Suffolk GP FEDERATION

PROTOCOLS FOR GENERAL MEDICAL AND GYNAECOLOGICAL ULTRASOUND

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1.1	23rd March 2017	Adding version control
1.2	16th May 2017	Walton Surgery added to header
1.3	12th September 2017	Walton Surgery removed from header

PROTOCOLS FOR GENERAL MEDICAL AND GYNAECOLOGICAL ULTRASOUND

Duties as a Registered Professional.

All Sonographers are expected to be registered with the Health and Care Professions Council, HCPC. They are expected to comply with the standards of conduct, performance and ethics as laid down by the HCPC and outlined in 'Your duties as a registrant. Standards of conduct, performance and ethics'. HCPC 2016.

Unless otherwise stated, the protocols herewith have been agreed in conjunction with Dr S Garber, Consultant Radiologist at Ipswich Hospital Trust.

SAFETY.

Safety in practicing ultrasound must be a priority at all times.

Sonographers have a duty of care to their patients at all times ensuring that:-

- All equipment is inspected on a regular basis checking for signs of damage and regular quality assurance QA tests are performed – please see QA test guidelines document.
- Users of the equipment are responsible for ensuring that ultrasound units are regularly cleaned and disinfected where appropriate to minimise the possibility of cross infection – please see infection control guidelines and probe decontamination guidelines, Appendix 2.
- ALARA principle in scanning should be employed at all times, (As Low As Reasonably Achievable), and no examination should be performed without clinical indication.

Acceptance criteria for ultrasound referrals

All requests should come from recognised referrers and be on an appropriately completed referral form: e.g. General Medical Practitioners, Advance Practitioner Registered Nurses.

Inappropriately, ambiguous or illegible referrals should be returned to the referrer at triage for completion or clarification prior to acceptance and the examination being booked and performed.

Where examinations are requested for follow-up purposes it is acceptable for the examination to be confined to the appropriate limited area only: e.g. ovarian cysts, renal cysts, renal angiomyolipoma.

Sonographer reporting.

"The College believes that it is now incumbent on all Radiographers to include image interpretation, reporting, and making informed clinical comments on the examination

they conduct to the patients, other clinical colleagues and to the referrers." (CoR, p9 2005)

As reporting has been increasingly undertaken by specially trained Radiographers and Clinicians, The Royal College of Radiologists has felt it important to set standards of what is required in an imaging report, whoever was issuing that report, (RCR, p5, 2006).

"The purpose of an imaging report is to provide a specialist interpretation of images and relate findings, both anticipated and unexpected, to the patient's current clinical symptoms and signs in order to diagnose or contribute to the understanding of their medical condition or clinical stage. It often incorporates advice to the referring clinician on appropriate further investigation or management", (RCR, p6).

The report constitutes a clinical opinion on the examination and should therefor convey a knowledgeable and reasoned assessment of the examination and its contribution to its overall management of the patient, (RCR, p8 2006).

The usual format will include

- Clinical detail.
- A description of the findings.
- A conclusion or interpretation of the findings in the clinical context.

The written report should be clear and written in a way appropriate to the referrer's level of understanding and access to further imaging.

The report should be written by the Sonographer performing the examination as soon after the completion of the examination as possible.

The report should answer the clinical question whenever possible and include any other relevant findings.

The organs examined should be included in the report.

Any limitations of the examination should be clearly stated in the report including non-visualisation of any organ.

The professional status of the author of the report must be clear to those reading or receiving the report.

The Sonographer should advise the GP regarding the advisability of appropriate onward referral including advising the referrer regarding obtaining a Radiological opinion particularly when they feel further alternative imaging may be of benefit.

Communicating Outcomes to Patients and Discharge Policy

Sonographers should not normally communicate the outcomes of the ultrasound diagnostic examination to patients irrespective of whether suspected pathology has, or has not, been found.

Patients should be informed that the report from the ultrasound will be sent to the patient's practice at the end of the session via NHS email and the patient should contact their practice.

Discharge policy

- At the end of the ultrasound session report letters will be sent to referring practices by NHS email.
- All images and reports will be downloaded via the internet to Image Exchange Portal and will be stored securely on the IEP server.

AUDIT

Ultrasound provision by Sonographers will be subject to continuous ongoing audit. The purpose of the audit will be to ensure that high standards are being maintained, to identify any areas where improvement may be required to be made regarding equipment, processes, additional staff training/CPD and to continually improve the services that are provided by the service.

INFECTION CONTROL

- Good hand hygiene is the most effective method of infection control.
- Hands should be washed or cleansed with alcohol gel between every patient.
- Units should be cleaned at the end of the working day as appropriate and be left in a suitable condition for use in the next scheduled clinic.
- Ultrasound probes – including cables - should be cleaned between patients following procedure for decontamination of ultrasound probes, (Appendix 2)
- Couches should be covered by disposable paper which is change for each patient.
- Couches should be routinely cleaned with disposable clinical wipes or soap and water at the end of each clinic or more frequently as required.
- Appropriate PPE should be worn by Sonographers for Transvaginal scans, TVS.
- The TVS probe should be covered with a clean sheath for TVS .
- All contaminated clinical waste following TVS should be disposed of in Orange disposal bags.
- All general waste should be disposed of in black bags.

GUIDELINES FOR GENERAL MEDICAL AND GYNAECOLOGICAL ULTRASOUND EXAMINATIONS.

All patients referred should receive an appointment notification and a leaflet explaining the preparation for the examination.

The Sonographer should check and confirm patient ID prior to examination: patient name, address and date of birth. The procedure should be positive and active e.g. 'What is your name?' If the patient is unable to confirm these details themselves e.g. patients with dementia, learning or sensory disabilities or those who are non-English

speaking, then this should be noted on the report along with the name and role of the person who confirmed the details on behalf of the patient e.g. relative or carer. Ref: Clinical Imaging Board. Patient Identification: guidance and advice. 28.08.15

The Sonographer should confirm the patient's history including their present symptoms and their past relevant medical and surgical history.

All examinations should have representative images stored to IEP.

If the Sonographer is unsure of the ultrasound appearances or of their significance they should advise the GP to refer for a Radiological opinion.

GP's should be advised of the availability of any patient report containing urgent findings within it. The report should advise the GP regarding the appropriate onward referral of the patient.

GENERAL ABDOMINAL ULTRASOUND GUIDLINES:

RUQ/LUQ/EPIGASTRIC PAIN OF SUPECTED OR UNKNOWN ORIGIN.

Upper abdominal ultrasound preparation:

The patient should be given written instructions not to eat but fast for 6 hours prior to examination. Clear fluids and juice is allowed to be taken freely.

Include in the examination:

- Aorta
- Pancreas
- Gallbladder (if present)
- Biliary ducts including measurement of the Common Duct, CBD, and whether it is normal or dilated.
- Liver
- Kidneys.
- Spleen

If an examination of the pelvis is indicated by the clinical symptoms or ultrasound appearances and the urinary bladder is incompletely filled please advise the GP in

the report that a referral for full pelvic examination with appropriate preparation for the examination is indicated and advised.

GP requests for pancreatic cancer
If normal appearances are present report as such and no further action is necessary. If the ultrasound examination is equivocal or the pancreas is obscured by overlying bowel gas advise the GP in the report that a Radiological opinion should be sought regarding the need for possible progression to CT examination.

Gallbladder polyps.
For all polyps, single or multiple, 9.9mm and less report but there is no need to rescan.

For all polyps 10mm or greater advise the GP in the report that a surgical referral should be made.

(If findings are equivocal regarding the presence of a poly or gallstone low velocity colour Doppler may be useful to determine if flow exists in the mass).

Liver Haemangioma.
A single lesion measuring < 30mm should be reported as a probable haemangioma with a rescan arranged in 6 month time. Always ensure that the booking team are made aware of this requirement.

If there is no change in size or appearance at the 6 month follow up examination report this and state that no further ultrasound follow up is required unless new clinical symptoms or concern develop.
If there has been a significant increase in size or change in appearance report these findings and advise the GP in the report that a Radiological opinion should be sought regarding further investigation or appropriate follow up.

If there is a single lesion measuring >30mm, an atypical lesion and/or multiple lesions seen advise the GP in the report that Radiological opinion required regarding appropriate follow up and possible progression to CT examination.

Liver cysts.
Measure and document the size and appearances of any hepatic cysts. No routine follow up is required for hepatic cysts unless there are solid components seen within the cyst. In this case advise the GP in the report that a Radiological opinion should be sought regarding the need for possible progression to CT examination for further evaluation.

Abdominal Aortic Aneurysm, AAA.

AAA patient preparation:
No patient preparation is required.

In line with the AAA screening service criteria the aorta should be measured both in long section and transverse section anterior inner wall to posterior inner wall. State

how the measurement is undertaken in the report. There should be no more than 1mm variation between the two measurements.

Criteria for any follow up examinations are:

- 3cm – 4.4cm: Advise GP that a 12 monthly scan is required for reassessment of the aneurysm.
- 4.5cm – 5.4cm: Advise the GP that a 6 monthly scan is required for reassessment of the aneurysm.
- 5.5cm – 9.9cm: Advise the GP that urgent referral to the vascular services is required.
- **10cm or more – This is classed as a medical emergency.** The patient must be advised NOT to drive. If they are accompanied then they should be advised go straight to the nearest A&E department taking a sealed copy of their report. If they attend alone and are unable to contact someone immediately to transport them to hospital then an emergency ambulance should be called to take the patient to A&E for immediate assessment and opinion. The administrator should contact the patient's GP a.s.a.p. to advise them of the situation and forward a copy of the examination report.

Please see Appendix 3 for AAA flow chart.

Renal examination.

Renal and bladder ultrasound patient preparation:
The patient should attend with a full bladder unless referred for chronic renal failure or raised blood pressure when no preparation is required and the kidneys only need be imaged. We do not offer a service for renal artery assessment.

Assess and record length of kidneys.

Subjective assessment and comment should be made on renal volume and cortical thickness.

Assess bladder recording pre micturition volume if requested and post micturition volume if appropriate or requested.

Assess the size of the prostate in male patients measuring:
- On LS – AP and length, (3cm x 3cm).
- On TS – width, (5cm)
- A prostate exceeding 40mls is considered enlarged

Renal cysts

Document their size in three dimensions. Simple cysts do not require routine follow up.

All cysts which are not entirely simple follow flow chart, (Appendix 1), for appropriate follow up.

Renal Angiomyolipoma

Report a single lesion measuring <10mm as a probable angiomyolipoma and advise the patient that we will arrange a rescan in 6 months. Ensure that the booking team are made aware of this requirement.

If there is no change in size or appearance at the 6 month follow up examination state this in the report and that no further ultrasound follow up is required unless new clinical symptoms or concern develop.

For single lesions measuring >10mm or if multiple lesions are present advise the GP that Radiological opinion is required regarding appropriate follow up and possible progression to CT examination.

Testes

Testes Patient preparation:
No patient preparation is required.
Torsion of the testis is a clinical diagnosis and clinical emergency and treatment should not be delayed by awaiting and ultrasound examination.

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Check the echogenicity/size/shape of both testes and epididymis for normality, comparability and the presence of any significant hydroceles or calcification. Establish normal colour flow in both testes and epididymis. Image both testes together for comparability. Describe and measure any cysts and/or masses. Measure any varicoceles (several vessels all measuring 3mm and over are required for a positive diagnosis) using Valsalva manoeuvre if necessary. If varicoceles are present then proceed to scan both the kidneys as well to confirm normality.

Testicular microlithiasis: 5 calcified foci within the testis to classify as microlithiasis. Suggest self-examination and rescan in a year. Ensure that the booking team are made aware of this requirement.

Urgent findings should be reported and the GP advised in the report that an urgent urological referral should be made. The GP should be made aware that the report is available.

If orchitis/epididymitis is seen or suspected then the report should advise the GP of this and that a rescan in 6 weeks following treatment is required. Ensure that the booking team are made aware of this requirement.

GYNAECOLOGICAL ULTRASOUND GUIDLINES:

Gynaecological/pelvic ultrasound preparation:
Patients should be given written instructions advising that they need to attend for their examination with a very full bladder. They must FINISH drinking at least 2 pints of non-milky, non-fizzy and preferably cold fluid at least 1 hour prior to their examination. They should be informed that the examination may not be able to be undertaken if they arrive with an incompletely filled bladder.

Transvaginal examinations:

In addition to the above pelvic preparation instructions, patients may potentially require a TVS examination and for some patients a TVS examination is the examination of choice e.g. Post-menopausal bleeds, Polycystic ovaries?, endometrial polyps?, patients with a retroverted uterus. All patients should therefore also be given a written explanation of a transvaginal examination.

Both TA and TVS may be required to obtain as good visualisation and the maximum information possible.

Ultrasound reports should state whether transabdominal/transvaginal or both types of examination has/have been performed. Where TV scanning has been requested and is considered unnecessary this should be stated in the report.

TVS scans will normally be undertaken as the method of choice, or in some instances addition to TAS, for referrals querying post-menopausal bleeds, (PMB), polycystic ovaries, (PCO's), endometrial polyps, for patients with a significantly retroverted uterus and for patients attending with under filled bladders. Use of TVS in the absence of any contraindication is taken as dependent on acquisition of informed consent from the patient at all times.

Contraindications for TVS:-
- For patients who are under 16 years of age.
- For patients who are Virgo Intacta.
- For patients who are unable to understand an explanation of the procedure and who therefor are unable to give informed consent.
- Before the examination the Sonographer should confirm patient history including their present symptoms and their past relevant medical and surgical history, the patient's LMP or menopausal status, length of menstrual cycle and past and present medication.

Include in a Gynaecological examination:
- Uterus
- Endometrium
- Ovaries
- Confirm/exclude adnexal masses
- Confirm/exclude free pelvic fluid

Comment on uterine position, size and shape, myometrial texture and presence of any fibroids or suspected adenomyosis.

Comment on endometrial thickness and appearance including if the endometrial/myometrial border is indistinct.

Endometrial thickness:

- pre-menopausal 14mm or less
- Post-menopausal 4.9mm or less

Document if the patient is on HRT or Tamoxifen or if the patient has had a recent pipelle biopsy avoiding examinations for 2-3 days following biopsy.

Comment on the ovaries noting the size, shape and texture of the ovaries. It is not necessary to comment on functional cysts/follicles unless inappropriate for the stage of the menstrual cycle. A normal corpus luteum can measure up to 5cm. If cysts are not thought to be functional or are found in post-menopausal women quote size in 3 dimensions and comment on internal structure. Comment on the adnexa and POD noting size and position of any adnexal masses or free pelvic fluid.

If a pelvic mass is present examine the kidneys to exclude evidence of hydronephrosis.

For Ovarian cysts that are not thought to be functional and adnexal masses please see flow chart, (Appendix 4), for appropriate follow up.

Polycystic ovaries, (PCO).
PCO are common but this does not in itself mean that the patient has polycystic Ovarian syndrome, (PCOS). There is a tendency for ultrasound to over diagnose PCO.

PCO can be reported if:

- There are 12 or more follicles of 2-9mm in diameter and/or an increase in ovarian volume of >10mls. The presence of a single PCO is sufficient to meet the ultrasound criteria. If follicles are >10mm consider repeating in an early part of the next cycle.

Ultrasound cannot by itself confirm PCOS and two of the following are required for diagnosis:

- PCO on ultrasound.
- Oligo or anovulation.
- Clinical and/or biochemical signs of hyperandrogenism.

This definition does not apply to women on or who have recently taken the oral contraceptive pill, (OCP), as it modifies ovarian morphology.

(Azziz et al Task Force on the phenotype of the polycystic ovarian syndrome or the androgen excess and the PCOS society. 2009; 91; 456-488.)

Fibroids
Single: categorise and quote maximum diameter, (submucosal, intramural, subserosal, pedunculated).

Multiple: categorise and describe as felt appropriate.

Comment on the fibroids in relation to the endometrial cavity.

Adenomyosis
Adenomyosis is a benign condition characterised by migration of glands from the basal layer of the endometrium to within the myometrium. Its symptoms may be non-specific but typically include pelvic pain, dysmenorrhea, menorrhagia and uterine enlargement.

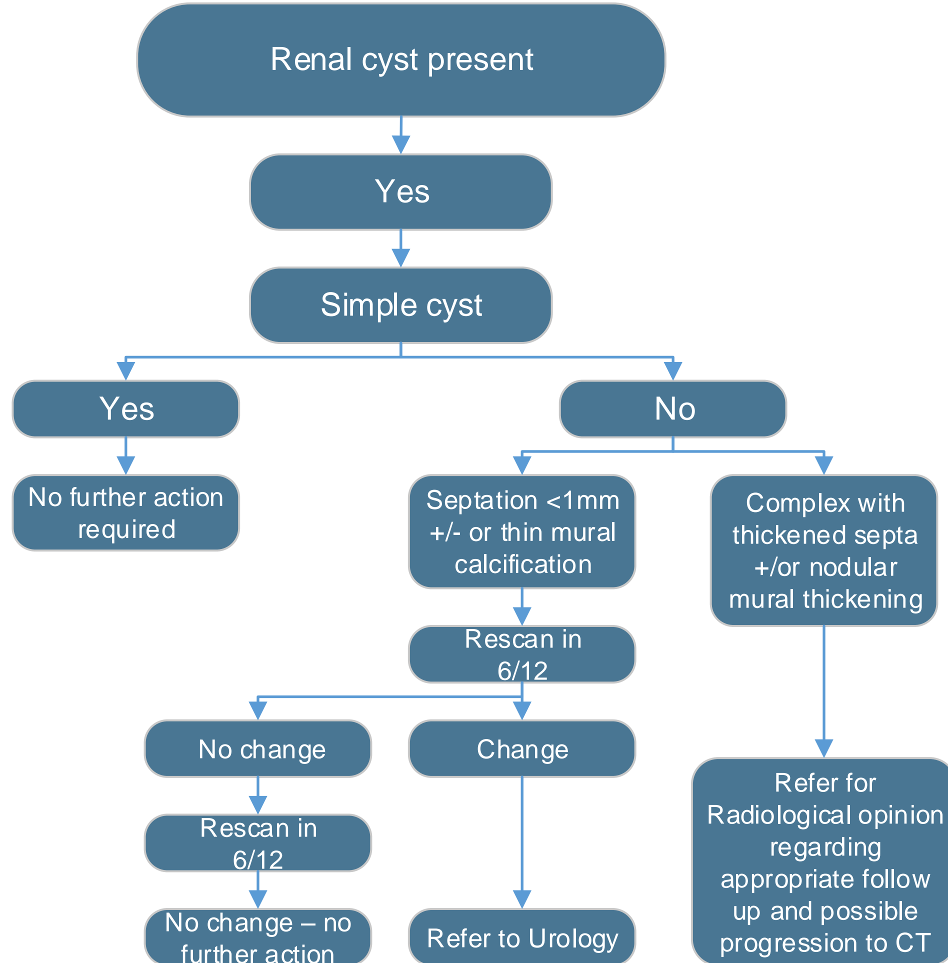
Typical ultrasound features of diffuse adenomyosis include:

- Enlarged globular uterus.
- Asymmetrical thickening of the myometrium
- Heterogeneous, coarse myometrial echotexture.
- Linear striations within the myometrium
- Tiny myometrial cysts.

Radiographics. Jan 2005; 25; 3-20.

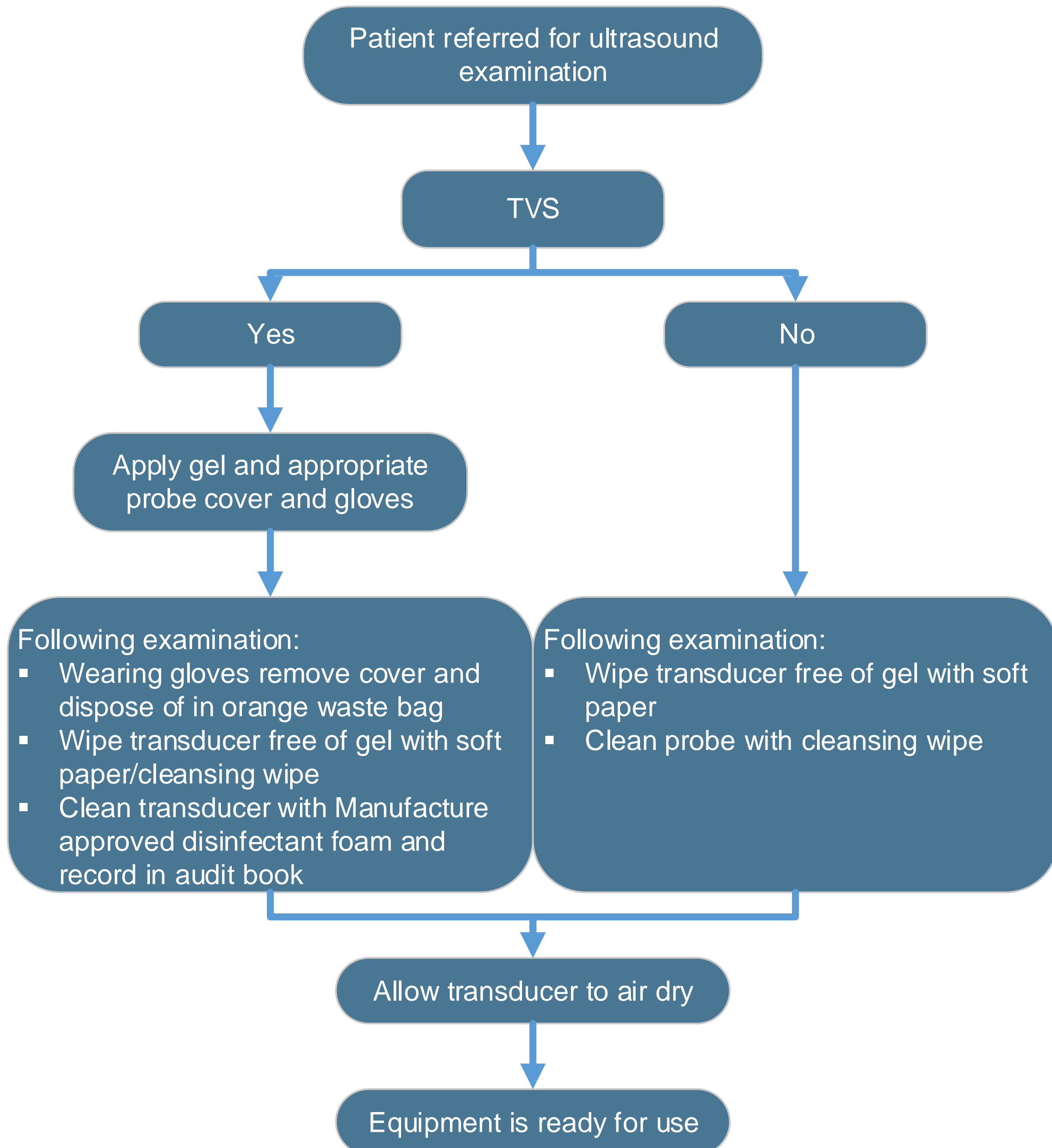
Appendix 1.

Renal Cysts



Complex with

Appendix 2.



Appendix 3.

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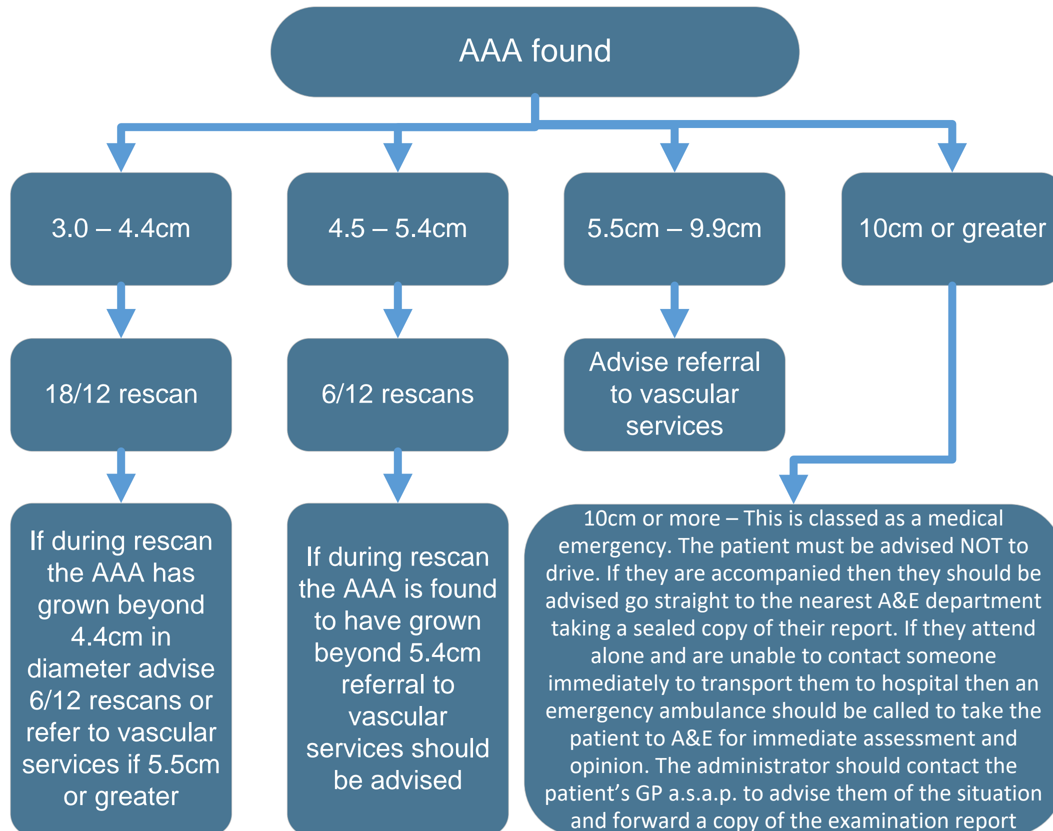
Abdomain Aortic Aneurysms



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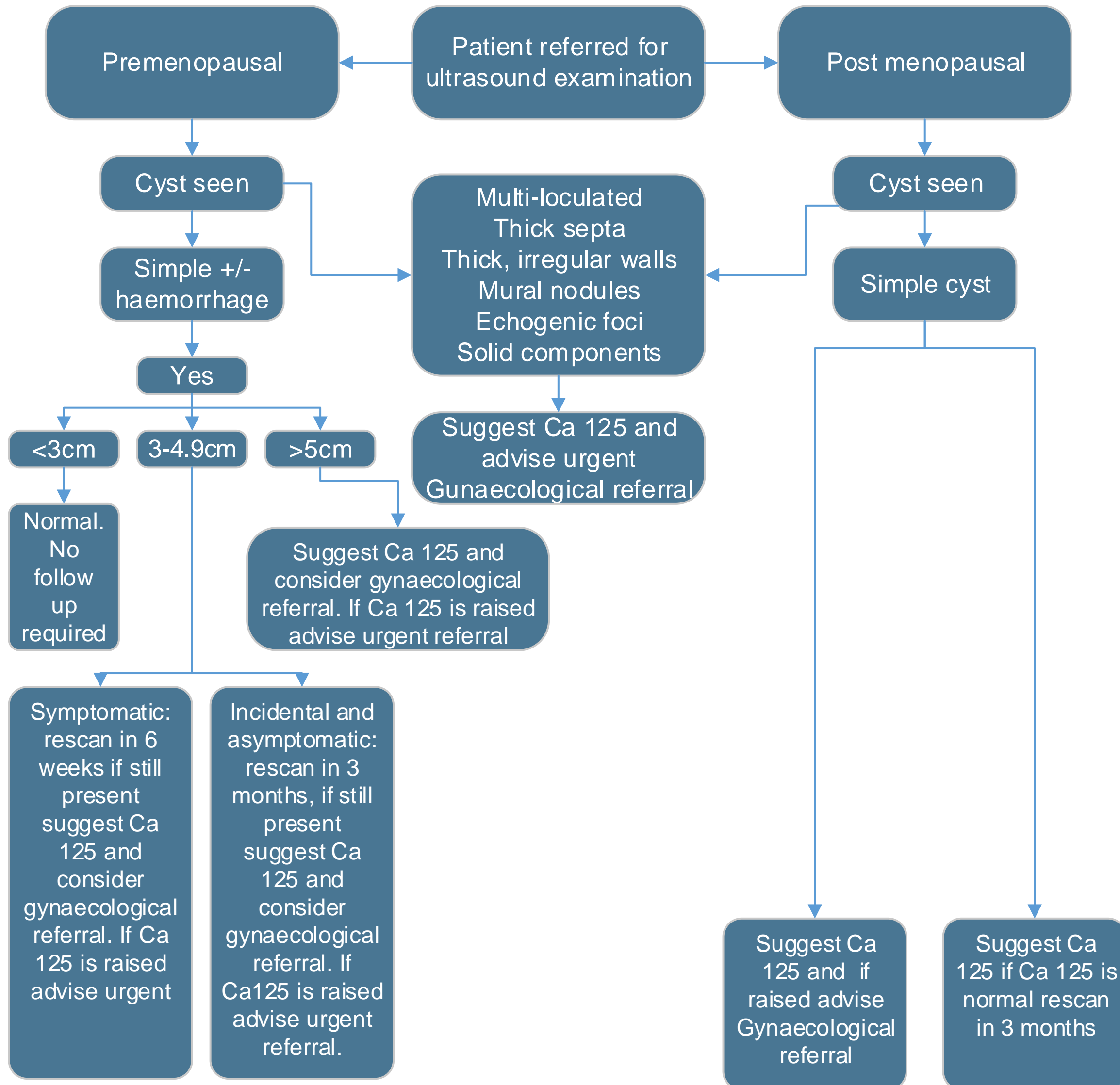
Appendix 4.



Appendix 5

Effects on the uterus and ovaries of varied methods of contraception.		
Contraception	Brand name	Action
Combined pill	Microgynon Cilest Ovranette Marvelon Yasmin Dianette *others	Contains oestrogen and progesterone which prevents ovulation, thickens cervical mucus and thins the endometrium.
Mini pill – progesterone only pill	Cerazette	The mini pill which thickens the mucus in the cervix and thins the endometrium. In some women it also stops ovulation.
Contraceptive injection	Depo-prover - lasts for 12 weeks. Noristera –lasts for 8 weeks.	The contraceptive injection which protects against pregnancy for 8 or 12 weeks depending on its type. The injection contains progesterone which thickens the mucus in the cervix and also thins the endometrium. In some women it also stops ovulation.
Contraceptive patch	Evra	Contraceptive patch which delivers oestrogen and progesterone into the body through the skin. Each patch lasts for one week. Worn for 3 out of 4 weeks. Prevents ovulation,, thickens cervical mucus and thins the endometrium.
Contraceptive implant	Nexplanon Implanon	A small tube containing progesterone inserted under the skin in the upper arm and lasting for 3 years. Slowly releases progesterone stopping ovulation,(occasional ovulation in year 3 is seen), thickening cervical mucus and thinning he endometrium.
Mirena coil	Mirena	Releases progesterone preventing proliferation of the endometrium. Thickens cervical mucus and suppresses ovulation in some women.
IUD/IUCD		Prevents sperm surviving in the cervix, uterus and fallopian tubes. May also prevent fertilised eggs from implanting.

Appendix 6.
Ultrasound Measurements

CBD:	6mm in patients with a gallbladder rising to 8mm post cholecystectomy. Add 1mm/decade for patients over 60 in the absence of pathology.
CORPUS LUTEUM:	= or < 5cm
ENDOMETRIUM:	Pre-menopausal dependent on LMP –14mm or less Post-menopausal – 4.9mm or less
KIDNEYS:	Males 10.1cm - 13cm Females 9cm - 12cm
PANCREATIC DUCT:	>3mm dilated.
PROSTATE:	On LS – AP and length, (3cm x 3cm). On TS – width, (5cm) A prostate exceeding 40mls is considered enlarged
SPLEEN:	Upper limit of normal 13cm. >13cm report as splenomegaly.
MICROLITHIASIS:	Testicular microlithiasis:5 calcified foci within the testis to Classify as microlithiasis
VARICOCELE:	Several vessels all measuring 3mm or greater. The use of the valsalva manoeuvre may be necessary to confirm the presence of a varicocele.