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GOOD PRACTICE

GUIDELINES FOR REQUESTING

ULTRASOUND EXAMINATIONS

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Contents:

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This document has been produced utilising current literature and in collaboration with the clinical teams.

The aim is to support primary care physicians and ultrasound (US) providers in the selection of patients for whom US would be beneficial in terms of diagnosis and disease management. Designed to improve clinical outcomes for patients, help triage patients to appropriate care, enable reassurance and avoid unnecessary referrals.

Based on British Medical Ultrasound Society (BMUS) recommended good practice guidelines (2015) - '*Justification of Ultrasound requests.'* The Royal College of Radiologists (RCR) and The Royal College of General Practitioners paper (2006) – '*Right test, Right Time, Right Place.'*

RCR (2007) - '*Making the Best Use of Radiology'* RCR (2012) – iRefer http://www.irefer.org.uk/

To ensure the correct test is booked the following are required on the referral:

- Specific clinical question to be answered
- Presenting symptoms
- Results of other relevant investigations
- Relevant clinical history
- Findings on clinical examination
- Mobility Consent issues

Obesity As with clinical examination there are limits to what US can detect in the obese patient. If the patient has a high BMI, US cannot penetrate to visualize the organs accurately and therefore may not be appropriate.

Family History of Cancer, with no clinical symptoms, is not an indication for a scan.

The majority of US examinations are performed by reporting Sonographers not doctors.

Suspected diagnoses must be clearly stated, not implied by vague, non-specific terms such as 'Pain, ?cause'.

Although Ultrasound is an excellent imaging modality for a wide range of diseases, there are many for which Ultrasound is not an appropriate first line test.

If the Ultrasound scan is **not clinically indicated the request will be rejected** and a letter sent to the referrer with a brief explanation. Urgent referrals that are not appropriate will also have a rejection letter sent but a telephone call will also be made to the GP surgery as to prevent any pathway delays.

If required, please contact the Radiology department as we are happy to offer advice to help ensure the correct test s performed.

Pathway flowcharts are included in the Appendices.

Ultrasound examinations covered in this document:

- Head and Neck
- Renal tract
- Abdominal
- Groin Hernia
- Scrotum
- Musculoskeletal (MSK)
- Non-Obstetric female pelvis
- Axilla/Breast

Head and Neck Ultrasound

Indication	Comments
Lumps *Palpable neck mass of unknown origin including new thyroid lumps*	Refer to Head and Neck service
Thyroid Nodules	Extremely common and most benign Refer to Head and Neck service
Abnormal thyroid function tests	**Not indicated** Refer to appropriate clinician/endocrinologist
Salivary gland obstruction	Maybe useful in the assessment of intermittent, food related salivary gland swelling
Painful swallowing/Difficulty swallowing Feeling of something in the throat	**Not Indicated**
Parathyroids	**Not indicated** Refer to appropriate clinicians
Carotid Arteries	Not offered as a direct test as form part of a specialist clinical assessment
FNA	**Not indicated** Refer to appropriate clinician

Breast & Axilla

Lumps/masses in the breast or axilla are to be referred to the breast clinic via 2ww pathway.

If there is any concern or doubt please contact the Breast Centre for further advice.

Renal Tract Ultrasound

Indication	Comment
Pain:	
Acute Renal Colic	**Not indicated** – refer to specialist
Chronic Loin Pain	Indicated
Urinary tract infection:	
First Episode	**Not indicated**
Recurrent (>3 episodes in 12 months) with no underlying risk factors	Indicated
Non responders to antibiotics	Indicated as long as proven UTI's or pyuria
History of stone or obstruction	Indicated
Paediatrics	Follow NICE guidelines CGS4
Haematuria:	
Frank/visible	**Not indicated** – refer to specific NICE guidelines
Microscopic	Indicated >60yrs microscopic haematuria in absence of UTI is a 2ww refer
Hypertension	**Not indicated** – Refer to appropriate clinician Suspected reno-vascular hypertension – refer to appropriate clinician RAS (renal artery stenosis) not offered
Deteriorating renal function: to exclude obstruction	Indicated
Lower Urinary Tract Symptoms	**Not Indicated**

Abdominal Ultrasound

Indication	Comment
Abnormal/Altered LFT's *(Further info must be stated in referral)*	Specific LFT results required Single episode – **not indicated, otherwise discuss with GI team for most appropriate investigation**
Raised ALT (other LFT's normal) *(Further info must be stated in referral)*	Further information required **Not indicated** – in patients with high risk factors (DM, obesity, statins and other medication affecting the liver Indicated – persistent raised ALT (3-6 months)
Jaundice	Must state if painless or not Painful – indicated with simultaneous surgical referral Painless – 2ww referral
Suspected Gallbladder disease	Indicated – Pain plus fatty intolerance and/or dyspepsia
Gallbladder polyp follow up	**Not indicated**
Ascites Bloating/Abdominal distension	Usually due to liver or heart failure or malignancy. Ultrasound not needed, request secondary care opinion. **Not indicated** – if only symptom Indicated – with palpable mass
Altered bowel habit Diverticular disease Irritable Bowel syndrome	**Not Indicated**
Diabetes	**Not indicated** – no role in management of diabetes. Up to 70% patients with DM have a fatty liver with raised ALT

Groin & Hernia Ultrasound

Indication	Comment
Reducible Hernia	**Not indicated** Surgical referral
Irreducible Hernia	**Not indicated**
Known Hernia	**Not Indicated** Requires a surgical opinion to decide on further management
Persistent non-specific groin pain	Maybe indicated if all MSK aetiologies excluded.
In most cases groin hernia are clinically palpable and reducible with no need for diagnostic imaging (European Hernia Society 2009) British Hernia Society – Commissioning guide 2016 states "diagnostic imaging should not be arranged at primary care level" Small asymptomatic/minimally symptomatic groin herniae do not necessarily require surgery, as observation has been proven to be adequate; consequently, if another cause has been attributed for the groin pain (e.g. lumbar spine or hip) there is no need to investigate further.	

Scrotum Ultrasound

NO imaging without physical examination by a clinician

Indication	Comments
INTRA-testicular lump	**Indicated** Intratesticular change raises the suspicion of malignancy – urgent referral needed
Small Lumps separate from testis	**Not indicated -** These are common and are not testicular cancers
Lumps where it is uncertain whether they are intra or extra testicular	**May be indicated.** Cancers occur within the substance of the testis. Adherent lumps or those on the surface of the testis are not cancer however and do not usually require imaging.
Pain/trauma	**May be indicated -** Consider Urology opinion
? Epididymal cyst , ?Varicocoele ?follow scans to reassess previously scanned cysts	**Not indicated** unless symptomatology is significant enough to consider surgery.
? Epididymo orchitis	**Not indicated** acutely if clinical diagnosis is clear. May be useful in follow up after treatment if signs slow to resolve.
Pain and epididymal swelling in patients who have had a vasectomy in the past	**Not indicated**. These symptoms are extremely common and there is no specific treatment other than anti inflammatory drugs or antibiotics.
Patient Reassurance for various signs and symptoms not included in this list	**Not indicated** unless exceptional circumstances.
Suspected Torsion	**Not indicated.** Ultrasound cannot usually make this diagnosis. Emergency urology referral needed
Palpable mass on penis	**Not indicated.** US unhelpful**.** Urology referral
Absent/undescended testes in childhood	**Indicated** as part of a urological work up**.**
Skin lesions in the scrotum	**Not indicated**

Non-Obstetric Female Pelvic Ultrasound

Indication	Comments
Family history of Ovarian Cancer	**Not indicated** unless clinical suspicion (see below)
Suspected Ovarian Cancer Usually >50yrs. Think BEAT • **B**loating (persistent not intermittent) • **E**ating trouble (full after small meal) • **A**bdominal pain • **T**rouble with bladder (e.g. frequency)	Ca125 and clinical examination first **Raised Ca125** – 2WW gynaecological (GYN) referral indicated **Normal Ca125**- consider gynae referral if examination unclear and especially if >50yrs
Post-menopausal bleeding (PMB)	**Direct 2ww GYN to PMB clinic** for assessment – no separate US request should be made
Pain Chronic pain (greater than 6 months) with negative pregnancy test	<u><50yrs</u> Not indicated as only symptom <u>>50yrs</u> Maybe indicated as likelihood of pathology is increased. Specific clinical question required.
Pain **with** • Palpable mass • Raised CRP or WCC • Nausea/vomiting • Menstrual irregularities • Dyspareunia >6 weeks duration	Specific clinical question/differential diagnosis required Addition of another clinical symptom justifies the request Deep dyspareunia may be indicated as may offer reassurance but low sensitivity for endometriosis
Irregular bleeding – normal examination	**Not indicated** – NICE guidance CG44-2007
Painful Periods –normal examination	Pharmaceutical treatment then reassess If unsuccessful >45yrs- GYN referral <45yrs –US scan indicated
Mild Pelvic pain	**Not indicated**
Polycystic Ovary Syndrome (PCOS)	**Not indicated** Only useful investigating infertility and often done as pre-fertility investigations Diagnosis of PCOS should be based on : • Oligo/amenorrhoea (greater than 5 weeks apart) • Clinical symptoms and signs of hyperandrogenism • Biochemical evidence of hyperandrogenism- raised free androgen index (testosterone is often the upper

	limit of normal) • > 8yrs post-menarche
Acute Pelvic Infection (maybe tender on examination)	**Not indicated**
Follow up benign lesions e.g. fibroid, dermoid, cyst	**Not indicated** No role for US in follow up or treatment management Only rescan if clinical change occurred
Infertility	Gynaecological referral
Retained products of conception	**Not indicated before 4 weeks**
Leg swelling	Pelvic ultrasound not pelvis and abdomen

Musculo-skeletal Ultrasound

Presently this service is **NOT** offered for GP referrals and patients with MSK symptoms need referral to Trauma and Orthopaedic service.

Lumps and Bumps

Indicated if:

- >5cm
- Deeply located
- Rapid Growth
- Symptomatic
- Recurrence after previous resection

Not indicated:

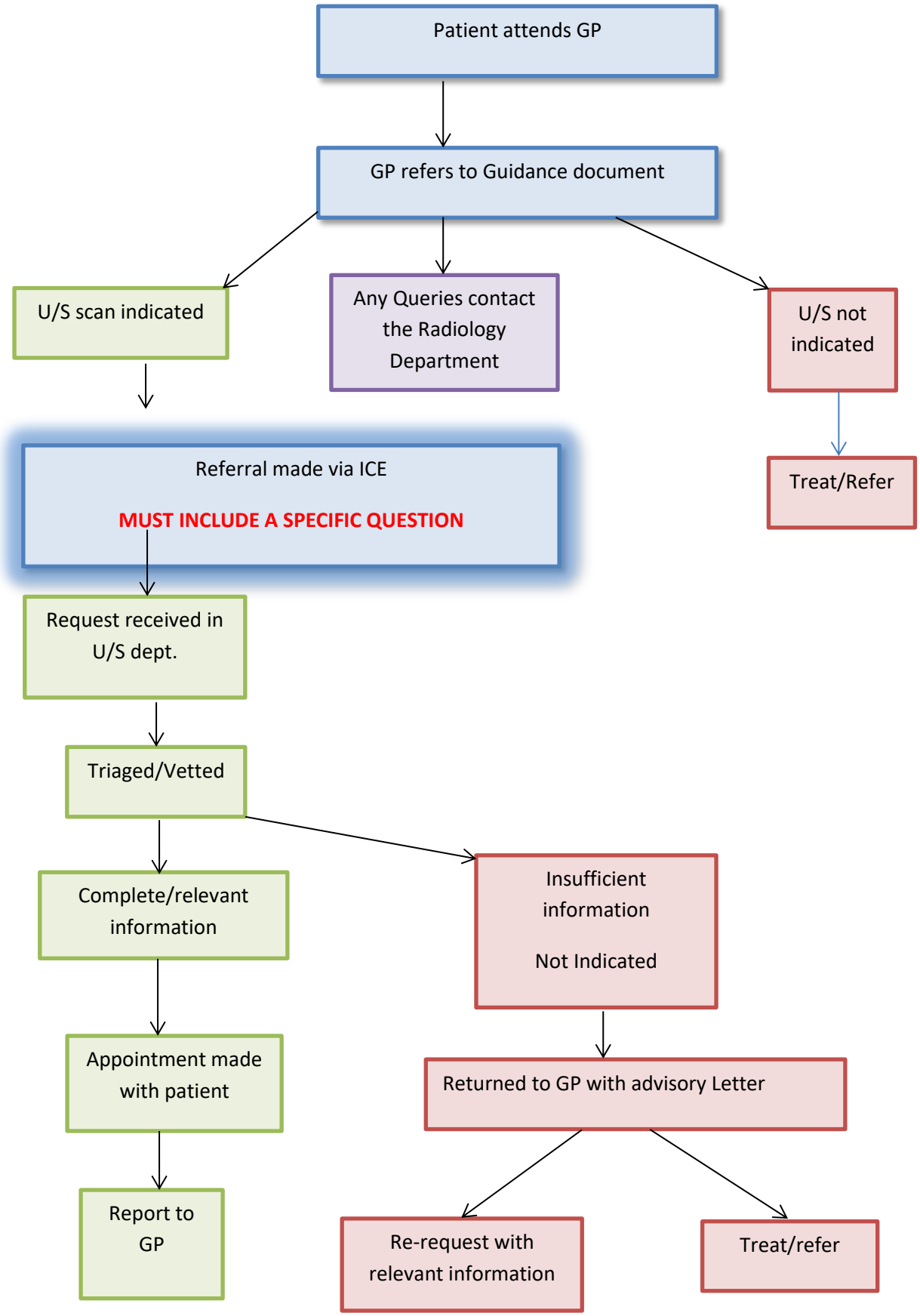
- Less than 5cm and superficial to deep fascia
- Documented no change in size over 6 weeks

References:

1. A guide to justification for clinical radiologists, ref no: BFCR (00)5, RCR, Augusts 2000
2. BMUS recommended good practice guidelines. Justification of ultrasound requests.
3. NICE guidelines
4. RCOG guidelines

5. Guidelines for professional ultrasound practice, Dec 2015, Society and College of Radiographers and BMUS.
6. https://www.rcseng.ac.uk/standards-and-research/commissioning/commissioning-guides/topics/
7. https://www.nice.org.uk/guidance/ng12/chapter/Recommendations-organised-by-symptom-and-findings-of-primary-care-investigations#primary-care-investigations
8. RCR (2007) - '*Making the Best Use of Radiology*' RCR (2012) – iRefer http://www.irefer.org.uk/

Appendix 1: Patient Pathway



	NO	Yes
Abdomen	Gallbladder polyp Generalized abdo pain Bloated ?distension if only symptom Altered Bowel Habit Diabetes	Abnormal LFT's -symptomatic or persistent Jaundice - state if painless or not Gallbladder disease Ascites
Head and Neck	Lumps and Bumps Thyroid nodules Abnormal Thyroid function	Salivary gland obstruction Painful Swallowing/Difficulty Swallowing Parathyroid Carotid arteries FNA
Renal Tract	Acute renal colic UTI first episode Hypertension Renal artery stenosis LUTs	Chronic renal colic Recurrent UTI's Non responders to antibiotics History of stone or obstruction Paeds refer to NICE guideline CGS4
Scrotal/Penis	Small lumps **outside** the testis in the epididymis Subcutaneous Lumps and pea sized nodules Reassurance Palpable mass on Penis Variocoele Awareness of symptoms post vasectomy	Palpable Masses >1.5cm Asymmetry Persistent pain

Groin/Hernia	Reducible Irreducible	Occult groin hernia
Female Pelvis	Family history PMB - refer to PMB clinic <50 yrs. Pain if only symptom Irregular bleeding - NICE CG44-2007 Painful period - pharmaceutical treatment & reassess Mild pelvic pain PCOS Acute pelvic pain Follow up of benign lesions e.g. fibroids Infertility - gynae referral RPOC < 3/52	Suspected Ovarian Cancer - think BEAT Raised Ca125 +2ww gynae referral >50yrs Pain with palpable mass, raised WCC/CRP, Nausea/vomiting, menstrual irregularities & dyspareunia >6/52 Painful periods with no relief from pharmaceuticals Leg swelling