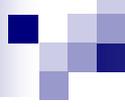


Compartment Syndrome

Dr Sarah Wintle MBCChB

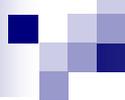
October 2010





Aims and Objectives

- What is compartment syndrome?
- Understand the anatomy involved
- Causes
- History and examination
- Investigations
- Treatments
- Complications



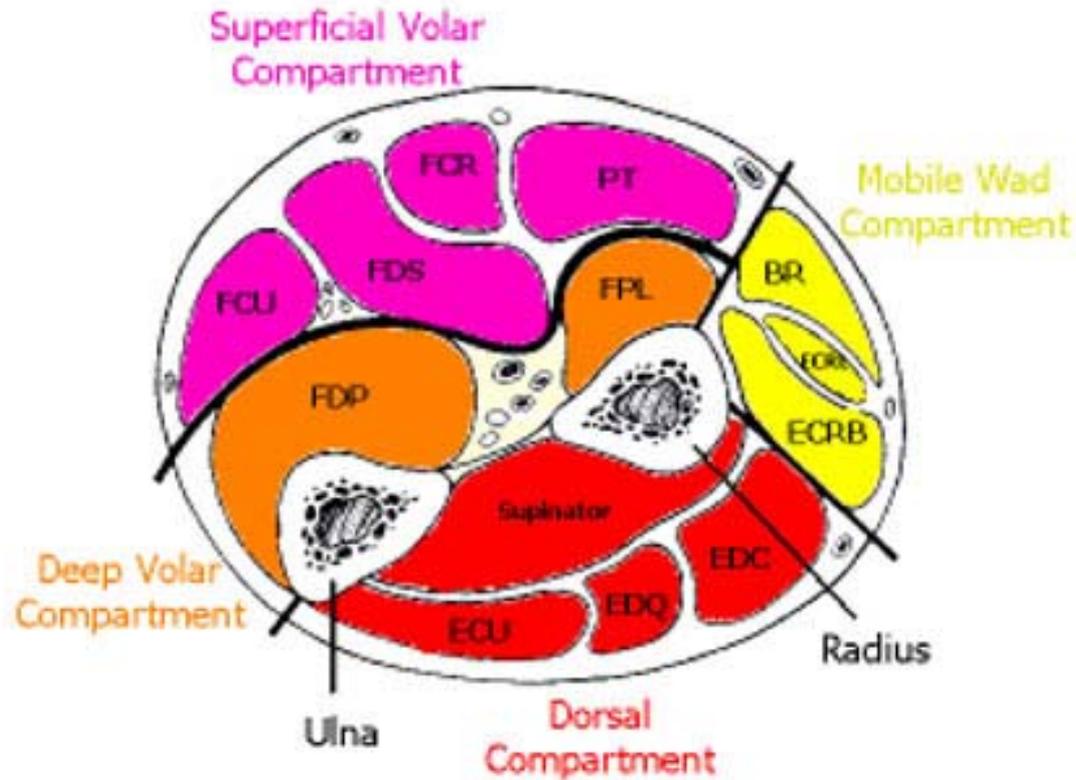
What is Compartment Syndrome?

- Compression of nerves, blood vessels and muscle within a closed space
- Can lead to tissue death through ischaemia
- Commonly involve forearm and lower leg
- Divide into acute, subacute or chronic
- Life/limb threatening emergency

Some anatomy...

- Fascia divides muscle groups into compartments
- Forearm contains 4 compartments:
 - superficial volar
 - deep volar
 - dorsal
 - mobile wad

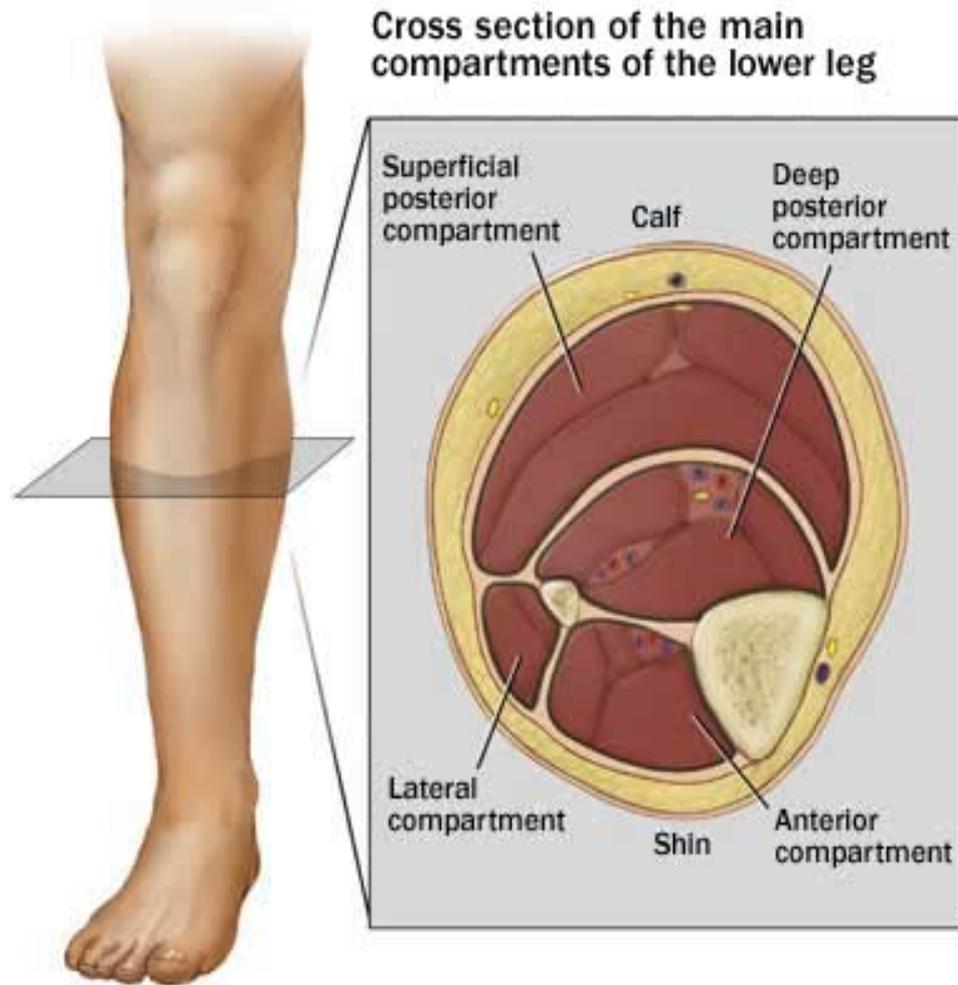
Some more anatomy...

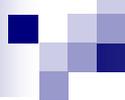


Some more anatomy...

- Lower leg contains 4 compartments:
 - **Anterior** (tibialis anterior, extensor hallucis longus, extensor digitorum)
 - **Lateral** (peroneus longus, peroneus brevis)
 - **Deep posterior** (tibialis posterior, flexor digitorum longus, flexor hallucis longus)
 - **Posterior** (gastrocnemius, soleus)

Some more anatomy...





Causes of Compartment Syndrome

- Fractures
- Haemorrhage
- Crush injuries
- Casts
- Limb compression
- Burns



History and Examination

- Remember 5 P's!
 - **Pain**
 - **Paraesthesia**
 - **Pallor**
 - **Paralysis**
 - **Pulselessness**

Passive dorsiflexion of the foot





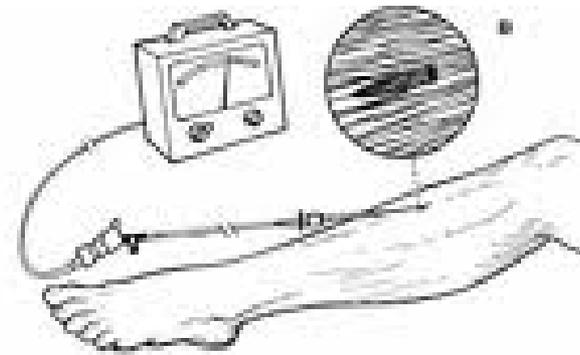
History and Examination

- Remember 5 P's!
 - **Pain**
 - **Paraesthesia**
 - **Pallor**
 - **Paralysis**
 - **Pulselessness**

Investigations

- Often diagnosed on history alone
- Measurement of intracompartmental pressures
 - normal resting pressures 0 - 10 mmHg
 - if >30 mmHg, treat as CS
- Measure BP: if diastolic BP - intracompartmental pressure > 30 EMERGENCY!

Intracompartmental Pressure Measurement



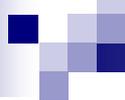
Investigations

- Often diagnosed on history alone
- Measurement of intracompartmental pressures
 - normal resting pressures 0 - 10 mmHg
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Treatments

- Conservative: elevate, remove all bandages, split cast (if not already split)
- Operative: fasciotomy



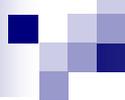


Complications

- Necrosis of tissue
 - amputation
 - contractures, eg Volkmann's
 - rhabdomyolysis

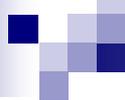
Volkmann's Contracture





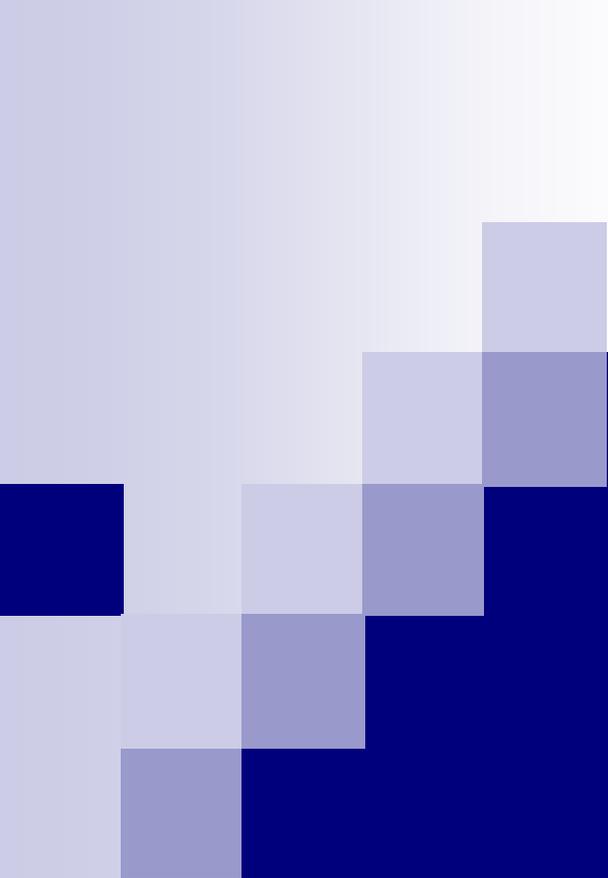
Complications

- Necrosis of tissue
 - amputation
 - contractures, eg Volkmann's
 - rhabdomyolysis



Aims and Objectives

- What is compartment syndrome?
- Understand the anatomy relating to CS
- Causes of CS
- History and examination
- Investigations
- Treatments
- Complications



Thank you!

Any questions?