

MANAGEMENT OF ANKLE FRACTURES

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Anatomy of the ankle joint

- ▣ Tibiotalar joint
- ▣ Subtalar joint
- ▣ Syndesmosis
- ▣ Malleoli (medial, lateral, posterior)

Ankle ligaments

- ▣ Anterior inferior tibiofibular ligament
- ▣ Posterior inferior tibiofibular ligament
- ▣ Inferior transverse ligament
- ▣ Syndesmosis ligament
- ▣ Anterior talofibular ligament
- ▣ Posterior talofibular ligament
- ▣ Calcaneofibular ligament
- ▣ Deltoid ligament

Mechanism of Injury

- ▣ How long ago was the injury?
- ▣ Fall from a height
- ▣ Inversion injury
- ▣ Road traffic accident
- ▣ Open / closed
- ▣ Child / adult
- ▣ Previous injury

Initial assessment

- ▣ Is it dislocated?
- ▣ Is it open?
- ▣ Is there a pulse?
- ▣ Is there sensation?
- ▣ Is this simple or complex?
- ▣ Is there a fracture at the fibular head

Initial management

- ▣ Reduce a dislocation
- ▣ Cover a wound / tetanus toxoid / antibiotics
- ▣ Temporary stabilisation



Reducing a dislocation

- ▣ Act fast
- ▣ Don't X ray beforehand
- ▣ Put one hand under the heel
- ▣ Put the other hand over the distal tibia
- ▣ Pull!

Applying a plaster

- ▣ Thick slab posterior with foot in neutral
- ▣ Stirrup to reinforce round the sides
- ▣ Place foot on your belly to bring to neutral
- ▣ Place your hands either side to mould

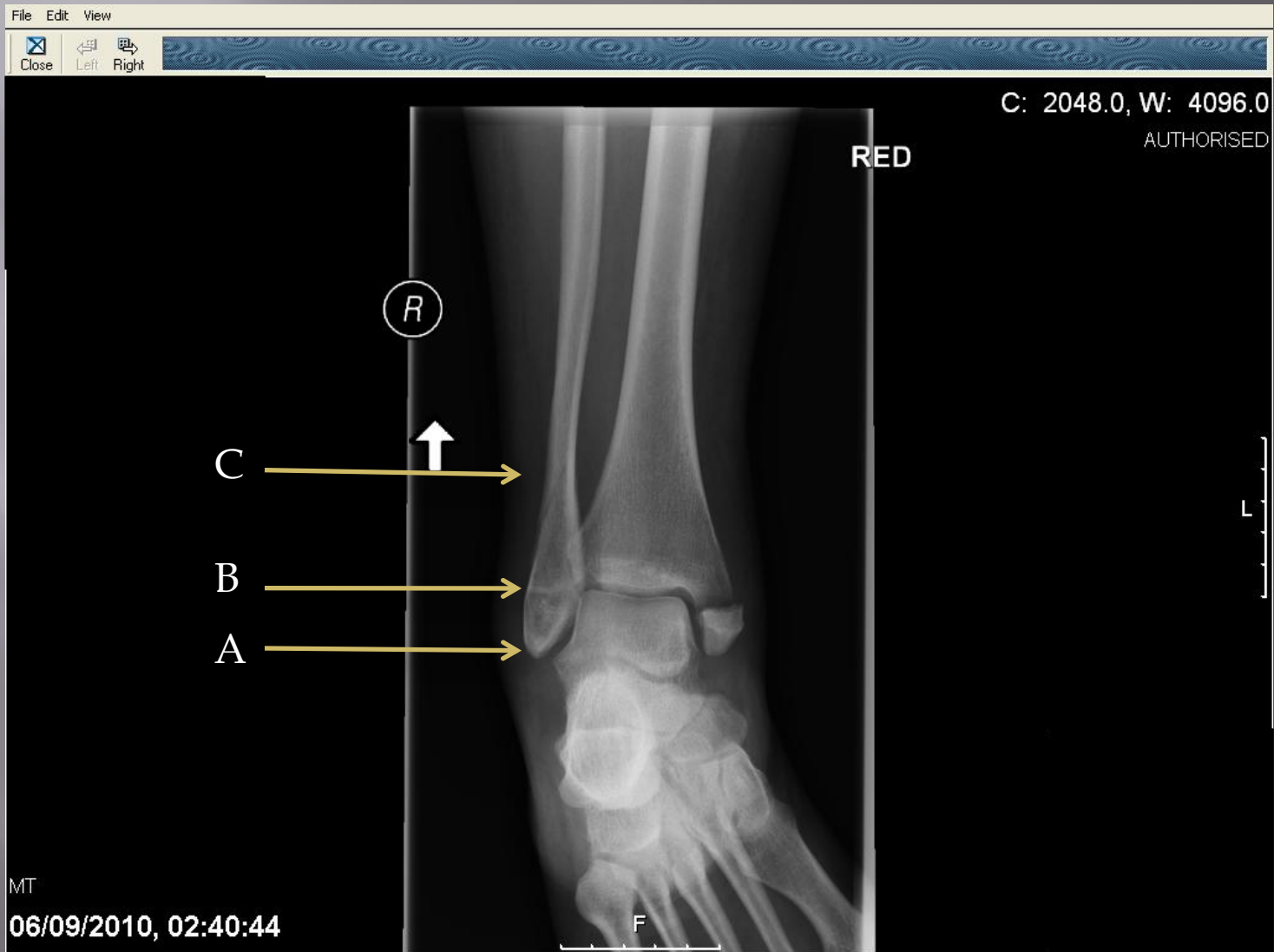
Ottawa Rules

- ▣ An ankle X ray series is required if there is pain in the malleolar zone and any of these findings:
 - bone tenderness lateral malleolus
 - bone tenderness medial malleolus
 - inability to wt bear both immediately & in ED
- ▣ A foot X ray series is only required if there is pain in the midfoot and and any of these findings:
 - bone tenderness base of 5th metatarsal
 - bone tenderness navicular
 - inability to wt bear both immediately & in ED

Taking X rays

- ▣ Focus on the ankle
- ▣ Take an AP and LAT
- ▣ True mortise
- ▣ CT scan

Weber's fracture classification



Weber A

- ▣ Aircast boot
- ▣ Firm bandage
- ▣ Nothing

Weber B (stable)

- ▣ Full weight bearing in cast / aircast boot
- ▣ 6 weeks

Weber B (unstable)

- ▣ Fracture dislocation
- ▣ Bimalleolar
- ▣ Trimalleolar
- ▣ Deltoid ligament injury
- ▣ Open reduction & internal fixation
- ▣ Or reduce, stabilise and hold in plaster



Weber C (unstable)

- Bimalleolar
- Talar shift
- Trimalleolar
- Plate and screws
- Syndesmosis screw



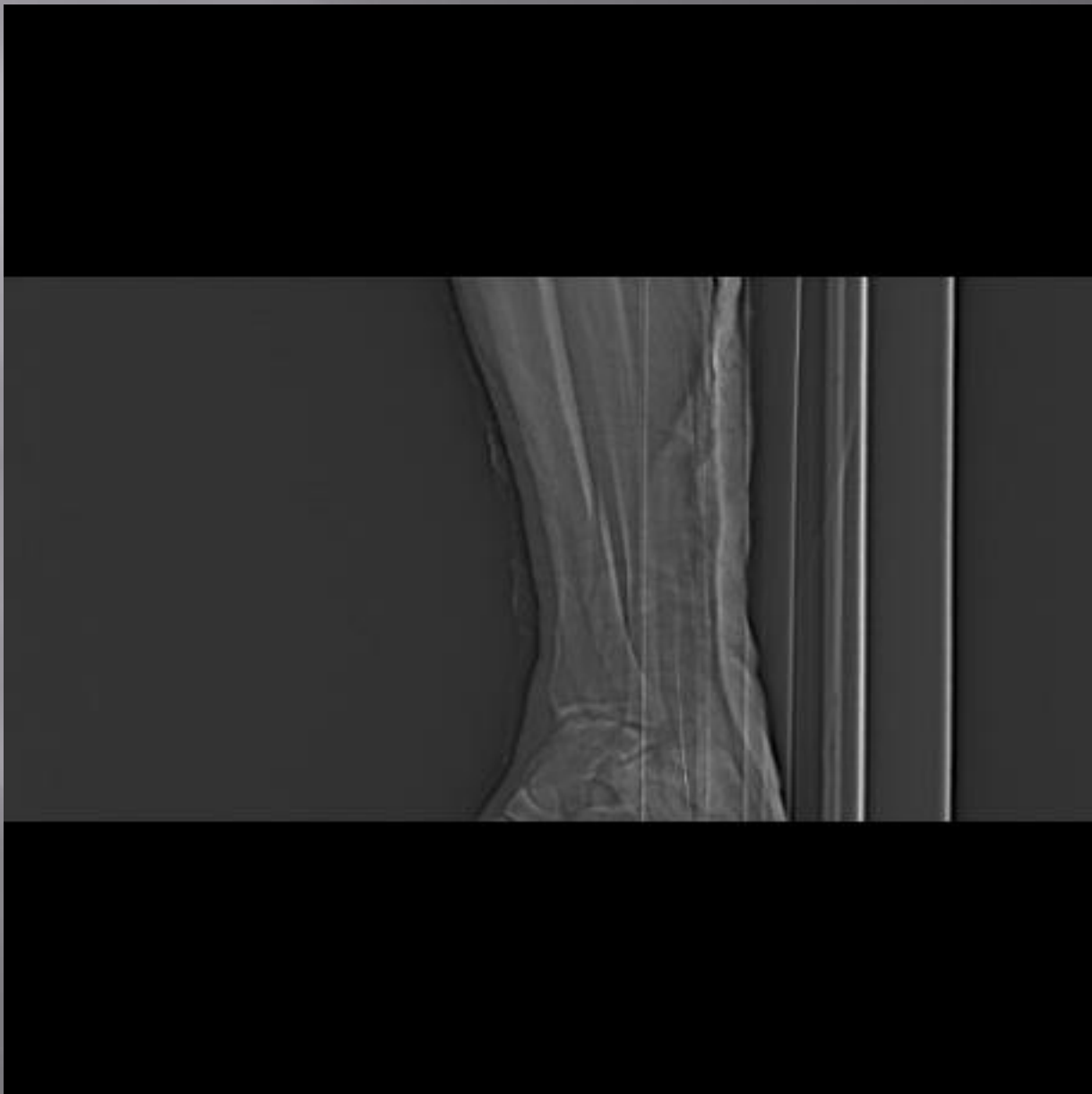
Maisonneuve fracture

- ▣ Proximal fibular fracture
- ▣ Talar shift
- ▣ Disruption of syndesmosis

Pilon fractures

- Complex distal tibial fractures
- CT scan
- Exfix
- Open reduction & internal fixation
- Ilizarov









Complications

- ▣ Deep vein thrombosis (DVT)
- ▣ Osteoarthritis (OA)
- ▣ Chronic regional pain syndrome (CRPS)
- ▣ Wound breakdown / infection
- ▣ Compartment syndrome

Any Questions?