

# Local Authorisation Guidelines and Cardex for Plain Film Radiography (Adults and Paediatrics)

<b>CATEGORY:</b>	Procedure
<b>CLASSIFICATION:</b>	Clinical
<b>PURPOSE</b>	Local Authorisation Guidelines and Cardex for plain film imaging as required under IR(ME)R 2017
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<b>Controlled Document Sponsor:</b>	Dr Keshav Kulkarni Consultant Radiologist – Chair of IRMER committee
<b>Controlled Document Lead:</b>	IRMER Lead
<b>Approved By:</b>	Dr Keshav Kulkarni Consultant Radiologist – Chair of IRMER committee
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<b>Distribution:</b>	<ul style="list-style-type: none"> <li>• <b>Essential Reading for:</b> All imaging staff All internal and external referrers</li>   <li>• <b>Information for:</b> All Staff</li> </ul>

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## Introduction

The purpose of this document is to support radiographers in the authorisation of requests prior to imaging to ensure compliance with IRMER guidelines. Radiographers and other operators will also access this document to ensure the correct projections are being undertaken for each request.

The Ionising Radiation (Medical Exposure) Regulations 2017 have a significant impact on the requesting, reporting and management of referrals to Radiology and the roles relevant to this document are:

- **The Referrer:** “Must supply the practitioner with sufficient medical data (such as previous diagnostic information or medical records) relevant to the exposure requested by the referrer to enable the practitioner to decide whether there is a sufficient net benefit as required by regulation”.
- **The practitioner:** “Is responsible for the justification of an exposure and such other aspects of an exposure as is provided for in these Regulations.”
- **The Operator:** “Is responsible for each practical aspect which the operator carries out as well as for any authorisation given pursuant to regulation 11(5) which states:
  - “Where it is not practicable for the practitioner to authorise an exposure as required by paragraph (1)(c), the operator must do so in accordance with guidelines issued by the practitioner.”

Due to the nature of plain film work it would not be practical for practitioners, who in most cases tend to be the Radiology consultants, to review every imaging request and this document provides the authorisation guidelines agreed collectively. This is **not** therefore aimed at the referrer who should be using IRefer as a guide to appropriate requesting.

It is noted that these guidelines are unlikely to be written verbatim on every request received however the operator should be able to use their professional training and knowledge to determine if the clinical details on a request match the criteria. If there was no assurance that these are aligned, it would be appropriate to refer a specific request to the practitioner for guidance. Any discussion or agreement must be documented on the Radiology Information System (RIS) to ensure communication and cooperation as per regulation 10(6).

## Imaging Requests

As per employer [procedure B1](#) The referrer must:

- 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, the Consultant in charge and their signature (electronic or written) as well as the GMC number or professional registration number if acting as a non-medical referrer.

If a referral needs 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. This is aligned with [Employers' Procedure P](#).

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

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

Electronic requests **must** be the first choice. In the event of system breakdown, a written request is allowable, however if the request card is incomplete or illegible, legally the examination cannot be performed.

For further information, please refer to [Employers' Procedure P](#) (Making, Amending and Cancelling Referrals)

**If there are any concerns about a radiological request, from either referrer or operator, please seek the advice of a Radiologist/Practitioner.**

<b>Revision details:</b>	<b>Name Sign off/Authorisation:</b>	<b>Date:</b>
Small iterations (example foot weight bearing, skyline knee views)	Dr Keshav Kulkarni	22/09/2024
Addition of Rosenberg views	Dr Keshav Kulkarni	16/06/2025
Re-write of Introduction Change to Pelvis section Change to Knee section Addition of Toes Addition of Long Leg section		
Minor changes to knee (Skyline) referrers	Dr Keshav Kulkarni	24/06/2026

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# Thorax

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Request	Authorisation Criteria	View	Comments
<b>Chest TRAUMA</b>	Trauma (penetrating or moderate blunt trauma)	PA Erect (AP only if PA not possible)	If any doubt, contact the Duty Radiologist
<b>Chest NON-TRAUMA</b>	Aspiration Breathing difficulties Chest infection/pneumonia Chest Pain Carcinoma primary/secondary Cardiac Issues Cardiomegaly COPD/ARDS Cough Foreign bodies Haemoptysis TB Pleural effusion Pneumothorax Post line insertion Acute abdominal pain Organ donation	PA or AP if not technically possible	If in doubt, contact Duty Radiologist
	Pacemaker check	PA	Lateral if requested by the team.
	RA	PA	Request should come from Rheumatology team for pre-treatment CXR.
	Pre-op (indications must be stated on the form)	PA	<b>Not routinely indicated</b> , unless pre-thoracotomy, admission to ITU, suspected malignancy, TB, acute respiratory symptoms or cardio-respiratory disease for patients not x-rayed in the last 12 months.  Will <b>NOT</b> be done routinely for #NOF. Will need clinically justified request.
<b>Portable Chest</b>	See above for clinical indications	AP erect OR AP Semi-erect OR AP Supine	Portable films often make unsatisfactory images and must be avoided if possible. Patient must be unable to attend

		As patient's condition allows	department for medical issues.
<b>Ribs</b>	Suspected traumatic rib fractures	Not indicated	Rib radiograph is not indicated in isolated suspected traumatic rib fractures. If additional symptoms, such as shortness of breath or low oxygen saturation a Chest X-Ray should be performed. In case of doubt, contact the duty radiologist.
	Bony metastasis	Not indicated	
	NAI (as part of a story)	See surveys	
<b>Lateral Chest</b>	All lateral views need vetting by Duty radiologist	Lateral	Usually not indicated. CT to be considered.
<b>Sternum</b>	Trauma	PA + Lateral sternum	
	Sternal swelling	Not indicated	
<b>Sterno-clavicular joints</b>	Trauma or non-traumatic swelling	Not routinely indicated.	All to be vetted by MSK Radiologist; CT or MR may be indicated instead.
<b>Paediatric Chest</b>	Suspected chest infection Shortness of breath Cardiac failure Congenital heart disease Suspected congenital abnormalities	PA erect (AP or supine if not possible)	If in doubt, contact Duty Radiologist.
	? Inhaled FB	PA erect to include lower neck and upper abdomen  Plus, expiration CXR if patient co-operative	View depends on patient's age, ability and co-operation. In any doubt, contact Paediatric or Duty radiologist as available.
	Positive FB on CXR	Lateral view	View depends on patient's age, ability and co-operation
	Cystic fibrosis (annual review by PAED consultant)	PA Lateral	Specialist referral only

# Skull and Facial Bones

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Request	Authorisation Criteria	View	Comments
Adult Skull	Foreign body only	Tangential view of area	Any other history for skull x-ray is NOT JUSTIFIED. Consider CT instead for high-risk head injury, LOC, penetrating injury, skull fracture, depressed skull fracture, focal neurological signs, seizures, unstable systemic state, headache. If in any doubt, contact duty Radiologist
	Hydrocephalus shunt dysfunction	See VP shunt series	
Paediatric skull	NAI	See surveys section	
	Craniosynostosis (premature fusion of sutures)	Needs LOW DOSE CT	If CT not possible then 3 views as follows: AP(FO) AP 30° caudal (Townes) Lateral (as per Dr V Bhalla)
Facial Bones	Trauma to orbits or mid face	<b>Not indicated</b>	<b>Plain film is generally unhelpful, if there is strong suspicion of injury CT should be considered. Please refer to Duty Radiologist.</b>  <b>If radiologist requires plain film, please perform:</b>  <b>ERECT OM</b> And <b>ERECT OM 30° caudal</b>
	Radiopaque FB	Tangential view	

<b>Orbits</b>	Intra-orbital foreign body (IOFB) for trauma	OM 30° with eyes up. If positive, repeat with eyes down and a lateral	If FB is seen, perform OM 30° with eyes down and a lateral projection in addition. For MRI FB, see foreign body section
	Planned operative management	OM 30° Lateral	
<b>Sinuses</b>	Suspected sinus inflammation	NOT JUSTIFIED	Mucosal thickening is a non-specific finding and may occur in asymptomatic patients.
<b>Nasal Bones</b>	? Fracture	NOT JUSTIFIED	
<b>Parotid/ Submandibular glands</b>	? Stones	NOT JUSTIFIED	Consider MRI neck with MR Sialogram
<b>Mandible</b>	Mandibular trauma	PA Mandible And OPG (both are needed if possible)	Rt and Lt Lateral oblique if OPG not available
	Non-traumatic mandibular issues such as: Cyst/abscess Tumour Impacted Wisdom teeth Dental Caries Dental Assessment	OPG	
	GP Referral for the above	OPG	
<b>TMJ</b>	TMJ Dysfunction TMJ Rheumatoid Arthritis	OPG (Max-Fax for Rheumatology referral only)	All other requests: CT should be considered for bony injury. MRI for soft tissue discs. Please refer to Duty Radiologist.
<b>Postnasal Space</b>	Enlarged Adenoids	Soft tissue lateral with Valsalva	Paediatric or ENT referral only for adenoids
	Foreign Body (with stridor)	Soft tissue lateral with Valsalva	
	Retropharyngeal abscess (with Stridor)	Soft tissue lateral with Valsalva	

# Abdomen

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Request	Authorisation Criteria	View	Comments
Abdomen	Obstruction Toxic Megacolon Renal Pathology AA	Supine	For non-justified criteria, see notes below If in any doubt, contact duty Radiologist NOT generally justified from a GP source.
	Perforation	Supine plus Erect CXR	Patient must be erect for at least 5 minutes prior to exposure
	Post long line insertion	Single CXR/AXR exposure	NNU only
	Ingestion of FB – acute or retained		See FB section of these guidelines
	Suspected KUB calculus/ureteric colic	NOT JUSTIFIED	CT KUB to be considered
	Renal/ureteric stone follow up	Supine	Urology referral only
	Ureteric stent position	Supine	Urology referral only
	Pre/post Lithotripsy	Supine	Urology referral only
<b>NOTES</b>	<p>Not justified for suspected appendicitis, acute pancreatitis, gall stones, cholecystitis, trauma or GI haemorrhage</p> <p>Acute abdominal pain is justified from A/E or IP as long as it is accompanied with an appropriate clinical question. AXR for constipation is not routinely indicated but may assist elderly care in refractory cases.</p>		

# Pelvis/Hip

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Request	Authorisation Criteria	View	Comments
<b>Pelvis Or Hip TRAUMA</b>	All Trauma – with details of mechanism of injury	AP pelvis HBL Hip (affected side)	Internal rotation of feet if possible, for all X-rays
	Suspected fractured Neck of femur		
	Suspected dislocation of hip		
	Acetabular fracture	AP Pelvis only	
<b>NOTES:</b>	If the affected side is not stated on the request, the Operator should be confirming this with the patient and/or referrer before commencement.		
<b>Pelvis Or Hip NON-TRAUMA</b>	OA/RA Arthropathy Pelvis/Bone Pain Painful Prosthesis Osteonecrosis Bone infection i.e.OM Myeloma Paget's disease	AP Pelvis	If in doubt, contact Duty Radiologist.
	Post Op Total Hip replacement or resurfacing assessment	AP Pelvis	Both ends of the THR must be shown  Lateral hip may be requested if difficulty with post op mobilisation.
	Post Op DHS	AP Pelvis Lateral Hip	Usually done in theatre but may be requested if post op concerns
<b>Sacro-iliac joints</b>	Pain Suspected SIJ lesion ? sacroiliitis	PA 10-15° caudal	May help in the investigation of seronegative arthropathy. Discuss with Consultant Radiologist before requesting or performing
Paed Hips (under 16 years of age)	Non-weight-bearing/limping	AP Frog lateral	Demonstrate epiphysis No gonad protection on initial radiograph
	? SUFE	AP Frog lateral	No gonad protection on initial radiograph
	Gait assessment	AP Frog lateral	No gonad protection on initial radiograph

	DDH under 8 months	NOT JUSTIFIED	U/S is indicated
	DDH above 8 months	AP Frog lateral	No gonad protection on initial radiograph

# Cervical Spine

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Request	Authorisation Criteria	View	Comments
<b>Cervical Spine Trauma</b>	GP: Isolated neck injury with pain or neurological deficit	AP Lateral (include C7/T1)	
	A/E: Isolated neck injury with pain or neurological deficit	NOT JUSTIFIED	Consider CT
	Unconscious head injury	NOT JUSTIFIED	Consider CT alongside CT Head
<b>Cervical Spine Non-trauma</b>	Congenital disorders Atlanto-axial subluxation RA OA Tumour Pain	AP Lateral	Degenerative changes are common and often unrelated to symptoms but may rule out other conditions
	Congenital disorders e.g. scoliosis	AP Lateral (standing)	Examination is rarely useful in the absence of neurological signs. Exception is the younger patient ( $\leq 25$ years) to assess for spondylolisthesis or ankylosing spondylitis and in the older patient  Disc evaluation requires MRI
<b>Cervical Spine Non-trauma</b>	RA	Lateral with flexion Lateral with extension	The request should explicitly mention they need lateral view in flexion and extension
<b>Soft Tissue Neck</b>	Trauma to larynx Radiopaque FB	Lateral soft tissue view with Valsalva	
<b>Cervical Rib</b>	? cervical rib	AP C-Spine	

# Thoracic Spine

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Request	Authorisation Criteria	View	Comments
<b>Thoracic Spine Trauma</b>	Trauma WITH localised pain or neurological deficit	AP Lateral	There should be a low threshold for PF radiography when pain/tenderness is associated with significant trauma. CT is more advised.
	Elderly patient with thoracic pain and focal bony tenderness	AP Lateral	If there is any predisposing cause suspected (i.e. cancer/inflammation/night pain/long term steroid use) then MRI is indicated
<b>Thoracic Spine Non-Trauma</b>	Suspected osteoporotic vertebral collapse	AP Lateral	<p>Degenerative changes are common and often unrelated to symptoms. Examination is rarely useful in the absence of neurological signs or signs of metastasis or infection</p> <p>ALL other causes require MRI</p> <p>Examination is rarely useful in the absence of neurological signs. Exception is the younger patient (<math>\leq 25</math> years) to assess for spondylolisthesis or ankylosing spondylitis and in the older patient</p>
<b>Thoracic Spine Non trauma</b>	Tumour Osteochondritis Osteoarthritis Bone Infection	NOT JUSTIFIED	Suggest MRI
<b>NOTES</b>	<b>NOT</b> indicated for non-traumatic acute back pain or degenerative change. Normal plain x-rays		

# Lumbar Spine

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Request	Authorisation Criteria	View	Comments
<b>Lumbar Spine Trauma</b>	Trauma with pain or neurological deficit	AP Lateral	Standing AP and Lateral may be requested by a Neurosurgeon
<b>Lumbo-sacral junction</b>	Must be performed if poorly demonstrated on lateral view	Coned lateral	
<b>Lumbar Spine Non-Trauma</b>	Osteoporotic collapse or ? Ankylosing Spondylitis	AP Lateral	All other causes require CT/MRI
	Tumour Osteochondritis Osteoarthritis Bone Infection Congenital Abnormality i.e. Spina Bifida Sciatica without back pain	Plain film radiography <b>NOT</b> indicated	Suggest MRI/CT as appropriate
<b>Lumbo-sacral Junction Non-trauma</b>	Must be performed if poorly demonstrated on lateral view	Coned lateral	Rarely indicated
<b>Thoraco-lumbar spine i.e. whole spine</b>	Scoliosis	AP weight bearing on one film including SIJs	Consultant request only
<b>Sacro-iliac joints</b>	Trauma Pain Neurological symptoms	PA Sacrum 10-15° caudal	
<b>NOTES</b>	<p><b>NOT</b> indicated for non-traumatic back pain or degenerative change. Normal plain x-rays may be falsely reassuring</p> <p>Sacrum is <b>NOT</b> indicated, discuss with a radiologist, CT may be indicated</p> <p>Coccyx is <b>NOT</b> indicated as per RCR guidelines</p>		

# Upper Extremity

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Request	Authorisation Criteria	View	Comments
<b>Shoulder</b>	Trauma Tumour Fracture follow up	AP <i>plus</i> Axial	Two views are required.  Axial must be first choice. If this cannot be achieved, please attempt a modified axial. A lateral scapula view (Y view) should be a last resort only if unable to perform the other views dependent on patient condition
	Post reduction	AP Lat Scapula (Y-view)	
	OA RA Pain Limited ROM/ Abduction	AP turned by 20°	AP and axial view if requested by Ortho team  All other requests AP only
	Recurrent dislocation	AP	Lateral view on request
	Arthropathy Loose body Calcific tendonitis	AP	AP and axial view if requested by Ortho team  All other requests AP only
	Pre-surgery planning	AP Axial	
<b>NOTES</b>	Plain film is <b>NOT</b> indicated for shoulder impingement, rotator cuff tear or instability. MRI, CT arthrography or U/S is recommended.		
<b>Scapula</b>	Trauma	AP Lateral Scapula	Must include clavicle, proximal 3 <sup>rd</sup> of humerus and scapula
<b>Clavicle</b>	Trauma	AP AP 15° cephalic angle if AP is negative	
	Non trauma i.e. tumour or fracture follow up	AP	
<b>Acromio-clavicular joint</b>	Acute trauma (non-specific)	1)AP shoulder	Two views
		2)Axial OR	

		Modified axial OR Lat Scapula	
	Acute trauma (specifically to ACJ) i.e. Subluxation/Dislocation	1)AP shoulder 2)AP WB shoulder 3)Axial OR modified axial OR Lat Scapula	Three views Comparison views of other ACJ may be required – only if you are unsure whether affected joint is abnormal
	Non-acute	Coned AP views in weight bearing and non-weight bearing positions	Two views Comparison views of other ACJ may be required – only if you are unsure whether affected joint is abnormal
<b>Sterno-clavicular joint</b>	Trauma Non-trauma	Not routinely indicated	All to be vetted by MSK radiologist; CT or MRI may be indicated instead
<b>Humerus</b>	Trauma Prosthesis Infection Tumour Cyst Alignment/healing	AP Lateral	Must include both joints
<b>Elbow</b>	Trauma Prosthesis Infection Tumour Cyst Alignment/healing OA RA	AP Lateral	Comparison views in children must be agreed by a Radiologist
<b>Radius/Ulna</b>	Trauma Prosthesis Infection Tumour Cyst Alignment/healing	AP Lateral	Must include both joints
<b>Wrist</b>	Trauma Prosthesis Infection Tumour Cyst OA RA Alignment/Healing	AP Lateral	
	Bone Age	PA left hand and wrist with one exposure	
	Carpal instability	6 views  1)PA neutral 2)PA Ulnar deviation 3)PA Radial deviation 4)PA gripping	Rheumatology or Orthopaedic request ONLY

		5)Lateral 6)Lateral gripping	
<b>Wrist for lunate</b>	Trauma	PA Oblique with clenched fist	
<b>Scaphoid</b>	Trauma Prosthesis Infection Alignment/healing	PA Ulna deviation Lateral	Initial views to include metacarpals and distal 1/3 radius and ulna  2 views on initial request ONLY, unless specifically requested at initial presentation with appropriate symptoms in which case, all 4 views may be performed.
	Follow up	4 coned views 1)PA 2)Oblique 3)Lateral 4)PA Ulnar deviation with 30° caudal angle	For follow up or if specifically requested and justified on the initial examination  Scaphoid fractures may be invisible at initial presentation. MRI recommended if persistent clinical concern at 7-day review.
<b>Hand</b>	Trauma Radiopaque FB Prosthesis	PA Oblique Lateral	Soft tissue exposure for FB
	Infection OA Alignment/healing	PA Oblique	
	RA	DP both hands	
<b>Thumb</b>	Trauma OA Prosthesis Infection Post reduction Alignment/healing	AP Lateral (PA if AP not possible)	Include 1 <sup>st</sup> carpometacarpal joint
<b>Fingers</b>	Trauma OA Prosthesis Infection Post reduction Alignment/healing	PA Lateral (AP if PA not possible)	Obliques may be required for follow up patients in strapping

# Lower Extremity

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Request	Authorisation Criteria	View	Comments
<b>Femur</b>	Trauma Prosthesis Infection Tumour Cyst Alignment/healing	AP Lateral	Must include hip joint and knee joint
<b>Knee</b>	Trauma with inability to weight bear or pronounced bony tenderness.	AP Horizontal-Beam lateral (HBL)	Trouser legs <b>MUST NOT</b> compress the soft tissue or be visible when rolled above the knee. Trousers should be removed if this is not possible.  Compression bandages or the like <b>MUST</b> be removed so as not to compress the soft tissues
	Non-trauma Locking Restrictive movement Effusion Surgical assessment Non trauma knee pain RA Tumour Prosthesis Degenerative changes – new or follow up or pre-op	AP Lateral ±Skyline	Standing views for degenerative changes  30° skyline view if requested by a specialist i.e. Orthopaedic team or MSK physio (through GP surgery), T&O doctors working in the community listed in <b>Appendix 1</b> .  <b>Any other GP Requests should not be accepted.</b>  For the skyline view to be justified, clinical information should state 'Tri-compartmental assessment of the knee' PLUS clinical details OR working diagnosis, for example OA  Intercondylar notch/Tunnel view (Rosenberg view/PA20) – should only be performed when requested by Trauma and Orthopaedic team for OA including those working in the community <b>Appendix</b>

			<b>1. Any other requests for this view must be discussed with an MSK Radiologist.</b>
<b>Patella</b>	Direct trauma	AP Lateral Skyline view	Skyline to be performed if patient can co-operate for this view.
<b>Skyline Patella</b>	Patello-femoral tracking OA Inflammatory arthritis Anterior knee pain after TKR Trauma of the knee	Axial	Various techniques acceptable depending on patient. Specialist request only (Orthopaedic team or MSK physio) – must give one of the listed criteria
<b>Tibia &amp; Fibula</b>	Trauma Prosthesis Infection Tumour Cyst OA RA Alignment/healing	AP Lateral	Must include knee joint and ankle joint
<b>Ankle</b>	Trauma Malleolar tenderness Soft tissue swelling Inability to weight bear Prosthesis Infection Tumour Cyst OA RA Alignment/healing	AP (mortice) Lateral	Include the base of the 5 <sup>th</sup> metatarsal on the lateral projection. If fractured, X-ray foot.
	Ankle arthritis Subtalar arthritis Talo-navicular arthritis Flat foot/Pes Planus  Trauma - ankle # from fracture clinic (? stable)	AP and Lateral with Weight bearing	Specialist request only. Must have one of the justifiable clinical indications.
<b>Calcaneum</b>	Trauma Prosthesis Infection Tumour Cyst Alignment/healing FB	Lateral Axial	Possible plantar fasciitis should be investigated with US not plain film.
	Calcaneal spur	Lateral	Symptomatic side only

<b>Foot</b>	Trauma Prosthesis Infection Tumour Cyst OA Avascular necrosis Congenital abnormality Alignment/healing. Generalised long-term/non-traumatic pain. Stress fracture.	DP Oblique	
	Flat foot Mid-tarsal collapse Ankle/subtalar collapse Hallux Valgus Hallux Rigidity Mid foot arthritis Lis-Franc Injury	DP and Lateral with Weight bearing	Specialist request only. Must have one of the justifiable clinical indications.
<b>Hallux (Big toe)</b>	Trauma Infection Tumour OA Foreign body Dislocation	DP Lateral	Use radiopaque tape or gauze to separate toes and prevent overlap on images.  Oblique should only be performed if not able to obtain lateral.  Use radiopaque tape or gauze to separate toes and prevent overlap on images.
<b>Toes</b>	Trauma/Infection Tumour OA Foreign body Dislocation	DP Oblique	Use radiopaque tape or gauze to separate toes and prevent overlap on images.  Oblique should only be performed if not able to obtain lateral.
<b>Long Leg/ Alignment views</b>	Leg length for alignment checks pre surgery  Post arthroplasty alignment check	AP leg length view only	Patient MUST BE <ul style="list-style-type: none"> <li>&lt; 60 yrs</li> <li>Listed for TKR/UKR surgery</li> </ul>

# Foreign Bodies

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Request	Authorisation Criteria	View	Comments
Skull	Foreign body in scalp	Tangential view	
Orbits	FB – Trauma	OM 30° with Eyes up	If FB is seen, perform OM 30° with eyes down and a lateral projection in addition.
	FB - Theatre	MO 30° only	Pt is in supine position
	Pre-MRI screening	OM 30° only with eyes up	Only one view required to identify possible presence of metal fragment.
Throat	Swallowed foreign body	Lateral	Soft tissue exposure
Adult and Paediatric Chest	Inhaled foreign body	PA CXR	<b>(For Paediatrics Only)</b> If a Positive FB is seen on CXR then a lateral view should also be performed.
Adult and Paediatric Abdomen	Acute ingestion of: Sharp objects Batteries Magnets	Supine Plus, lateral if FB is seen on supine view If no FB is seen, then perform erect CXR	To include diaphragm to rectum.
	Acute ingestion of: Any object that is not in the list above	Supine AXR ONLY	To include diaphragm to rectum.
	Retained FB over 6 days from ingestion (including retained during trauma)	Supine Plus, lateral if FB is seen on supine view	To include diaphragm to rectum.
Upper and lower extremities	Penetrating injuries: specify type of FB i.e. metallic or glass	2 views at 90° i.e. AP/PA and Lateral centred over the wound	Use a marker to localise the entry wound Remove dressings where appropriate A tangential view may be helpful to localise a FB

# Shunt Series

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Request	Authorisation Criteria	View	Comments
Lumbar Shunt	To check position ? malfunction	2 views  AP abdomen Lat abdomen	
VP Shunt	To check position ? malfunction	4 views  Lat skull/neck PA chest AP Abdomen Lat Abdomen	These views are to be taken in this order i.e. starting at the top

# Skeletal Surveys

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Request	Authorisation Criteria	View	Comments
	<b>** See notes</b>		
Skeletal Survey	<p><b>NAI or Mortuary (forensic)</b>  <b>**See additional note 1</b></p> <p>This requires consultation and supervision by a Consultant Radiologist, preferably with a Paediatric speciality</p>	<ul style="list-style-type: none"> <li>• AP and Lat skull</li> <li>• AP Chest</li> <li>• RT and LT Oblique Thorax</li> <li>• AP Abdomen and Pelvis</li> <li>• Lat view of whole spine</li> </ul>	<ul style="list-style-type: none"> <li>• Townes as required</li> <li>• To include shoulders</li> <li>• To include all ribs 1-12</li> <li>• To include pelvis and hips</li> </ul>

		<ul style="list-style-type: none"> <li>• AP Humeri</li> <li>• AP both Radius and Ulna</li> <li>• Coned lateral both elbows</li> <li>• Coned lateral both wrists</li> <li>• DP both hands/wrists</li> <li>• AP both Femora</li> <li>• AP both Tibia and Fibula</li> <li>• AP both Knees</li> <li>• Coned lateral both knees</li> <li>• AP both ankles</li> <li>• Coned lateral both feet</li> <li>• DP both feet</li> </ul>	<ul style="list-style-type: none"> <li>• For paedcs under 1 this may be possible on one view, separate views for larger children</li> <li>• To include shoulder and elbow joints</li> <li>• To include wrist joints</li> </ul>
	<p>Follow up NAI survey</p> <p>Requires Paediatric Radiology Consultant to be aware but direct supervision not necessary</p>	** See additional note 2	
<b>Skeletal Survey</b>	<p><b>Skeletal Dysplasia</b></p> <p>Requires Paediatric Radiology Consultant supervision</p>	<ul style="list-style-type: none"> <li>• AP and Lat Skull</li> <li>• AP CXR</li> <li>• AP Pelvis</li> <li>• Lateral T/L Spine</li> <li>• AP ONE upper limb (humerus and radius and ulna)</li> <li>• AP ONE lower limb</li> </ul>	<ul style="list-style-type: none"> <li>• To include distal ends of clavicles</li> <li>• To include symphysis pubis and AP lumbar spine</li> <li>• Will require 1 or 2 images dependent on child size</li> </ul>

		<p>(femur and tibia and fibula)</p> <ul style="list-style-type: none"> <li>• DP LEFT hand and wrist (i.e. bone age)</li> <li>• Potential additional views. <b>**See additional note 3</b></li> </ul>	<ul style="list-style-type: none"> <li>• Will require 1 or 2 images dependent on child size</li> </ul>
<b>Skeletal Survey</b>	<b>Multiple Myeloma</b>	<ul style="list-style-type: none"> <li>• Lateral Skull</li> <li>• PA CXR</li> <li>• AP Humeri</li> <li>• AP Pelvis</li> <li>• AP Upper Femora</li> <li>• AP and Lat T/Spine</li> <li>• AP and Lat L/Spine</li> </ul>	
<b>Skeletal Survey</b>	<b>Acromegaly</b>	<ul style="list-style-type: none"> <li>• DP both hands</li> </ul>	
<b>Skeletal Survey</b>	<b>Congenital syphilis infection VDRL</b>	<ul style="list-style-type: none"> <li>• AP CXR</li> <li>• AP Femora</li> </ul>	
<b>Skeletal Survey</b>	<b>Hyper-parathyroidism</b>	<ul style="list-style-type: none"> <li>• DP Both hands</li> </ul> <p>If requested:</p> <ul style="list-style-type: none"> <li>• Lateral skull</li> <li>• OPG</li> <li>• AP supine AXR</li> </ul>	
<b>Skeletal Survey</b>	<b>Rickets</b>	<ul style="list-style-type: none"> <li>• DP Both wrists</li> <li>• AP Both knees</li> <li>•</li> </ul>	
<b>Skeletal Survey</b>	<b>Osteomalacia</b>	<ul style="list-style-type: none"> <li>• PA CXR</li> <li>• Lateral Skull</li> <li>• Lateral T/Spine</li> <li>• Lateral L/Spine</li> <li>• AP Pelvis</li> <li>• AP and lat Tibia and Fibula</li> </ul>	

**Skeletal Survey Notes:**

**\*\*1**

CT head may have already been performed for patients under 1 year of age. Skull views are still required.

All images must include the entire area under examination. Cross over images are not acceptable

**\*\*2**

Follow up imaging 10-14 days later – no later than 28 days after initial skeletal survey.

Details of follow up imaging is held in a separate folder on SharePoint (S-drive) but is as follows:

- AP CXR (to include shoulders)
- Both left and right oblique chest (to include ribs 1-12)
- AP both whole upper limb (humerus and radius and ulna) on one view in small children. In larger children, 2 views may be necessary (AP Humeri and AP forearm)
- AP both whole lower limb (hip/femur and tibia and fibula) on one view in small children. In larger children, 2 views may be necessary (AP femur and AP Tib and Fib)
- Views of any other abnormal/suspicious areas to be taken will be detailed by the Radiologist in the vetting protocol as needed.

**\*\*3**

For skeletal dysplasia, additional views may be required as per the supervising paediatric Consultant Radiologist as follows:

- Both upper and lower limbs if patient is clinically asymmetrical
- Lateral C/Spine if associated atlanto-axial instability is suspected

**Appendix 1: T&O's working in GP surgeries**

Kirti Moholkar  
Vishal Paringe  
Divya Prakash  
Sachin Sudera  
Caroline Etunyi  
Mohamed Mussa  
Vinodh Pannirselvam  
Kashif Memon