



## GUIDELINES ON MINIMUM CRITERIA FOR ULTRASOUND WORKSHOP

### 1. INTRODUCTION

- 1.1 This document describes guidelines for the minimum criteria appropriate for an Emergency Medicine Ultrasound Workshop in Australasia. It should be read in conjunction with the ACEM policy document *Credentialling for ED Ultrasonography* which specified appropriate criteria for credentialing of individuals.
- 1.2 The objectives of Ultrasound workshops are to:
  - 1.2.1 Understand the theory of Ultrasound
  - 1.2.2 Understand Practical Applications and limitations of focused Emergency Ultrasound
  - 1.2.3 Understand credentialing process for specific Emergency Ultrasound indications
  - 1.2.4 Understand need for ongoing Emergency Ultrasound CME to maintain skills
  - 1.2.5 Demonstrate proficiency in performing and interpreting Emergency Ultrasound Scans

### 2. RESOURCES

Emergency Ultrasound Courses require a significant commitment of personnel, equipment and advanced planning.

Basic components necessary include:

- 2.1 Course Director should possess FACEM or internationally recognised equivalent
- 2.2 Instructors: must have significant practical experience in the application of Emergency U/S
- 2.3 Registered sonographers can be utilised to assist with teaching in the practical sessions
- 2.4 U/S Practical sessions (see below) should include appropriate U/S machines and transducers with a ratio of no more than 1 machine for a maximum of 5 students
- 2.5 U/S models should include normal models and patients with demonstrable pathology (eg peritoneal dialysis patients, patients with known AAA)
- 2.6 There should be a course syllabus provided and a list of recommended texts and other references
- 2.7 The course site should be of sufficient area to accommodate both lectures and the practical sessions
- 2.8 There should be evidence of attendance with the numbers of course hours for CME points
- 2.9 There should be some form of pre-and post-test to demonstrate some acquisition of U/S proficiency and interpretation
- 2.10 The course must provide an appropriate certificate at completion

### **3. COURSE CONTENT**

#### **3.1 Physics**

Piezoelectric effect

Wave characteristics – cycle, frequency, period, wavelength, amplitude

Echogenicity

Image resolution

Attenuation

Doppler effect

Impedence

Reverberation

Shadowing

Enhancement

#### **3.2 Instrumentation**

Probe types

Probe selection

Image labelling

Gain

Time gain compensation (TGC)

Orientation

Scan planes

Image measurement

#### **3.3 FAST**

Introduction

Clinical Algorithms

Limitations / pitfalls

Blunt v Penetrating Injury

#### **3.4 FAST Anatomy**

Liver

Spleen

Kidneys

Pericardium

Lung bases

Bladder

Uterus

#### **3.5 FAST Practical**

Morison's pouch

Spleno-renal area

Subxiphoid

Suprapubic

Diaphragm

#### **3.6 FAST findings**

Haemoperitoneum

Haemopericardium

Haemothorax

#### **3.7 Abdominal Aortic Examination General**

Definition

Indications

Limitations / pitfalls

Clinical Algorithm ( OT v CT)

### **3.8 Abdominal Aorta Anatomy and Focussed Findings**

Aorta and major branches

Inferior vena cava

Vertebral bodies

### **3.9 Focussed Abdominal Aorta Anatomy Findings**

Minimum 2 views

Appearance

Measurement / size

Extent

Thrombus

### **3.10 Introduction to Procedural U/S**

Indications and Limitations

Vascular access –central / peripheral

Pericardiocentesis

Paracentesis

Thoracentesis

Foreign body removal

Bladder aspiration

## **4. PRACTICAL U/S SESSIONS**

It is essential that practical Ultrasound sessions include:

- Minimum time 4 hours
- Maximum Ratio student : instructor 5:1
- Instructor who demonstrates correct application protocol for Emergency Indication
- Sufficient time to allow student to achieve aims in comfort, competency and technique
- Models to demonstrate normal and abnormal anatomy

## **5. CREDENTIALLED WORKSHOPS**

All ultrasound workshops wishing to be considered as credentialled courses by ACEM must submit the course details to the ACEM ED Ultrasound subcommittee for consideration.