

Basic Abdominal Ultrasound Techniques for the small animal practitioner - A 3-hour practical course

Mastering the basic abdominal ultrasound examination is an essential skill for the small animal practitioner. The topics and principles below will be covered during an hour-long demonstration on a live dog. This will be followed by a 2-hour session during which the learning will be re-enforced, with all participants practicing the demonstrated techniques and watching colleagues practice the techniques on live dogs.

1. Basic ultrasound principles and artefacts

- Velocity, Acoustic impedance, absorption, scatter and reflection
- Attenuation
- Basic artefacts
 - Edge shadowing
 - Acoustic enhancement
 - Mirror artefacts
 - Reverberation
 - Comet tail or ring-down artefacts
 - Ultrasound lung rockets or B-lines
 - Side-lobe artefact
 - Slice thickness artefact
 - Basic image orientation
- Probe selection
- Optimization of images - what does all the buttons mean?
 - Depth
 - Gain
 - Frequency
 - Focal position and number

2. The basic abdominal ultrasound examination

- Patient positioning and probe orientation, movements and angles

Liver and gallbladder:

- sagittal and transverse section, hepatic veins vs. portal veins, liver echogenicity, gall bladder contents, liver lesions

Falciform Fat

Spleen:

- echogenicity, size, contour

Kidneys:

- echogenicity, size, contour, criteria for pyelectasia, corticomedullary distinction

Urogenital system:

- Bladder wall thickness, content, trigone region, uterus/prostate

Gastrointestinal system:

- Recognising normal wall layering, GIT peristalsis, corrugation, atony, gut wall thickness measurements

*stomach, rugal folds, fundus and pyloric regions

*duodenum,

*jejunum,

*colon; ascending transverse and descending colon

The POCUS techniques and the pancreas, adrenal glands, kidney resistivity index assessment through Doppler, the different vessels branching off the aorta, hepatic shunts, abdominal lymphnodes etc. are not covered in the basic abdominal ultrasound course, but rather in an advanced course once the basic techniques have been mastered.

