

INTRODUCTION TO SPORTS THERAPY

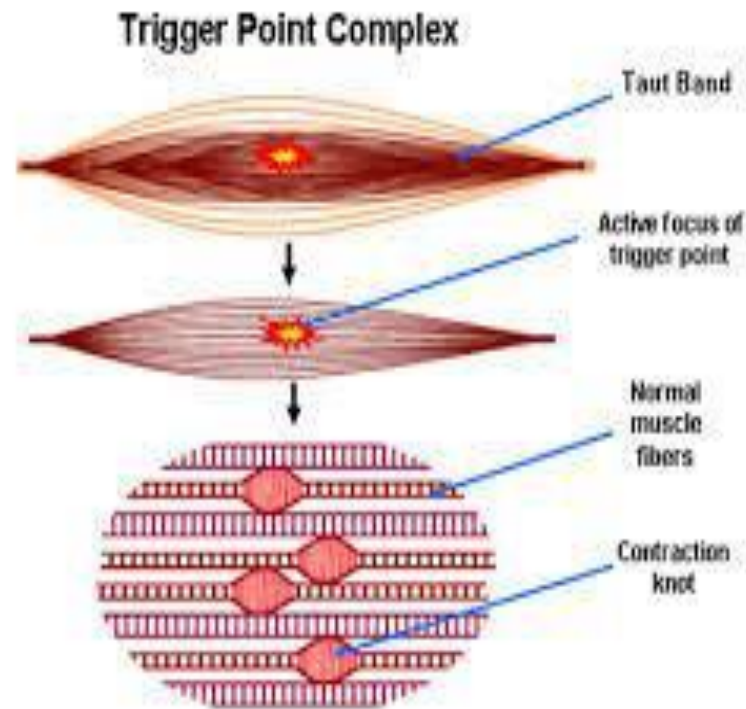
Practical –Trigger Points (TrP)

Learning Outcomes

- By the end of today students should be able to:
- Identify on fellow classmates - trigger points
- Differentiate latent and active trigger points
- Recognise common referral patterns for active myofascial trigger points
- Use Digital Ischaemic Pressure to treat trigger points

What are trigger points?

- Trigger Points (TrP) are focal, discrete, hyperirritable spots located in a taut band of skeletal muscle
- Spots are painful on compression of the site of the TrP and can reproduce pain locally (latent) or send/refer pain to another location (active)
- They can also produce motor disturbances such as weakness and loss of control in that muscle
- Local Twitch Response (LTR)
- Sometimes called 'knots'



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Travell and Simons (1999)

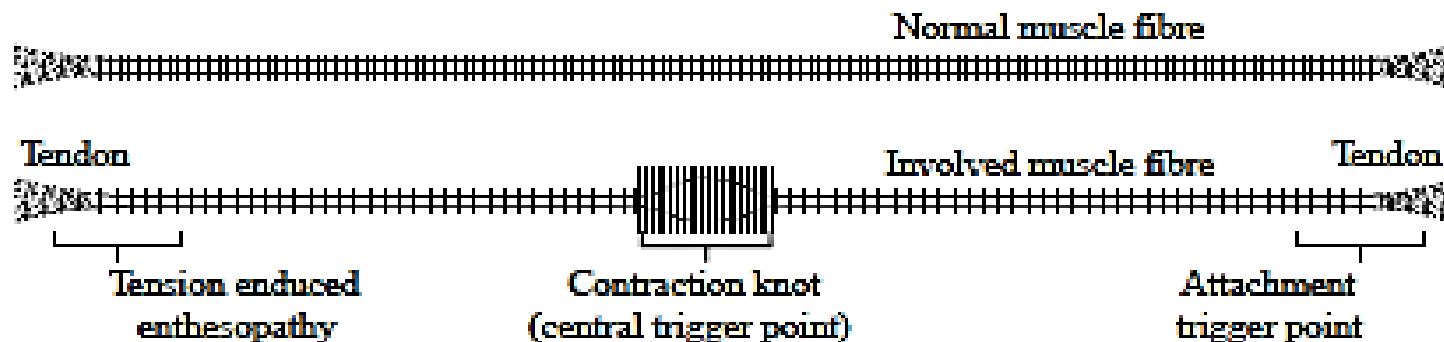
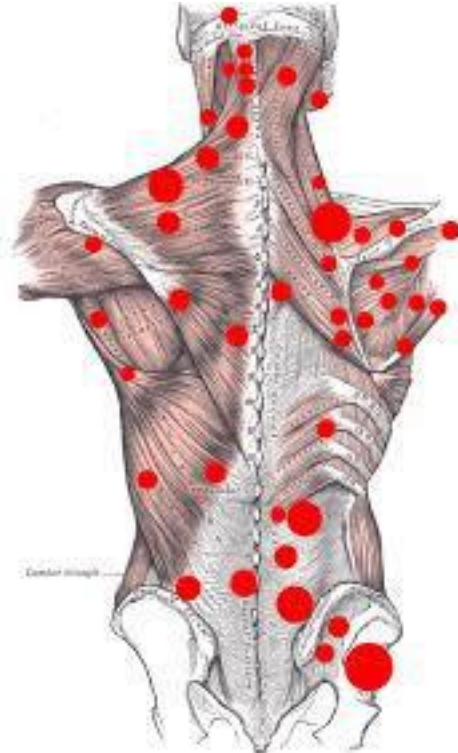


Fig. 1 Unequal sarcomere length: Comparison of the uniform, equal length of all sarcomeres of a normal muscle fiber compared to the severe shortening of a group of sarcomeres near the center of the fiber and the compensatory lengthening of the remaining sarcomeres. Note locations of central and attachment trigger points.

Diagnosis depends on accurate palpation with 2-4 kg/cm² of pressure for 10 to 20 seconds over the suspected trigger point to allow the referred pain pattern to develop

What causes TrP?

- Acute trauma
- Repetitive micro trauma
- Lack of exercise
- Cold exposure
- Prolonged poor posture
- Sleep disturbance
- Vitamin deficiency
- Occupational/ sporting overuse



How do patients present?

- Typical clinical presentation:
 - Onset of pain related to acute, chronic or repetitive load
 - Regional, persistent pain associated with movement or positioning
 - Pain may be constant but varies with exercise
 - Report referred shooting/radiating pain
 - NO imaging available to detect presence of TrP
- Active TrP cause clinical pain (and sensory disturbance) often referred and away from site of TrP
- Latent TrP feels taut but produces no clinical P+
 - May be uncomfortable in their locality



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Pharmacological Management

- Sleeping tablets
- Muscle relaxants
- Antidepressants
- Non-steroidal and inflammatory (NSAIDs)
e.g. ibuprofen

Compression

- Direct, usually static pressure, applied by thumbs, fingers, fist, heel and elbow in to soft tissue
- Effects
 - Reduces muscle hypertone (Autogenic Inhibition)
 - Reduces adhered tissue
 - Decompression of tissue

Definition

- Direct and usually static pressure applied by the thumbs, fingers, fist, heel and elbow into the soft tissue
- Hold up to 60 seconds. Generally 8-10 seconds.
- Obey the Pain Scale Rule of 7/10

Effects of Compression

- Reduces muscle hypertone
- Reduces adhered tissue
- Decompression of tissue

Torque Compressions

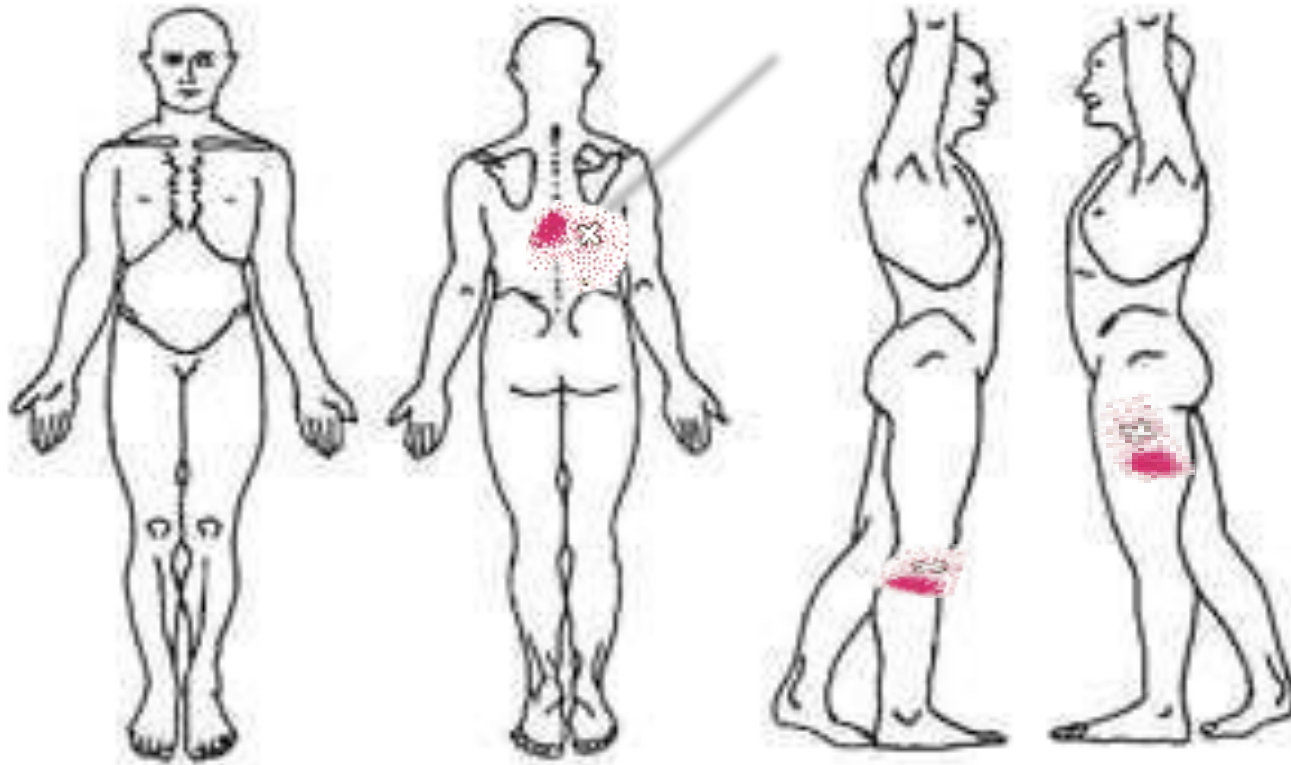
- Increase compression effect
- Pressure – turn
 - Heel
 - Thumb
 - Elbow

Rolling Compressions

- Hamstrings
- Calves
- Quadriceps

Annotating Trigger Points

X marks spot of TrP Pitted
area marks area of referral



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Digital Ischaemic Pressure

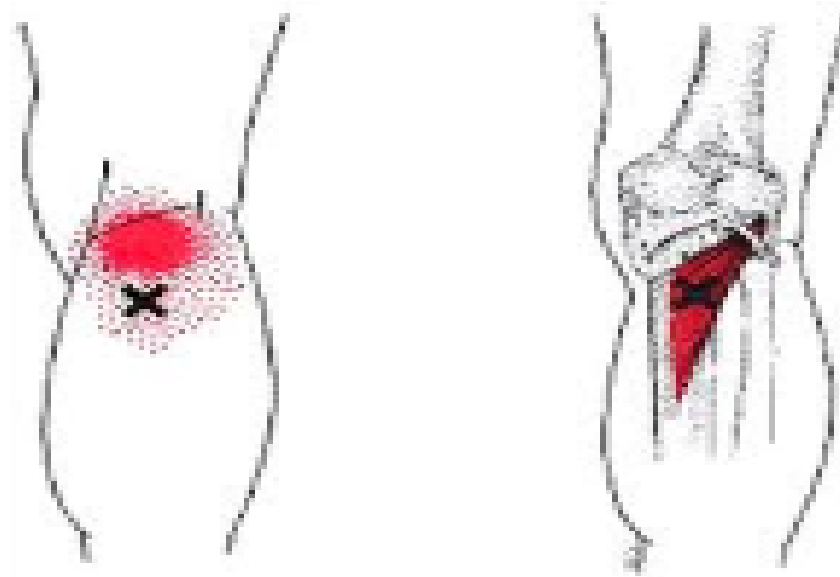
- Steady pressure is applied using the thumb, fingers, elbow or knuckle to the trigger point
- ALWAYS within the client's pain tolerance (between 4 and 7 on a pain scale of 0 to 10) for up to 60 seconds.
- Chaitow (1990) recommends gradually increasing the pressure until the client reports a 7 or 8 out of 10 on the pain scale
- Maintain pressure until the client reports a reduction to 3 or 4 and then increasing the pressure again up to 7 or 8.
- This process is repeated up to three times or until the therapist feels a tissue change in the trigger point area.
- Using variable pressure prevents further irritation to the trigger point.

Digital Ischaemic Pressure

- Decompression of the TrP during compression
 - Fluid is forced OUT
- On release of the pressure fluid rushes back to the area providing a 'flush'

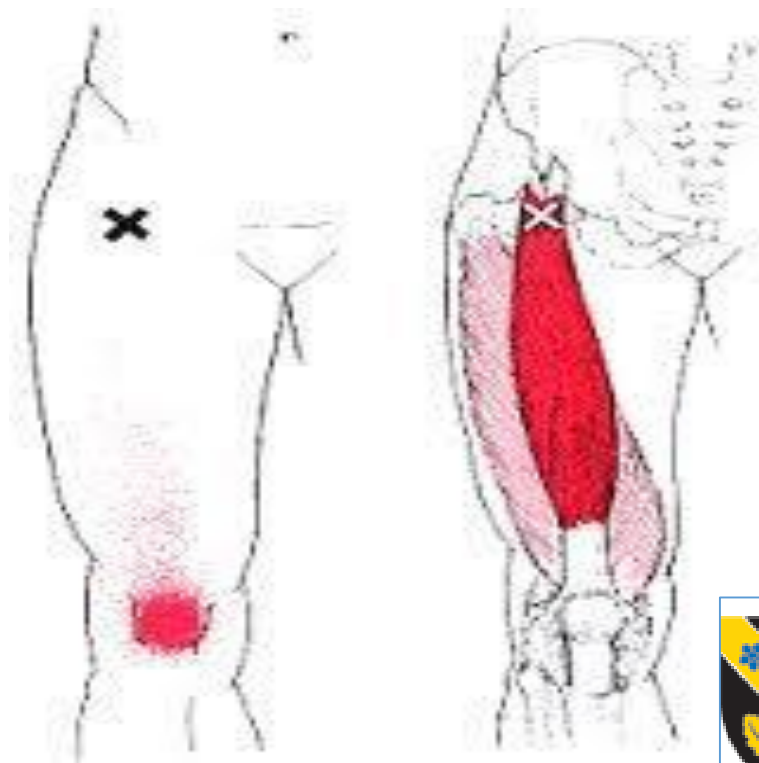
Common Lower Limb TrP

- Popliteus



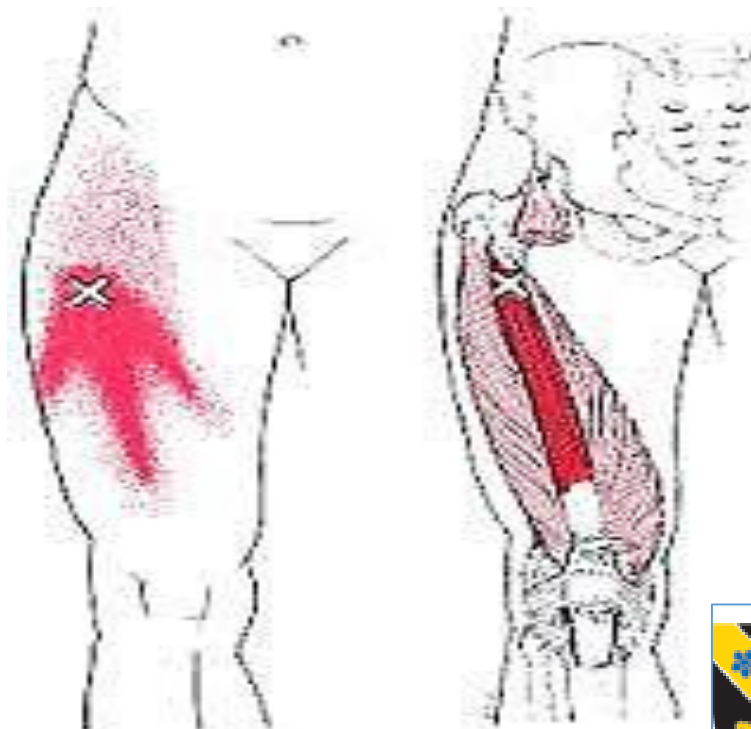
Common Lower Limb TrP

- Rectus Femoris



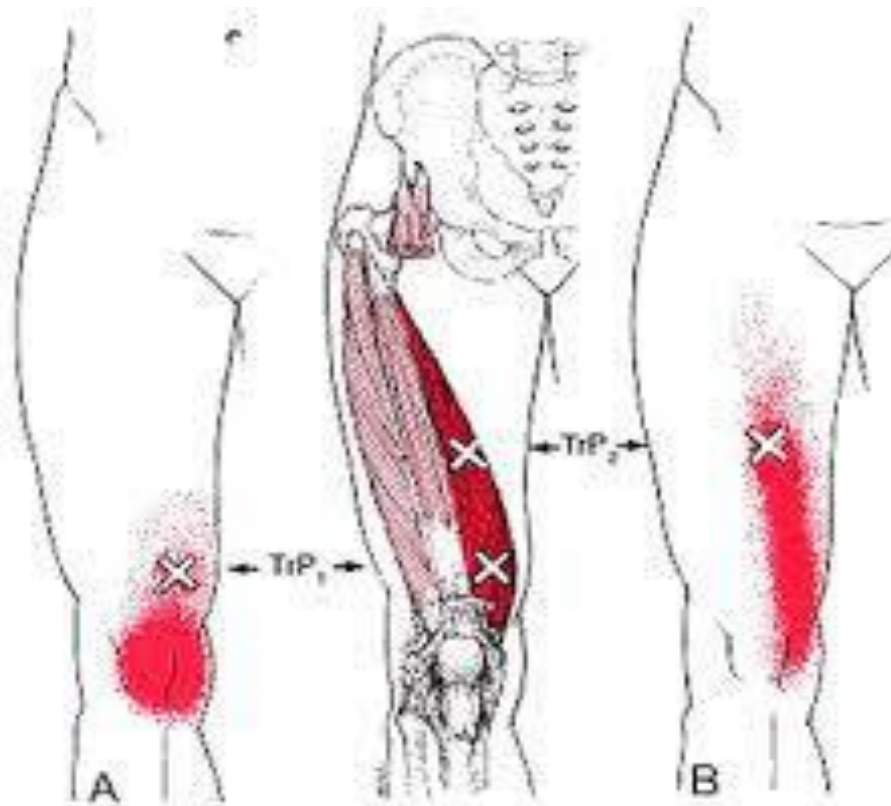
Common Lower Limb TrP

- Vastus intermedius



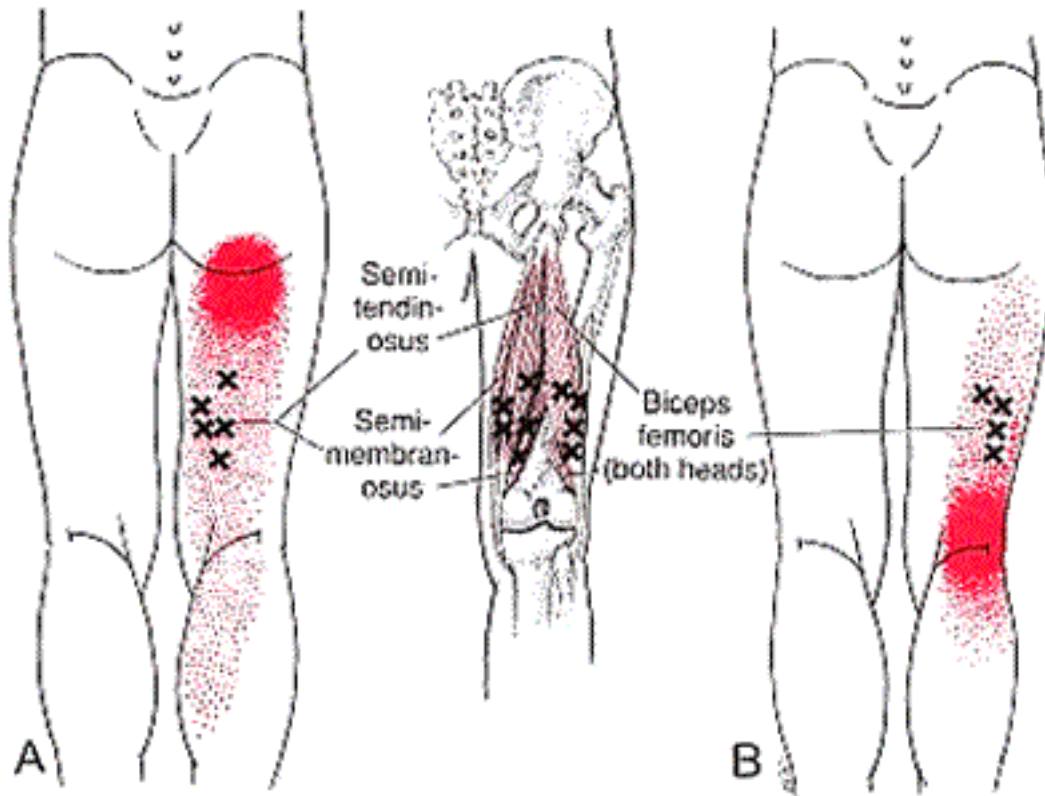
Common Lower Limb TrP

- Vastus Medialis



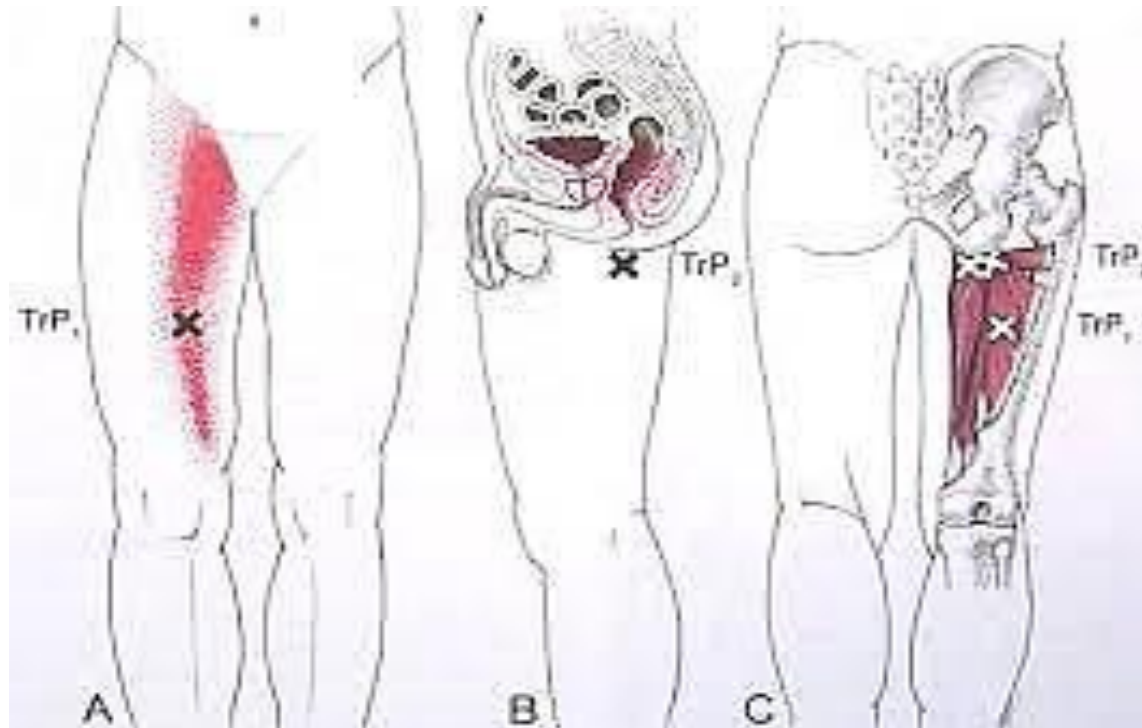
Common Lower Limb TrP

- Hamstrings



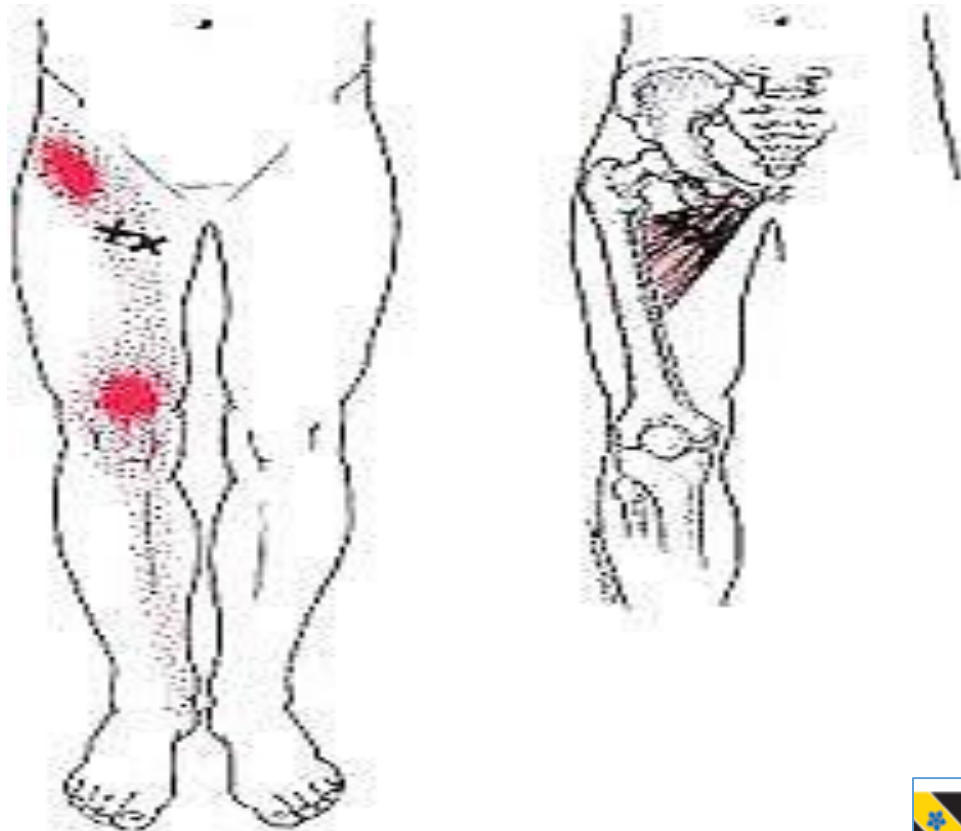
Common Lower Limb TrP

- Adductor Magnus



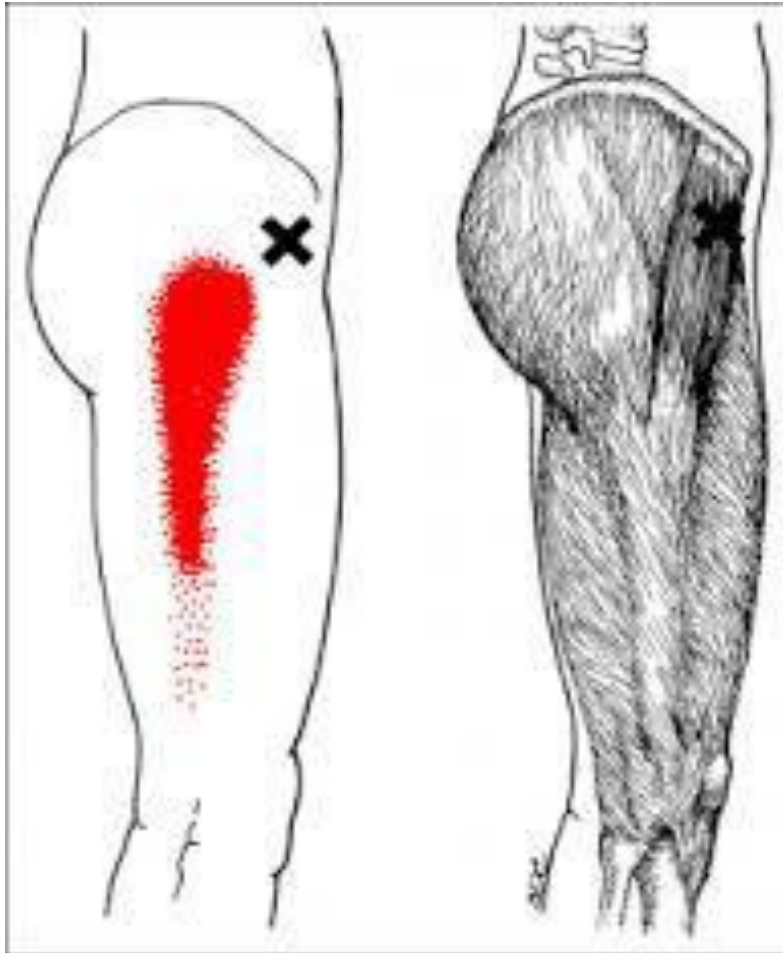
Common Lower Limb TrP

- Adductor Longus and Brevis



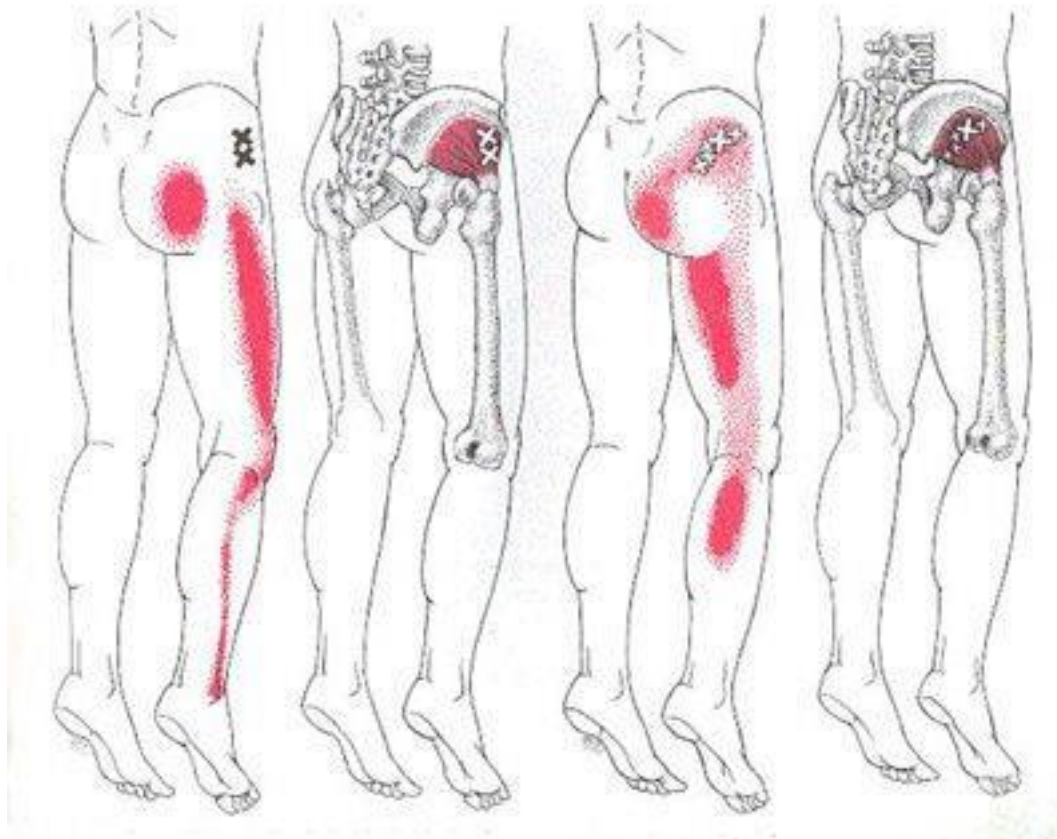
Common Lower Limb TrP

- Tensor Fascia Latae



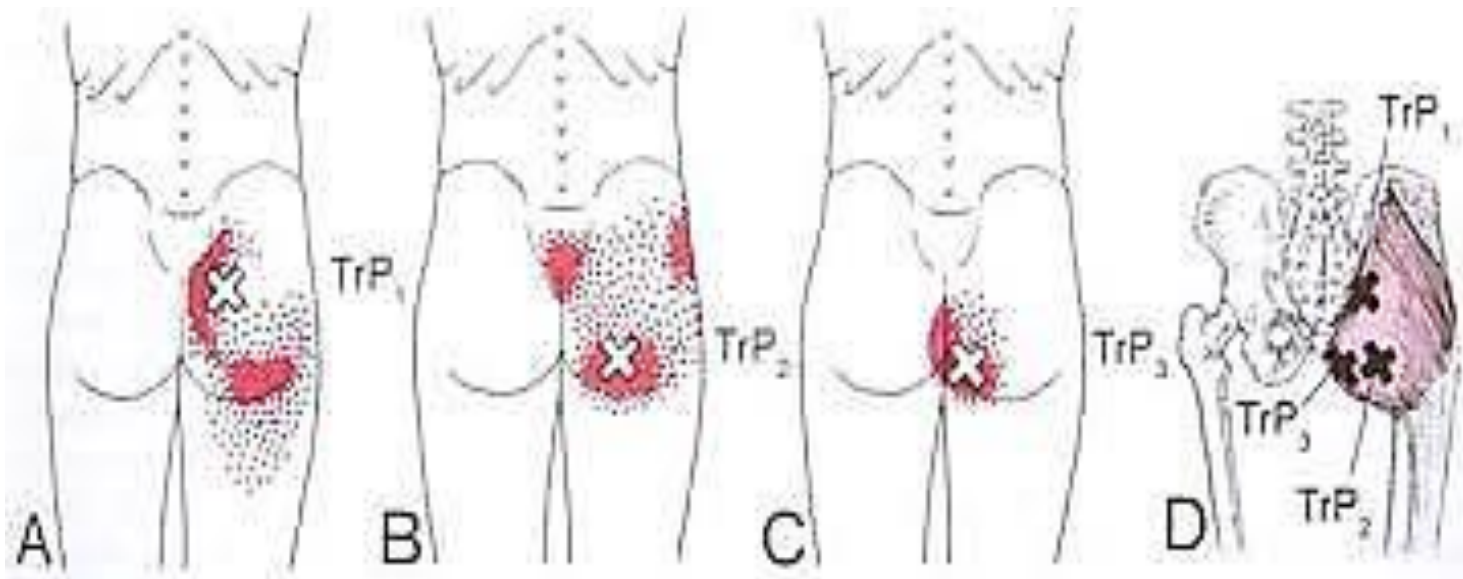
Common Lower Limb TrP

- Gluteus Medius and Minimus



Common Lower Limb TrP

- Gluteus Maximus



Common Lower Limb TrP

- Peroneals



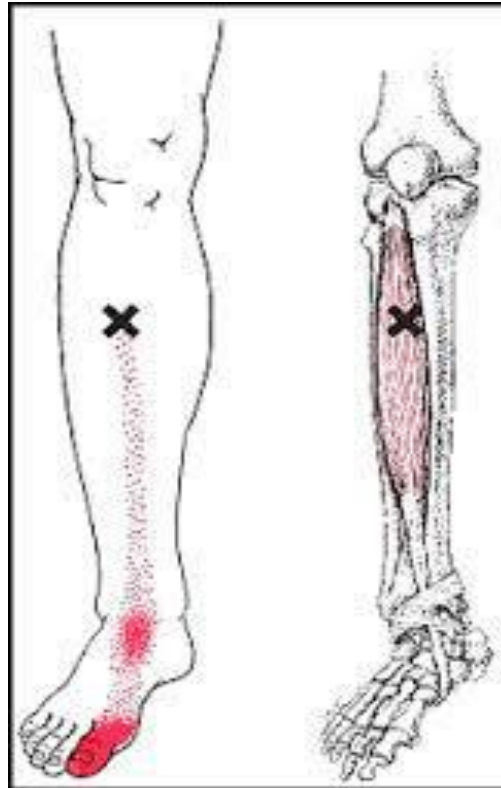
Common Lower Limb TrP

- Toe extensors



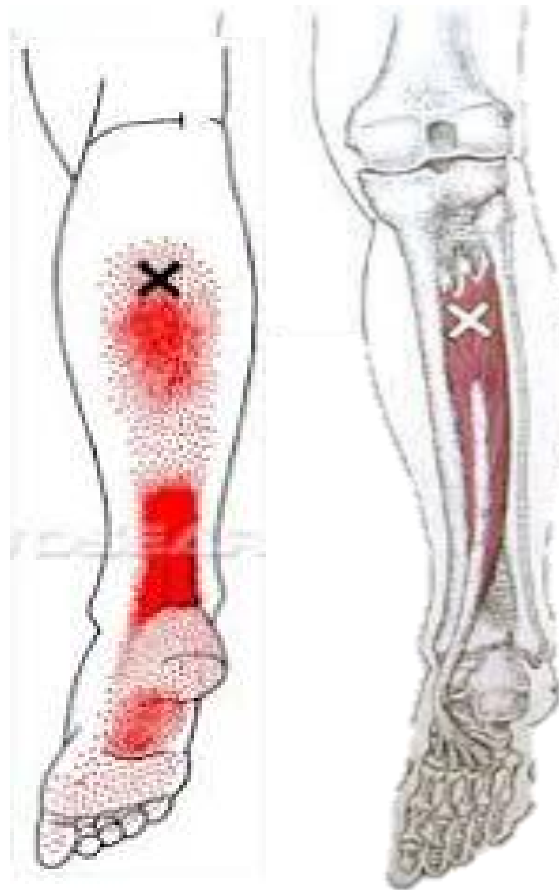
Common Lower Limb TrP

- Tibialis anterior



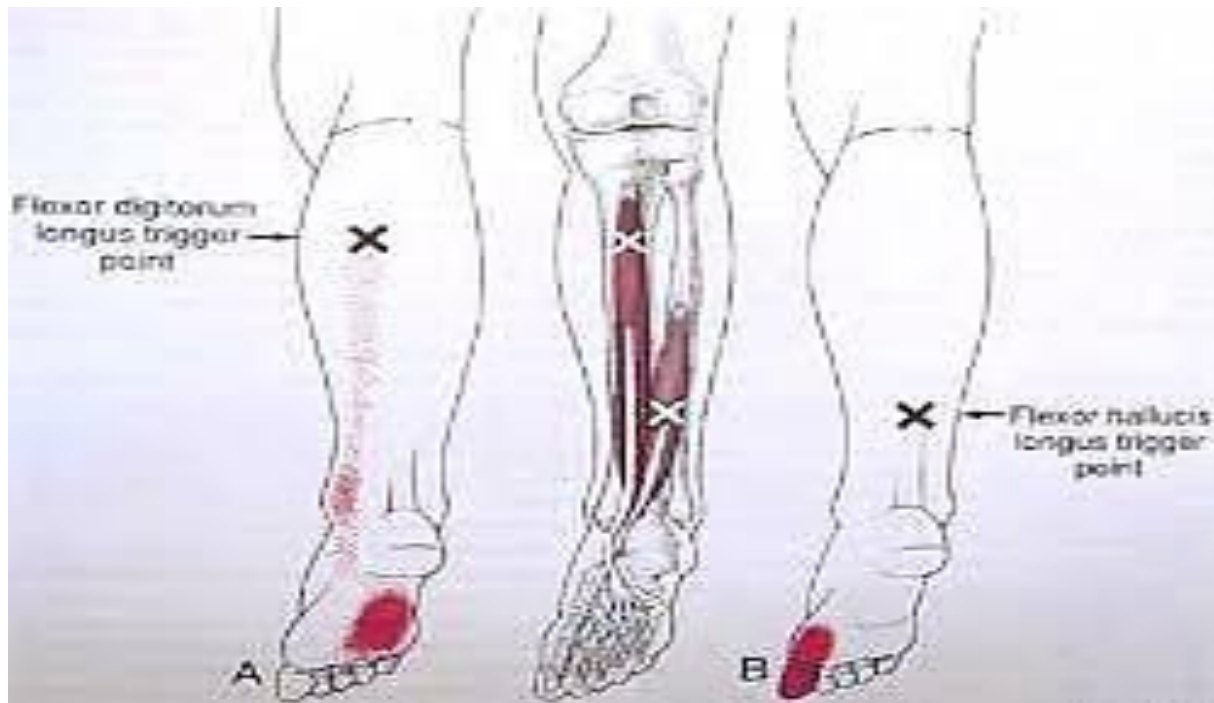
Common Lower Limb TrP

- Tibialis posterior



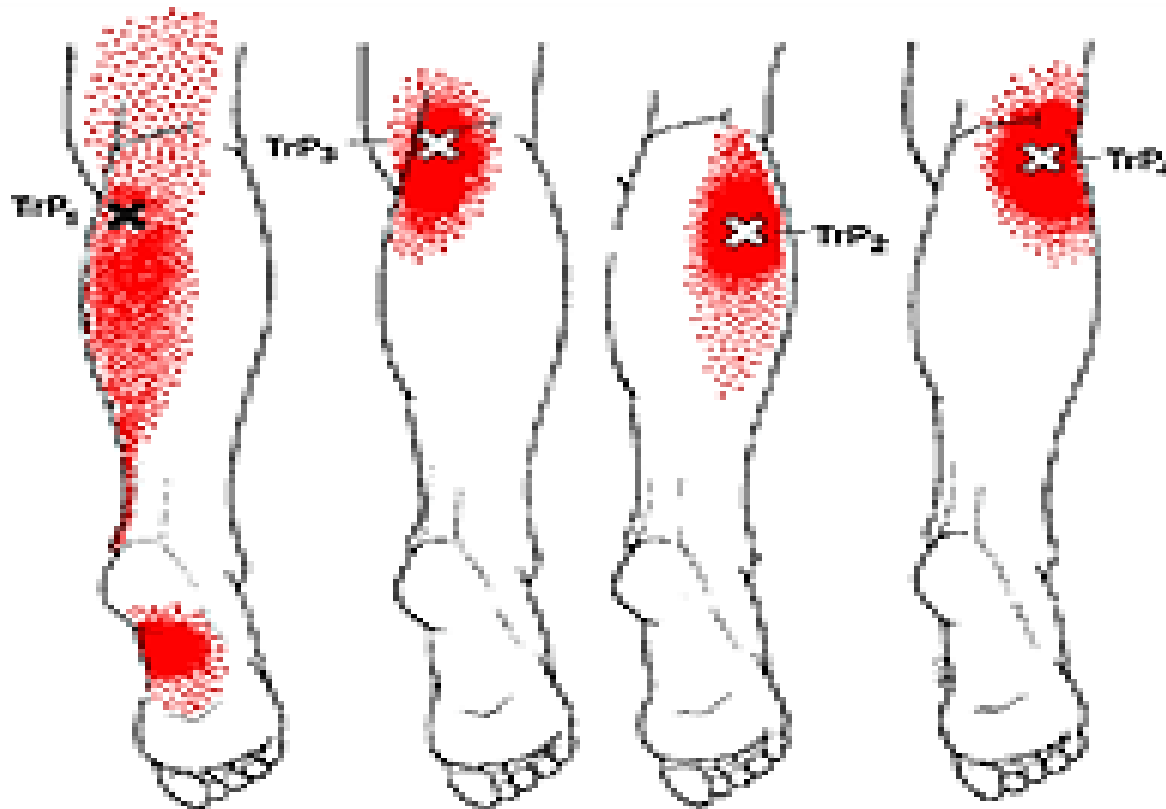
Common Lower Limb TrP

- Flexor Digitorum Longus and Flexor Hallucis Longus



Common Lower Limb TrP

- Medial and Lateral Head of Gastrocnemius



Summary

- Active V Latent TrP
- Common referral patterns in the lower limb
- Radiating, diffuse pain with loss of ROM