University Hospitals Birmingham
NHS Foundation Trust

CONTROLLED DOCUMENT

Departmental Protocols Including Referral Criteria for Plain Film Radiography for Primary Care Referrals

CATEGORY:	Protocol
CLASSIFICATION:	Clinical
PURPOSE	Referral criteria for plain film imaging as required under IR(ME)R 2017
Controlled Document Number:	984
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Controlled Document Sponsor:	Consultant Radiologist/Director of Radiology and Diagnostics
Controlled Document Lead:	Operations Manager – Medical Physics IRMER Lead
Approved By:	Clinical Director Division 1
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Distribution: • **Essential Reading for:** • **Information for:**	 All imaging staff GP Practices All Staff

Introduction

The Ionising Radiation (Medical Exposure) Regulations 2000 (2006/11) have a significant impact on the requesting, reporting and management of referrals to Radiology.
Under the legislation the referrer must supply sufficient medical information to enable the practitioner to justify the exposure. It is intended that the following protocols will assist the referrer and operator to ensure that the patient receives an exposure to radiation only when the result will affect the management of that patient.

A. The referrer must:
- Ensure the patient they are referring is the correct patient
  - This means double checking that the clinical details and examination required are correct for the name
- Provide sufficient information so that the patient can be uniquely identified
  - i.e. name, date of birth, address and hospital number
- Supply sufficient medical data and a clear clinical question to enable an x-ray or scan to be justified
- Supply their own details, including a reliable contact number and a signature

B. Should a referral need to be cancelled, the department must be contacted directly and a member of staff spoken to immediately. Electronic requests cannot be cancelled using the electronic referral system.

C. Referrers must ensure that duplicate requests are not entered into the system.

D. Any urgent requests out of hours require the referrer to telephone to discuss with staff as well as providing the referral (paper or electronic).

If the request card is incomplete or illegible, legally the examination cannot be performed.

For all x-ray examination the Operator (Radiographer) must ensure:

- An Imaging Department request form has been completed.
- Correct identification of the patient (Procedures for Medical Imaging, procedure 2).
- LMP check where appropriate (Procedures for Medical Imaging, procedure 4).
- Where appropriate, the patient is changed into a radiolucent gown with all radiopaque objects removed from the area of interest.
- A full explanation of the procedure is given to the patient.
- Any previous radiographs are available prior to the examination.
- The correct radiographic views are undertaken – refer to departmental protocols and referral criteria.
- The appropriate exposure is selected – refer to exposure charts.
- The radiation dose is as low as reasonably practicable.
- Dose Area Product or exposure details are record on the RIS
- The operator name and number of exposures are recorded on the RIS.

If there are any concerns about a radiological request, please seek the advice of a radiologist.

Thorax

Request	Referral Criteria	View	Comments
Chest	Chest pain, short of breath, cardiac disease, hypertension, haemoptysis, follow-up pneumonia, malignancy, cough for longer than 3 weeks, Pleural effusion, mediastinal or lung base pathology	PA/AP*	
	Trauma.	PA/AP*	In the context of major trauma, AE referral and CT scan of the chest will be indicated. A CXR is useful to exclude pneumothorax if clinically suspected. CXR should not be requested to look for rib fractures.
	Foreign bodies	PA	Inspiration
	Pneumothorax	PA	Inspiration only
NOTES	* AP chest only if PA chest is impossible		

Thorax

Request	Referral Criteria	View	Comments
Ribs	**Trauma**	**PA (CXR)**	**In general CXR should not be requested to specifically look for rib fractures. CXR is useful to exclude pneumothorax if clinically suspected. However multiple rib fractures may indicate significant injury in the appropriate context. Most of these patients will usually require hospital referral.**
Thoracic inlet	Suspected cervical rib Goitre, dyspnoea, trachea/bronchial, carcinoma, orthopnoea	PA PA Lateral	 Specialist referral for MRI or CT in the first instance. Cone to include the trachea bifurcation. Employ valsalva manoeuvre. Lateral to show to the level of the bifurcation of the trachea, please include a soft tissue lateral neck if area not demonstrated.
Sternum	Trauma - including mechanism Sternal swelling	Lateral PA/AP chest	
Sterno-clavicular joints	Trauma or non traumatic swelling of a medial clavicle	AP view/cranial angulated view of both clavicles.	Limited CT on advice from radiologist

Skull and Facial Bones

Request	Referral Criteria	View	Comments
Skull	Lump	Tangenital view	Skull not indicated for pituitary lesion, dementia, CVA, SOB, headache, epilepsy.
Orbits	See Foreign Bodies section below.		
Facial bones	Orbital blunt trauma, mid facial trauma	OM OM30° Modified SMV – 'jug handle' -for Zygoma	
Nasal bones*	Not indicated		May request additional view of OM 20º Specialist referral only (A/E Consultant, ENT or Maxillofacial specialist).
Sinuses	Not indicated	OM (open mouth) PA 15º	Specialist referral only. Mucosal thickening is a non specific finding and may occur in asymptomatic patients.
Mandible	Mandibular Trauma, Non-traumatic TMJ problems. Cyst/abscess, Suspected tumour Dental abscess and loose dentition assessment. Orthodontic assessment	PA Mandible and OPG OPG OPG OPG and lateral cephalostat	RT and LT Lateral oblique if OPG not possible
TMJ	TMJ Dysfunction	OPG, TMJ's open and closed	Referrer should consider MRI to demonstrate articular disc dysfunction.
Parotid Gland	Not indicated	Tangential AP Lateral oblique Mandible	If there is a clinical suspicion of calculus or occluded salivary duct should be US in first instance
Sub-mandibular	Not indicated	Tongue depressed	If there is a clinical suspicion of calculus or occluded salivary duct

Gland		lateral	should be US in first instance

Abdomen

Request	Referral Criteria	View	Comments
Abdomen/ KUB	?renal calculi ?foreign body	Supine	If there is a high clinical suspicion for renal calculus consider CTKUB in the first instance. Only used for follow up of known calculi. AXR is not indicated for suspected appendicitis or gastro-intestinal haemorrhage AXR for constipation not routinely indicated but may assist management in certain limited circumstances (e.g. elderly care in refractory cases).

Pelvis

Request	Referral Criteria	View	Comments
Pelvis	Trauma with inability to weight bear or pain	AP pelvis Lat hip	All prosthesis should be included. Horizontal beam lateral for history of trauma. Whole of cement +/- ball bearing if in situ.
	Suspected fractured neck of femur	AP pelvis Lat hip	
	Suspected dislocation of hip	AP pelvis Lat hip	Generalised pain with NO history of trauma- turned lateral hip.
	Painful prosthesis	AP pelvis	
	Bone pain, arthropathy, hip pain	AP pelvis	
Sacroiliac joints	Pain, suspected SIJ lesion	PA 10°↓	May help in the investigation of seronegative arthropathy. MRI is more sensitive at detecting SIJ pathology but should be discussed with a radiologist first.
Paediatric Hips	Non weight bearing / limping		See Paediatric protocol
NOTES	Hip pain characteristic of osteoarthritis is not an indication for radiography unless symptoms are such that a referral to an orthopaedic surgeon is being considered		

Cervical Spine

Request	Referral Criteria	View	Comments
Cervical Spine	Degenerative / spondylotic changes	AP and Lateral	Not indicated routinely for neck pain, brachalgia, and degenerative change. Normal plain x-rays may be falsely reassuring **Please refer to site specific QEH and HGS Direct Access imaging Pathway for Neck Pain** **If there is a clinical suspicion of worsening radiculopathy,** osteomyelitis, primary bone tumour, discitis inflammatory spondylitis ankylosing spondylitis MRI/specialist referral is advised. **If there is clinical concern re a cervical fracture then this should be referred to A/E as plain radiographs need to be interpreted with clinical findings and may require further investigation with CT or MRI.** Lateral Flexion and Extension – specialist referral
Cervical Spine	Trauma - Neck injury with pain.	Peg projection Lat, AP +/- swimmers	
Cervical Spine	Rheumatoid with suspected atlanto-axial instability	Peg projection, Lat Flexion & Extension	
NOTES	X-rays not routinely indicated :- Neck pain (non trauma), Degenerative disease with no radicular symptoms Pain alone typical of spondylosis is not an indication for x-rays and are only indicated if pain is associated with neurological signs/symptoms e.g. pain, weakness, paraesthesia in the distribution of a nerve root (e.g. pain radiating down the arm).		

Thoracic Spine

Request	Referral Criteria	View	Comments
Thoracic Spine Trauma	Elderly or known osteoporosis patient with thoracic pain and with focal bony tenderness	AP Lateral	If thoracic pain with any focal neurology – consider MRI If acute trauma with focal bone tenderness consider A/E referral If there is any predisposing cause suspected (cancer/inflammation/night pain/long term steroid use) – consider MRI
Thoracic Spine **Non trauma**	 Suspected osteoporotic compression (crush) fracture Suspected scoliosis Other clinical problems should follow the agreed Back Pain pathway.	 AP Lateral	**Please refer to site specific QEH and HGS Direct Access imaging Pathway for Back Pain** If an inflammatory condition is suspected then rheumatology referral should be considered. Plain x-rays should not be used to diagnose degenerative disease. Degenerative changes are common and often unrelated to symptoms. Plain films rarely contributes usefully to the management of patients with suspected disc disease or radicular signs. Pain with radicular features should follow the back pain pathway. Disc evaluation or evaluation for possible osteomyelitis/discitis requires MRI In the presence of a known previous cancer a bone scan should be considered but if there is a focal area of pain MRI may be a better investigation.

Lumbar Spine

Request	Referral Criteria	View	Comments
Lumbar Spine Trauma	Trauma with lumbar area pain	AP Lateral	If acute trauma with focal bone tenderness consider A/E referral
Lumbar Spine Non trauma			**Please refer to site specific QEH and HGS Direct Access imaging Pathway for Back Pain**
	Suspected scoliosis Suspected crush (osteoporotic) fracture Other clinical problems should follow the agreed Back Pain pathway.	AP Lateral	Notes: If an inflammatory condition is suspected then rheumatology referral should be considered. Plain x-rays should not be used to diagnose degenerative disease. Degenerative changes are common and often unrelated to symptoms. Plain films rarely contribute usefully to the management of patients with suspected disc disease or radicular signs. Pain with radicular features should follow the back pain pathway. Disc evaluation or evaluation for possible osteomyelitis/discitis requires MRI In the presence of a known previous cancer MRI or bone scan should be considered, but if there is a focal area of pain MRI may be a better investigation

Lumbar Spine

Request	Referral criteria	View	Comments
Sacrum	Trauma	AP10°↑ Lateral	Normal appearances are often misleading. Positive findings do not alter the clinical management
Coccyx	Direct trauma Pain	Lateral	Indicated only in specific circumstances.
Scoliosis	Alteration in gait/posture	AP whole spine	Dedicated units for whole spine scoliosis imaging can be found at GHH and SHH. Patients should be referred to these centres. All requests to be vetted by a Radiologist prior to booking the appointment.

Upper Extremity

Request	Referral Criteria	View	Comments
Shoulder	Trauma	AP Axial +/- Lateral Scapula	**Please refer to site specific QEH and HGS Direct Access Imaging Pathway for shoulder pain.**
	Recurrent dislocation	AP Axial	Ultrasound is preferred for suspected rotator cuff tear
	Non traumatic pain, eg arthropathy, calcific tendonsitis,	AP glenohumeral joint view	Gleno humeral joint -HGS sites Patient rotated 45 degrees, centre through the joint.
Scapula	**Trauma**	**AP Lateral**	
Clavicle	**Trauma**	**AP**	**If AP looks normal, an axial view should be undertaken as an additional view : patient leaning backwards 10^0, 15° angle on tube (clavicle must clear apex of lung)**
Acromio-clavicular joint	**Trauma Suspected subluxation**	**Coned AP**	**Comparison view of other ACJ may be required - only if you are unsure whether affected joint is abnormal. Weight bearing views are not routinely indicated.**
Humerus	**Trauma Suspected arthropathy Unexplained pain or deformation**	**AP Lateral**	**Views must include the head of humerus and elbow on the image**

Upper Extremity

Elbow	**Trauma** Suspected arthropathy Unexplained pain or deformation Suspected arthropathy	AP Lateral	Comparison views in children must be sanctioned by a radiologist. See paediatric protocol.
Radius/ ulna	**Trauma** Suspected arthropathy Unexplained pain or deformation	AP Lateral	Must include elbow and wrist joint
Wrist	**Trauma** Suspected arthropathy Unexplained pain or deformation	AP Lateral	Include metacarpals and distal 1/3 radius and ulna
Scaphoid	**Trauma**	**PA (ulnar deviation), Lateral** **PA oblique, PA ulna deviation with 30° angulation, AP oblique**	**Initial views to include meta carpals and distal 1/3 radius and ulna with wrist in ulna deviation. Cone as per wrist x-ray on AP and lateral views.** **If scaphoid fracture clinical suspected then scaphoid views need to be specifically requested.**
Hand	**Trauma** Suspected arthropathy Unexplained pain or deformation.	DP Oblique	Lateral view for fractured/ displaced metacarpals Soft tissue exposure for FB
Thumb	**Trauma** Suspected arthropathy Unexplained pain or deformation	AP Lateral	Include 1st carpometacarpal joint
Fingers	**Trauma** Suspected arthropathy Unexplained pain or deformation	AP/PA Lateral	Obliques may also be required for follow up patients in strapping

Foreign Bodies

Request	Referral Criteria	View	Comments
Skull	Foreign Body in scalp	Tangential view	
Orbits	**FB – trauma only** **Pre MRI Screening - FB**	**OM** **Eyes up and eyes down** **PA 20-25°↓ONLY** – Eyes up	If foreign body is seen, perform a lateral projection One view only to identify presence of metal fragment required.
Throat	Swallowed Foreign Body	Lateral	Soft tissue exposure
Chest	Inhaled Foreign Body	PA	Inspiration and expiration
Abdomen	Swallowed Foreign Body (Only done for sharp objects or batteries)	Supine	To include diaphragm to rectum
Upper and Lower Extremities	Penetrating injury. Specify type of foreign body i.e. metallic, glass	2 views at 90° i.e. AP/PA and Lat centred over the wound. A tangential view may be helpful to localize a foreign body.	Use a marker to localize the entry wound. Remove dressings where appropriate.

Lower Extremity

Request	Referral Criteria	View	Comments
Femur	**Trauma** Suspected arthropathy Unexplained pain or deformation	**AP** **Lateral**	**Must include hip joint and knee** **If atypical femoral fracture is suspected (patients on bisphoshponates) full length femur of the symptomatic side should be performed.** **Contralateral femur should be imaged if symptomatic side is positive.**
Knee	**Trauma with inability to weight bear or pronounced bony tenderness.** Suspected arthropathy Unexplained pain or deformation Locking	**AP** **Horizontal beam lateral** AP and lateral Skyline Patella-HGS over 55 yrs.	**Please refer to site specific QEH and HGS Direct Access Imaging Pathway for knee pain.** AP and lateral should be weight bearing unless there is trauma or the patient is unable to achieve. HGS – refer patients to the orthopaedic triage for assessment or CLIKS in the case of BEN/ Solihull GP's
Tibia and Fibula	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation	**AP/Lateral**	**Must include both knee joint and ankle**
Ankle	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation	**AP/Lateral**	**Include the base of the 5th metatarsal on the lateral projection. If fractured, x-ray foot.** **An oblique view may be requested with 45° internal rotation,30°↑ angulation**

Lower Extremity

Calcaneum	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation	**Lateral** **Axial**	Not indicated for ?plantar fasciitis ? spur – these indications should have ultrasound as imaging, and not plain radiographs
Foot	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation ? Hallux valgus deformity	DP Oblique Lateral View Weight bearing DP and lateral and non weight bearing oblique	Lateral view for dislocation or fracture of the tarsals or metatarsals
Toes	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation	**DP** **Lateral**	**Obliques may be necessary if a lateral is unachievable**
Hallux	**Trauma with inability to weight bear or pronounced bony tenderness** Suspected arthropathy Unexplained pain or deformation	**DP** **Lateral**	For Hallux valgus- standing AP feet are required
Leg length	Unequal leg length, surgical planning	AP weight bearing both legs ASIS to ankle.	Dedicated units for leg lengths imaging can be found at GHH and SHH. Patients should be referred to these centres. All requests to be vetted by a radiologist prior to booking.

Imaging for Suspected Scaphoid Fractures

Suspected scaphoid fracture: Scaphoid plain radiographs to include:

PA Wrist
Lateral Wrist,
Coned Oblique Scaphoid, &
Coned PA Scaphoid with ulna deviation and 30* angulation.
Coned AP Oblique

Apply a Futura splint and reassess ~1/52.

QEH

5 coned views of the scaphoid:
PA Wrist
Lateral Wrist,
Coned Oblique Scaphoid, &
Coned PA Scaphoid with ulna deviation and 30* angulation.
Coned AP Oblique

HGS

Review by experienced practitioner (consultant, Senior ENP, Ortho reg,). No bony injury identified on previous x-rays and clinical concern persists - request MRI.

(No repeat scaphoid plain radiographs, no bone scan request)

All fractures diagnosed on scaphoid MRI flagged as 'HIGH PRIORITY' to ensure referrer aware and in all cases patient calls for review appointment (unless one already organized or going back to ward).

Other diagnosis on MRI e.g. ligament tear or other carpal fracture flag ‘HIGH PRIORITY’ directed to specialist hand (Mr Shyam's) clinic.

Heartlands, Good Hope and Solihull Hospitals. Knee Referral Pathway for GP Requests.

The pathway below has been agreed between Radiology and Trauma and Orthopaedics to support decision making and potential onward referral for specialist advice.

Patients aged 55 years and over-

All patients should initially have plain x-rays of the affected joint(s) to include skyline views as standard. This includes history of

mechanical injury
severe persistent knee pain if considering specialist assessment/surgical intervention
symptoms of locking/giving way
?loose body

There is no indication for an MRI scan if the x-ray report suggests moderate to severe OA. This patient group require specialist referral with a view to either arthroscopy or consideration for joint replacement.

If the plain film shows no or minimal OA changes only, and the patient has symptoms of giving way or locking, then MRI can be considered prior to arthroscopy.
Patients with arthritic knees are unlikely to proceed to arthroscopy in the absence of mechanical symptoms (true locking and/or giving way)

Patients below the age of 55 -

These patients can proceed to an MRI scan if there is an appropriate indication
Mechanical injury
Severe knee pain/effusion following injury
Symptoms of locking/giving way
?loose body

If there are signs of significant OA and/or patient is known to have OA, an MRI scan should be preceded by a plain radiograph. The correct pathway is to refer the patients to the Orthopaedic Triage for assessment (or CLIKS in the case of BEN/Solihull GPs).

Patients attending A&E with acute symptoms related to the knee joint

These patients should be referred directly to the acute knee pain clinic or the daily fracture clinic in order to avoid delayed treatment as frequently these patients will progress directly to arthroscopy.

X-rays of the cervical spine are not routinely indicated in the following patient groups:

Neck pain (non trauma),

Degenerative disease with no radicular symptoms

Pain alone typical of spondylosis is not an indication for x-rays and are only indicated if pain is associated with neurological signs/symptoms e.g. pain, weakness, paraesthesia in the distribution of a nerve root (e.g. pain radiating down the arm).

Symptoms of thoracic and lumbar spine degenerative disease are very common and should not normally require radiographic investigation. MRI is the investigation of choice for suspected disc prolapse - plain films may be normal and falsely reassuring.

Imaging will not routinely be considered until the patient has been managed conservatively for a period of at least six weeks with no clinical improvement unless there are significant red flag neurological signs. (See below)

VALID REASONS FOR EXAMINATION

Chronic low back pain with no associated neurological signs would ***not*** normally be an indication for radiography. Degenerative changes are invariably present from middle age onwards.

Patients under 20 years or over 50 years in whom there is unexplained back pain not responding to simple analgesia, may be investigated by plain films or specialist referral. Again the six week rule is suggested unless there are serious concerns regarding neurological or associated systemic symptoms.

Trauma with pain:

Significant fall

High impact RTA

Other spinal fracture present

Trauma with neurological deficit with or without pain

? Osteoporotic collapse

? Osteomyelitis

Spondylosis with neurological signs or symptoms e.g. sciatica

Indications for MRI of the Lumbar Spine

Any neurologic deficit, evidence of radiculopathy, cauda equina compression (e.g., sudden bowel/bladder disturbance)

OR

Suspected systemic disorder with associated symptoms/signs related to the back (i.e., to rule out metastatic or infectious disease)

OR

Localized back pain with radiculopathy, following failed 6-week course of conservative care

STANDARD PROJECTIONS

AP

Lateral

ADDITIONAL PROJECTIONS

Coned L5/S1 view if not shown on the lateral.

Oblique view – Following discussion with a Radiologist ,if Spondylolisthesis is suspected on standard views. Routine oblique views not appropriate.

X-rays not routinely indicated:

Pain without associated trauma if likely to be simple musculoskeletal/degenerative disease

Chronic back pain with no pointer to infection or neoplasm.

An urgent specialist referral is advised for back pain with the following red flag signs:

Sphincter or gait disturbance

Saddle anaesthesia

Severe or progressive motor loss

Widespread neurological deficit

Previous carcinoma

Systemically unwell or other features of systemic illness.

University Hospitals Birmingham NHS
NHS Foundation Trust

GP IMAGING REFERRAL FORM FOR KNEE

PATIENT DETAILS	GP DETAILS
Name: _____ SEX: Male/Female DOB:_____ Age: _____ NHS Number: _____ Address: _____ Post Code: _____ Daytime Tel:_____**(Mandatory)** Hospital Number (If known): _____ Main Spoken Language: _____ Interpreter Required: _____	GP Name: _____ Practice Name:_____ Practice Stamp: Tel: _____ Fax:_____ Surgery Direct Contact E-mail: _____ (Optional) **Referring GP's Signature: _____** **(Mandatory)**

PATIENT SAFETY		
Does your patient suffer from claustrophobia?	Y	N
Does your patient have any implanted metallic foreign devices? (E.g. cardiac pacemaker, artificial heart valve, cerebral neurysm clips, cochlear implant, cardiac stents etc.)	Y	N
Has the patient EVER had metallic fragments in their eyes?	Y	N
Has the patient had any previous surgery? If yes, please give details:		
Is there any possibility of the patient being pregnant?	Y	N
If the answer is yes to any of the above questions, please provide details below:		

CLINICAL DETAILS / HISTORY (Please ensure that you include as much information as possible)

INVESTIGATION REQUIRED & PROVISIONAL DIAGNOSIS		
Please specify which knee has been referred for imaging	R	L
Does the patient have a suspected meniscal tear	Y	N
Does the patient have suspected ligament damage?	Y	N
Does the patient have locked knee pain?	Y	N
Other reason (please specify)		

IMAGING REQUEST: (Please Tick)	X-RAY		ULTRASOUND		MRI	

ADVICE & GUIDANCE: If your patient does not fit the criteria for referral but you still feel merits imaging then consider Advice & Guidance by contacting a member of the Radiology team on the following secretaries numbers: Tel: 0121 371 2312 / 4284

Notes:

In patients > 50 years, an x-ray examination must be performed before referral because of the high probability of degenerative disease. Osteoarthritis can be identified by x-ray examination and this is often the major contributor to symptoms despite concurrent meniscal or ligamentous abnormality. If you feel that your patient should still be managed by MRI, please discuss symptoms with Radiologist on 0121 371 2312 / 4284

- Locking – may indicate loose body or meniscal tear
- Clicking – meniscal tear
- Giving way / instability – ACL tear
- Sharp pain when twisting and turning – meniscal tear
- Catching – chondral surface injury
- Loose bodies

Please Fax Form to Imaging Fax Gateway on: 0121 460 5817 (Number must be dialled in full) **23/10/14**

Knee pain unresponsive to conservative measures, in patients >40years should have **plain xray of the knee** first.

Anterior knee pain with suspected pathology in the patellar or quadriceps tendon or a palpable soft tissue lump – **US Knee**

When to request for **MRI knee**:

In the absence of red flags, if in addition to unresponsive knee pain, there is

'S' Swelling	+1
'L' Locking	+1
'O' Onset which is sudden (may or may not be related to trauma)	+1
'G' Giving way	+1
Catching/crepitus	+1

Score 3 or more - MRI is likely to be useful
Score <3 Physiotherapy

Queen Elizabeth Hospital . Direct Access Imaging for Neck Pain

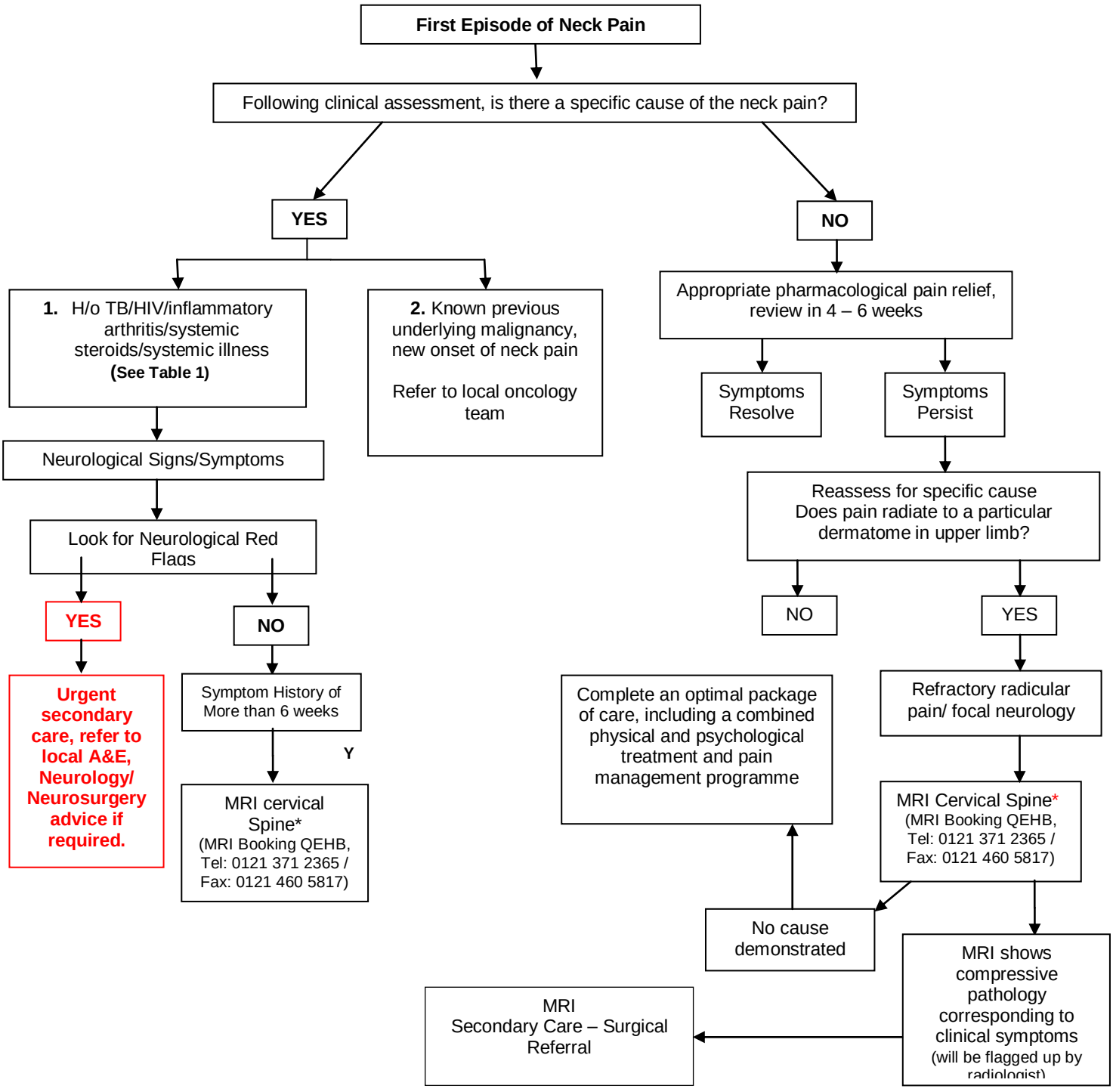

Table 1: Red Flags

Neurological

- Gait disturbance — Widespread neurological deficit
- Severe or progressive sensory / motor loss — Signs of spinal cord compression
- Significant vertebral body tenderness

Other

- Significant preceding trauma or neck surgery — Systemic Upset (weight loss, fevers night sweats)
  History of TB, HIV, cancer or inflammatory arthritis
- Severe pain / Nocturnal pain not responding to conservative measures
- Known malignancy
- Axial cervical pain worse on sitting or standing

Queen Elizabeth Hospital . Direct Access Imaging for Shoulder Pain

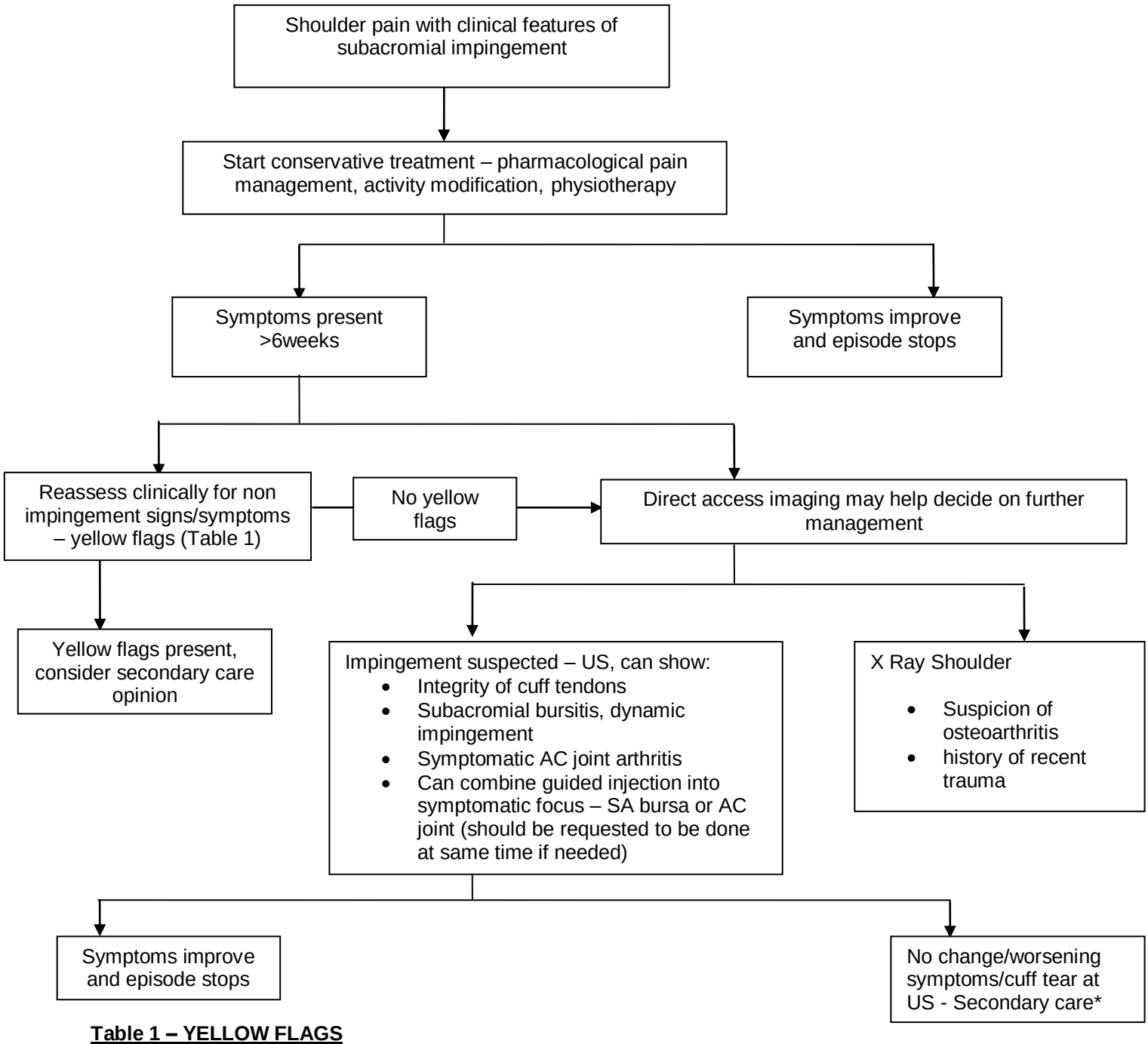

Table 1 – YELLOW FLAGS

Indicators for non impingement shoulder pain – consider secondary care opinion before organising imaging; US may not often be the best first line exam

1. Apprehension, Instability, previous dislocation*****
2. Indicators of inflammatory arthropathy (with multiple joint involvement)
3. Sport related injury, symptoms not typical of impingement – consider sports clinic referral ******
4. Cervical spondylosis/thoracic outlet syndrome - if there is associated radicular pain radiating below the elbow – C spine assessment/neurological examination.
5. Symptoms of long head biceps pathology (SLAP tear)*

***** Shoulder Clinic, QEHB Contact telephone: 01213714944 Fax: 01213714947
******Sports Clinic, QEHB Contact telephone: 01213713806/13492/13493 Fax: 01213713494

Queen Elizabeth Hospital . DIRECT ACCESS IMAGING FOR SHOULDER PAIN REFERRAL FORM

PATIENT DETAILS	GP
Name: ..... Sex: M ☐ F ☐	Name: .....
DOB: ..... NHS No:	Practice: .....
Address:	Address/Stamp
Postcode: ..... Tel No: ..... **(Mandatory)**	Tel No: ..... Fax: .....
Ethnicity:	E-mail: ..... *(please leave email address blank if not used regularly)*
1st Language: ..... Interpreter Required? Y ☐ N ☐	Date of Referral: .....

CLINICAL DETAILS

Reason for Referral

Duration of Shoulder Pain:

CLINICAL INFORMATION (must be completed in full)

Has there been a trial of appropriate conservative management (pharmacological pain management, activity modification, physiotherapy) for at least 6 weeks?	☐ **Yes** ☐ **No**
Is the shoulder pain typical of subacromial impingement? *(If no, consider secondary care opinion when conservative measures fail*)*	☐ **Yes** ☐ **No**
Are there any Yellow Flag Signs? *(please refer to table 1)* *(If yes, ultrasound may not be the best examination, consider secondary care opinion *)*	☐ **Yes** ☐ **No**
Has there been any previous surgery? *(If yes, please attach details of the same, discharge letter)*	☐ **Yes** ☐ **No**
Has the patient had an xray of the shoulder? If yes, please specify where and when.	☐ **Yes** ☐ **No**
If the shoulder US examination reveals findings deemed appropriate for an ultrasound guided subacromial injection of steroid and anaesthetic, would you like this to be performed at the same attendance? If yes, Are there any known allergies? *(If yes, please attach details)* Is the patient diabetic?	☐ **Yes** ☐ **No**

Table 1 – YELLOW FLAGS

Indicators for non impingement shoulder pain – consider secondary care opinion before organising imaging; US may not often be the best first line exam:

1. Apprehension, Instability, previous dislocation*****
2. Indicators of inflammatory arthropathy (with multiple joint involvement)
3. Sport related injury, symptoms not typical of impingement – consider sports clinic referral ******
4. Cervical spondylosis/thoracic outlet syndrome - if there is associated radicular pain radiating below the elbow –neurological examination suggests intractable radicular symptoms, MRI C Spine.
5. Symptoms of long head biceps pathology (SLAP tear***)**** **** Shoulder Clinic, QEHB Contact telephone: 01213714944 Fax: 01213714947***
*****Sports Medicine Clinic, QEHB Contact telephone: 01213713806/13492/13493 Fax: 01213713494***

If you wish to discuss imaging referral further, you may ring 01213712313/12312 for MSK radiology secretary, Imaging department, QEHB.

PLEASE FAX THIS FORM TO: 01214605817 (Ultrasound bookings, QEHB)

Queen Elizabeth Hospital . Imaging in Management of Low Back Pain

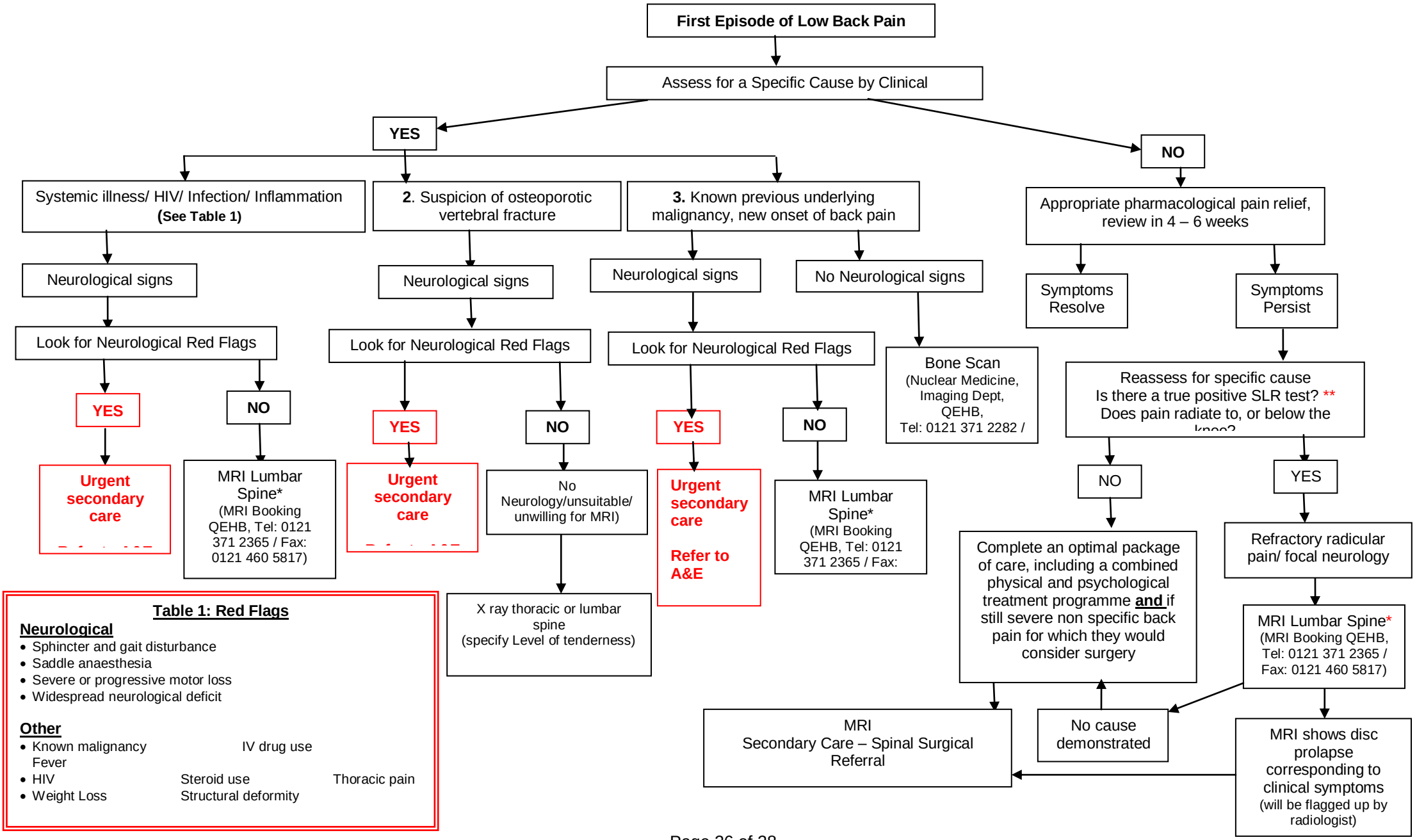

Table 1: Red Flags

Neurological

- Sphincter and gait disturbance
- Saddle anaesthesia
- Severe or progressive motor loss
- Widespread neurological deficit

Other

- Known malignancy
- HIV
- Weight Loss
- IV drug use
- Fever
- Steroid use
- Structural deformity
- Thoracic pain

Notes:

- Lumbar imaging for chronic low back pain without suggestion of serious underlying conditions does not improve clinical outcomes. Direct access for MRI spine is limited to the group of patients in whom a predisposing cause is suspected (cancer, infection, inflammation, fracture).
- Plain x rays lumbar spine – x rays of the lumbar spine are not indicated in management of non specific low back pain, with the exception of suspected osteoporotic compression fracture of the thoracic or lumbar spine**.**
- If there is a history of primary malignancy – with new onset back pain, in the absence of neurology, bone scan is appropriate. If there is a focal neurology, MRI of the lumbar spine should be requested. Plain x rays of the lumbar spine may miss metastatic disease, and are not indicated in this situation.
- Previous surgical intervention with new/worsening back pain of > 6 weeks – Refer to secondary care.

Referral Information

* when referring for MRI, request cards should state as a minimum the side and dermatomal location of symptoms/signs so that informed correlation with imaging findings can be made at the time of reporting. This is important as many disc herniations are symptomatic (e.g. ‘Right sided sciatica, L5 dermatomal distribution pain and numbness. No motor signs. ?right L5 nerve root entrapment’).

** Many patients have tight hamstring muscles and this can cause minor discomfort on straight leg raising. This can simulate a genuine straight leg raise test, which typically results in severe aggravation of sciatica pain.

Queen Elizabeth Hospital . DIRECT ACCESS IMAGING FOR LOW BACK PAIN (refractory radicular pain or suspicion of serious underlying cause for back pain) REFERRAL FORM

PATIENT DETAILS	GP
Name: ..... Sex: M ☐ F ☐	Name: .....
DOB: ..... NHS No:	Practice: .....
Address:	Address/Stamp
Postcode: ..... Tel No: ..... **(Mandatory)**	Tel No: ..... Fax: .....
Ethnicity:	E-mail: ..... *(please leave email address blank if not used regularly)*
1st Language: ..... Interpreter Required? Y ☐ N ☐	Date of Referral: .....

CLINICAL DETAILS

Reason for Referral:

CLINICAL INFORMATION (must be completed in full)

A) Are there any symptoms of *cauda equina/neurological red flags*? *(please refer to table 1)* *If the answer to this question is yes, urgent secondary care / A&E referral is advised.* ***Do not request MRI.***	☐ **Yes** ☐ **No**
Duration of symptoms	
B) Is there a *specific cause for back pain* on assessment (please circle) **(**systemic illness, HIV / suspicion of infection / inflammation / IV drug abuse / weight loss / long term steroid use**)** **If yes, please refer to MRI*** *(MRI Booking Office QEHB, Tel: 0121 371 2365 / Fax: 0121 460 5817)*	☐ **Yes** ☐ **No**
Is there a history of previous malignancy, with a new onset of back pain? ☐ **No: focal neurology - *refer patient for Bone Scan*** *(Nuclear Medicine, Imaging Dept, QEHB, Tel: 0121 371 2282 / Fax: 0121 460 5826)* ☐ **Yes: focal neurology - *refer patient for MRI Scan*** *(MRI Booking Office QEHB, Tel: 0121 371 2365 / Fax: 0121 460 5817)*	☐ **Yes** ☐ **No**

C) If the patient has *non specific back pain*, please answer the following (form will be returned if this section is not completed):

Have appropriate pharmacological pain relief and conservative measures been in place for at least 6 weeks?	☐ **Yes** ☐ **No**
Is there a true positive SLR test:**	☐ **Yes** ☐ **No**
***Please Specify the side of symptoms**	☐ **L** ☐ **R**
***Dermatomes involved**	

In the absence of clinical signs of focal neurology/radicular pain, MRI of the lumbar spine is not indicated

Table 1: Red Flags

Neurological		**Other**		
Sphincter and gait disturbance	Saddle anaesthesia	Known malignancy	IV drug use	Fever
Severe or progressive motor loss	Widespread neurological defici t	HIV	Steroid use	Thoracic pain
		Weight Loss	Structural deformity	

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PLEASE FAX THIS FORM TO: 01214605817 (MRI bookings, QEHB)