

Radiological Terminology

Lytic	Bone loss/destruction (blackier)
Blastic/Sclerotic	Bone production (whiter) - blotches
Artefact	Anything that obscures/distorts the image - patient clothing, image noise
Coalition	Congenital fusing of two bones
Disarticulation	Disconnection of limb from the body through the joint
Congruent	Joint that is not dislocated
Involucrum	Caused by osteomyelitis - thick sheath of periosteal new bone surrounding a sequestrum
Sequestrum	Calcification within a lucent lesion, separated from the surrounding bone
Monomelic	Condition that is confined to one limb
Monostatic	Condition that involves one bone
Polystotic	Condition that involves multiple bones
Agenesis	Failure of growth of an organ - congenital
Aplasia	Absence of development of a structure/organ
Gold Standard	Best test for the best diagnosis of a disease
Subclinical disease	Asymptomatic
Cloaca	Osteomyelitis - drainage hole

X-Ray

Strengths	Weaknesses
Relatively Inexpensive	No soft tissue details
Widely available	Cannot detect loss of bone mass unless severe (30-50%)
Bone pathologies - f#, tumour, arthritis, osteomyelitis, bone disease	Cannot detect bone marrow changes/oedema
Assess orthopaedic hardware	Ionising radiation
Terminology used in x-ray images:	
Radiolucent: black	
Radio-opaque: White	

CT

Strengths	Weaknesses
2D + 3D images	Uses ionising radiation
Complex fractures - especially of flat bones + spine	Cannot show bone marrow changes/oedema
Assess for fracture healing	
Postop - degree of fusion/hardware complications	
Bone window: assesses cortical bone - makes bone appear more grey	
Soft tissue window: Assesses soft tissues, soft tissue appears more detailed, bony appears more bright	
Hyperdense: White	
Hypodense: Black	



MRI

Strengths

Excellent for soft tissues

Bone Marrow/oedema

Non-ionising radiation

Weaknesses

Expensive

May require further imaging

Claustrophobic patients

T1: Fat is high signal - MRI shut off quickly

T2: Water is high signal - MRI shut off after a long period of time

STIR: Fat suppression, fluid is high signal - good for oedema.

Ultrasound

Strengths

Anatomic + Dynamic functional evaluation of MSK tissues

Determines whether mass is Cystic/Solid nature

Vascularity of a lesion (Doppler)

Real time guidance for percutaneous procedures

Foreign body detection

Weaknesses

Operator dependant

Superficial structures only

Hyperechoic: White

Hypoechoic: Black



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