

Diagnosis & Treatment of Myofascial Pain

Ben Daitz M.D.

Myofascial Pain

1. 75-90% of musculoskeletal pain
2. A top 10 primary care Dx
3. 75% of patients at UNM pain clinic
4. Not effectively taught
5. Not diagnosed or under-diagnosed
6. Not treated or mistreated

Myofascial Pain

- Examine your patient
- Look, listen, lay on hands
- Grooming
- Education

Look

Feel



Listen/Groom



History

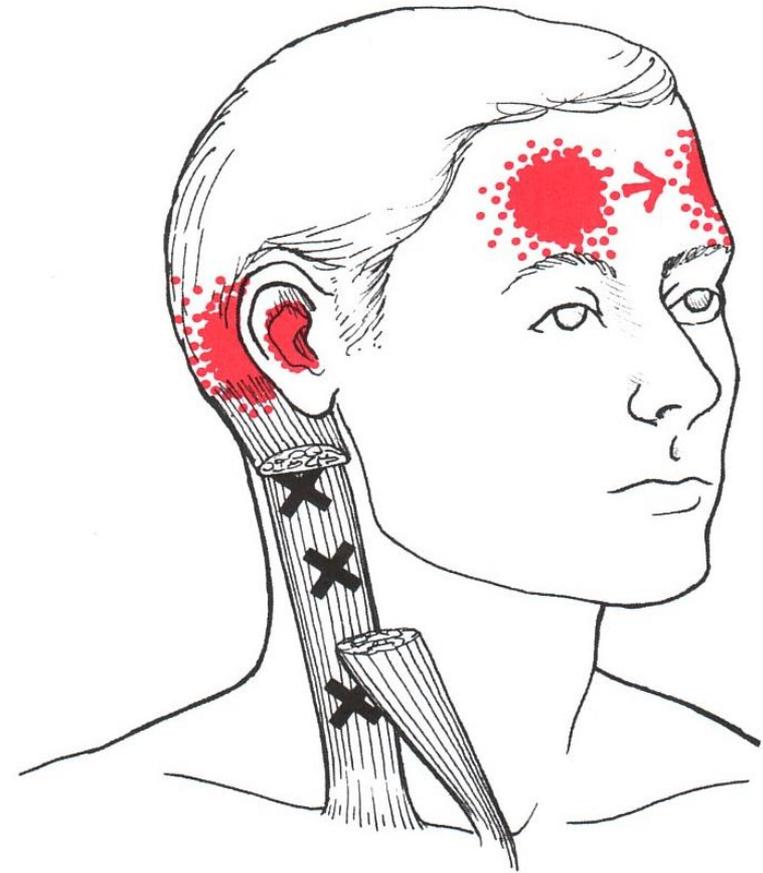
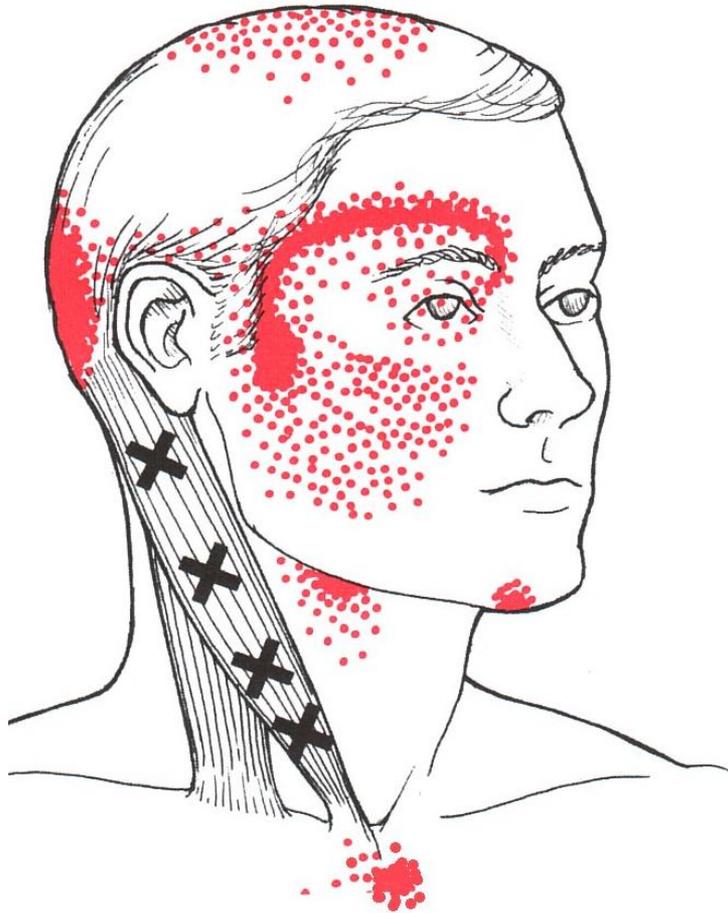
First described > 200 yrs ago

- Myositis/fibrositis
- Travell identifies TP' s in the 40' s
- Major advances in pathophysiology

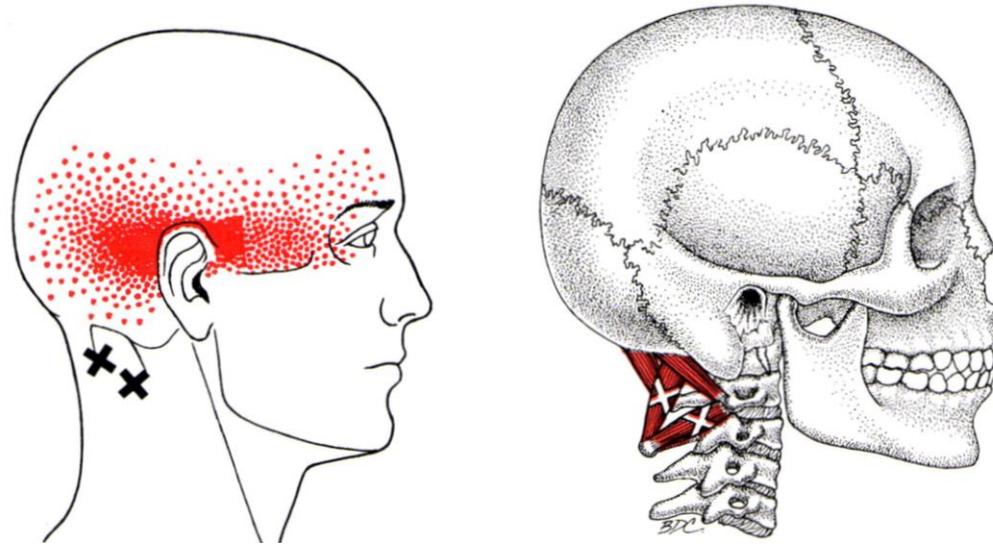
Myofascial Pain

- 63 yr. old male s/p mva with multiple facial fxs.
- Severe neck & head pain
- Limited rom
- Multiple consultations & procedures

Sternocleidomastoid Pain Pattern



Suboccipital Muscles Pain Pattern & Symptoms



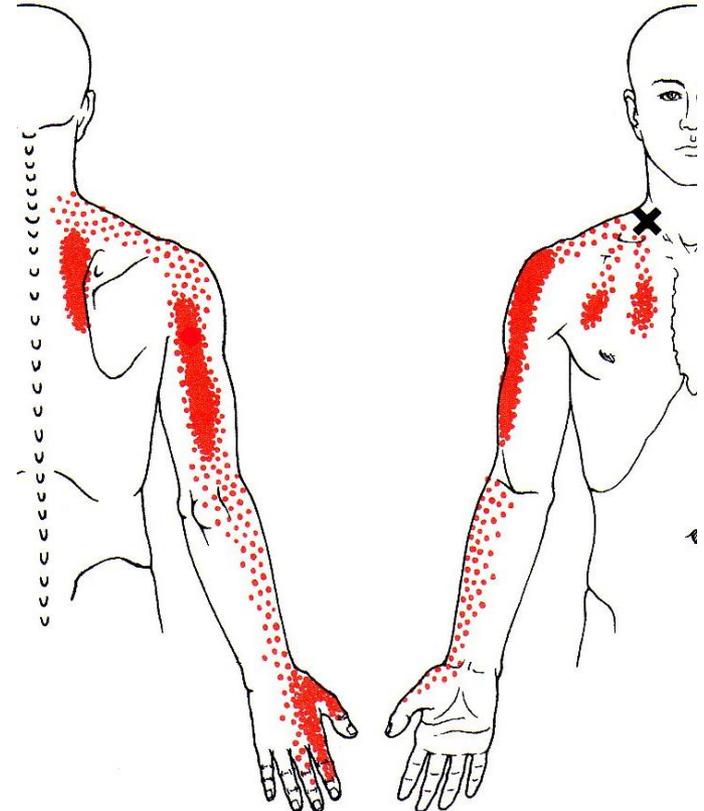
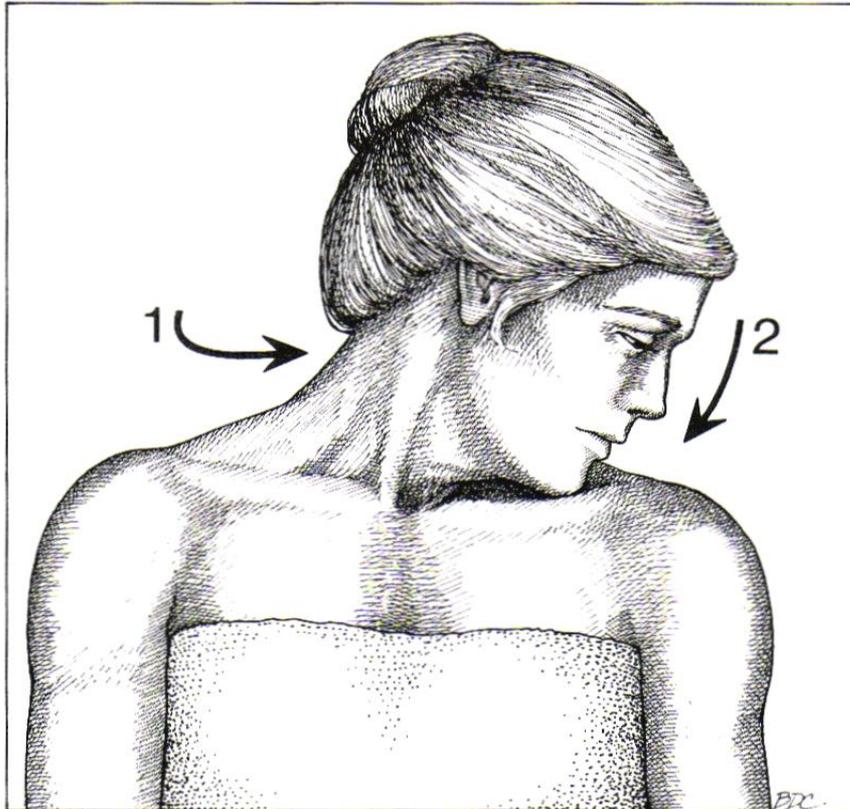
- Head Pain, difficult to localize - “Hurting all over”
- Eye and forehead pain and pain at base of skull
- Distressing headache caused promptly when weight of occiput presses against pillow
- Head is tilted to one side and rotated to other

Scaleni

ROM Test

Scalene-Cramp Test

Contraction in shortened position



Treatment

- TP injections of bilat. scm, scalenes, post. Cx muscles.
- Relief of pain & restoration of rom

Myofascial Pain Syndrome

- Simple or complex
- Pain and/or autonomic phenomena referred from active myofascial trigger points with associated dysfunction

Skeletal Muscle

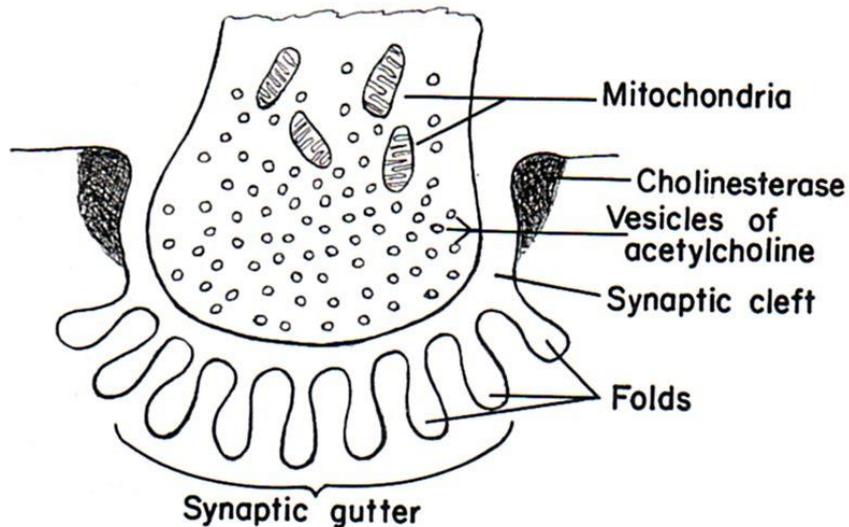
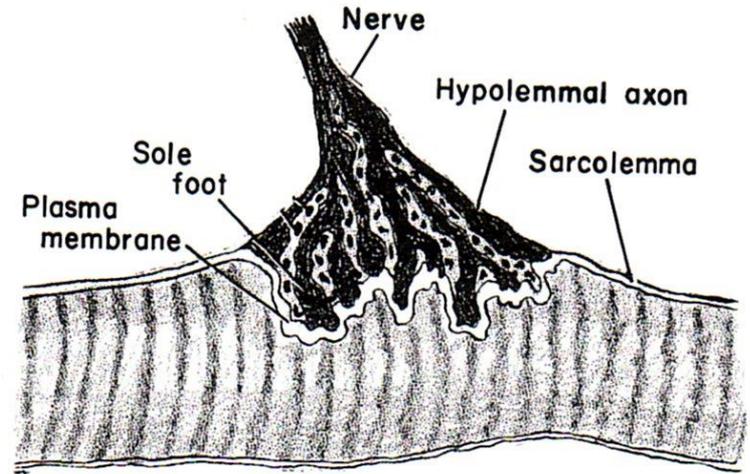
- Largest organ, > 40% of body weight
- 400 muscles
- All can develop TP' s

Myofascial Trigger Point (TP)

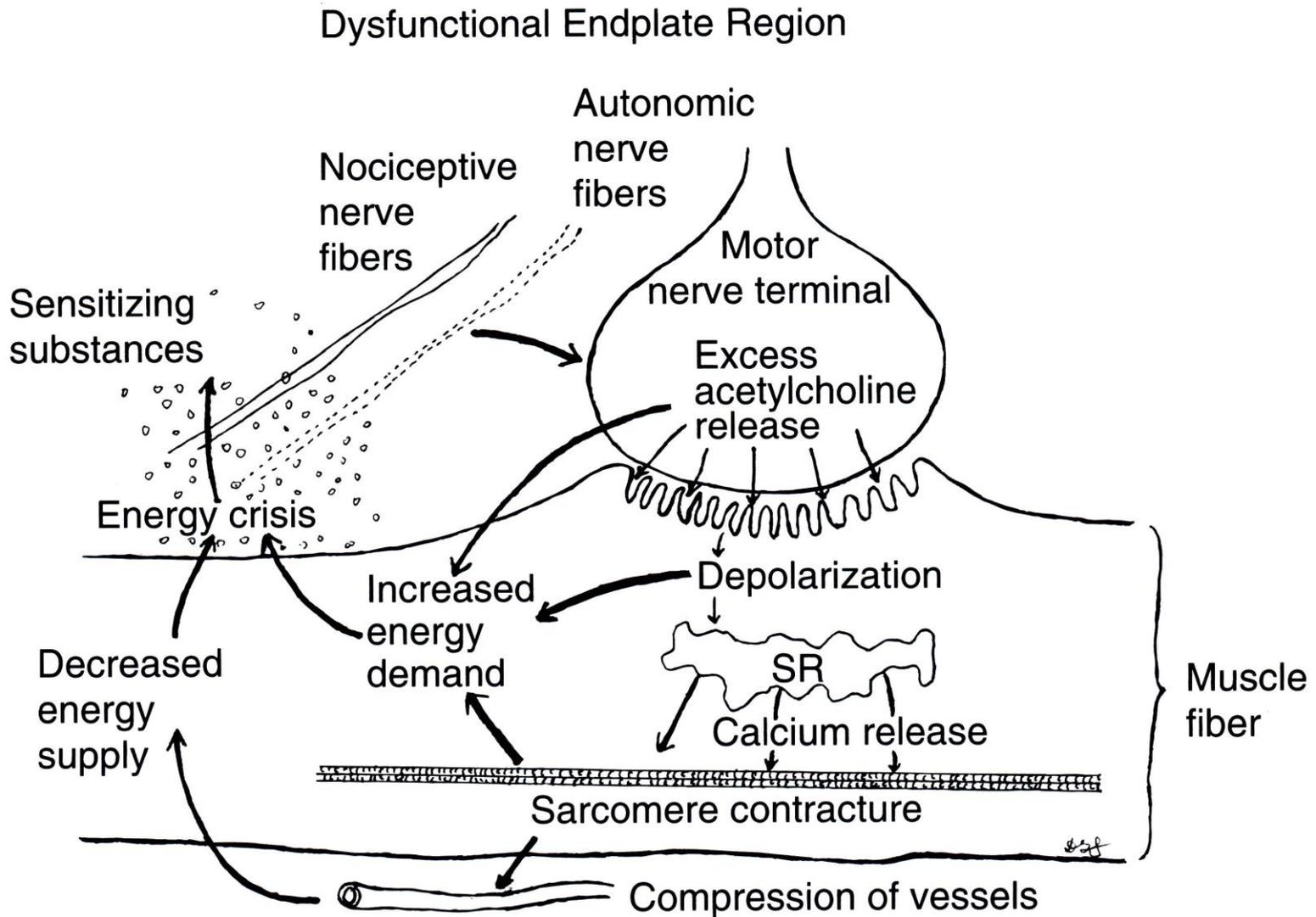
- A hyperirritable locus within a taut band of skeletal muscle
- Located in the muscle tissue or its associated fascia

Nature of Trigger Points

At the site of the
Myoneural Junction
(Motor Endplate)



Integrated Trigger Point Hypothesis ⁵



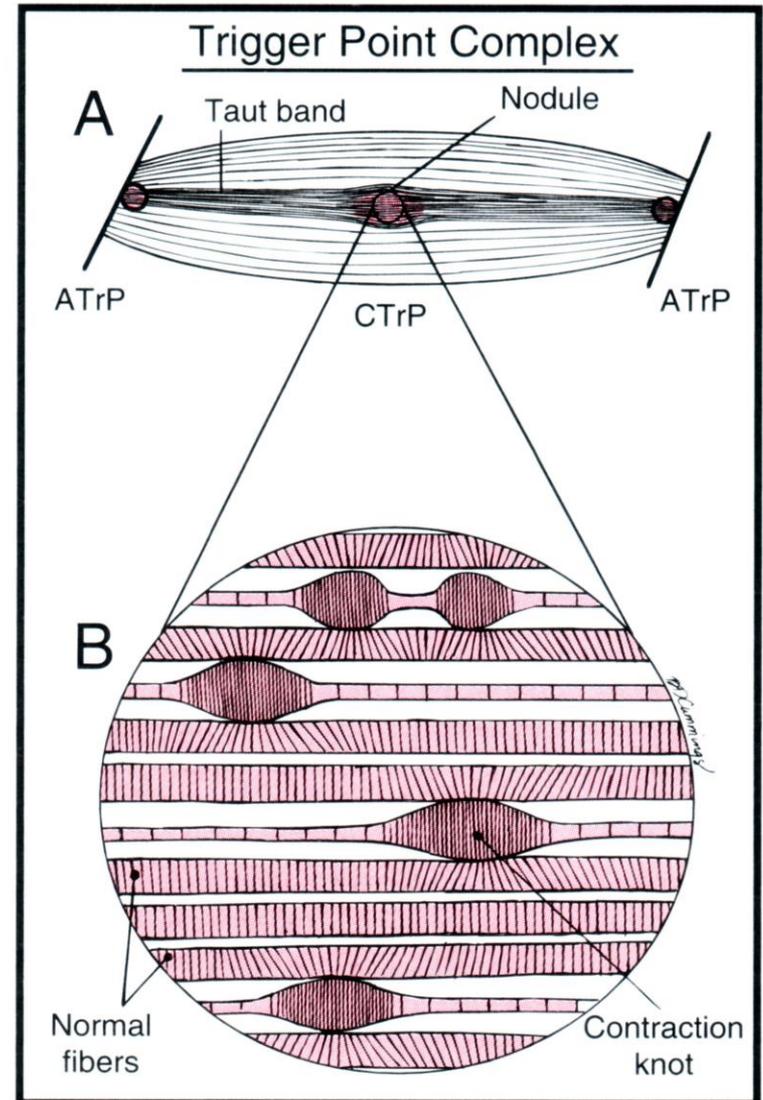
Nature of Trigger Points

A Hyperirritable Spot

**Associated with a
hyper-sensitive
palpable Nodule**

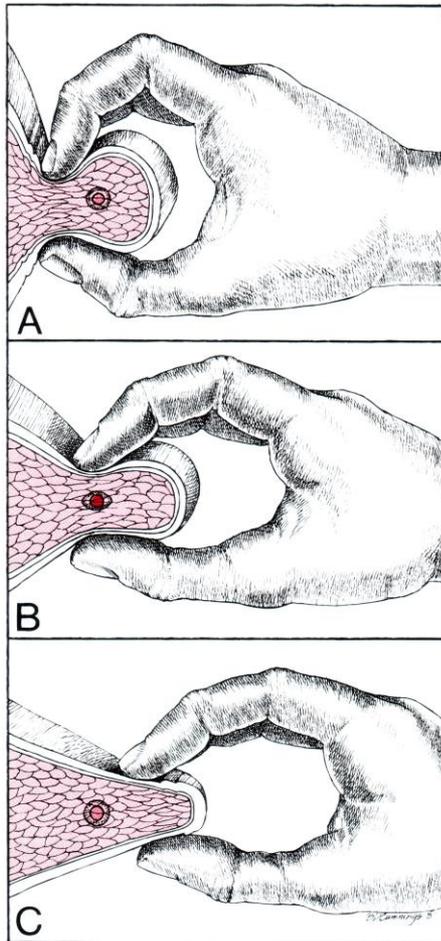
Found in a Taut Band

**Mid belly, motor
endplate zone**

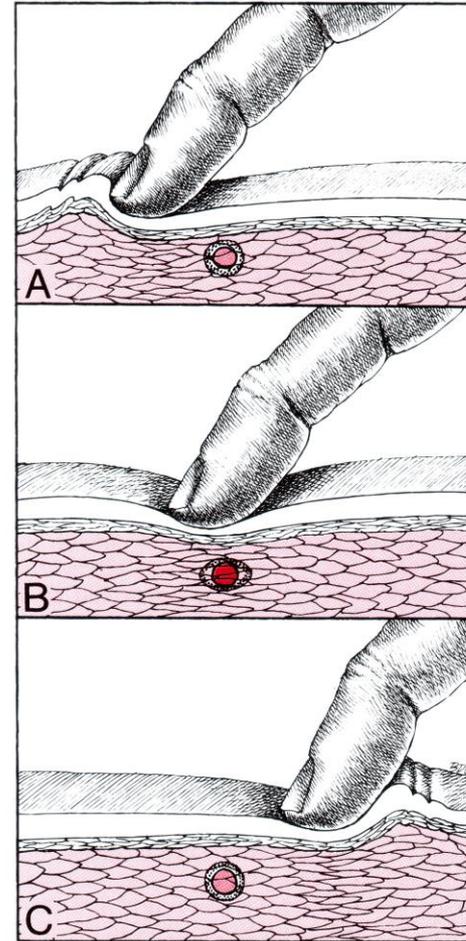


Palpation – In one direction only

Pincher

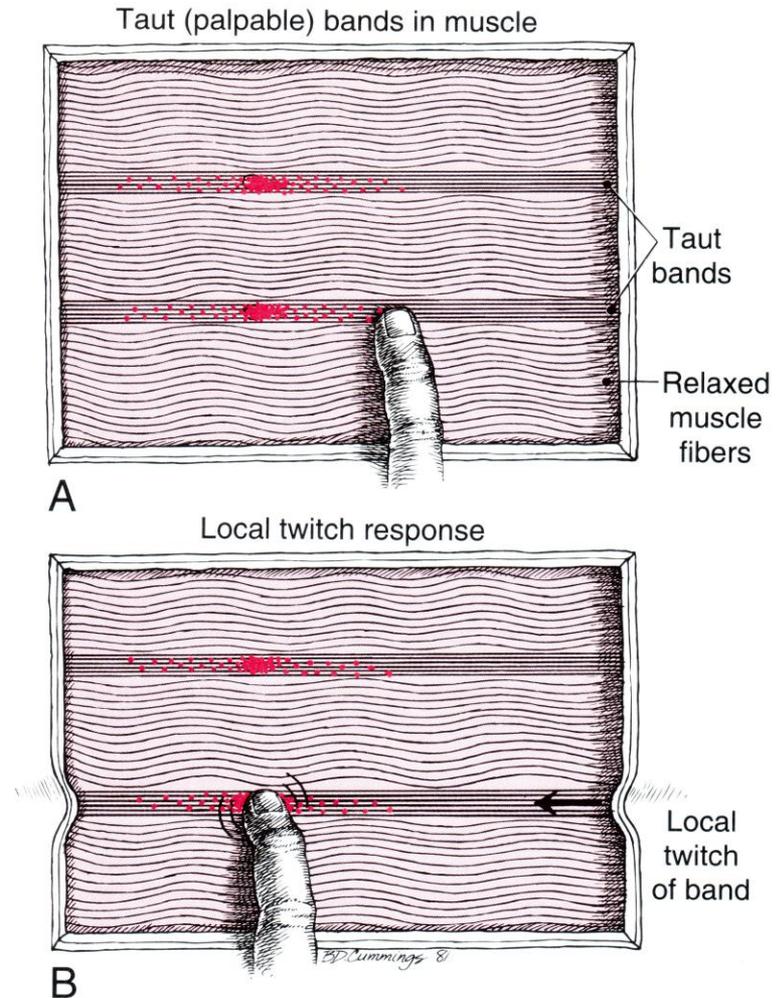


Flat



Palpation

Must be directly on or
very near
Central TrP
(Motor End Plate zone)
to elicit a
Local Twitch Response
(LTR)



Trigger Point

- Active: causes pain
- Latent: silent, but may reduce motion and cause weakness

Referred pain from TPs

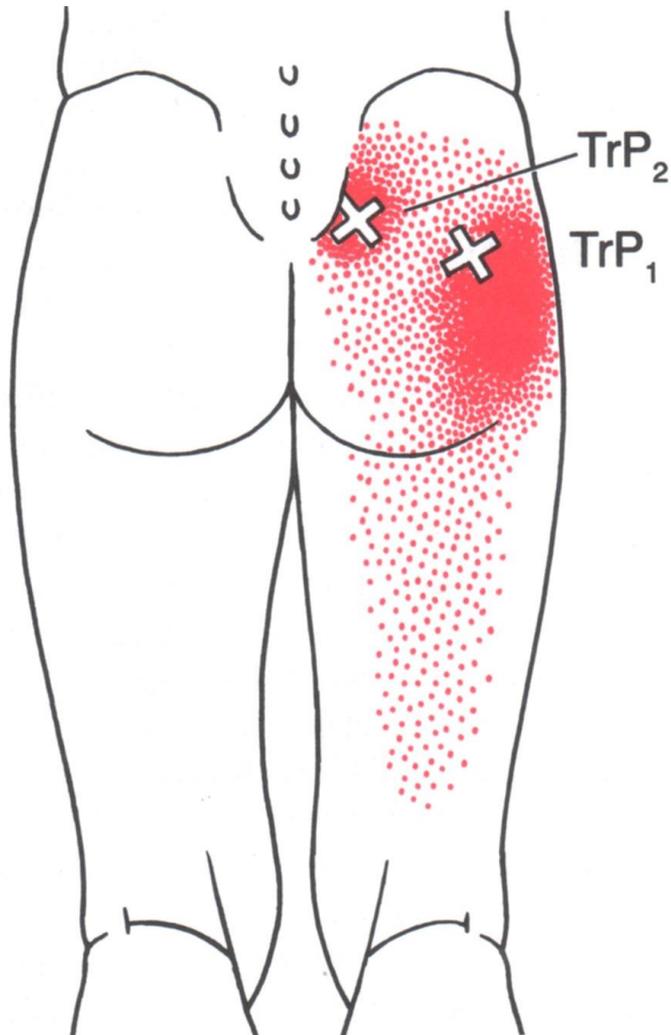
- Dull, aching, deep
- Does not follow segmental or neurological patterns
- Usually occurs within same dermatome, myotome and sclerotome

24 yr old woman with hip and leg pain

- Fell off ladder
- Severe pain and antalgic gait
- Multiple consults and tests
- Sx resolved with TPI's, stretching

Piriformis & Lateral Rotators

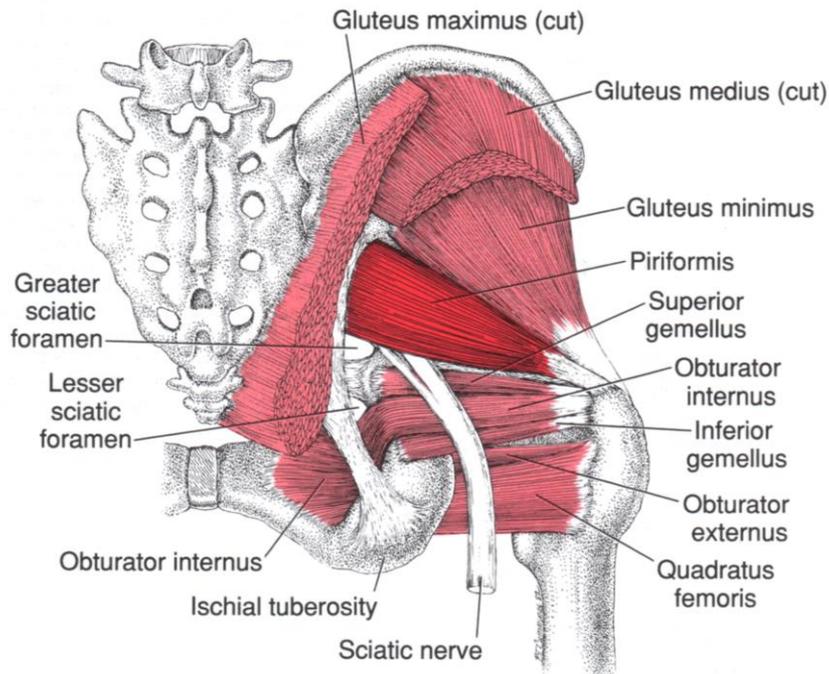
Pain Pattern & Symptoms



- Pain increased by sitting, standing or walking
- Antalgic Gait – Limping
- TrPs aggravated by prolonged hip flexion, adduction and medial rotation - Crossing thighs
- Seated – Tend to squirm and shift

Piriformis & Lateral Rotators

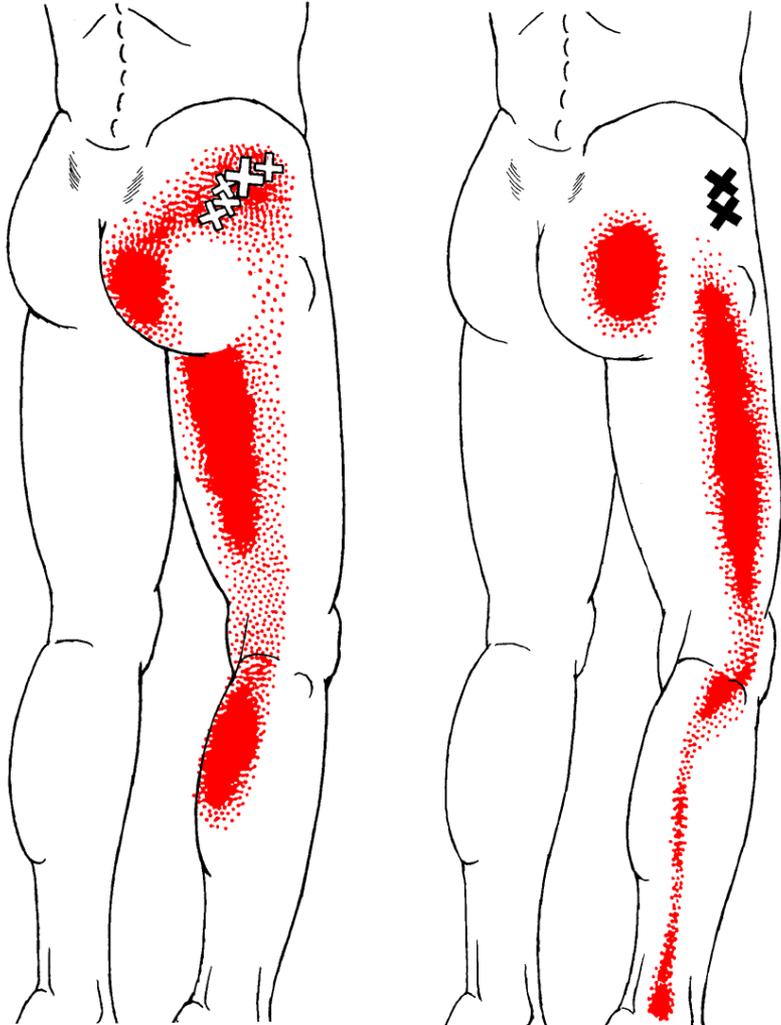
Anatomy, Innervation & Function



- Piriformis – S₁ and S₂
- Lateral rotators - L₄, L₅ and S₃
- Obturator Externus
Obturator nerve
- Lateral rotation of thigh
- Stabilizes hip joint and assists holding femoral head in acetabulum

Gluteus Minimus

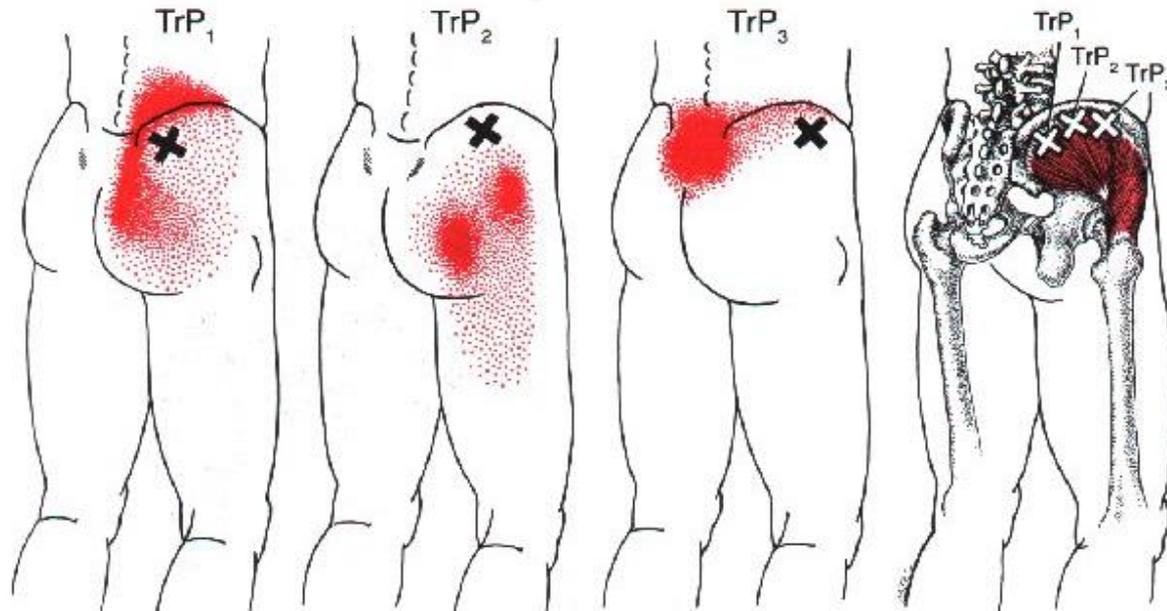
Pain Pattern & Symptoms



- “Pseudo-Sciatica”
- Anterior fibers painful when rising from chair with difficulty straightening
- Painful and limps when walking

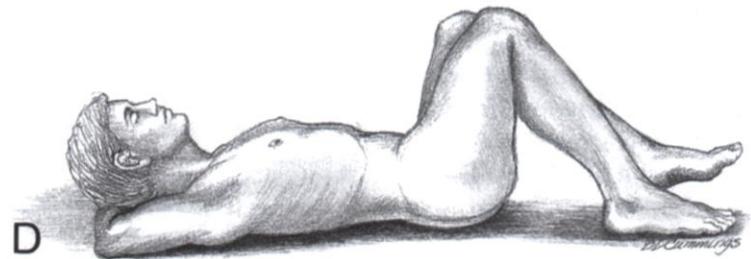
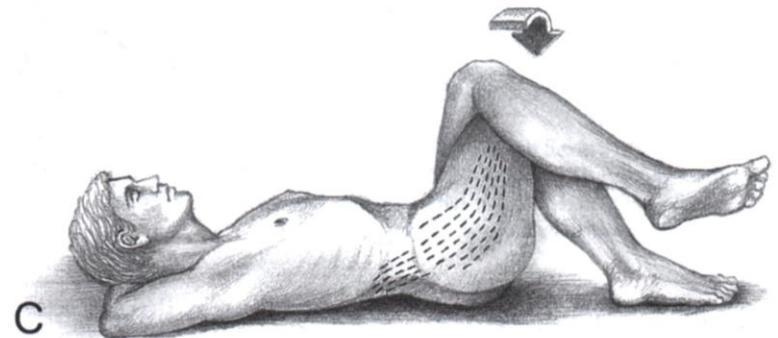
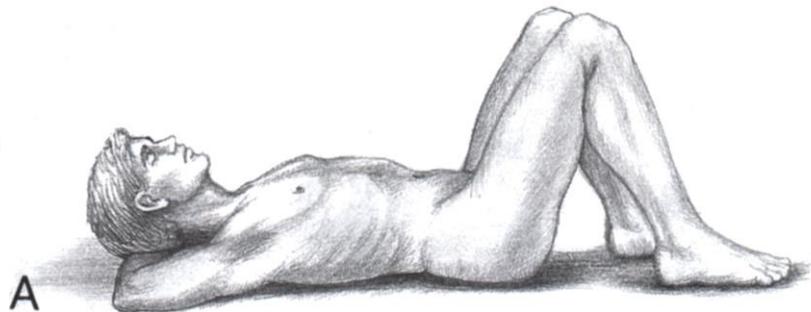
Gluteus Medius

Pain Pattern and Symptoms



- Pain with walking and gait distortions
- Stands predominantly on one leg
- Pain when lying on affected side or on back
- Pain when slouched down in chair

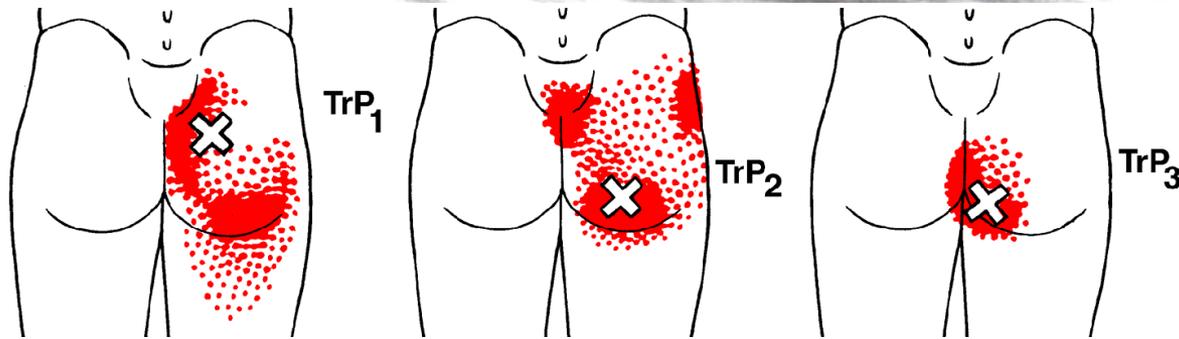
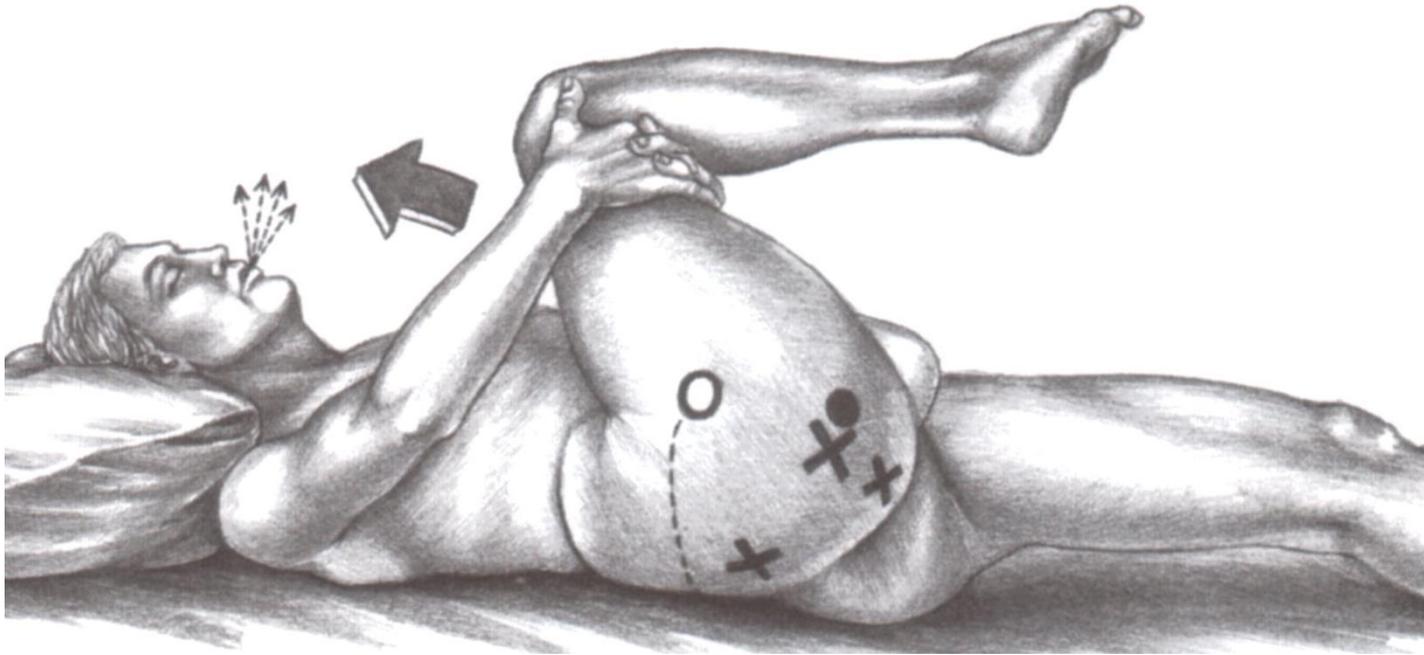
Gluteus Medius/Minimus Home Exercise Runners Crossover



“Lover - Drop L”
Alternate

Gluteus Maximus ROM Test

Knee to Opposite Axilla - passive
Medially rotate thigh at hip – Restriction and pain pattern

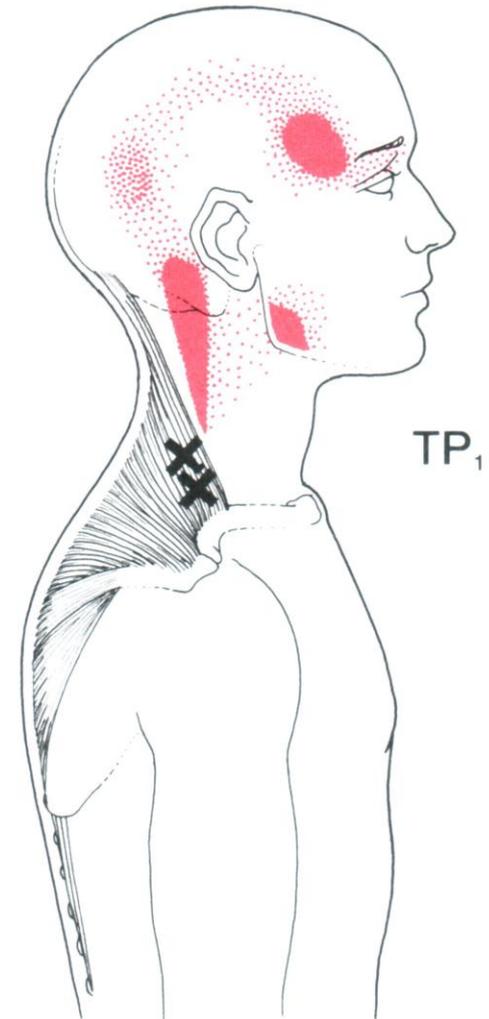


Upper Trapezius Pain Pattern & Symptoms

TrP 1

Severe posterolateral neck pain, often constant, extends to side of head, in temple and back of orbit

Occasional pain at angle of jaw and rarely, pain to lower molar teeth



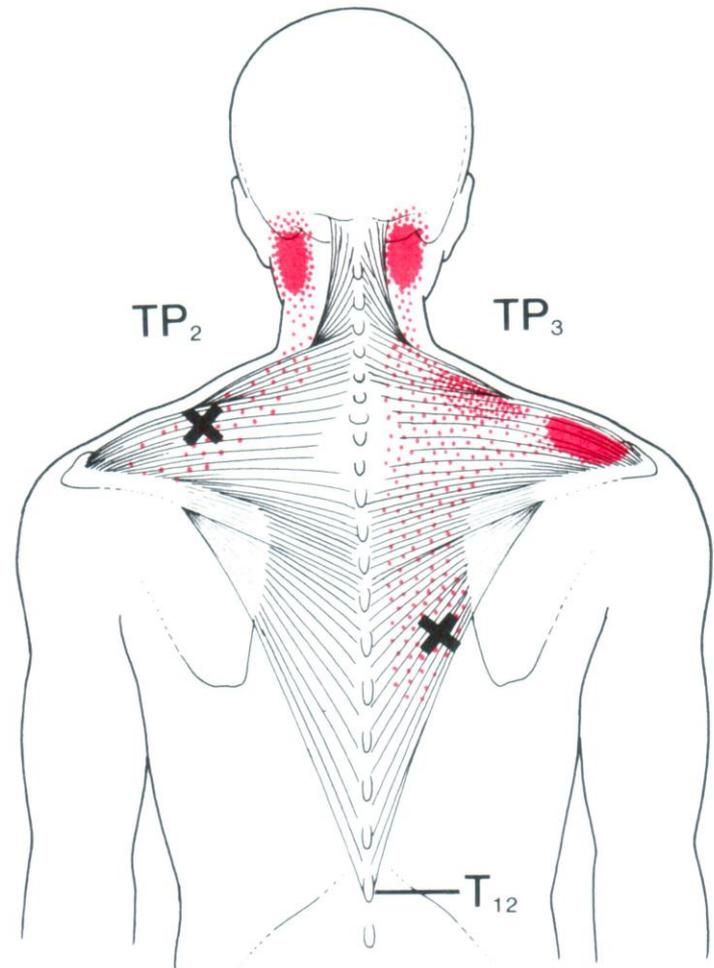
Upper & Lower Trapezius Pain Pattern & Symptoms

TrP 2

Neck pain without
headache

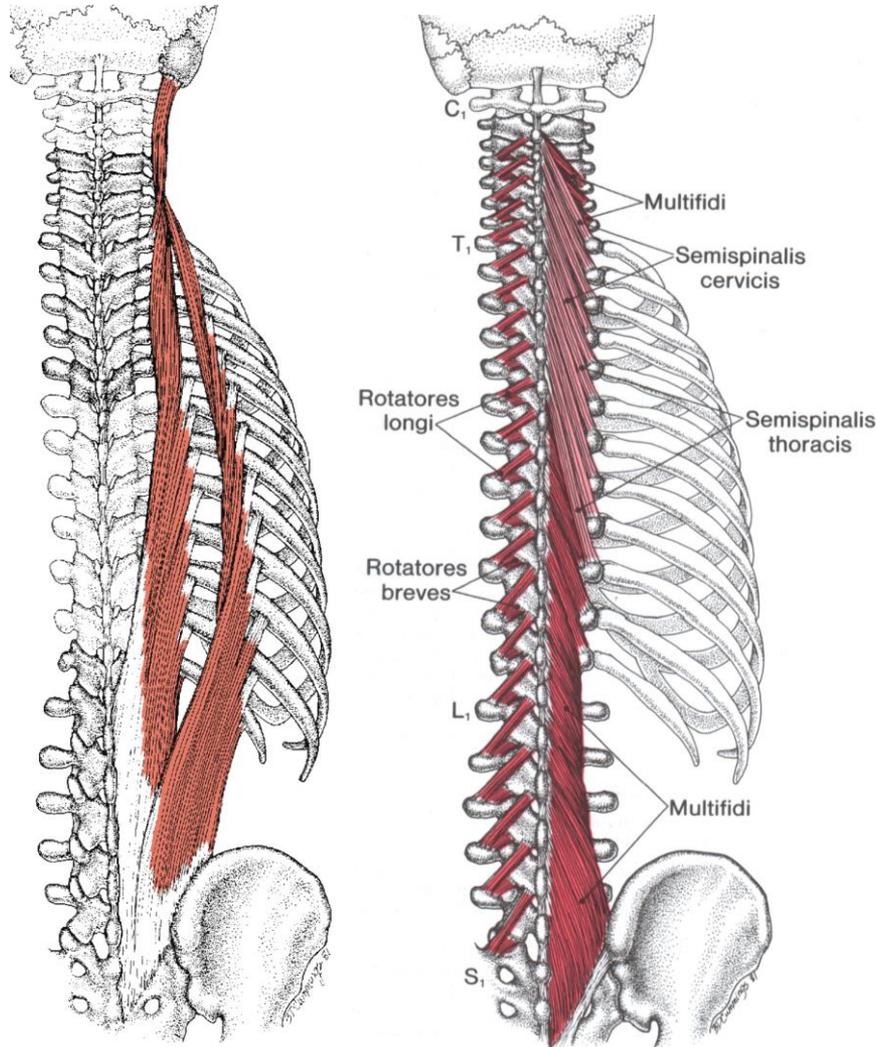
TrP 3

Suprascapular,
acromial, upper back
and neck pain after all
other TrPs have been
inactivated



Thoracolumbar Paraspinals Anatomy & Innervation

Dorsal Primary Divisions
of
Spinal Nerves

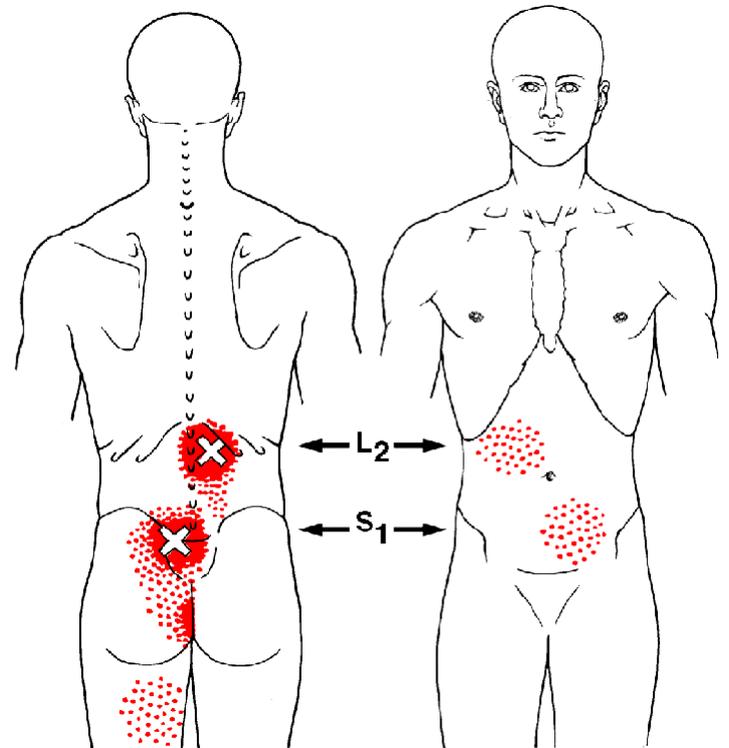
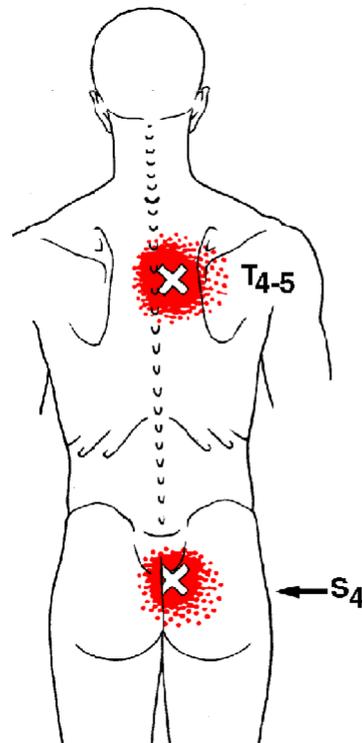


Multifidi and Rotatores

Deep Paraspinals ROM Test

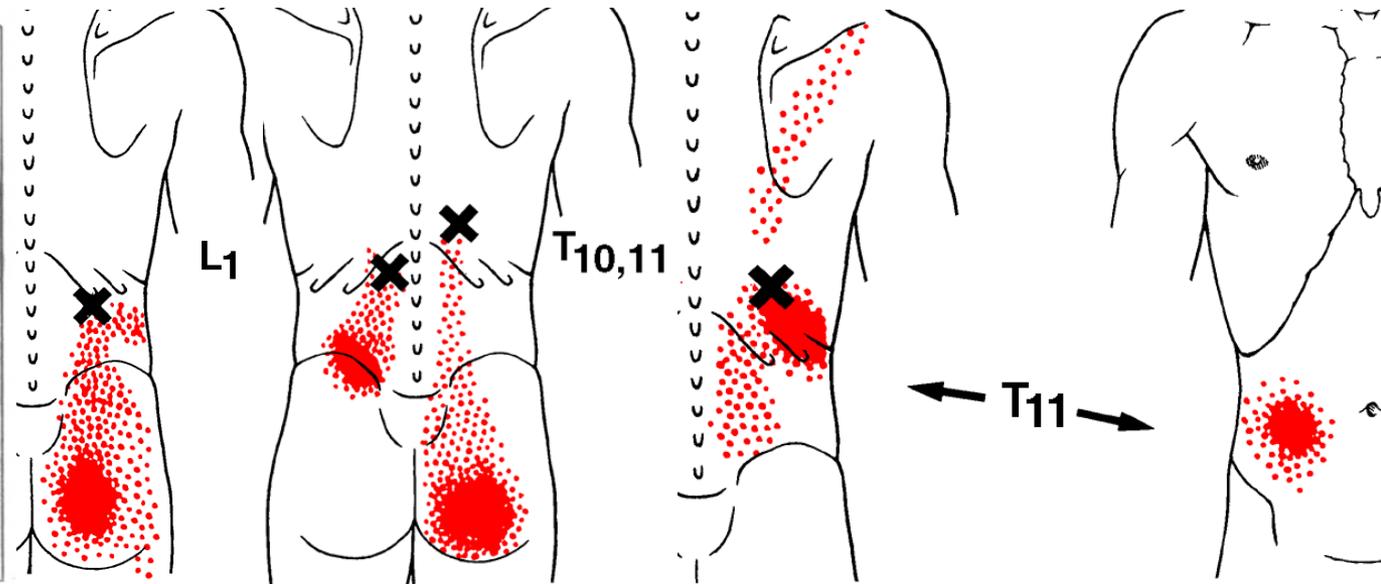
Waist Twist in Chair

Spine is flexed and simultaneously rotated right
Test for restriction in right multifidi/rotatores



Longissimus and Iliocostalis Superficial Paraspinals ROM Test

Back Stretch in Chair – Diver
First chin to chest, then roll down
Roll up and bring head up last



Perpetuating factors

- Trauma
- Ergonomics
- DJD
- Hypothyroidism, anemia, DM
- Musculo-skeletal: short upper arms, leg length, scoliosis

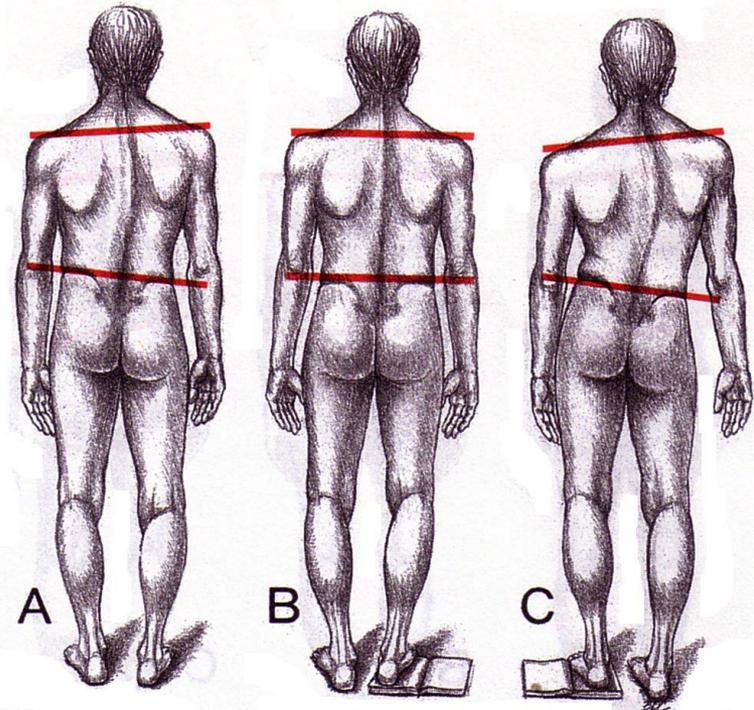
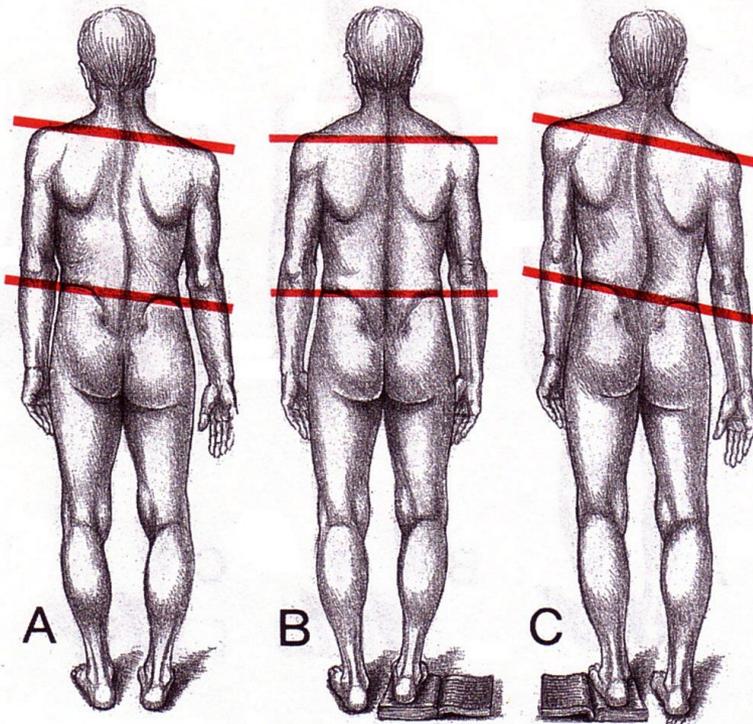
Perpetuating Factors

Mechanical Stresses

Lower Limb-Length Inequality

Left - S-curve, low right shoulder & hip

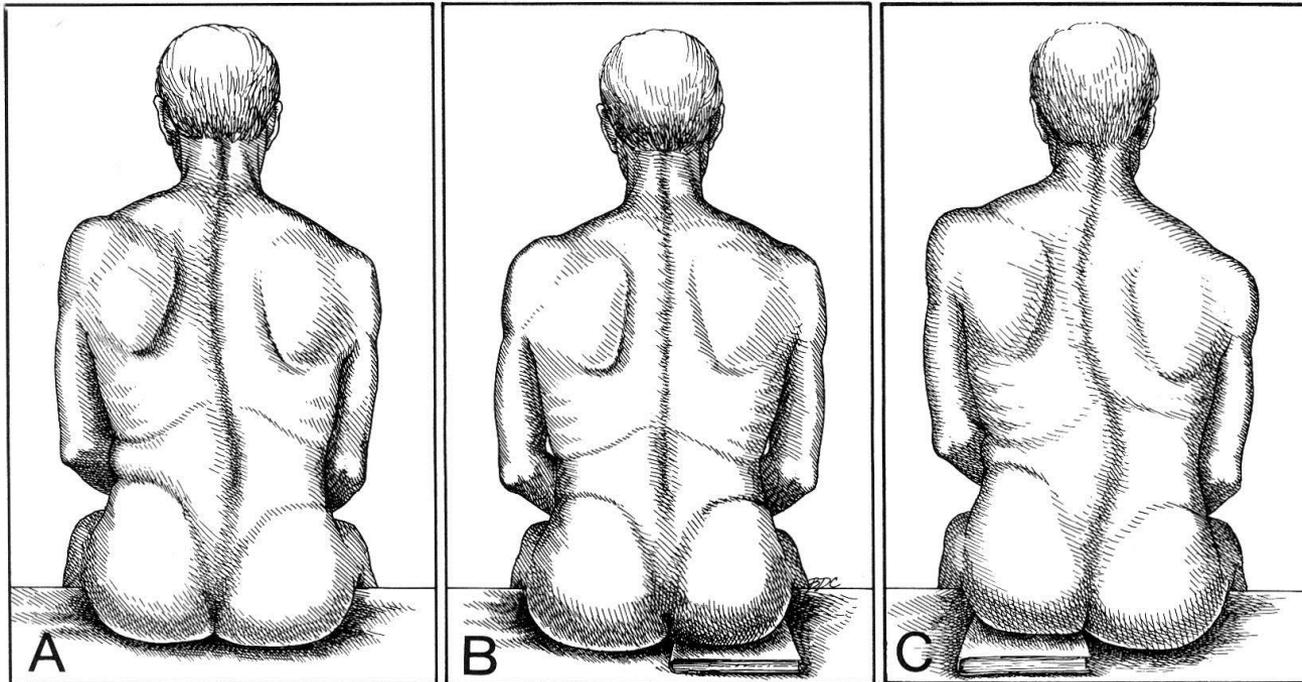
Right - C-curve, low left shoulder & right hip



Perpetuating Factors Mechanical Stresses

Asymmetrical Pelvis - Small Hemipelvis

- A Lateral tilt of pelvis, S-shaped functional scoliosis, shoulder tilt
- B Correction by leveling with Sit-pad
- C Counter correction under wrong side



Treatment

- Myotherapy/PT
- Stretching: stretch and spray
- Massage/ pressure/backknobber
- Trigger point injection

Trigger point injection

- Know anatomy
- Risk factors: anticoag., bleeding, syncope pneumothorax, nerve block, post inj. soreness
- Lidocaine 0.5% or 1%
- No steroids
- Range of needle sizes: 30 gauge ½ inch to spinal 22/ 23/ 2.5
- 25g 1-1.5 inch most common
- Take a course

Trigger Point Injection

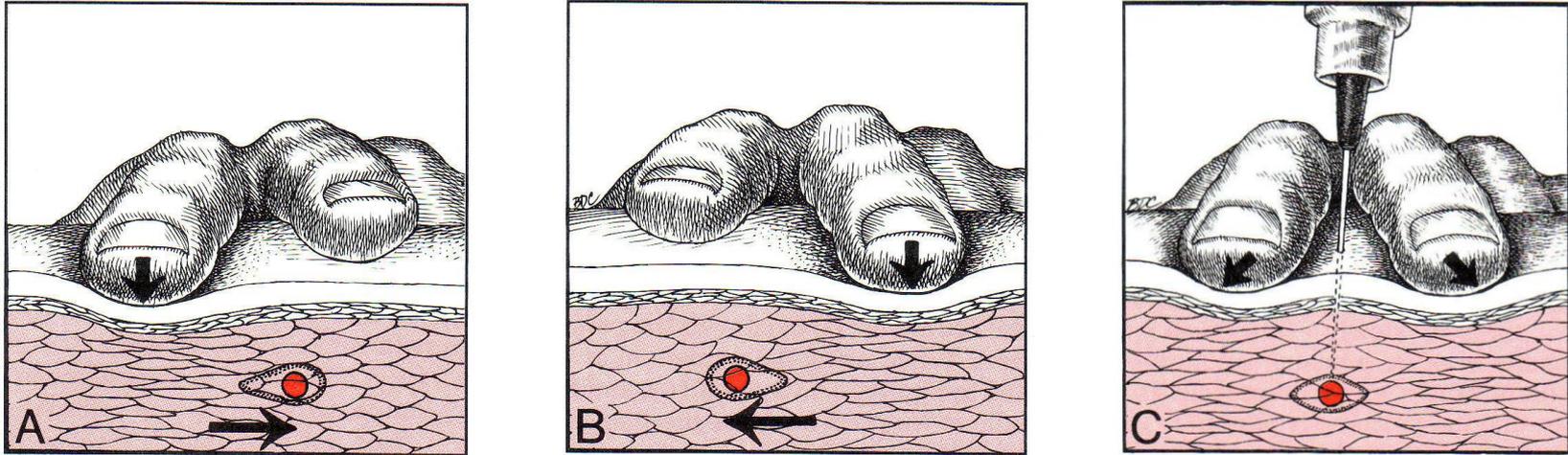


Figure 3.15. Cross-sectional schematic drawing of flat palpation to localize and hold the trigger point (*dark red spot*) for injection. **A** and **B**, use of alternating pressure between two fingers to confirm the location of the palpable nodule of the trigger point. **C**, positioning of the trigger point half way between the fingers to keep it from sliding to one side during the injection.

Travell and Simons Trigger Point Manual

Simplifying and understanding how to use the
“Red Bible”

