



# RURAL MEDICAL IMAGING

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## Diagnostic Imaging Protocols

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# Diagnostic Imaging Protocol Standard

## Purpose and Scope

The purpose of protocol is to ensure our practices adopt a consistent approach to imaging studies and deliver optimal imagines for diagnostic purposes.

## List of Protocols

The following protocols are for ultrasound procedures performed at Rural Medical Imaging

- Abdomen Ultrasound<sup>i</sup>
- ABI Protocol<sup>ii</sup>
- Cartoid Arteries<sup>iii</sup>
- Echo<sup>iv</sup>
- Elbow<sup>v</sup>
- Guided Injections<sup>vi</sup>
- Knee and Shoulder<sup>vii</sup>
- Liver<sup>viii</sup>
- Morphology<sup>ix</sup>
- Pelvic<sup>x</sup>
- Renal<sup>xi</sup>
- Scrotal<sup>xii</sup>

Xray and CT is performed at Rural Medical Imaging. The protocols for these services are contained in accompanying document titled “3.1 Protocols CT and Xray”<sup>xiii</sup>

## Staff Qualifications

All technical staff performing diagnostic imaging procedures at Rural Medical Imaging must hold the appropriate licences registrations for their modality and they must be current. This information is recorded in our Staff & Contractors Register as contained in the Safety and Quality Manual<sup>xiv</sup> and the register is regularly updated by the Chief Radiographer.

## Document review

This document has been compiled and reviewed in August 2021 whilst reviewing and updating our Safety and Quality Manual. Our protocols were update June 2021 and will be reviewed again in March 2024 as per Review Schedule in Safety & Quality Manual.

## Abdomen Ultrasound



## Ultrasound Protocol

# ABDOMEN ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

All views below are minimum views required. If any abnormality is found it is expected that more views will be obtained to demonstrate any abnormality or pathology effectively. This may involve using colour doppler or measurements of abnormality in trans and long for example.

### Pancreas

Transverse plane - images of head neck and tail. View in longitudinal plane. More views can be obtained if needed to show pancreas if it is difficult to view.

### Gallbladder

Limited views are long and transverse in supine and long and transverse in decubitus. If difficult to view or gallstones are detected erect views long and transverse should be taken.

### Common Bile Duct

Views are done proximally at level of the hepatic artery, and as distally as possible. CBD is measured just distal to hepatic artery and more distally if possible.

### Liver

Measurement of liver of mid clavicular line. Parenchyma to be compared with kidney. Minimal views also include left and right lobes of segments and caudate lobe. If any masses found, then it's location is shown according to segmental anatomy. If HCC or Cirrhosis suspected follow Protocol (no fibrotic scoring).

### Right kidney and Left kidney

Minimal views are longitudinal view with measurement, and lateral and medial views to the longitudinal plane, and transverse view of upper pole, lower pole and to include mid hilum. Cysts are described as simple or more complex per septations masses etc. As to enable to Radiologist to make a bosniac classification.

### Spleen

Spleen is shown in long and transverse as minimal views with measurement in long. An enlarged spleen is to be measured in 3 dimensions.

### Aorta

Longitudinal views proximal to mid aorta shown in one view with one measurement shown proximal and one mid, another view taken distal aorta with measurement prior to bifurcation. Transverse view taken at level of renal artery origin, and another at prior to bifurcation. If any lower abdo pain, views are also taken of lower abdo, RIF and LIF. If abdomen scan requested due to trauma, the examination is extended to include the pelvis to check for free fluid. If any fluid seen in upper abdo (e.g. ascites) scan is extended to pelvic area again. The Sonographers report although has covered all the aspects of the abdomen as scanned, it should also answer the clinical notes from the GP, e.g. query pancreatic pseudo cyst than the Sonographers notes should reflect what the Doctor is asking, eg: no pancreatic pseudo cyst found or free fluid found in abdomen or pelvis.

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## ABI Ultrasound



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## Ultrasound Protocol

### ABI ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

#### **Performing the ABI Test**

The ABI measurement is performed with the patient resting in a supine position. The examiner should make all arm and leg blood pressure measurements with an appropriately sized blood pressure cuff and the Doppler device. The systolic blood pressure is determined in both arms, and the ankle systolic blood pressure is determined for the right and left posterior tibial (PT) and dorsalis pedis (DP) arteries. The ABI for each leg is determined by using the higher of the two readings from either the PT or DP arteries, or the higher of the two brachial readings. The lower ABI of the two is used for diagnostic purposes. An ABI measurement can usually be performed in less than 10min. ( See sample ABI Worksheet).

#### **ABI Procedure**

- Apply the blood pressure cuff snugly on the upper arm with the lower edge of the cuff 2.5cm above the antecubital fossa. Usually the cuff that is the appropriate size for the patients arm will also be suitable for the ankle pressure measurement. In the rare instance that upper arm and ankle pressures are markedly different, choose cuff sizes that are appropriate for each site
- Apply a 1-2 cm ribbon of Doppler gel to the antecubital area. Be sure to use enough gel
- Turn the Doppler probe on and place it at the antecubital area at approx. 60 degree angle to the surface of the skin. Move the probe around until the clearest arterial pulse sounds are heard and keep the probe at that position
- Inflate the blood pressure cuff to approx. 20mm Hg above the numerical reading where the pulse sounds cease
- Deflate the cuff at a rate of 2mmHg per second until the first arterial pulse sound is heard. When this number is determined, deflate the cuff completely and record this systolic reading. Remove the gel from the patients skin with a tissue
- Apply the same blood pressure cuff snugly to the ankle on the same side of the body
- Palpate the area around the medial malleolus to find the posterior tibial (PT) arterial pulse
- If this pulse is palpable, apply a 1-2cm ribbon of Doppler gel to the area. If there is no palpable pulse, apply gel to the general area, turn on the Doppler probe, and move the probe around until the clearest arterial sound is heard. Keep the probe in that position. Continue inflating the blood pressure cuff as before, followed by deflation and reading (Steps 5-6)
- Palpate the dorsal arch of the same foot for the dorsalis pedis (DP) arterial pulse. Apply the Doppler gel and use the Doppler probe as before (Step 8)
- Apply the blood pressure cuff to the opposite ankle and record the PT and DP pressures as before (Steps 8-10)
- Then repeat Steps 1-5 on the other arm

Use the ABI worksheet page to figure the patients ABI. Measurements should be noted in the patient's medical record.

Both the DP and PT arterial pressures are measured to provide a complete assessment of the extent of PAD in each limb. Additionally, some patients may have a congenitally absent dorsalis pedis pulse. Other patients, particularly some elderly and diabetic individuals, have calcification in their arteries that prevents occlusion of flow by the pressure cuff. This will cause an abnormally high reading. Typically any reading greater than 1.50 is considered abnormal. Such patients should be referred for additional testing in a vascular laboratory.

**Helpful Hints**

- Follow the instructions specific to the doppler probe you are using
- Be sure to use enough gel
- Use a cuff size that is right for both the arm and ankle of the patient
- Be sure you're centred on the pulse when you take the reading; if you're off to the side, the reading will be low.
- Beware of known diabetics with calcified vessels and abnormally high ABI
- In a small percentage of patients, one of the ankle pressures will be non-detectable; use the detectable pressure for calculating the ABI
- If normal ABI ratio with symptomatic patient on exercise, after first study have patient walk up and down corridor or exercise legs if appropriate (non-appropriate would be patients who have cardiac problems on exertion). This brings on the "attack" which alters the ABI results, indicating the severity of the issue
- Patients with an ABI value of 0.90 or less are diagnosed as having PAD and considered at increased risk for cardiovascular ischemic events, prompt investigation and risk-reducing treatments are then warranted

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## Carotid Arteries



Rural Medical Imaging

## Ultrasound Protocol

**CAROTID ARTERIES ULTRASOUND**

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

- Carotid ultrasounds include ultrasound criteria as per table on the next page
- Difficulty in accessing distal internal carotid artery use the curve abdominal probe to view this region

**Minimum views**

- B mode views – transverse mid CCA, long proximal CCA and long distal CCA (including bulb)
- Scan through entire area checking for stenosis
- Transverse bulb, including any plaque seen in bulb
- Transverse proximal ICA and ECA, showing any relevant plaque
- Longitudinal views–proximal ICA and ECA showing any relevant plaque

**More views are taken as necessary to show any extra pathology**

- Colour and pulse wave imaging is done throughout CCA, ICA to as distally as possible ECA.
- Minimal represented images taken are pulse wave doppler of proximal CCA, distal CCA, proximal ECA (temporal tap shown on ECA view)

**Proximal mid and distal ICA**

- If distal ICA is difficult to image then the abdominal curved probe is used to delineate this area
- More images are done as necessary to demonstrate any extra pathology not shown on views already mentioned
- Proximal ICA is then shown with power doppler imaging, vertebral arteries assessed for direction of flow; proximal subclavian artery is also assessed
- Protocol repeated for both sides
- If stenosis is shown it is categorized as per normal, <15%, 16-49% 50-69% or over 70% systolic and diastolic values to be written and the characteristics of plaque to be mentioned
- Machine controls are applied, for example, reduction in velocity, different colour coding etcetera to ensure no trickle flow
- When there is a stenosis also include NASCET measurement and St Mary's ratio

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## EXTRACRANIAL CAROTID ARTERY DISEASE

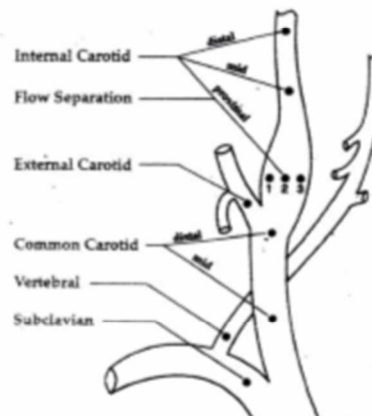
SEPTEMBER 1998

These guidelines for the reporting of extracranial carotid artery disease have been adopted by ASUM to assist those performing and reporting these examinations. The threshold values are recommendations only and other values may have similar validity. Laboratories should attempt to audit the results they obtain with the criteria they choose to use.

Stenosis Grade	Ultrasound Criteria - ICA
0	Normal waveform and image
< 15% diameter reduction	Deceleration spectral broadening PSV < 125 cm/sec
16 - 49% diameter reduction	Pansystolic spectral broadening PSV < 125 cm/sec
50 - 69% diameter reduction	<ul style="list-style-type: none"> <li>• Pansystolic spectral broadening</li> <li>• PSV &gt; 125 cm/sec and EDV &lt; 110 cm/sec or</li> <li>• ICA/CCA &gt; 2</li> </ul>
70 - 79% diameter reduction	<ul style="list-style-type: none"> <li>• Pansystolic spectral broadening</li> <li>• PSV &gt; 270 cm/sec or</li> <li>• EDV &gt; 110 cm/sec or</li> <li>• ICA/CCA &gt; 4</li> </ul>
80 - 99% diameter reduction	As above plus • EDV > 140 cm/sec
Occluded	No flow Terminal thump

ICA Internal carotid artery  
 CCA Common carotid artery  
 PSV Peak systolic velocity  
 EDV End diastolic velocity  
 ICA/CCA Ratio of ICA PSV to CCA PSV

### Cerebrovascular Recording Sites





## Echo Ultrasound



## Ultrasound Protocol

### ECHO ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

#### How to preform standard Echo

- Cannot perform Echo's on anyone under 16years of age unless the teenager is over 50kg in weight
- When patient is in sinus rhythm, record video clips over one cardiac cycle
- When patient is in AF or there is a continuous irregular beat, record video clips over three cardiac cycles, also when in AF, take average of 3-5 LVOT and aortic valve velocity, same with tricuspid and pulmonary valves if velocity is increased
- To change video clip from one cardiac cycle to three cardiac cycles go to utilities (touch screen); application (touch screen); print controls (viewing screen, use mouse); number of cardiac cycles (viewing screen, use mouse), directly underneath is a review clip before store, if ticked allows user to view video images recorded before saving
- Create a video clip for ascending aorta
- On young patients, take multiple views of parasternal short axis aortic valve to identify whether tricuspid or bicuspid, also put colour doppler on ventricular and apical septum in all views to ensure no VSD or ASD, on older patients colour doppler needed only on ventricular and atrial septum in subcostal view, unless a VSD or ASD is found
- When checking ventricular or atrial septum, reduce colour velocity settings
- For an aortic stenosis or aortic valve replacement, use peidhof probe in apical view and right parasternal view to gain maximum velocity
- When doing mitral valve assessment for prosthetic valve, increase sweep speed to reduce error in estimating pressure half time (PHT), measure at least 3 times on CW in different cardiac cycles
- When doing LV function assessment ensure enough 2D video images of LV: 4C, 2C, short axis and apical 3 chamber for cardiologist to assess LV function
- Use tint map for left ventricle views in optical four chamber, two chamber and three chamber and include video clips of the same
- Ensure right colour doppler settings for each patient

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## Elbow Ultrasound



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## Ultrasound Protocol

**ELBOW ULTRASOUND**

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

- Scan common extensor and common flexor tendons looking for tendinopathy or tear in transverse and longitudinal planes
- Check for any increased vascular flow in tendon
- Check any abnormality in region of medial and lateral elbow joint and collateral ligaments
- Check anterior elbow joint for any fluid
- Scan distal biceps brachii tendon for any tears or tendinopathy
- Check anterior elbow Joint for any fluid
- Scan posterior elbow for any fluid
- Look for olecranon bursitis
- Scan triceps tendon for any tears or tendinopathy
- Check for distal triceps calcification
- Scan the ulnar nerve and check for any nerve compression or increase in diameter of nerve
- Assess any region of pain or swelling if not directly related to above

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## Guided Injection Ultrasound



## Ultrasound Protocol

### GUIDED INJECTION ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

#### Steroid Injection Items

- Kidney dish
- Chlorhexidine stick
- Gloves
- 5ml Syringe
- 22 or 25g Needle (orange)
- Extension tubing (optional)
- Celestone
- Marcain
- Band-Aid

#### Shoulder

- 1ml Celestone
- 4cc Marcain or Bupivacaine

#### Hip

- Marcain or Bupivacaine (5ml syringe full)
- 22g needle (long black) or spinal needle if required

#### Extremities

- 3ml Syringe
- 1ml Celestone
- 1ml Marcain

#### FNA Breast

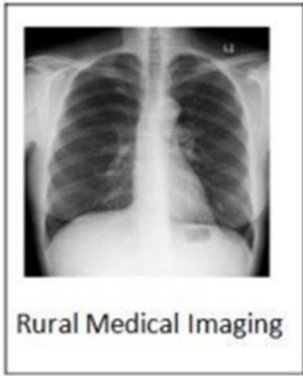
- 22g Needle
- 5ml Syringe
- 4 Slides (2 fixed, 2 not fixed)

#### Aspiration Knee

- 19g Needle

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Knee and Shoulder Ultrasound



**Ultrasound Protocol**

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**KNEE AND SHOULDER**

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

**Knee and Shoulder Ultrasound Examinations**

These are the approved Medicare Clinical Details. Sonographers are to ensure the referral satisfy Medicare requirements. Any referral that does not have the correct clinical details for Knees and Shoulders are to be brought the receptionist's attention.

<p><b>Knee</b></p> <ul style="list-style-type: none"> <li>• Abnormality of tendons or bursae about the knee</li> <li>• Meniscal cyst, popliteal fossa cyst, mass or pseudomass</li> <li>• Nerve entrapment, nerve or sheath tumour</li> <li>• Injury of collateral ligaments</li> </ul>	<p><b>Shoulder</b></p> <ul style="list-style-type: none"> <li>• Evaluation of injury to tendon, muscle or tendon/muscle junction including tears, calcification or tendinosis</li> <li>• Rotator cuff tear/ calcification/ tendinosis of biceps, subscapular, supraspinatus or infraspinatus</li> <li>• Biceps subluxation</li> <li>• Capsulitis and bursitis</li> <li>• Evaluation of mass, including ganglion Occult fracture</li> <li>• Acromioclavicular joint pathology</li> </ul>
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<p><b>NB Benefits are not payable when referred for non-specific knee pain alone or other knee conditions including:</b></p> <ul style="list-style-type: none"> <li>• Meniscal and cruciate ligament tears</li> <li>• Assessment of chondral surfaces</li> </ul>	<p><b>NB Benefits are not payable when referred for non-specific shoulder pain alone</b></p>
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## Liver Ultrasound



Rural Medical Imaging

### Ultrasound Protocol

## LIVER ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

#### Ultrasound of the liver for cirrhosis, HCC, etc

- Assess for degree (if any) of coarse echotexture and comment in report
- Provide size of liver in long section along the mid clavicular line
- Assess for lobulation of liver outline using high frequency probe e.g. small parts linear probe and comment in report
- Assess size and flow direction of portal vein (assess for portal hypertension) and comment in report
- Include peak systolic and end diastolic measurement as well as RI for hepatic artery and comment in report
- Assess PW flow of right, middle and left hepatic veins, comment on flow if normal or otherwise and if veins are dilated or normal in size
- Assess size of spleen and note down length, width and height
- Look for any presence of ascites and note down whether seen or not

The above is an actual liver fibrosis score for degree of cirrhosis in any patient. No need to provide a score. Just provide the above information. This is not necessary for fatty infiltration unless a request has been made for liver chirrhosis, either query chirrhosis or degree of cirrhosis or HCC etc. This assists in evaluation and staging of fibrosis and cirrhosis.

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## Morphology Ultrasound



## Ultrasound Protocol

### MORPHOLOGY ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

- Previous ultrasound results to be obtained if available
- Fetal number to be determined

#### Measurements to be included:

- Biparietal diameter
- Head circumference
- Abdomen circumference
- Femur length
- Estimate fetal weight
- Fetal heart rate
- Cervix
- Nasal bone
- Ventricle
- Cerebellum
- Cisterna magna
- Nuchal thickness
- Humerus
- Placenta location and distance from cervix
- Head structures should include: falx, cavum septum pellucidum, skull bones, choroid, ventricles, cerebellum, cisterna magna and nuchal fold
- Face structures: orbits, lenses, lips/nose, nasal bone, jaw and profile
- Heart: 4 chamber, LVOT, RVOT, 3vv, arrowhead, aortic arch, ductal arch, IVS and position
- Abdomen: diaphragm, stomach, right and left kidney, bladder and cord insertion
- Cord: 3 vessels
- Spine: coronal, sagittal, can include axial views in heart, bladder and abdomen images, ensure the spine is viewed in axial (image separately if abnormal) skin line
- Limbs: 12 long bones, hands, feet and position of joints
- Assess amniotic fluid visually, measure if appears abnormal
- Check echogenicity of bowel

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## Pelvic Ultrasound



## Ultrasound Protocol

### PELVIC ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

#### Uterus

- Long image including uterus, cervix and endometrium
- Right and left images
- Trans and long images for volume measurement, do not include cervix in uterus volume
- Measure endometrium, colour doppler of uterus/endometrium

#### Cervix

- Separate image of dedicated long and trans of cervix

#### Ovaries

- Long and trans of both ovaries, include measurement and volume, apply pressure with transducer to check if mobile or painful, if images of ovaries are unable to be obtained in trans abdominal, adnexal images to be obtained instead and transvaginal images to be obtained if able, otherwise more adnexal images
- LIF and RIF assessed and images taken. Trans only image needed if normal for each side
- Criteria to be used for polycystic ovary is when there are more than 25 follicles present in the ovary

#### Mirena Present?

- check the position of the mirena, also include a measurement from the distal end of the mirena to the fundal wall of the uterus and mention this distance in your report

#### Assisted Pregnancy (patient trying to fall pregnant)

- include the length of the endometrium.
- Kidneys can be scanned routinely or at the very least should be scanned if there is any pelvic pain

#### Transvaginal Ultrasound

- Sonographer, male or female, can insert the probe into the vagina or can ask the patient to insert the probe herself. The patient, particularly with a male sonographer, is first asked if she would prefer to insert the probe herself. By doing it this way the patient can remain covered and unexposed. The sonographer can then guide the probe where needed once inserted. If the sonographer does not wish to insert the probe at any time then the patient is asked to do so. Every effort is taken to ensure the patient is able to do so easily. Some elderly and obese patients have difficulty and may need to be helped in sitting up to do so. Remaining professional at all times is in this regard. All male sonographers need to have a female staff chaperone present for the whole transvaginal procedure
- If prolapse indicated, then transperineal scan per protocol
- Patient's over 55 or who have a likelihood of having a pelvic organ prolapse (rectal, bladder, uterus or enterocele) and who have consented to a transvaginal scan may be offered a transperineal scan to check for any pelvic organ prolapse. This is performed with a gloved curved abdomen probe. The patient is asked to strain or bear down which may elicit a prolapse. Any organ which moves below the anterior symphysis pubis is a prolapsed organ. Images representing same are provided on the next 2 pages
- Worksheet to include whether uterus is anteverted or retroverted, pre or post menopausal, and what contraceptive or HRT the person is on, any abnormalities to be included

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RMI Protocol 2012

Page 1

Revise 10/05/2022

series by the authors (unpublished results). No data is yet available for interobserver variability of the other ultrasound parameters determined in this study.

We used Spearman's rank correlation coefficient to test ICS prolapse quantification data against ultrasound measurements. For comparing the results obtained with both methods and clinical staging we employed percentage of variation analysis through the use of multinomial logistic regression models.

**RESULTS**

Clinical staging and ICS coordinates were obtained for all 145 patients, as were ultrasound coordinates for descent of the anterior and posterior vaginal walls.

Sixty-two patients had undergone a hysterectomy. In 15 of the remaining 83 patients, the uterus was not clearly imaged (18%). Twelve of these occurred in the initial unblinded phase; only three uteri could not be imaged amongst the 104 patients of the blinded phase. All women in whom the uterus could not be clearly seen had values of  $\geq -5$  documented for point C on ICS assessment. In seven patients, ICS grading of central compartment descent was unavailable.

Posterior vaginal wall prolapse was defined as an ultrasound coordinate describing the lowest point reached by

either rectocele or enterocele. Three times an enterocele obscured the rectal ampulla. In all other 142 patients it was possible to image the rectum. Descent of the cul de sac (i.e. an enterocele) was more prominent than descent of the rectal ampulla in 21 of 145 patients (14.5%), and in these patients the coordinates of the leading edge of the enterocele were used to describe maximum posterior vaginal wall prolapse. Figures 2–5 illustrate the ultrasound appearances of anterior, central and posterior compartment descent.

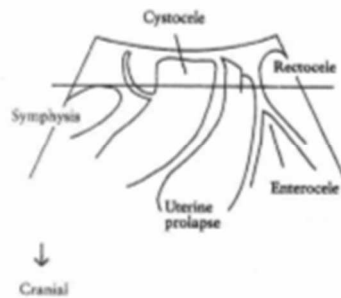


Figure 1 Quantification of female pelvic organ prolapse by translabial ultrasound (mid-sagittal view).

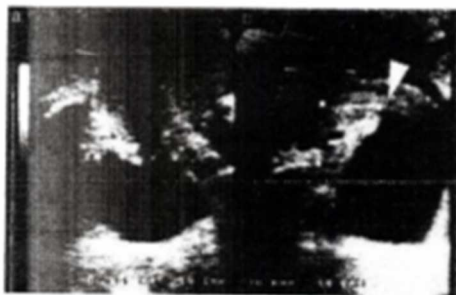


Figure 2 Anterior vaginal wall prolapse (cystourethrocele, arrow), at rest (a) and on Valsalva maneuver (b). The calipers measure the bladder neck position.



Figure 3 Uterine prolapse after Burch colposuspension, at rest (a) and on Valsalva maneuver (b).



Figure 4 Posterior vaginal wall prolapse: rectocele (arrows), coexisting with large cystocoele, at rest (a) and on Valsalva maneuver (b).



Figure 5 Posterior vaginal wall prolapse: enterocele (arrows), outlined by fluid in pouch of Douglas, at rest (a) and on Valsalva maneuver (b).



## Renal Ultrasound



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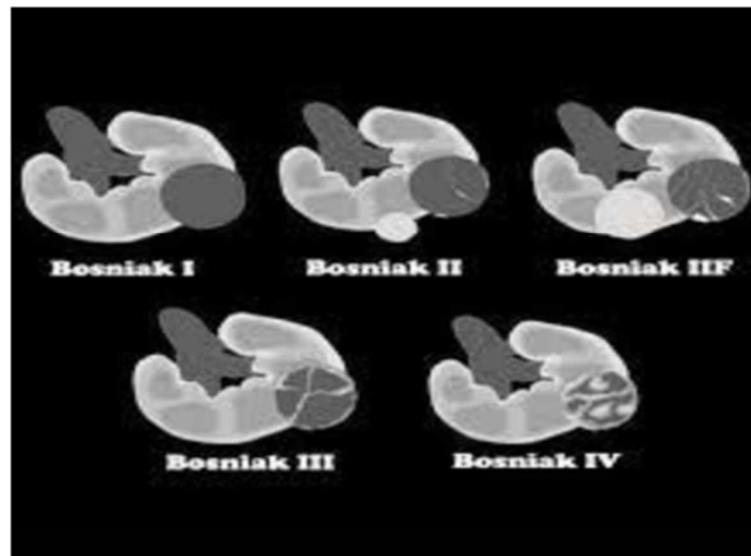
## Ultrasound Protocol

**RENAL ULTRASOUND**

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

**Bosniak Cyst**

- If more than a simple cyst it needs to be categorized as to which type of Bosniak Cyst
- Unsure as to which type of Bosniak cyst, describe the cyst and its internal contents e.g. multi septate etc



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## Scrotal Ultrasound



Rural Medical Imaging

### Ultrasound Protocol

## SCROTAL ULTRASOUND

*The technician should seek guidance from the supervising medical practitioner being the reporting Radiologist, when the technician is not completely certain of what they are looking at on ultrasound and a senior ultrasound technician was either not available for assistance or was unable to assist with clarification.*

- Both testes to be assessed in longitudinal and transverse planes and measured in two planes for volume measurement
- Upper, lower, medial and lateral images to be obtained on both sides
- Colour and or power doppler assessment for vascular flow in each side
- One image for comparison of both testes
- Epididymis head, body and tail to be imaged and measured/power doppler if abnormal
- Abnormal findings in the scrotum needs to be measured in 3 planes if possible and power doppler or colour doppler used
- Check veins, amount of fluid present in the scrotum and area of spermatic cord

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## Original Files

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i	Protocol Abdomen
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