RBH GUIDELINES FOR ULTRASOUND REFERRAL

Introduction
Ultrasound can be very useful as a first line investigation; it is typically non-invasive and does not involve ionising radiation.

However, a significant minority of requests are received where ultrasound is very unlikely to be helpful; this prolongs waiting times for all and can even delay some patients from being referred for a more appropriate test, thereby actually delaying their diagnosis. In addition, the clinical history given is sometimes so limited that it is not possible to either justify the request nor to offer the highest quality of report.

The background to these guidelines is based on the Royal College of Radiologists and Royal College of General Practitioners paper (2006), entitled “Right Test, Right Time, Right Place” and also Making the best use of Radiology, RCR 2007 and iRefer (RCR) 2012: These guidelines are now available free online – search for “iRefer rcr”. We have taken these guidelines and combined them with more recent literature and collaboration with clinical teams at RBH.

As a rule of thumb, please ask yourself: -
“How will an ultrasound change my patient’s management?”
If you aren’t sure, then please seek a second opinion from a GP colleague, sonographer or radiologist.

To ensure that the correct test booked on the correct ultrasound list is offered, the following are required please:-
- Full legible presenting symptoms
- Results of any other relevant investigations
- Relevant past history
- Findings on clinical examination
- Differential diagnosis

Many requests currently do not provide this information. If these details are not given, a suboptimal test may be performed or indeed sadly the card may even be returned seeking more details, leading to delays in diagnosis for your patient.

It is our medicolegal responsibility to justify the indications for an ultrasound scan; if the clinical details are not considered to merit an ultrasound examination, the request will be returned to the referring practitioner with a brief written explanation. Please understand that the aim is to make the best use of the test with the best outcome for the patient and not to hinder good quality care - we appreciate your help.
If you are uncertain if ultrasound will be useful, please ring the ultrasound department to seek advice (0118 322 7938) or ring or e-mail one of the radiologists. We would rather offer advice and perform the appropriate examination. Routine ultrasound appointments are typically performed within 4 weeks.

**Urgent requests**
If you have a patient whom you feel merits a more urgent ultrasound, please call the Ultrasound Department directly to discuss the indications for an urgent scan with either a Sonographer or Consultant Radiologist, on 0118 322 7927.
We understand that there are relatively few occasions when a patient might need an ultrasound to be performed urgently within 24-48 hours, and not be admitted, but we do aim to offer this service.

**Obesity.** As with clinical examination, there are limits to what ultrasound can detect in obese patients; if the patient has a high BMI, ultrasound cannot penetrate the adipose tissue to visualise the solid abdominal organs accurately and therefore might not be appropriate.

**Ultrasound of head and neck / thyroid**

**Lumps**
Any palpable neck mass of unknown origin, including new thyroid lumps, should be referred to the new 'Lump in Neck Clinic' (LINC) run by the ENT Department.

**Thyroid gland**
Thyroid nodules are extremely common and most are benign. Any new palpable thyroid mass or swelling should be referred to the 'Lump in Neck Clinic' in the first instance.

Abnormal thyroid function tests should be referred to an appropriate clinician/endocrinologist and **not** for an ultrasound scan.

The new iRefer guidelines (Royal College of Radiologists, 2012) concur that ultrasound remains the best investigation to distinguish between thyroid and extrathyroid masses, however referral to one of the above clinics for evaluation of any new lumps is typically recommended first.
Salivary Gland Obstruction
Ultrasound may be useful in the assessment of intermittent, food-related salivary gland swelling.

Not indicated:  Painful swallowing or swallowing difficulties
                Feeling of something in the throat

Ultrasound carotid arteries
Ultrasound imaging of carotid arteries forms part of a specialist clinical assessment and is not offered as a direct access test.

Ultrasound Abdomen

Indications:
- Suspected cholelithiasis
- Persistently abnormal LFTs (not slightly elevated GGT)
- Evaluation of mass lesions/organomegaly
- Ascites
- Evaluation of pulsatile abdominal mass

Not indicated:
- Screening test for vague abdominal symptoms, such as swelling, diffuse abdominal pain, excess wind etc
- Nausea & vomiting
- Left sided abdominal pain
- Diverticular disease
- Irritable bowel syndrome
- Pregnancy (obstetric referral)

For evaluation of jaundice, please contact the Jaundice Hotline - Fax to 0118 322 8736 or page the GI Registrar on 191.

In the absence of a clinical abnormality or a specific indication, ultrasound is unlikely to be helpful in investigating left upper quadrant pain, lower abdominal or pelvic pain in males.

Ultrasound is not the investigation of choice for imaging of the GI tract and cannot exclude a bowel tumour.
Ultrasound of the pelvis

- **The Dept of Gynaecology** has its own separate ultrasound unit. Patients with gynaecological or pelvic symptoms, who are being referred for a specialist gynaecology opinion, should **not** be referred to Radiology for a separate or duplicate ultrasound scan, as they will typically be scanned before or at their Gynaecology Clinic appointment. The Gynaecology team would prefer to see their own referrals and to perform their own ultrasound scan.

- **Gynaecology follow-up scans:** those patients already scanned in the Gynaecology Department, should be re-referred directly to Gynaecology (not Radiology) to ensure continuity of care.

- **Infertility and post-menopausal bleeding Gynaecology clinics:** patients with these symptoms should be referred to the relevant Gynaecology clinics and should **not** be referred to Radiology.

**Indications (Radiology referrals):**
Dedicated **transvaginal ultrasound** will typically be performed, when deemed appropriate, for the following indications:

- Bloating, increased abdominal girth
- Follow-up of ovarian cyst
- Polycystic ovarian syndrome

Please forewarn your patients! Your patients will not routinely be required to attend with a full bladder. These scans are performed by both male and female sonographers and radiologists.

Exceptions when trans-abdominal ultrasound will still be required: intact hymen; uterine fibroids; clinical finding of ascites; inability to give consent.

**Ovarian cancer**
We consider the NICE guidelines to be misleading and non-specific, as ultimately, irrespective of the CA 125 level, ultrasound can be requested. We will therefore accept referrals where there is concern of ovarian cancer, but will please require **clear written details** of:

- Presenting symptoms and exclusion of other causes (lower GI)
- Relevant past history
- CA 125 result or that it has been requested (we can look it up)
- Clinical findings on **obligatory** abdominal and ideally PV exam.

**Ovarian cancer screening** - Ultrasound is **not** indicated in healthy individuals for ovarian cancer screening, as it sadly cannot exclude this disease and there is no current evidence that it is of any benefit.
Polycystic ovarian syndrome.

- GP must have blood results prior to a scan being requested.
- The “2 out of 3 rule” applies: if the patient has positive symptoms and positive blood results, then an ultrasound scan is not required.
- Any ambiguity in blood results with positive symptoms, proceed to scan.
- Please do not refer patients who are using hormonal methods of contraception or have been pregnant in the last 6 months, as the scan is of no value in this group.

Ultrasound renal tract

**Indications**

- Microscopic haematuria
- Chronic loin pain
- First UTI in a male
- Recurrent/persistent UTI in a female
- Deteriorating renal function: to exclude obstruction
- Initial investigation for renovascular hypertension.

**Not indicated**

- Acute renal colic - refer for CT KUB (separate protocol)
- Frank haematuria - refer directly to Urology.

**UTIs in children:** please follow NICE guideline CG54 (click on algorithm)

Ultrasound scrotum

Any scrotal mass which raises the suspicion of malignancy should be referred directly to the Department of Urology.

**Indicated**

- Intratesticular lump or uncertainty about whether a lump is intra- or extratesticular.
- Impalpable testis, with hydrocoele of recent origin.

**Not routinely indicated**

- Extratesticular lump with normal testis
- Subcutaneous lumps/ pinhead sized nodules - these are common and are not testicular cancers.
- Contd,
Not routinely indicated, contd.,

- Testicular/epididymal pain and normal examination - recognising that ultrasound may be helpful for reassurance when symptoms are persistent.
- Suspected torsion - requires urgent urological referral.
- Re-assurance scans, with normal examination

Ultrasound of Groin Hernia

In most cases, groin herniae are clinically palpable and reducible with no need for diagnostic imaging (European Hernia Society 2009).

Furthermore, 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.

Indicated:
- only clinically 'occult' groin herniae should be referred for ultrasound assessment of the groin.

Not indicated:
- Reducible hernia in the groin, which requires surgical referral.
- Irreducible herniae - these require urgent surgical referral and not an ultrasound scan.
- Known herniae which require surgical opinion to decide upon further management.

Musculoskeletal ultrasound

Most musculoskeletal problems are best managed by specialist referral, since the significance of ultrasound findings in problems, such as suspected rotator cuff tears, is best assessed in the context of a specialist clinical examination.

Contd.,
Soft tissue lumps
Ultrasound will distinguish between solid and cystic soft tissue masses, will demonstrate whether a mass is well or ill defined and if is vascular or not, but sadly ultrasound does not characterize tissue type.

Not indicated:
- It is doubtful that referral of established soft tissue swellings, which are clinically lipomata, will alter management, unless they are confirmed to be enlarging or painful.
- Ganglion confirmation

Ultrasound is very unlikely to be helpful in the assessment of a diffuse soft tissue swelling. If a mass is larger than 6cm, it warrants a direct referral for a surgical opinion.

For specific areas and for a GP with specialist experience, the following is a list that we believe may justify ultrasound referral: -

Shoulder
The RBH Orthopaedic Shoulder Unit perform ultrasound as part of their clinic examination; if a patient is felt likely to require an orthopaedic opinion, please refer straight to their clinic; this will also reduce the time to surgery for those patients who are suitable surgical candidates. The principal indication for ultrasound is to detect a rotator cuff tear.

Wrist / Hand
i) Tendon tear or tenosynovitis

ii) Not indicated: Carpal tunnel syndrome - ultrasound is non-specific

Knee
i) Patellar tendonopathy

ii) Not indicated: Popliteal (Baker's) cyst. More inappropriate requests are received for this indication than any other and they are returned to the referrer; the presence of a popliteal cyst does not alter patient management, unless it has ruptured (rare). Symptoms typically relate to intrinsic pathology within the knee. An x-ray should be performed and consideration of referral to the RBH knee clinic.

Contd.,
Ankle / Foot
   i) Achilles tendonopathy / tear
   ii) Plantar fasciitis
   iii) Morton’s neuroma
Please note, a Morton’s neuromata only occur in the 2nd and 3rd webspaces.
Referrals for possible Morton’s neuroma in the 1st or 4th webspaces will be returned to the referrer.

**Ultimately, the best referrals for musculoskeletal and general ultrasound are those where it is the best test for diagnosis, it will alter patient management and comes from a referrer who knows from training or experience that it is the best referral for that patient.