

January 2019



SutherSound

The Sutherland ED PoCUS Newsletter

<http://www.sutherlanded.com/pocus/>

TSH PoCUS Faculty:

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Janine Lister

Graduate Diploma of Applied Medical Science in Ultrasound

Sonographer Educator in ED (SEED)

Dr Jason Ngai

Quality Improvement JMO

Our Machine:

The Sonosite XPorte



Inaugural ED and Cardiology Case-Based Discussion Session

On 19th December we met with Dr Shiva Roy for the first Combined ED and Cardiology Case-Based Discussion session. The PoCUS scans presented were all performed at TSH ED and included massive PE and cardiomyopathy. They were great examples of where appropriate application of Basic Echo in Life Support (BELS) allowed rapid decision making and directed medical therapy. We had an impressive turn out from the FACEMs and encourage the future attendance of ED trainees, particularly those working towards credentialing in BELS. We have a second session confirmed on Feb 6th from 8-9am which will be a case review session of formal echos performed at TSH and chosen by Dr Roy for their educational value. More details will be sent out closer to the time.

Are you an ED SRMO interested in PoCUS?

Every year we appoint a Critical Care SRMO to a 6 month position on the TSH ED PoCUS Faculty. It is an opportunity to be involved in quality improvement projects and start the journey of US credentialing.

For more information visit: <http://www.sutherlanded.com/pocus/>.

Expressions of interest are to the Ultrasound Clinical Lead, kirsty.short@health.nsw.gov.au.

Trophon Machine for High Level Disinfection

The US Faculty would like to thank the SSU Consultants and JMOs for their improved adherence to the US cleaning roster. In addition to the Low Level Disinfection (LLD) that is provided with the Clinell wipes, we have been offered the opportunity to apply High Level Disinfection (HLD) to our contaminated probes using the Trophon Machine in Radiology. HLD, refers to disinfection that kills all (with the exception of high level) bacterial spores. A contaminated probe is ANY probe that comes into contact with bodily fluid, namely blood. This is most likely to occur when a sterile cover is breached during IV access or when performing a diagnostic US in trauma (we recommend a probe cover to be used in this setting). The process for Trophon cleaning of a probe is 7 minutes once it has been secured in the machine. Here is a video outlining the steps.

<http://www.sutherlanded.com/pocus/tsh-ultrasound-videos/>

	Staff Specialist-held CCPU Modules
KS	EFAST, AAA, Biliary, BELS, Lung, DVT, Basic Early Pregnancy
DG	EFAST, AAA, Biliary, Renal, DVT, Vascular Access, Basic Early Pregnancy
TB	EFAST, AAA
KY	EFAST, AAA
MB	EFAST
KO	EFAST
SF	EFAST

KS = Kirsty Short
 DG = Daniel Gaetani
 TB = Tanya Bautovich
 KY = Kris Yuen
 MB = Matt Bode
 KO = Kevin Ostrowski
 SF = Sascha Fulde

Dates for the Diary:

RPA Point of Care US Workshop
 18th – 21st February
 * **Highly recommended, limited places!** *

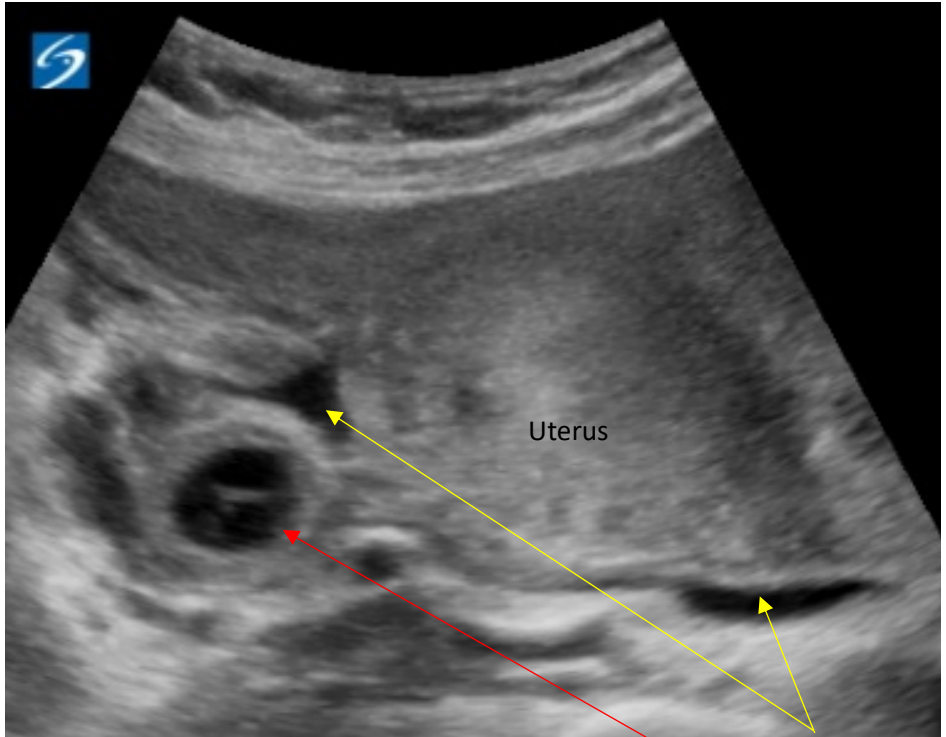
To register email:
ccsonography@gmail.com

See the 'US Courses 2019' section of the website for further 2019 course dates from the major US education companies and local NSW providers

Echo Case Review Session
 6th Feb, 8-9am with Dr Roy
 Echo lab

Ultrasound Case from Dr Daniel Gaetani

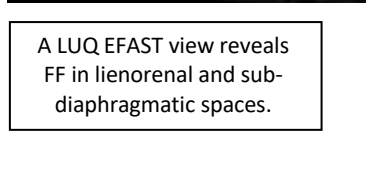
It is a busy Monday evening with a full department including your resuscitation area. A 28-year-old female has presented to the ED with unilateral pelvic pain and small volume PV bleeding. Her last normal menstrual period was 6 weeks ago. She denies current or previous pregnancy. She was previously using the IUD as a contraceptive method. She has no other medical or surgical history. On examination in the triage bay, she is hypotensive (SBP 75) and tachycardic (120 bpm) with right pelvic tenderness and guarding. A large-bore IV is immediately inserted and bedside serum BHCG is positive. A POCUS study is performed ...



A transverse view of the uterus demonstrates a right adnexal mass and pelvic free fluid.



A RUQ EFAST view reveals FF in hepatorenal space and around caudal tip of liver.



A LUQ EFAST view reveals FF in lienorenal and sub-diaphragmatic spaces.

Dates for the Diary cont...

TSH US Audit Presentation

27th Feb, 4-5pm

Dr Jason Ngai (PoCUS SRMO)

SEED days:

Remaining Feb dates:

6th Feb, 4-5pm

7th Feb, 1-2pm

13th Feb, 2-3pm

20th Feb, 1-2pm

21st Feb, 1-5pm

27th Feb, 4-5pm

Sign up in the usual way on the onedrive roster

Scan review dates with

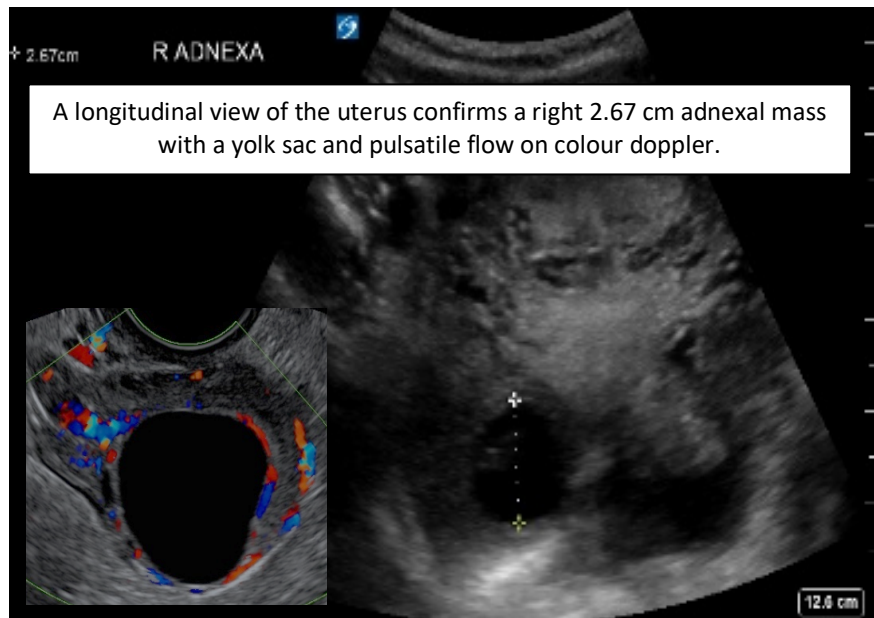
US Faculty:

Admin days for KS:

Jan 24th, Feb 6th and 27th

Admin days for DG:

Jan 23rd, 30th



The patient was immediately moved from the triage bay to the resuscitation area where continuous haemodynamic and respiratory monitoring, supplemental oxygen, volume resuscitation and parenteral analgesia was commenced. The obstetrics team reviewed the patient within 30 minutes and the patient was transferred to OT for definitive operative management.

Ectopic pregnancy is a pregnancy in which the developing blastocyst becomes implanted at a site other than the endometrium of the uterine cavity.

Ectopic Pregnancy

The most common extrauterine location is the fallopian tube, which accounts for 96% of all ectopic gestations. The incidence of ectopic pregnancy is estimated to be 1:300 pregnancies and ruptured ectopic pregnancies contribute to 10% of maternal deaths.

Risk factors for ectopic pregnancies include assisted reproduction techniques, previous ectopic pregnancy, PID, conception with IUD, history of tubal surgery or tubal sterilisation and maternal age 35 – 44 years-old.

Clinical features include amenorrhea 6 – 12 weeks from last menstrual period (70% cases), abdominal pain or discomfort (90% cases. Sudden, sharp, severe, unilateral pain which may radiate to the shoulder suggests rupture) and vaginal bleeding (76% cases. Volume and pattern of bleeding vary and no bleeding pattern is pathognomonic).

Diagnostic evaluation involves confirming pregnancy with BHCG testing, confirming pregnancy location with ultrasound in conjunction with BHCG discriminatory zone (i.e. transabdominal US demonstrates empty uterus + BHCG >6000 IU/L = Pregnancy of unknown location), and assessing for complications of ectopic pregnancy including haemodynamic instability and peritoneal free fluid.

Email Kirsty Short or Daniel Gaetani with the MRN and a short summary of any interesting cases for future SutherSound issues.

Management involves haemodynamic resuscitation, analgesia and urgent obstetric consultation to determine need for definitive management (operative vs. non-operative).

Heterotopic Pregnancy

Heterotopic pregnancy is a rare complication of pregnancy (incidence 1:3000 pregnancies) in which both extra-uterine (ectopic pregnancy) and intrauterine pregnancy occur simultaneously. It occurs as a result of reproductive assistance techniques. Below are some images of a 26-year-old female who presented with unilateral pelvic pain associated with small volume PV bleeding in the context of IVF. Note the presence of an intra-uterine and extra-uterine gestational sac.

Planting the 'SEED'

A Leadership initiative in an Australian ED

K. Short, E. Dempster, J. Short



Introduction

- Emergency Consultants are expected to be proficient in Point of Care Ultrasound (PoCUS).
- Consultants and Registrars commonly provide PoCUS without formalised skills review.
- US training is of variable standard and is department-specific.
- At The Sutherland Hospital ED there was no established US programme or quality improvement initiatives prior to our intervention.

Ultrasound in our ED in 2016

- <10% of Consultants had attended a recent credentialed course.
- Logbook maintenance poor/non-existent.
- No agreed method of documenting scans in the medical records.
- Most Consultants 'not confident' in using the US machine.

Creation of the Ultrasound Faculty

- Clinical Lead in ED Ultrasound appointed with recognised US credentialing.
- Recruitment of other interested Consultants and trainees to the US Faculty.
- Regular meetings to develop business rules, quality assurance (QA) processes and an US education plan.

The 'SEED': Sonographer Educator in the ED
An experienced general sonographer who conducts one to one scanning sessions with ED consultants to teach PoCUS modules (e.g. eFAST, AAA, basic early pregnancy, DVT, biliary).

Communication

- Monthly newsletter 'SutherSound'
- PoCUS portal incorporated into the ED website
- 'Whatsapp' messaging group



A google form for logbook keeping:

- Accessible from mobile devices at point of care.
- Allowed entry of patient identifier, scan interpretation and nominated credentialing supervisor.

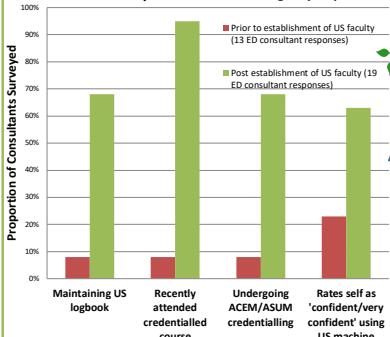


A credentialed instructional course for all consultants held locally.

An electronic template for ultrasound documentation integrated into patient records.



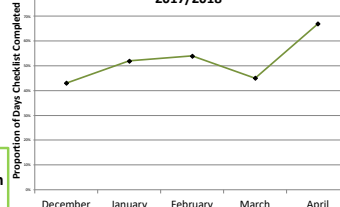
Consultant US experience in our Emergency Department



Improved quality control in ED US use:

- 60% of scans now documented in the patient's electronic patient record.
- Increased compliance with US cleaning checklist.

Daily US Cleaning Checklist Compliance 2017/2018



In January 2017 our ED was the only urban district hospital in our state with a SEED

TSH ED Represented Internationally

Our previous US JMO, Dr Eilidh Dempster, presented a poster at the Leaders in Healthcare 2018 Conference in Birmingham, England, last November. This described our experience employing a Sonographer Educator in our ED and improvement in our US-related QA processes. Thanks to all who participated in (and continue to participate in) this initiative. A special mention to our SEED, Janine Lister, without whom this would not have been possible.

Future Goals

- Improve the uptake of SEED scanning sessions by the Consultant group.
- Increase the proportion of Consultants achieving recognised US credentialing.
- Introduce an Australasian College for Emergency Medicine (ACEM) special skills rotation in US for ED Registrars.