

Chronic Exertional Compartment Syndrome



Margaret Lynch, DMSc, PA-C, ATC-R
OrthoCarolina Sports Medicine Center



Definition

- Chronic Exertional Compartment Syndrome is the body's inability to accommodate the increase in the muscle volume and pressure with activity or exercise



What Causes It

Activity increases blood flow to the muscles

-can cause up to a 20% increase in muscle volume

Muscle engorges and fascia does not expand

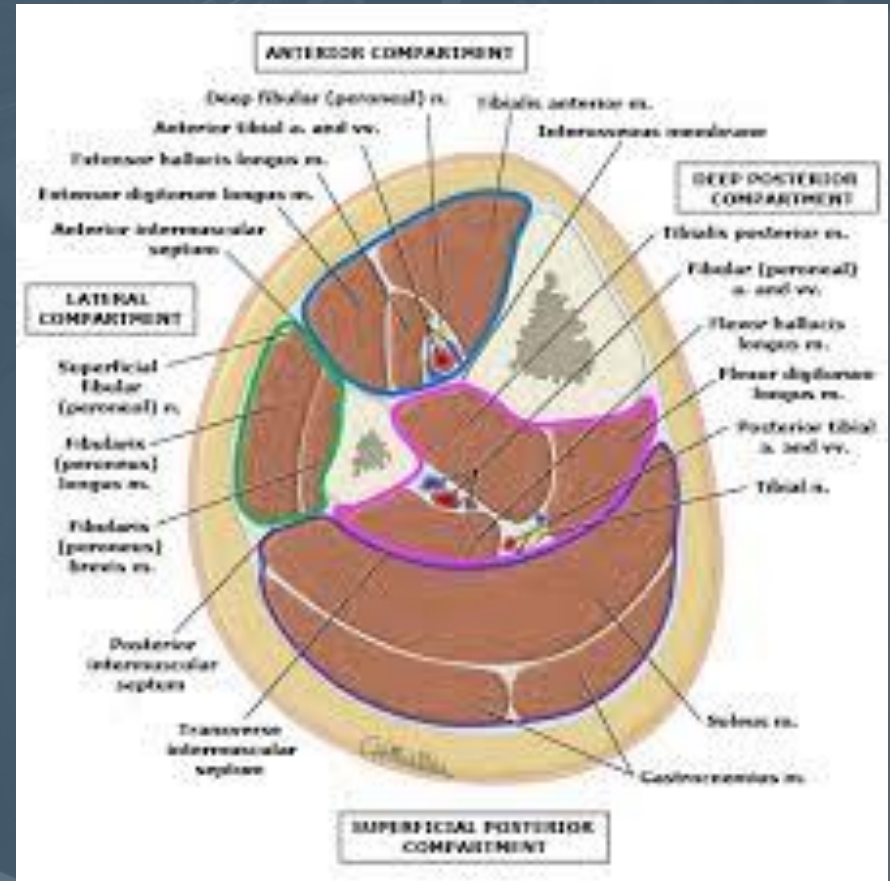
Increased pressure and pain in the compartment

Resolves with rest



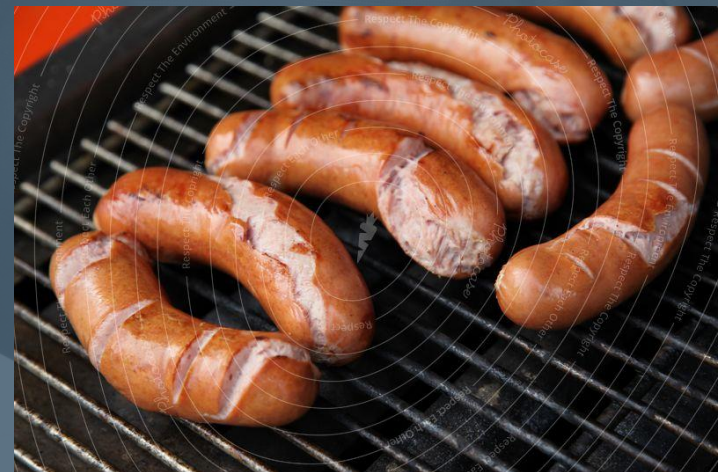
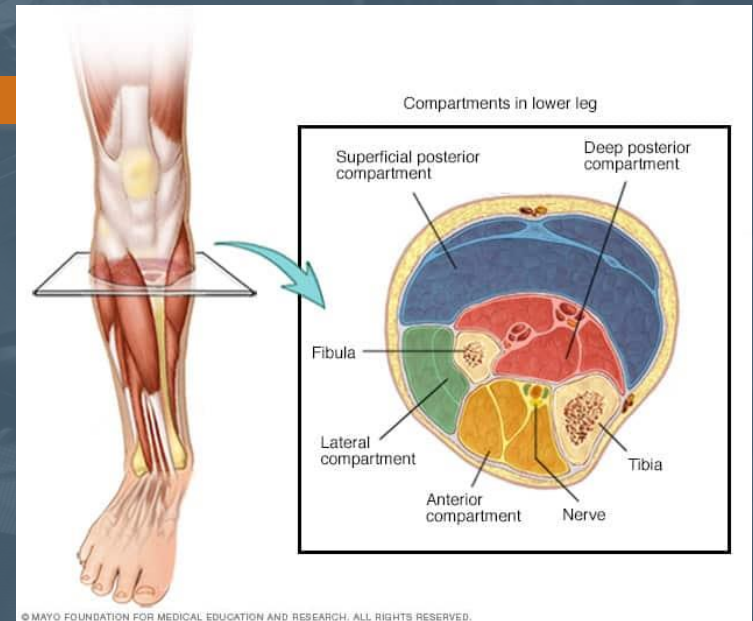
Where does it happen

- Leg
 - 4 compartments
- Forearm
 - 2 compartments
- Thigh
 - 3 compartments
- Hand
- Foot



Compartments of Lower Leg

- 80-95% occurs bilaterally
- Compartments by the prevalence
 - Anterior: 40-60%
 - Deep Posterior: 32-60%
 - Lateral: 12-35 %
 - Superficial Posterior: 2-20%



The Story

No pain when starting activity.

Within 20 minutes, symptoms begin (consistent start of symptoms)

- Pain, swelling, Paresthesia, weakness, 'feels like my leg is going to explode,' tightness
- Ischemia to tissue is likely the cause of pain but no irreversible damage

- Pain worsens with continued activity
- Will resolve completely within 15-20 minutes after stopping
- **MUST HAVE THIS STORY**



Differential Diagnosis

- Medial Tibial Stress Syndrome
- Stress Fractures
- Fascial defect and subsequent nerve entrapment
- Peroneal Nerve Entrapment
- Popliteal Artery Entrapment
- Claudication
- Lumbar Radiculopathy

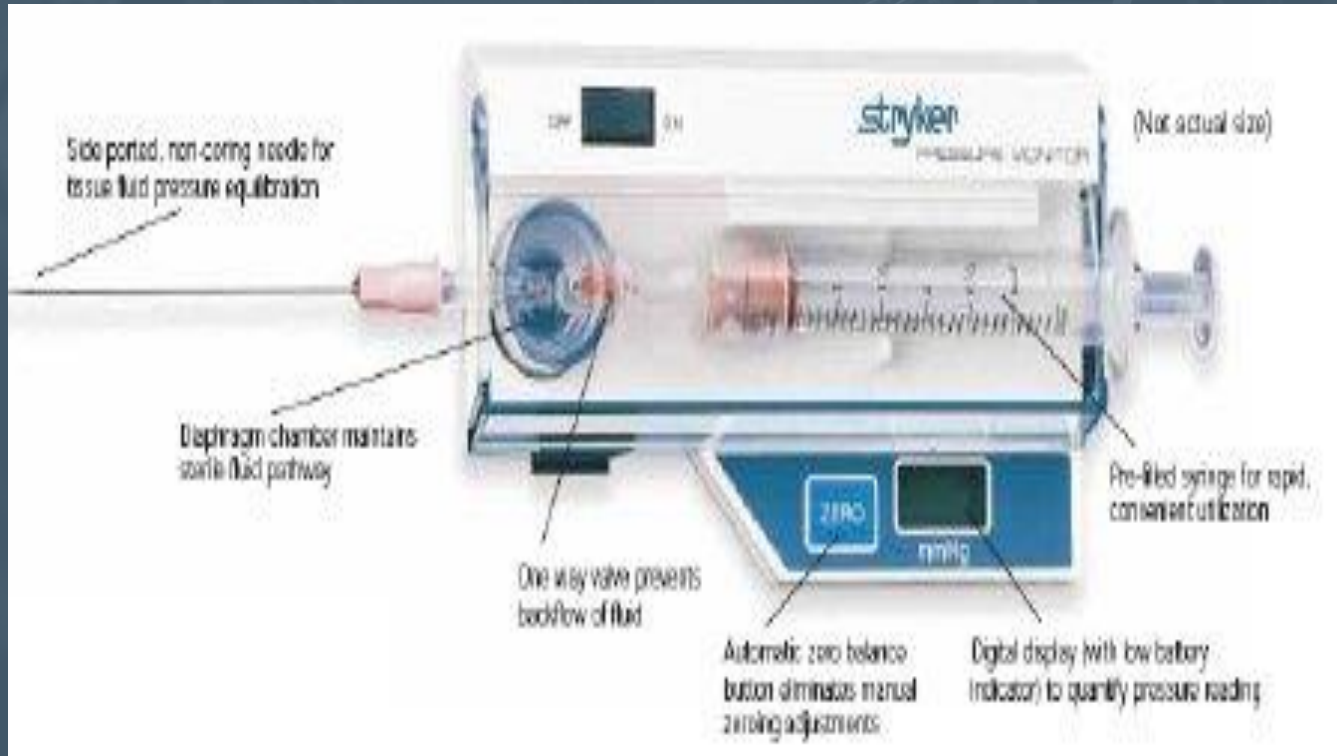


Risks of Testing

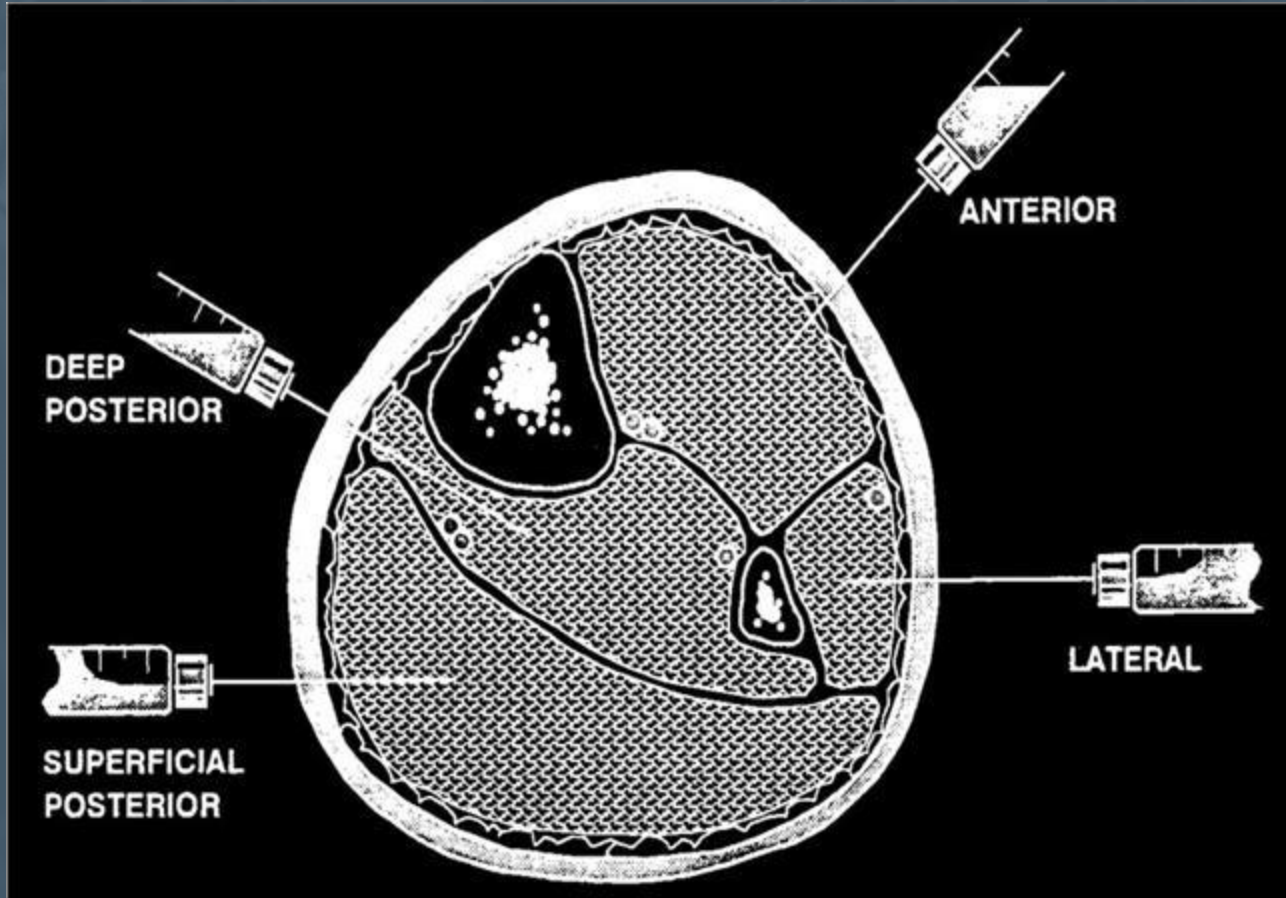
- Bruising
- Infection
- Swelling and pain
- **ACUTE COMPARTMENT SYNDROME**
- **DO NOT TEST UNLESS THE STORY MATCHES**



Testing



Testing



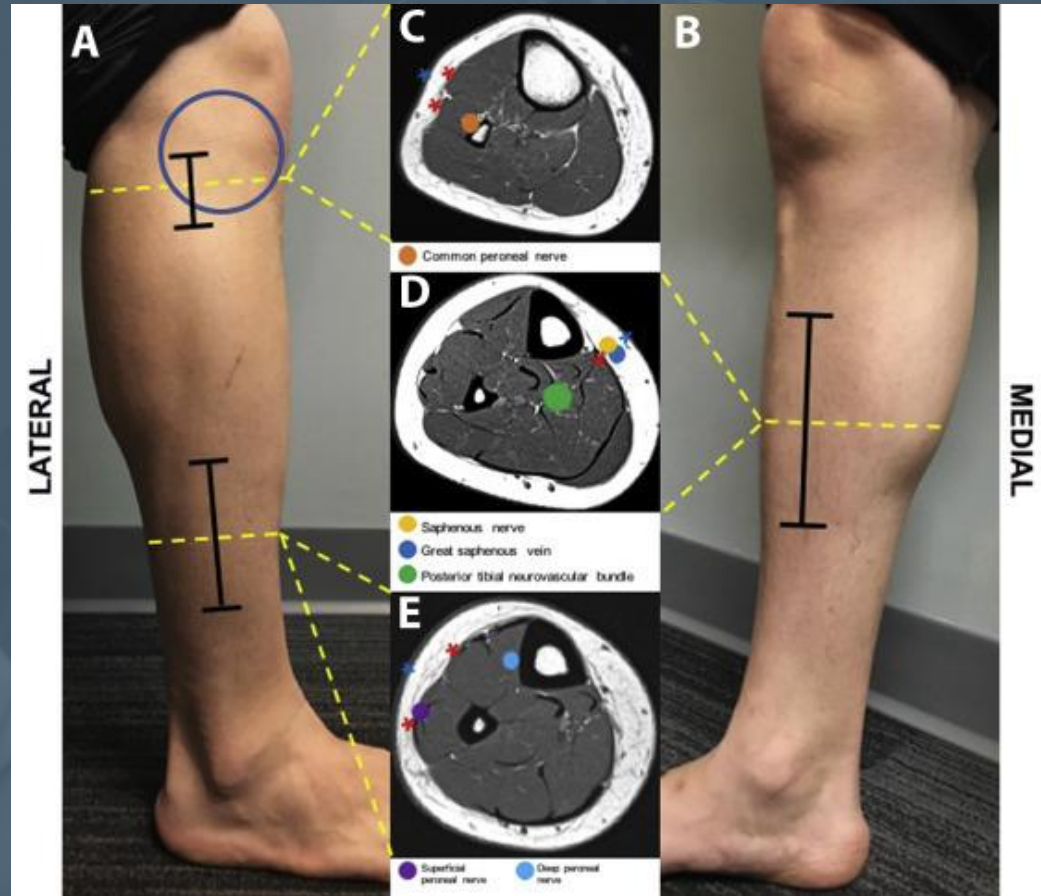
Positive Test

- At rest >15 mm Hg
 - Exercise
 - 1 minute after exercise >30 mm Hg
 - 5 minutes after exercise >20 mm Hg
-
- DO NOT TEST UNLESS MATCHES THE STORY



Treatment

- Fasciotomy



Rehab

- NWB for 2 weeks and then progress weight by 25% per week over 4 weeks
- STRICT ELEVATION for 2 weeks
- Game Ready is helpful
- Avoid swelling to reduce scar tissue
- 12 Weeks can begin light activity- avoid any pain with activity
- Not unusual for some discomfort as return
- Counsel that not always that legs feel 'normal' just feel way better



Final Thoughts

- Make sure the story fits
- Often these people have been passed around – listen intently to their story for clues
- If the story does not fit- DO NOT TEST
- Reassure that it will not cause irreversible damage if remain active



Thank you!

