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Northumbria Healthcare
NHS Foundation Trust

Good practice guidelines

Justification of ultrasound requests

Author – Richard Morrell
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Introduction

This document is intended to support primary care physicians and ultrasound providers in the appropriate selection of patients for whom ultrasound (US) would be beneficial in terms of diagnosis and or disease management. It must be addressed this is merely a guidance tool and not absolute rules of requesting, if the referrer feels a ultrasound is warranted based on certain clinical history with a clinical question in mind this should be requested.

This document has been compiled by a panel of ultrasound experts to support good practice in vetting and justifying referrals for US examinations. This document can be used to assist and underpin any local guidelines that are produced.

Principles

This document is based on several non-controversial principles:

- Imaging requests should include a **specific clinical question(s)** to answer , and
- Contain **sufficient information** from the clinical history, physical examination and relevant laboratory investigations to support the suspected diagnosis(es)
- The majority of US examinations are now performed by sonographers not Doctors. Suspected diagnoses must be clearly stated, not implied by vague, non- specific terms such as “Pain query cause” or “?pathology” etc
- Although US is an excellent imaging modality for a wide range of abdominal diseases, there are many for which US is not an appropriate first line test (e.g. suspected occult malignancy)
- Given sufficient clinical information, most NHS providers will direct US requests to CT or MR as appropriate with the agreement of local commissioners

This general guidance is based on clinical experience supported by peer reviewed publications and established clinical guidelines and pathways. Individual cases may not always be easily categorized and local arrangements for prompt access to specialist advice are essential.

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Changes to guidelines and pathways should be approved by local trust governance processes. It is recommended that any referrals returned to the referrer have an accompanying letter explaining the rationale behind this. All actions should be documented and recorded on the local radiology information system.

The following examples of primary care referrals address the more common requests and are not intended to be exhaustive.

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Clinical Details	Guidance on scan justification
Abdominal US *Abnormal/Altered LFT's*	• *Need to know the duration of abnormality. A single episode of mild – moderate elevation does not warrant an abdominal US.* • *Specific LFT results should be included within the referral. For instance ultrasound should be considered for an isolated ALP rise.* • *Need to know whether the patient is symptomatic or asymptomatic. If asymptomatic US is not a first line investigation.*
Isolated raised ALT	• *US is not justified for a single episode of raised ALT.* • *US is justified if raised ALT is persistent (3-6 months).* • *US is often not required in patients with high risk factors such as DM, Obesity, Statins and other medications which affect liver function. However US can be used to confirm fatty liver in patients with some of the above risk factors.*
Jaundice	• *All Jaundice requires an US scan and urgent specialist referral.*
Pain (RUQ/Illiac Fossa)	• *Generalised or RUQ pain along with abnormal blood results would warrant an US scan.*

Gallbladder disease	• *Pain along with fatty intolerance and/or dyspepsia warrants an US.*
	• *Gallbladder polyps*
	  ➢ *Less than 5mm require a 12 month **US follow up**.*
	  ➢ *6mm – 9mm require a 6 month **US follow up**.*
	  ➢ *If the patient is symptomatic or with a polyp >10mm then referral to upper GI surgery is advised.*

Bloating/Abdominal distension	• *A solitary episode of bloating does not warrant a US scan, if this bloating is persistent/frequent (more than 12 times over a month) then an US would be indicated, as in keeping with NICE guidelines.* • *With the presence of a palpable mass US would be*

Altered bowel habit/Diverticular disease *Diabetes*	*indicated.* • *Ultrasound is indicated when querying ascites. This is usually due to liver or heart failure or malignancy. The most likely cause of the potential ascites should be indicated on the request.* • *US does not have a role in the management of IBS or diverticular disease. Patients with known bowel conditions and bowel related symptoms i.e. generalised abdominal pain do not warrant an ultrasound.* • *Ultrasound does not have a role in the management of diabetes.*
Renal Tract *Urinary tract infection* *Hypertension* *Haematuria*	• *First episode of infection does warrant an US in men only.* • *Recurrent infections for women need to be demonstrated to warrant an US. >3 episodes in 12 months with no underlying risk factors, non-responders to antibiotics or frequent re-infections.* • *History of stone or previous obstruction does require ultrasound.* • *Routine US imaging not indicated. Renal artery stenosis screening is no longer offered. If hypertension is resistant to treatment then specialist referral is advised.* • *Frank/visible haematuria warrants a 2 week US referral.*

Small Parts *Lymphadenopathy*	• *Patients with clinically benign groin, axillary or neck lymphadenopathy do not benefit from US. The exception to the above would be for pediatrics.* • *Persistently enlarged/increasing in size nodes do require ultrasound.* • *Small nodes in the groin, neck or axilla are commonly palpable. If new and a source of sepsis is evident, Ultrasound is not required. If malignancy is suspected US +/- FNA or core biopsy is appropriate after specialist referral. Signs of malignancy include: increasing size, fixed mass, rubbery consistency.* • *Appropriate imaging will depend upon the nature of the suspected primary.*
Scrotal mass	• *Any patient with swelling or mass in the body of the testis should be refereed for US urgently.*
Scrotal pain	• *Chronic pain (>3 months) in the absence of a palpable mass would be performed for patient reassurance.*
Hernia	• *Characteristic history and exam findings(include reducible palpable lump or cough impulse) do not require ultrasound to confirm.* • *Irreducible and/or tender lumps suggest incarcerated hernia and require urgent referral.* • *If groin pain present, clinical assessment should consider MSK causes and refer accordingly.*

Head and Neck *Thyroid Nodule* *Salivary mass*	• *Local guidelines may be in place but routine imaging of established thyroid nodules/goitre is not recommended. Ultrasound may be required where there is doubt as to the origin of a cervical mass i.e. is it thyroid in origin.* • *Routine fine needle aspiration (FNA) of benign thyroid nodules is not indicated, FNA is reserved for when equivocal, suspicious or malignant features are detected on US.* • *Routine follow up of benign nodules is not recommended.* • *Clinical features that increase the likelihood of malignancy include: history of irradiation, male sex, age (<20,>70),fixed mass, hard/firm consistency, cervical nodes, change in voice, family history of MEN II or papillary Ca.* • *If there is a history suggestive of salivary duct obstruction, ultrasound imaging should be the first choice.* • *For a suspected salivary tumour, patient should be referred to an ENT surgeon for evaluation and US (+/- FNA/core biopsy).*

Gynaecology
Pelvic pain
	• *US is unlikely to contribute to patient management if pain is the only symptom.*
	• *In patients >50, the likelihood of pathology is increased, and the request may be accepted.*
	• *Ultrasound would be performed when pain coupled with the following symptoms below:*
	  ➢ *Palpable mass*
	  ➢ *Raised CRP or WCC*
	  ➢ *Nausea/Vomiting*
	  ➢ *Menstrual irregularities*
	  ➢ *Dyspareunia>6 weeks*
	• *Ultrasound would **NOT** be indicated if Pain was coupled with the symptoms below:*
	  ➢ *History of simple ovarian cyst less than 5cm.*
	  ➢ *Loose stools*

PCOS	• *The diagnosis of PCOS can often be made on clinical and biochemical grounds without the use of ultrasound.*
	• *Diagnosis of PCOS should be made based on:*
	  ➢ *Irregular menses.*
	  ➢ *Clinical symptoms and signs of hyperandrogenism such as acne, hirsutism.*
	  ➢ *Biochemical evidence of hyperandrogenism with a raised free androgen index (the testosterone is often at the upper limit of normal) Biochemical exclusion of other confounding conditions*
	Where there is diagnostic uncertainty, a pelvic ultrasound may be requested in order to help diagnose PCOS

Bloating	• *Persistent bloating along with other symptoms such as a palpable mass/raised CA125 warrant and US scan.* • *Intermittent bloating does not warrant an US scan.*
Follow up of benign lesions	• *Benign lesions such as fibroids, dermoids and cysts do not require US follow up unless the patient has undergone clinical change, then a re-scan would be appropriate.*
PMB	• *Should include information about the LMP.* • *Relevant HRT status. Local pathway which includes direct referral into gynaecology under a 2 week wait are most appropriate.*

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