Radiological Terminology

Lytic	Bone loss/destruction (blacker)
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 shealth 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	Weaknesses
Excellent for soft tissues	Expensive
Bone Marrow/oedema	May require further imaging
Non-ionising radiation	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	Weaknesses
Anatomic + Dynamic functional evaluation of MSK tissues	Operator dependant
Determines whether mass is Cystic/Solid nature	Superficial structures only
Vascularity of a lesion (Doppler)	
Real time guidance for percutaneous procedures	
Foreign body detection	

Hyperechoic: White
Hypoechoic: Black

By **Siffi** (Siffi)
cheatography.com/siffi/

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