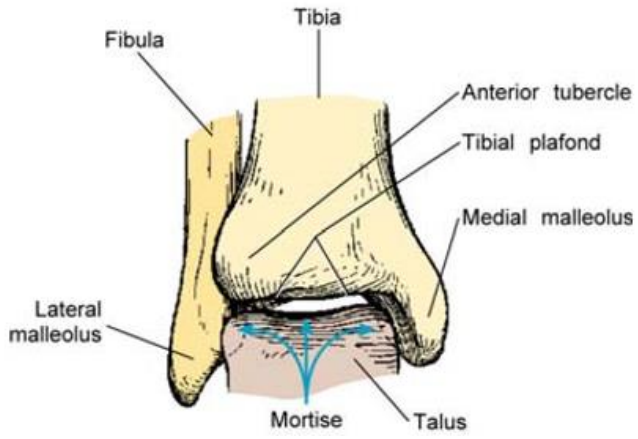
Lisfrank fracture
Jones Fracture - Transverse fracture of the base of the 5th metatarsal
Metatarsals - March Fracture – Majority involve 2nd & 3rd metatarsals
Plain film changes – fluffy periosteal new bone, subtle fracture line, band of sclerosis
Rheumatoid Arthritis
Osteoarthritis – denser around joint area
Gout – increased blood levels of uric acid results in deposits of urea crystal within joint cartilage
Plantar fasciitis calcaneal spur
Pes Planus – flat feet, Longitudinal arch reduced on standing
Hallux valgus deformity (bunions) - Lateral deviation of 1st toe, Bilateral AP weight bearing, Bunion – inflammation of the bursa
Kohlers disease – children, Avasucular necrosis of tarsal navicular, pain and flatfoot
Osteomyelitis – infection eats bone away, bone and bone marrow

THE ANKLE

Anatomy



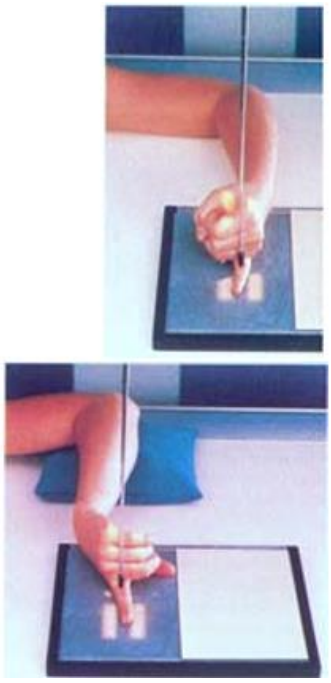
Lateral

18 x 24 cassette divided into 3
Patient sitting at end of table parallel to end so legs not under the table
Elbow at 90 degrees

Hand and forearm resting on table
Hand on side

- 2nd and 3rd fingers **radial aspect in contact with cassette**
- 4th and 5th fingers **ulna aspect is placed in contact with the cassette – elbow out straight for comfort (turn cassette)**
- 3rs and 4th fingers not in contact or joint spaces will close

Fold the other digits into a fist
Long axis of digit should be parallel to short edge of cassette
Central ray perpendicular to cassette
Centre to the PIP joint
Collimate on 4 sides to outer margins of hand
FFD 100 (CR) 110 (DR)
kVp 52 (48 – 55)
mAs 6 (3 – 8)
Fine focus, no grid



- **Radiographic criteria**

Regional anatomy included – tip of digit to distal metacarpal including soft tissue
Digit free of superimposition
Proximal phalanx head rounded
Concave appearance of anterior surface of shaft of phalanges
Least possible overlap of other digits
Digit free of motion
Density and contrast optimal to visualise bone & soft tissue

MRSC1150 | DIAGNOSTIC RADIOGRAPHY METHODS

INTRODUCTION

Types of radiation

IONISING	NON-IONISING
Plain radiography	Ultrasound
Fluoroscopy	MRI
Angiography	
CT	
Mammography	

X-ray production

Electrons are fired from cathode into a rotating, tungsten anode
Cathode -
Anode +

Kinetic energy → 99% thermal energy, 1% electromagnetic energy

Cathode

Source of electrons
Negative
Two filaments of coiled tungsten wire – one large and one small (focal spot)
Small focal spot – extremities
Large focal spot – body

Anode

Positive electrode
Stops or decelerates electrons
Rotating
Made of tungsten

Focal spot

Affects size of the area on the anode that is exposed to electrons
Large focal spot can withstand the heat produced by large exposures
Small focal spot produces better image quality

kVp

Gives quality of the x ray beam
Determines the speed at which the electrons in the tube current move
kVp = Penetration
Increased kVp = higher beam energy, penetration, scattering, image density but lower image contrast
Hit lightly or hard

mAs

mA x time = mAs