follow-up of patients on treatment

This paper will discuss these findings.

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**Ms Marilyn Zelesco**  
*ASQ – the new Hounsfield Unit?*

Acoustic structure quantification (ASQ) is ultrasound software that analyses the statistical information of the acquired (receiving) echo signals. By looking at the speckle pattern in a certain region of interest (ROI), tissue differentiation becomes possible. ASQ is based on raw data greyscale imaging. The raw data is collected before the scan converter and before the lateral filter is applied. Hence minimal manufacturer image interpolation is present.

ASQ was developed as a potential tool in the quantification of diffuse liver disease. It was hoped it would also assist in the monitoring of regression or progression of liver fibrosis and fibrosis treatment.

ASQ is a tool that has been developed to be less subjective and operator dependent than conventional ultrasound liver imaging, as it is the unit that performs the analysis on the acquired data. Parallel clinical studies have been underway to validate ASQ in terms of its role in the clinical setting. This talk discusses these and other potential uses for this emerging technology in a variety of clinical areas.

**Ms Marilyn Zelesco**  
*Sonography of the gastro-intestinal tract*

In recent years, bowel ultrasound has gained importance as a reliable and non-invasive imaging modality for the diagnostic work-up and clinical follow-up of patients with a range of gut disorders. These include inflammatory states such as Crohn's disease, appendicitis and diverticulitis; or even malignancy. This can be attributed to the improved resolution capabilities of ultrasound equipment and improved sonography technique. With good cross-sectional imaging of the gut wall and display of the surrounding mesentery, it may be possible to detect the transmural extent of inflammation or disease.

However, uncertainty still persists concerning the accuracy of bowel ultrasound as a primary imaging procedure in patients with suspected bowel disease. This workshop introduces the audience to the basics of gut sonography, as well as a range of pathologies that can be visualised by ultrasound.