Promoting Excellence In
Ultrasound

Policies and Statements

D5

Guidelines For Abdominal Scanning

© Copyright ASUM 1991-2007. This document may be reproduced in its entirety for use in a clinical or educational setting. Permission for reproduction for other purposes should be sought from ASUM.
Phone: +61 2 9438 2078 ● PO Box 943 Crows Nest NSW 1585 ● Email: asum@asum.com.au

Australasian Society for Ultrasound in Medicine

Policies and Statements

D5

Guidelines For Abdominal Scanning

*August 1991, Reaffirmed May 1997, **Revised** September 1999*

The following comments apply to ultrasound in adults. They generally hold for children and infants, although are directed towards the range of pathology expected in adults.

Equipment for abdominal scanning should be high quality real-time apparatus. Curved linear and sector transducers with variable focal zones are preferred. The frequency should be in the 3.5-5.0 MHz range.

Ultrasonic investigation of the abdomen is usually directed to a specific clinical problem and the examination should be tailored to answer the clinical question, for example: Are there gallstones? Is the prominent aortic pulsation due to aneurysm?

Although the study should be directed to answering the clinical question, a general examination of the abdomen should follow to detect alternate causes for the symptoms and signs and to exclude other pathology. This survey of the abdomen can usually restricted to the upper abdominal organs. Transabdominal scanning of the lower abdomen should be obtained if appropriate.

When assessing a particular organ in the abdomen with ultrasound, the organ should be completely scanned from one margin to the other in two orthogonal planes as a minimum. Hard copy images are taken in standard planes to document a normal study and specific views are taken to illustrate detected pathology.

The following is a guide to the abdominal ultrasound survey.

1. **PANCREAS**
   Transverse and longitudinal scanning required, particularly in the head

   Comment on:
   The degree of visualisation particularly if suboptimal
   Size of the head, body and tail
   Parenchymal texture
   Focal lesions: including soft tissue masses, cysts, and calcification
   Pancreatic duct; calibre, contour and stones
   Peripancreatic lesions; solid masses, lymphadenopathy and cysts

2. **GALL BLADDER**
   Demonstrate in at least two planes and with patient in more than one position (i.e. oblique and erect)

© Copyright ASUM 1991-2007. This document may be reproduced in its entirety for use in a clinical or educational setting. Permission for reproduction for other purposes should be sought from ASUM.
Phone: +61 2 9438 2078 ● PO Box 943 Crows Nest NSW 1585 ● Email: asum@asum.com.au

Comment on:
Intraluminal lesions; number, size, posterior shadowing and mobility
Wall thickness (versus degree of distension)
Presence of mural gas or calcification
Distension - physiological, pathological
Point tenderness
Pericholeic collections

3. **EXTRAHEPATIC BILE DUCT**
Attempt to demonstrate the full length of the common bile duct and common hepatic duct.

Comment on:
Duct diameter - measured inside to inside, at level of portal vein bifurcation and more distally, if the proximal measurement is at or above the upper limit of normal Duct dilatation - degree and extent of dilatation, level of obstruction, regularity of calibre
Intraluminal lesions - number, size, echogenicity, posterior shadowing, and mobility within duct

4. **LIVER**
Longitudinal and transverse views usually sufficient.

Comment on:
Adequacy of visualisation of the whole of the liver
Overall size, caudate lobe size
Borders - smooth, irregular
Parenchymal echogenicity, texture and attenuation
Focal lesions; number, size, location echo characteristics
Intrahepatic bile ducts
Hepatic veins, portal veins
Perihepatic collections
Right pleural space

5. **SPLEEN**
Size
Parenchyma - texture and echogenicity
Focal lesions - number, size, location, echo characteristics
Perisplenic collections, collateral veins
Left pleural space

6. **KIDNEYS**
Size - measure bipolar distance
Outline
Parenchyma - echogenicity cortex and medulla
Focal masses - number, size, location, cystic or solid
Collecting systems - hydronephrosis, prominent extrarenal pelvis, dilated ureter, intraluminal lesions
Peri-renal and para- renal collections and masses

7. **ADRENALS**
Visualisation should be attempted
Size and texture if enlarged
Focal masses: cystic, solid, bilateral, unilateral

© Copyright ASUM 1991-2007. This document may be reproduced in its entirety for use in a clinical or educational setting. Permission for reproduction for other purposes should be sought from ASUM.
Phone: +61 2 9438 2078 ● PO Box 943 Crows Nest NSW 1585 ● Email: asum@asum.com.au

8. **UPPER ABDOMINAL VASCULATURE**

Demonstration of the upper abdominal vasculature is the key to upper abdominal anatomy. The level of ultrasonic evaluation of the vasculature will depend on the clinical indication for the scan. The following vessels should be identified.

Aorta
Coeliac axis
Superior mesenteric artery
Left renal vein
Inferior vena cava
Splenic vein
Superior mesenteric vein
Main portal vein and its branching pattern in liver
Splenic artery
Hepatic artery
Replaced right hepatic artery (common variant)
Hepatic veins

9. **AORTA**

Size: measure the outer AP diameter of the aorta.

Comment on:
Aneurysmal dilatation
Calcification, plaques and thrombus
Para-aortic masses; size number location

10. **PERITONEAL CAVITY**

Ascites
Loculated collections; size, site, echo characteristics
Peritoneal masses; size and site
Bowel wall: thickness, dilatation, peristalsis
Assess appendix.

© Copyright ASUM 1991-2007. This document may be reproduced in its entirety for use in a clinical or educational setting. Permission for reproduction for other purposes should be sought from ASUM.
Phone: +61 2 9438 2078 ● PO Box 943 Crows Nest NSW 1585 ● Email: asum@asum.com.au

Australasian Society for Ultrasound in Medicine
PO Box 943, Crows Nest NSW 1585, Sydney AUSTRALIA
Phone: +61 2 9438 2078 ● Fax: +61 2 9438 3686
Email: asum@asum.com.au ● Website: http://www.asum.com.au
ABN: 64 001 679 161