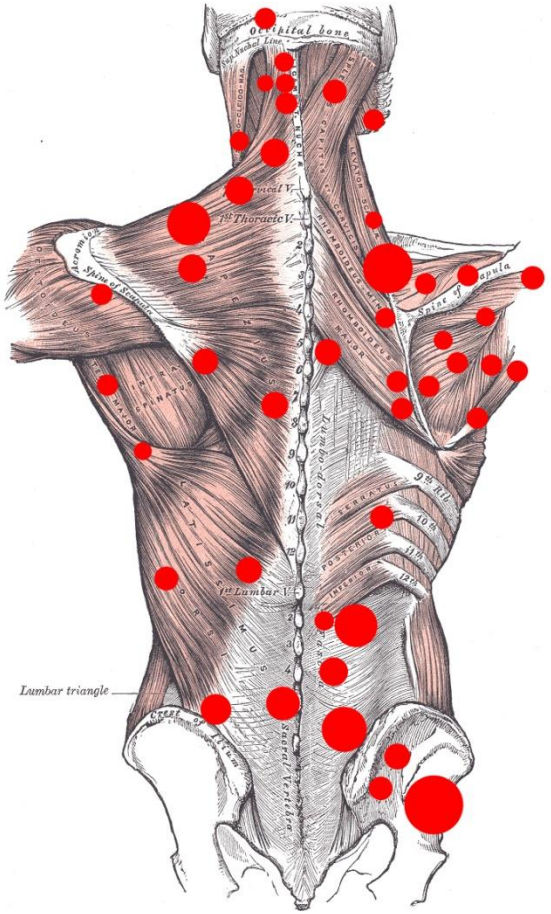
Welcome to Trigger Points Mod 5

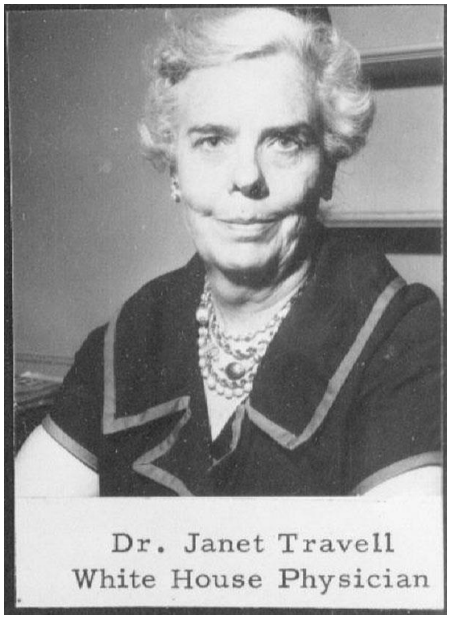


Dr. Bryan Hawley DC

History of TP Therapy

Late 1950s Dr Travell MD
Started discovering that patients routinely had back and neck complaints with no disease or disorder attributable to this affliction.

Upon further examination and palpation she discovered that most all of these patients exhibited tender spots in their muscles. When she pushed upon them they exacerbated the patients pain. She began a lifelong study of these tender spots in which her work developed into Trigger Point therapy as we know it today.



Terms

Since terms like muscle "knots", "spasms", and "trigger points" are often used together and interchangeably, lets take a minute to differentiate between the three.

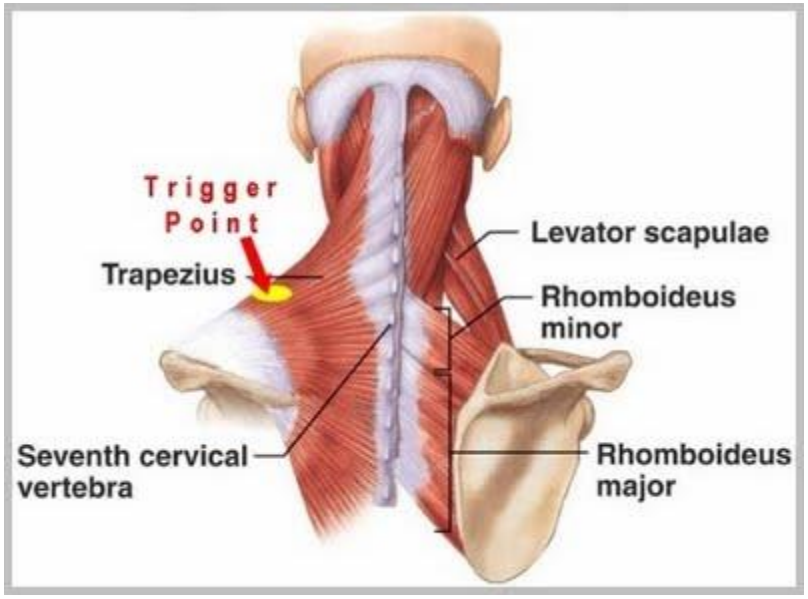
1) **A muscle spasm** is a strained muscle that involuntarily contracts and remains stuck this way. This is usually very painful and can last for a few seconds (which is the typical duration) or for much longer (as in the case of acute low back spasm that requires medical attention). The key difference between a true spasm and knots/trigger points is that the full muscle locks up, not just part of it.

2) **A "knot"** describe a smaller, less painful, and more persistent tightening of muscle. They typically involve only part of the muscle and can be felt through palpation as a bump or ball under the skin.

3) **A "trigger point"** is technically a muscle knot. However, trigger points are specific problem areas that exist in every muscle of the body. These areas are pain free with normal muscle function and mobility and can become painful through repetitive muscle use/abuse. You may have even seen books dedicated to this topic that discuss the specific areas in great detail.

What is a Trigger Point?

A myofascial TP is defined as “a hyperirritable spot, usually within a taut band of skeletal muscle or in the fascia around the muscle. This is usually painful upon compression and palpation. This can give rise to direct pain, referred pain, tenderness, surrounding spasms, and peripheral entrapment syndromes.



When you hear a client say they have "muscle knots," they are talking about *myofascial trigger points*.
There are no actual knots involved, of course. Although their true nature is uncertain, the dominant theory is that a trigger point (TrP) is a small patch of tightly contracted muscle, an isolated spasm affecting just a small patch of muscle tissue.

Knots

What are the signs of TPs

What are the signs and symptoms of trigger points?

Pain: Trigger points can cause deep, aching pain. They may cause pain only when the trigger point is pressed. They may also cause constant pain, or pain during movement of the muscle. Pain may spread away from the trigger point. Pain may also occur in another part of your body. For example, a trigger point in your neck may cause eye pain. This is called referred pain.

Decreased range of motion: Range of motion is how much you can move a joint, such as your shoulder or knee. A trigger point can shorten a muscle. This can reduce the range of motion of a nearby joint.

Muscle weakness: The pain caused by a trigger point may weaken the muscle.

Types of TPs

CENTRAL TPs An sensitive isolated area in skeletal muscle belly that is associated with a hypersensitive nodule that is palpable and in a taught band.

ATTATCHMENT TPs A TP located at a junction of muscle belly/tendon or tendon/bone. These usually attribute to the tension that is felt (feels like tight band) in the muscles. Usually these will also be associated with central TPs as well.

Satellite TPs is one which is activated by a key trigger point. Successfully treating the key trigger point will often resolve the satellite, either converting it from being active to latent or completely treating it.

Key trigger point is one that has a pain referral pattern along a nerve pathway that activates a latent trigger point on the pathway, or creates it.

A collection of many nasty trigger points is called myofascial pain syndrome (MPS).

MPS

Definitions and Language of Myofascial Pain

An active Myofascial trigger point

- Causes pain and tenderness at rest or with motion that stretches or loads the muscle.
- Causes shortening of the muscle, as well as fatigue and decreased strength.
- Pressure on an active TrPt induces / reproduces some of the patient's pain complaint and is recognised by the patient as being some or all of his or her pain.

Definitions and Language of Myofascial Pain

A Latent Myofascial Trigger Point: does not cause pain during normal activities. It is locally tender, but causes pain only when palpated, will refer pain on pressure, can be associated with a weakened shortened moreeasily fatigued muscle.

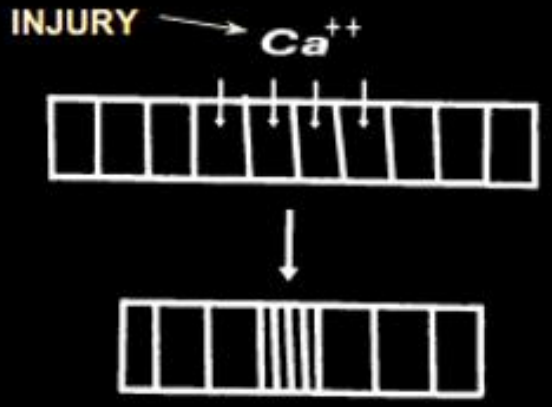
Secondary trigger points develop when a muscle is substituted for the primary muscle with a trigger point with diminished function. Satellite TrPs develop when a muscle is in a referred pain zone of another TrP. Without proper intervention, and with perpetuating factors, the TrPs can lead to severe and widespread chronic myofascial pain (CMP).

Myofascial Trigger Points

Clinical Features

Palpable Band.

A cord like band of fibers is present in the involved muscle.



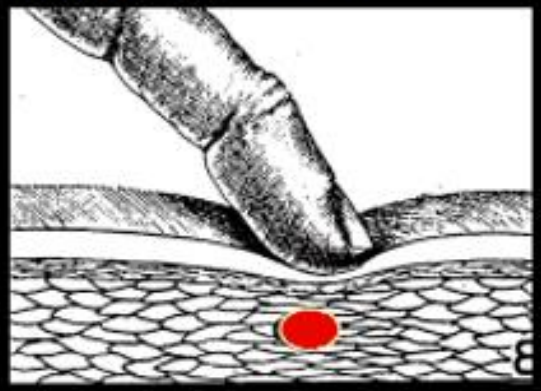
This can be difficult to identify when there are overlying muscles or thick subcutaneous tissue.

Myofascial Trigger Points

Clinical Features

Spot Tenderness

A **very tender small spot** which is found in a Taut Band.



The sensitivity of this spot (TrPs) can be increased by increasing the tension on the muscle fibers of the taut band.

Trigger points can cause pain *directly*. Trigger points are a "natural" part of muscle tissue. Just as almost everyone gets some pimples, sooner or later almost everyone gets muscle knots — and you have pain with no other explanation.

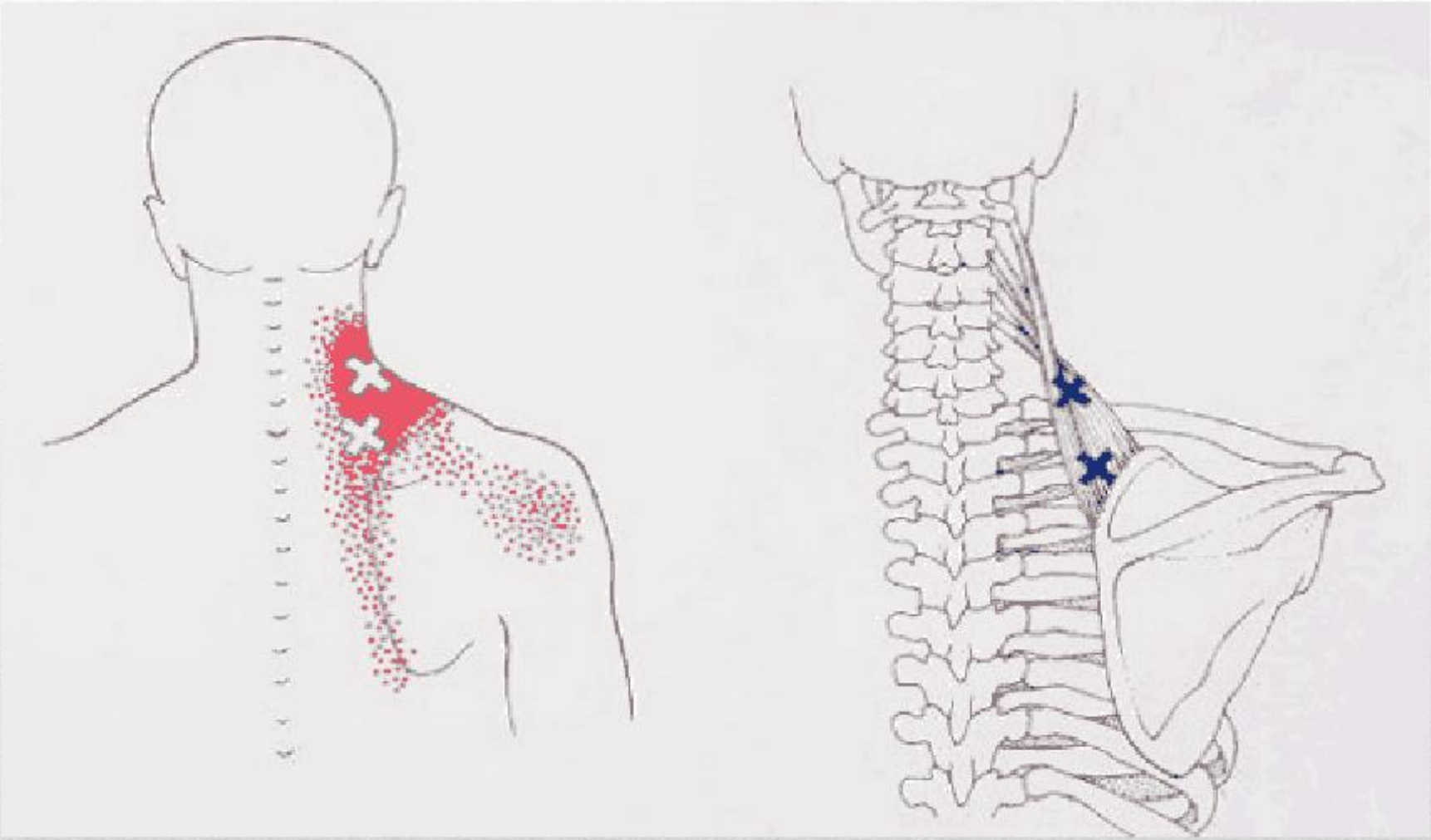
Trigger points *complicate* injuries. Trigger points show up in most painful situations like party crashers. Almost no matter what happens to you, you can count on trigger points to make it *worse*. In many cases they actually begin to overshadow the original problem.

Trigger points can cause pain *indirectly*. Many trigger points feel like something else. It is easy for an unsuspecting health professional to mistake trigger point pain for *practically anything but a trigger point.* For instance, muscle pain is probably more common than repetitive stress injuries (RSIs), because many so-called RSIs may actually be muscle pain.

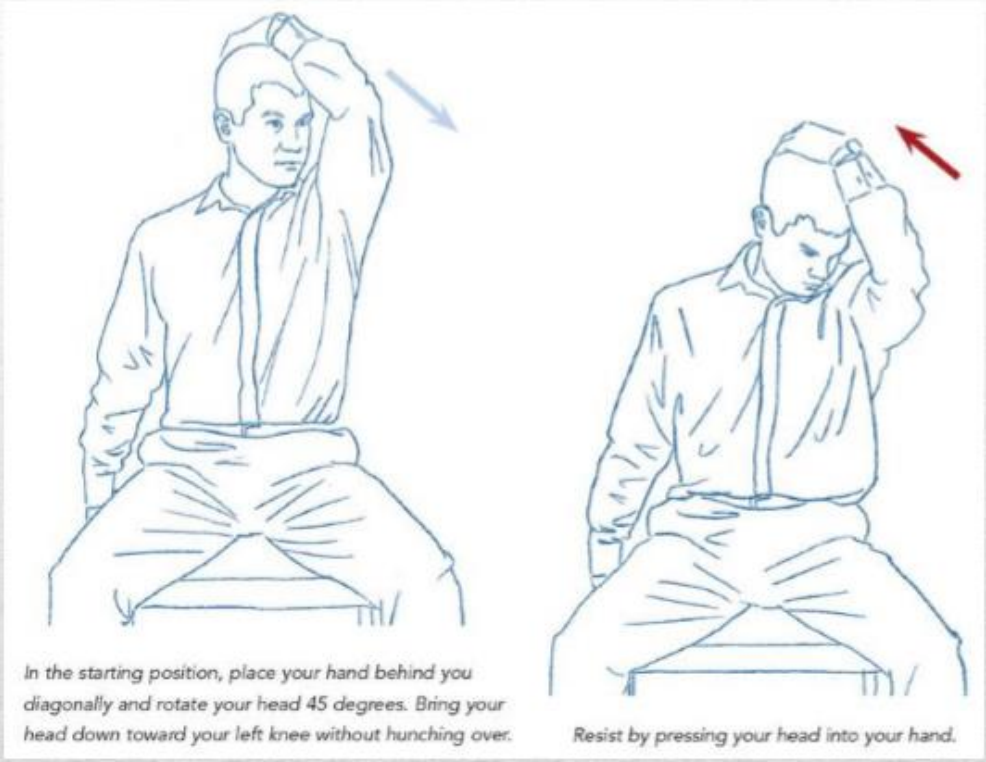
TPs Effects

TPs can effect skeletal muscle in one of 3 ways.

1. Decreased ROM
2. Weakens muscles contractile force
3. Inability for the muscle to completely relax
   This is done due to the typical motor feedback system being over ridden at the muscle fiber level.



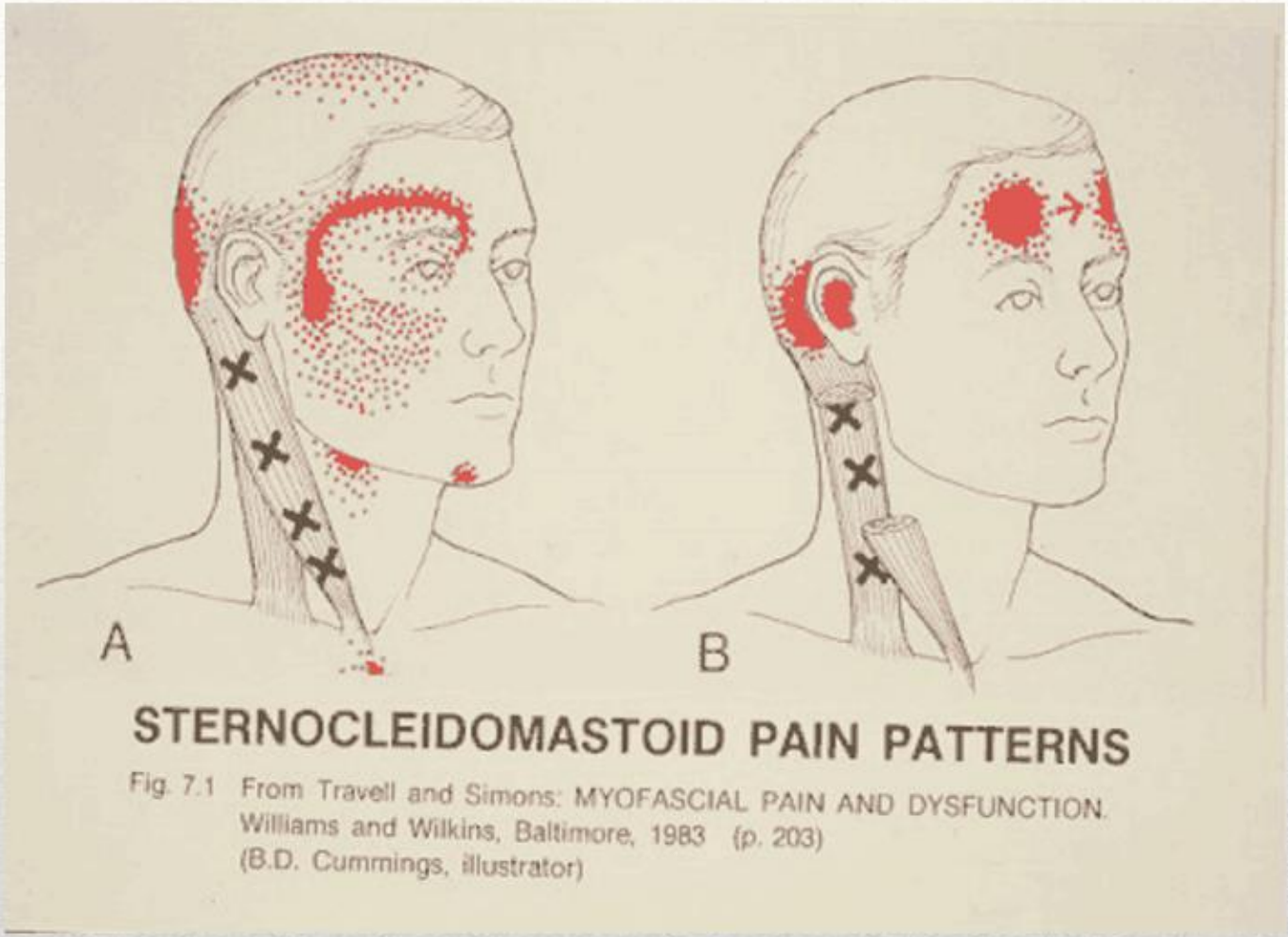
Levator (mouse muscle)



In the starting position, place your hand behind you diagonally and rotate your head 45 degrees. Bring your head down toward your left knee without hunching over.

Resist by pressing your head into your hand.

Levator stretch

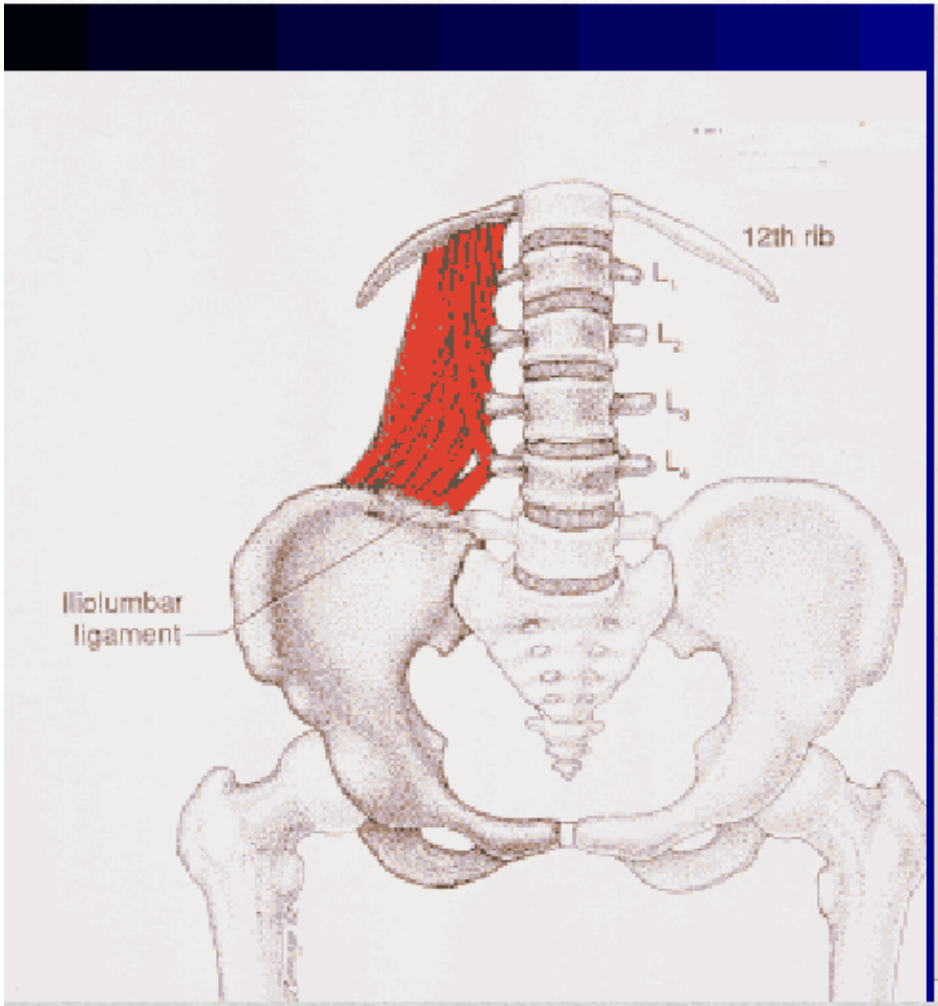


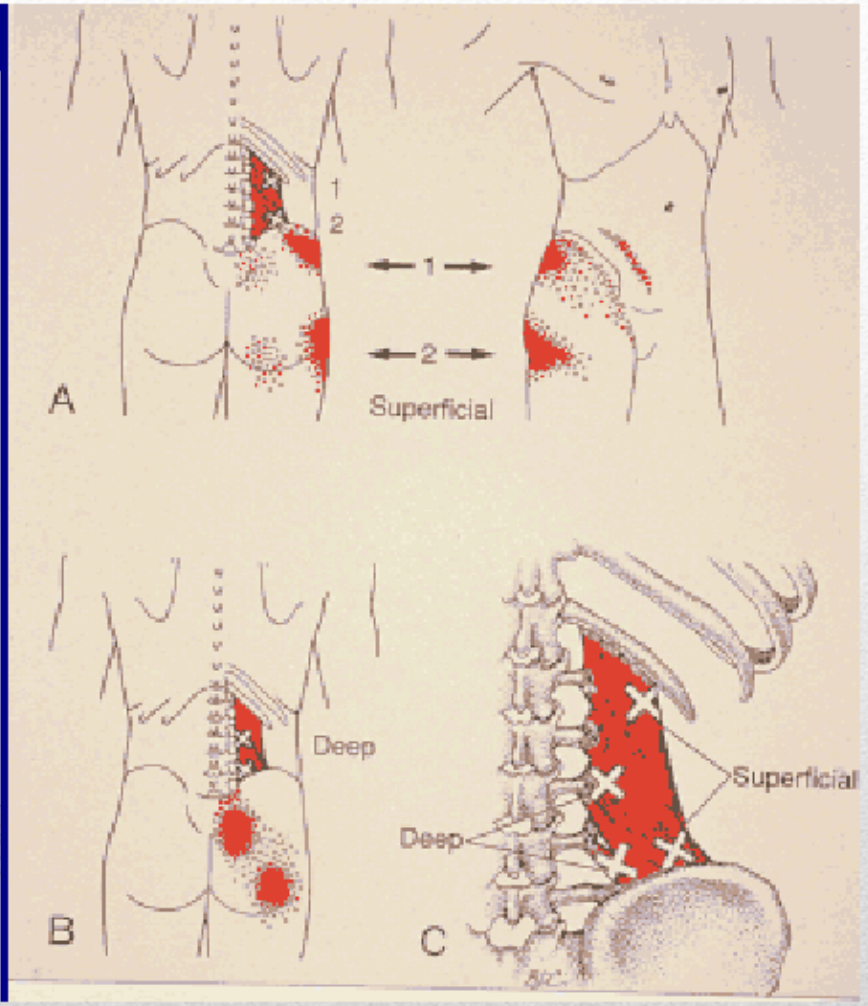
STERNOCLEIDOMASTOID PAIN PATTERNS

Fig. 7.1 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION. Williams and Wilkins, Baltimore, 1983 (p. 203) (B.D. Cummings, illustrator)

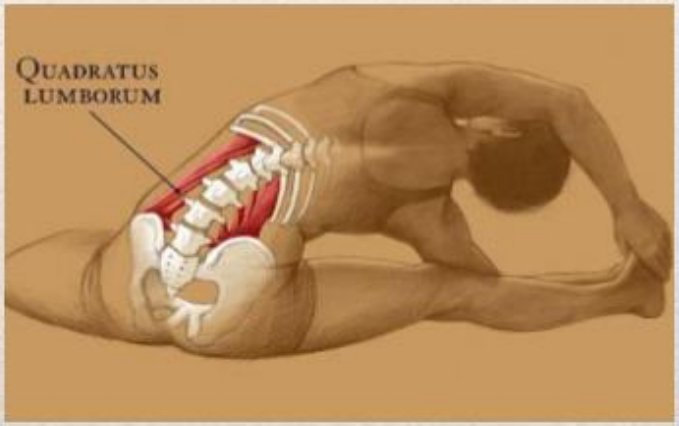
SCM

SCM Stretches

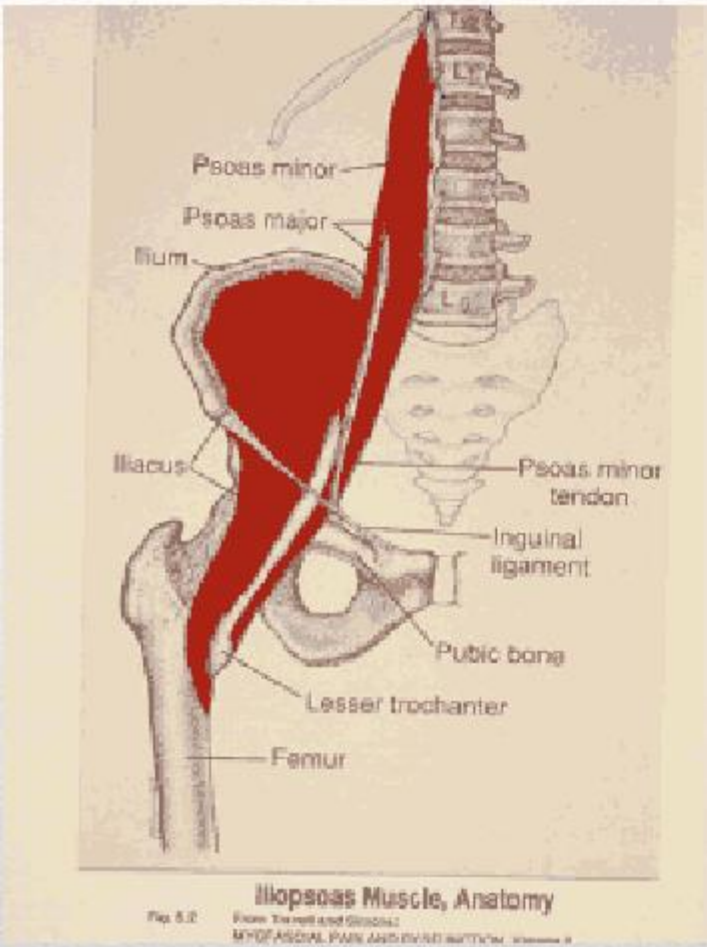




Quadratus Lumborum



QL stretches



Iliopsoas Muscle, Anatomy

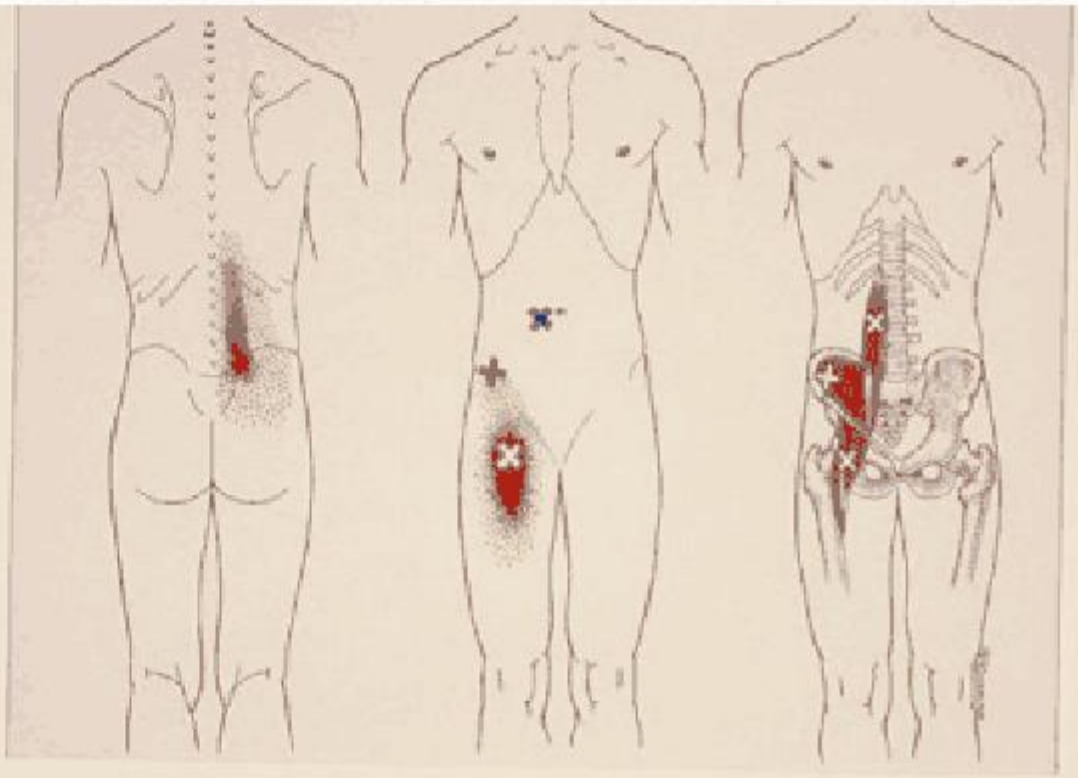


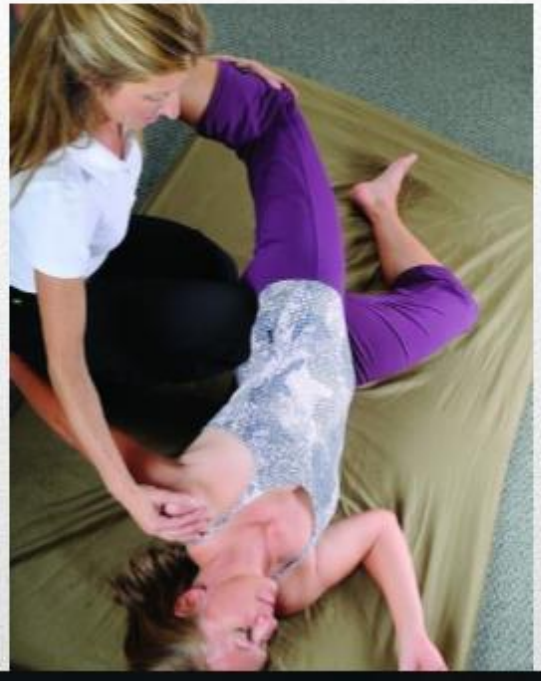
Fig. 5.1

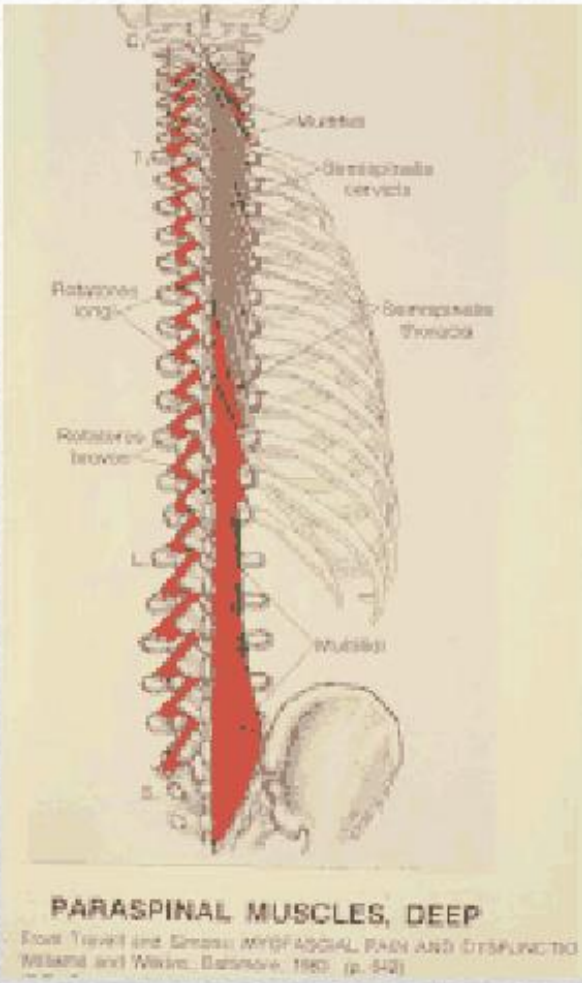
Iliopsoas Muscle, Pain Patterns

From Travell and Simons:
MYOFASCIAL PAIN AND DYSFUNCTION, Volume II
Williams and Wilkins, Baltimore, 1992 (p.90)

Psoas

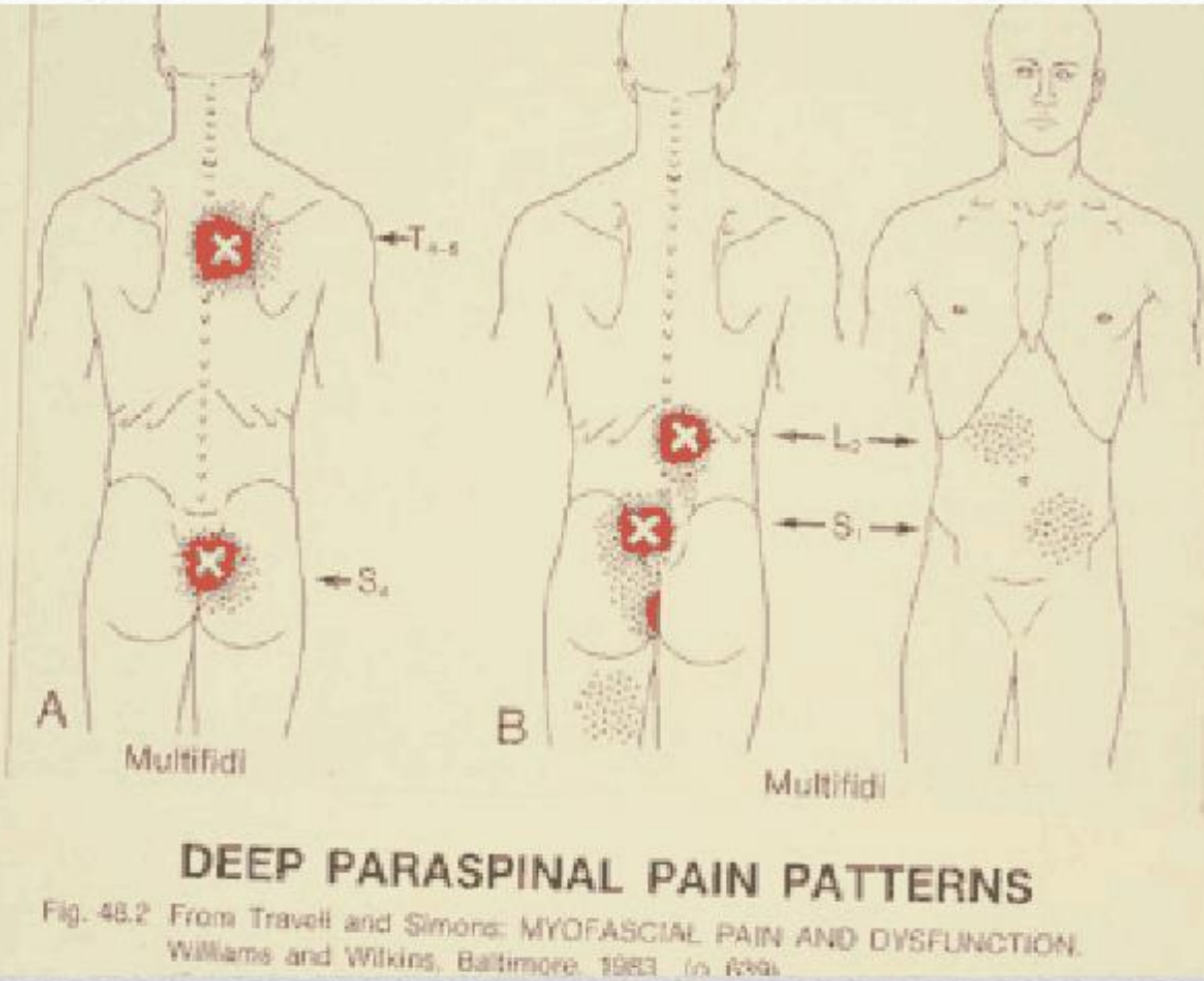
Psoas





PARASPINAL MUSCLES, DEEP

From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION Williams and Wilkins, Baltimore, 1983 (p. 642)

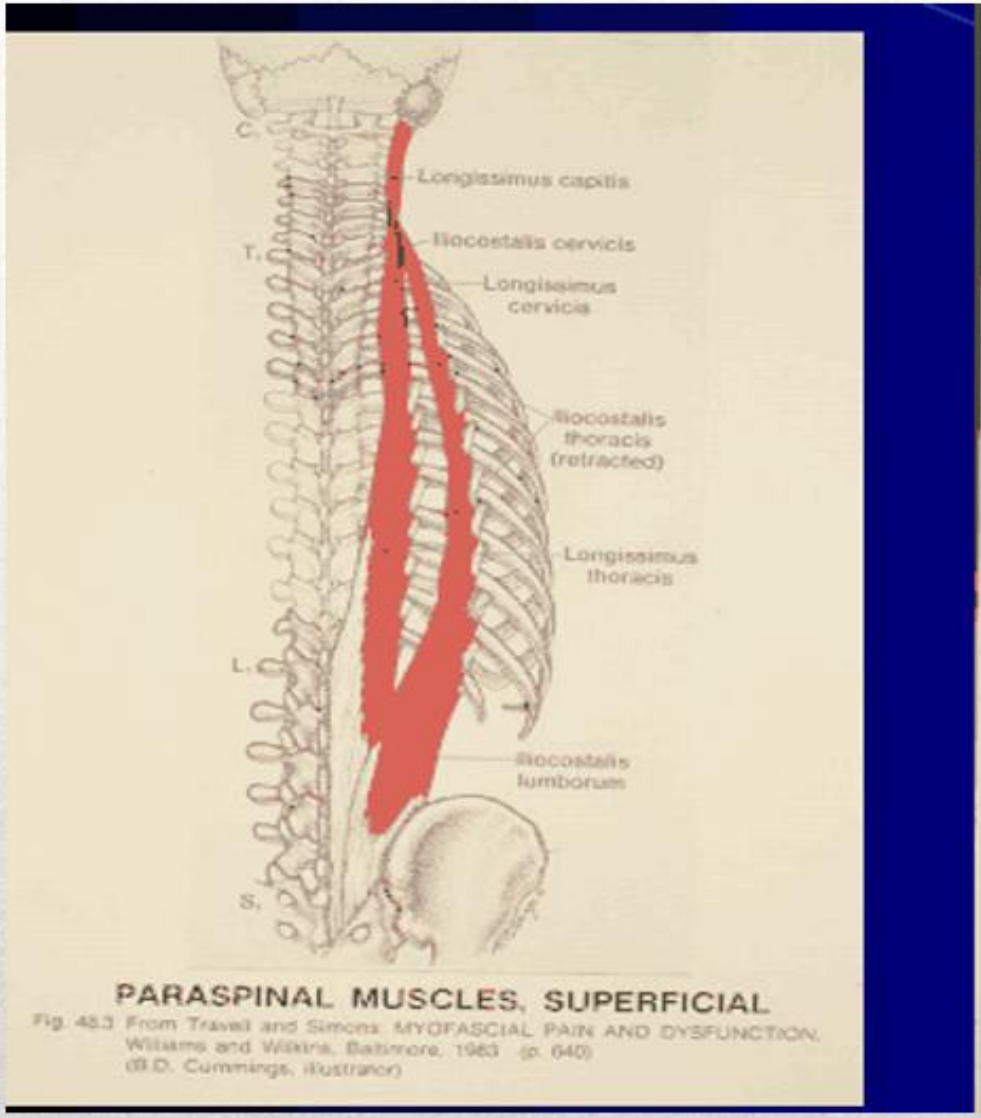


DEEP PARASPINAL PAIN PATTERNS

Fig. 48.2 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION. Williams and Wilkins, Baltimore, 1983 (p. 696)

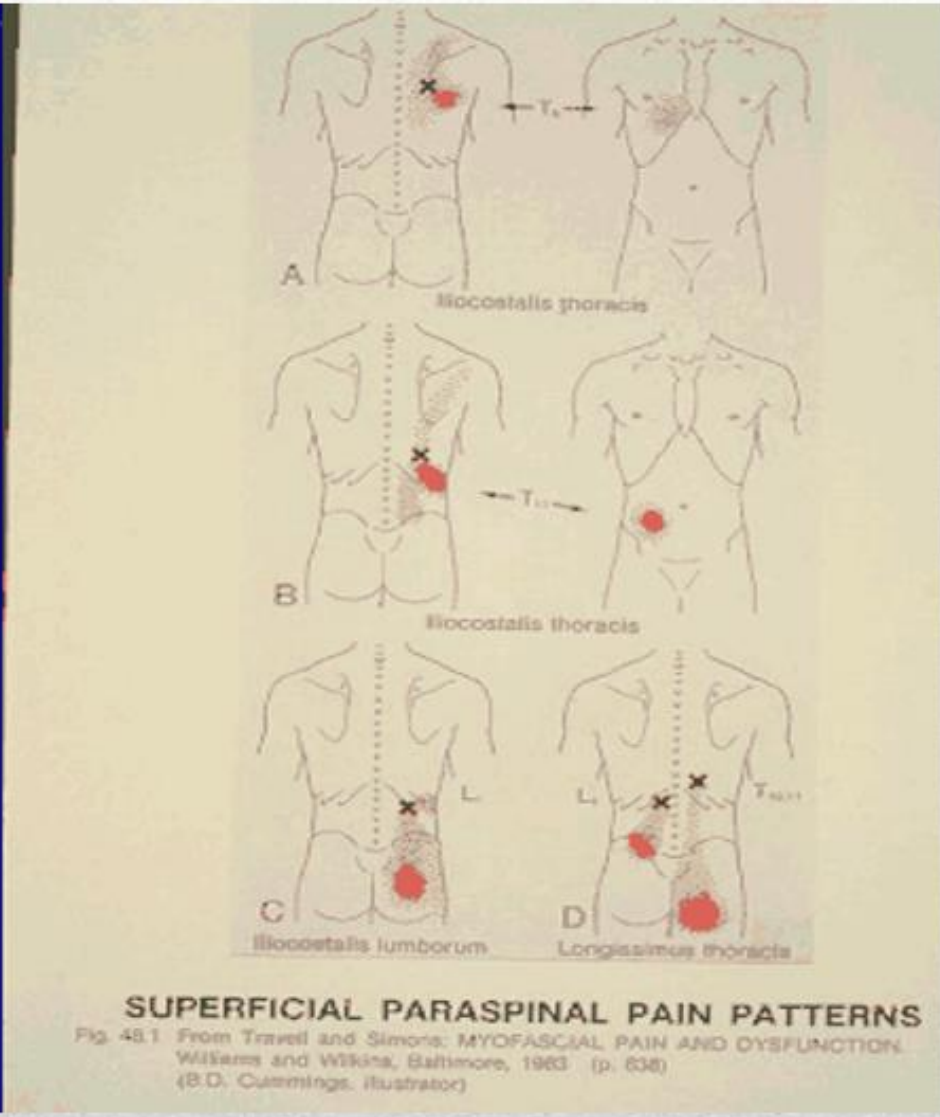
Multifidus

Stretching the multifidi



PARASPINAL MUSCLES, SUPERFICIAL

Fig. 48.3 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION. Williams and Wilkins, Baltimore, 1983 (p. 640) (B.D. Cummings, illustrator)

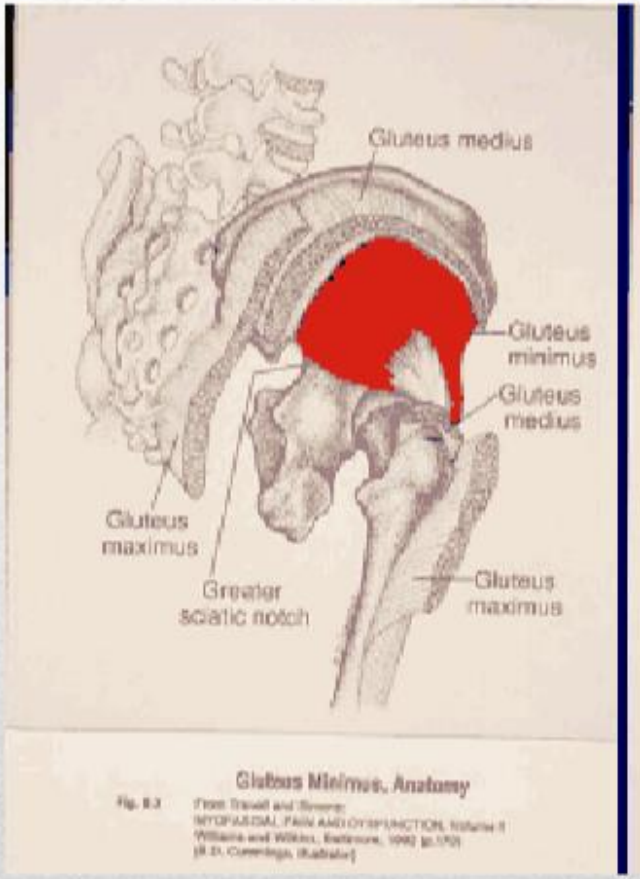


SUPERFICIAL PARASPINAL PAIN PATTERNS

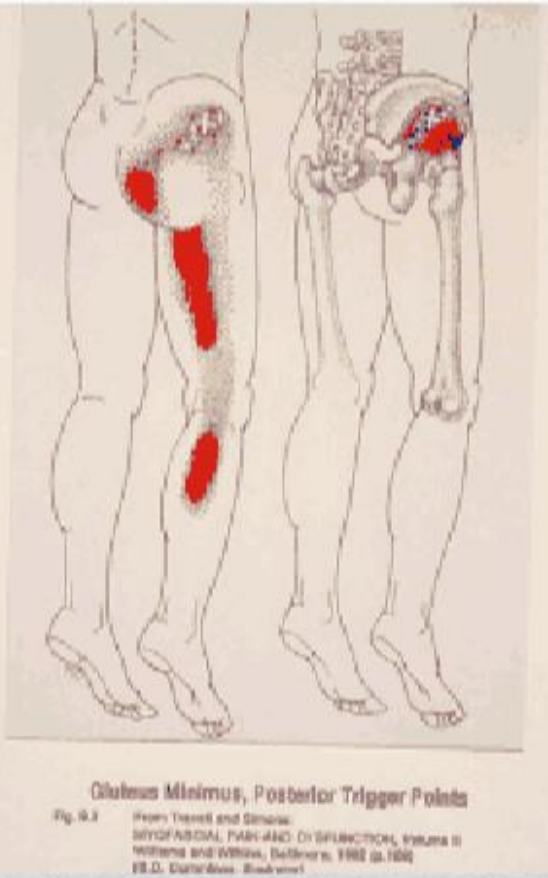
Fig. 48.1 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION. Williams and Wilkins, Baltimore, 1983 (p. 638) (B.D. Cummings, illustrator)

Longissimus/ Iliocostalis

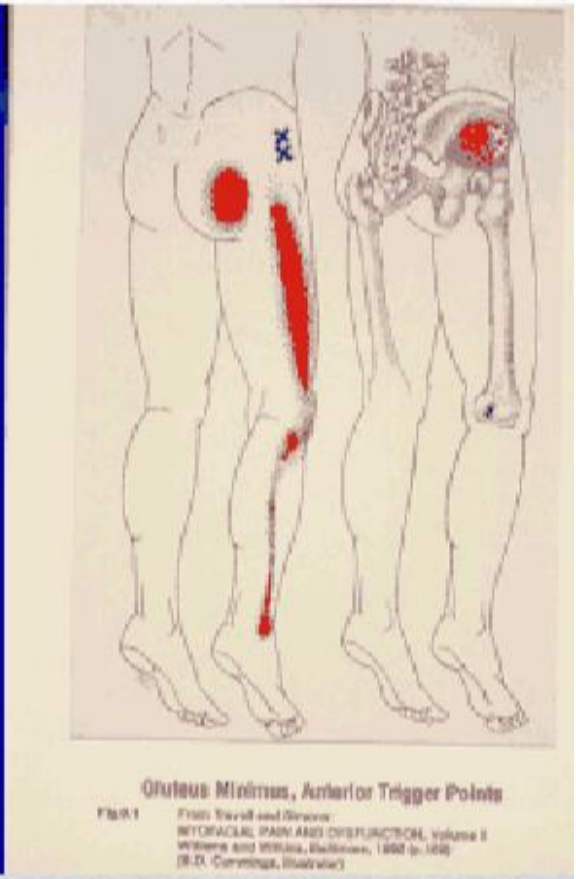
Stretching the Long/Ilio



Gluteus Minimus, Anatomy

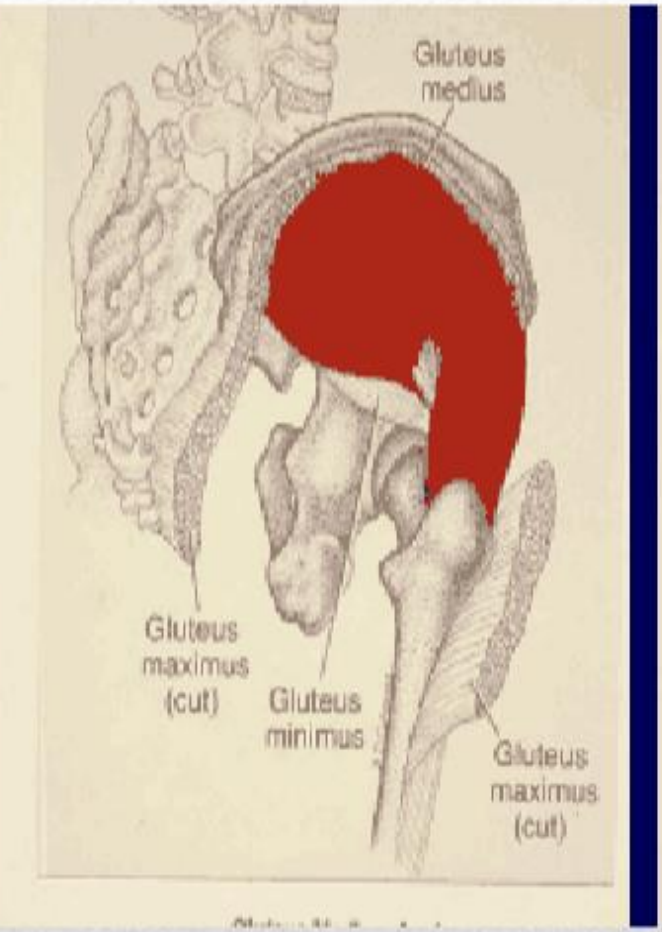


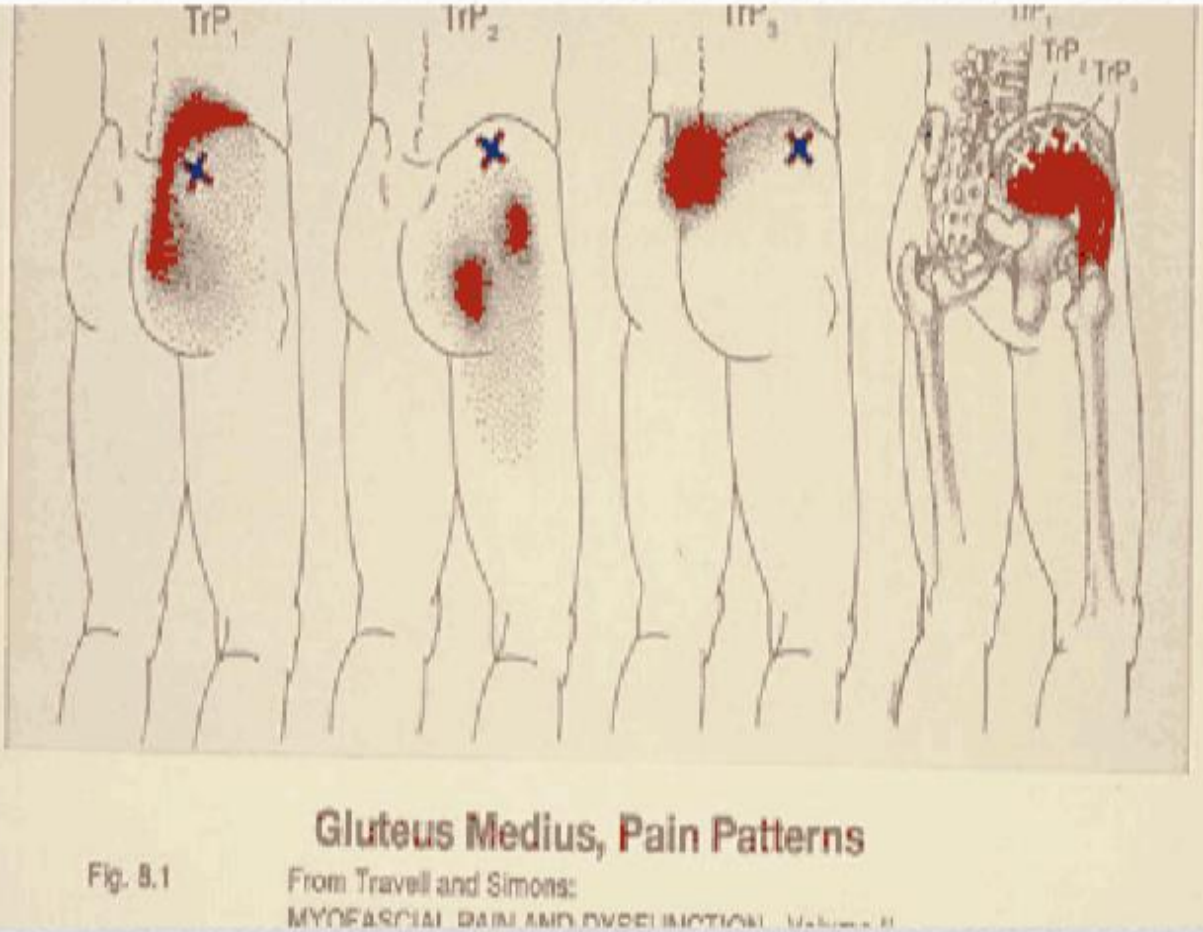
Gluteus Minimus, Posterior Trigger Points



Gluteus Minimus, Anterior Trigger Points

Glute Min

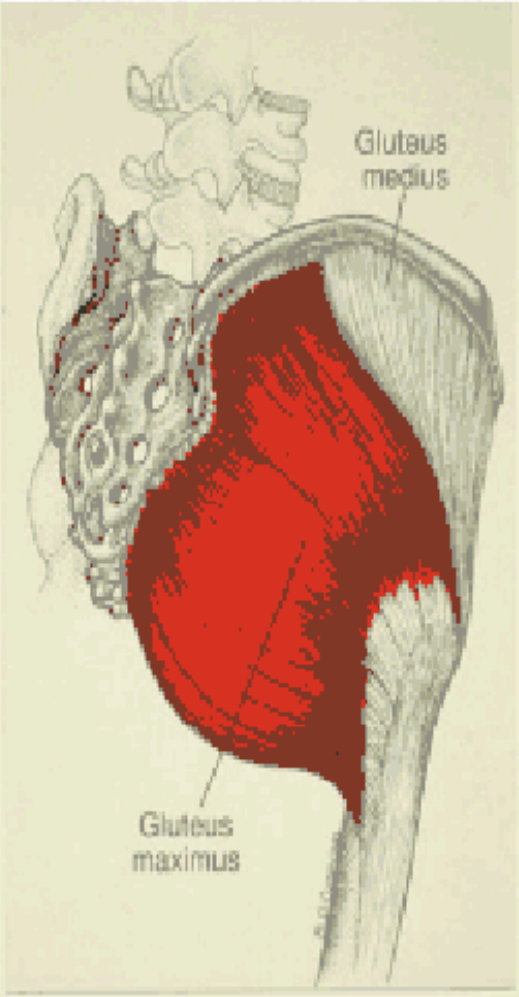




Gluteus Medius, Pain Patterns

Fig. 8.1 From Travell and Simons:

Glute Medius



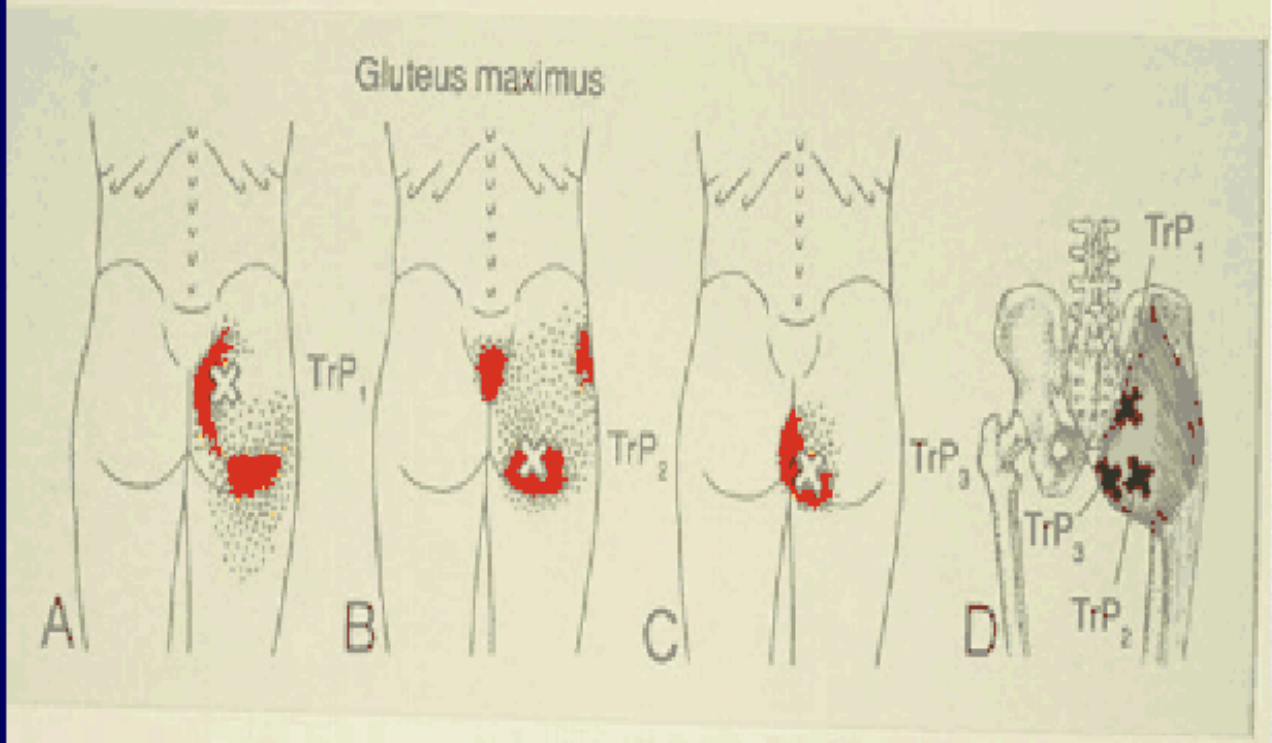
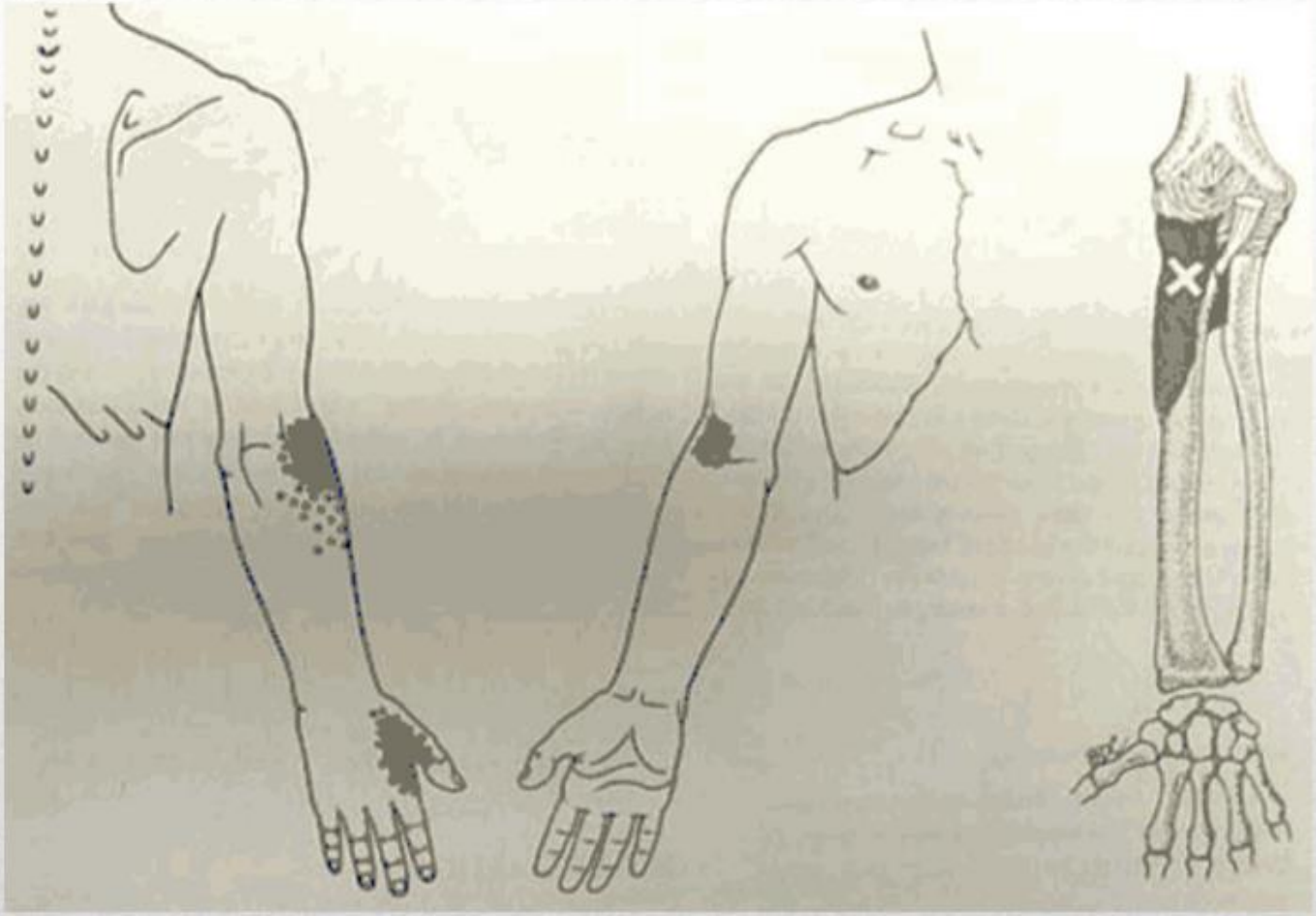


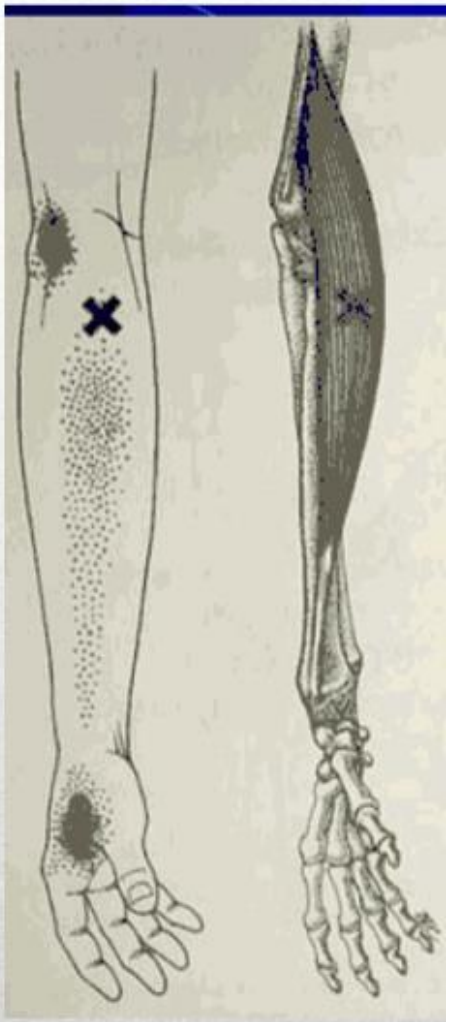
Fig. 7.1 **Gluteus Maximus, Pain Patterns**

From Travell and Simons:
MYOFASCIAL PAIN AND DYSFUNCTION, Volume II
Williams and Wilkins, Baltimore, 1992 (p.133)
(B.D. Cummings, illustrator)

MAXIMUS! "el buttikus"

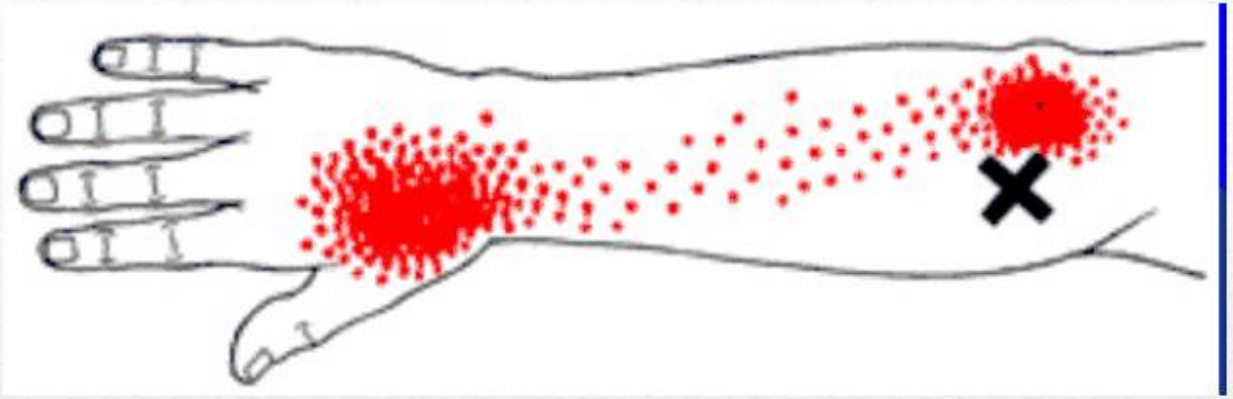
Stretches for the Glutes

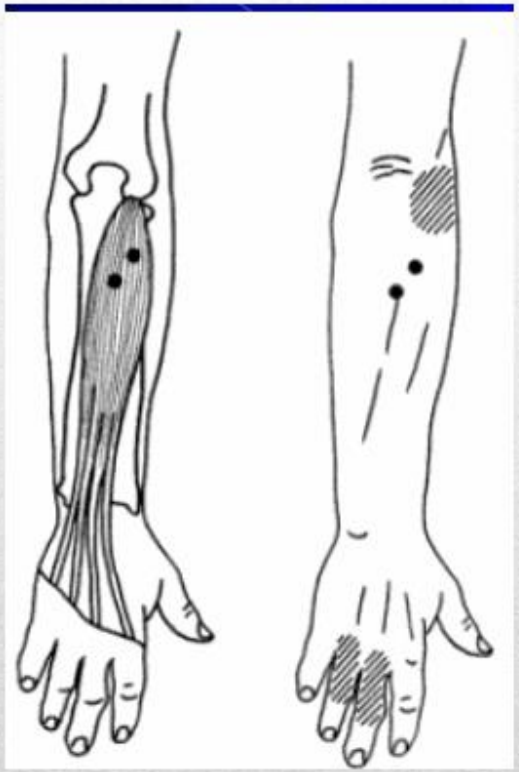




Supinator/Brachioradialis

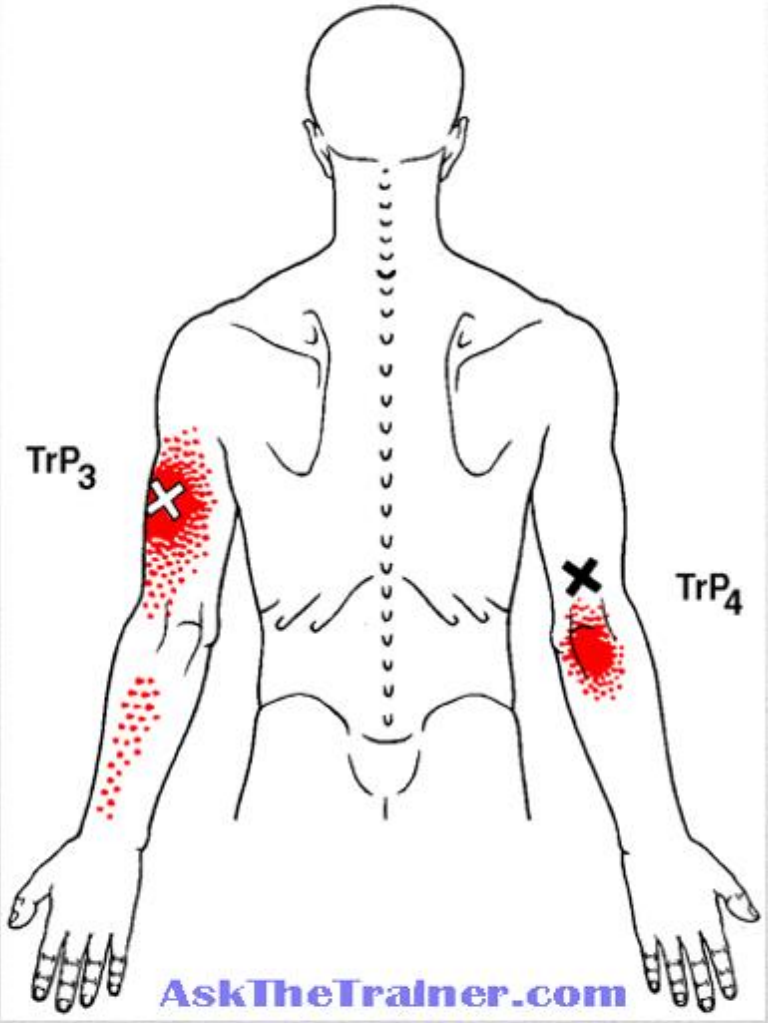
Supinator/Brachio Stretch





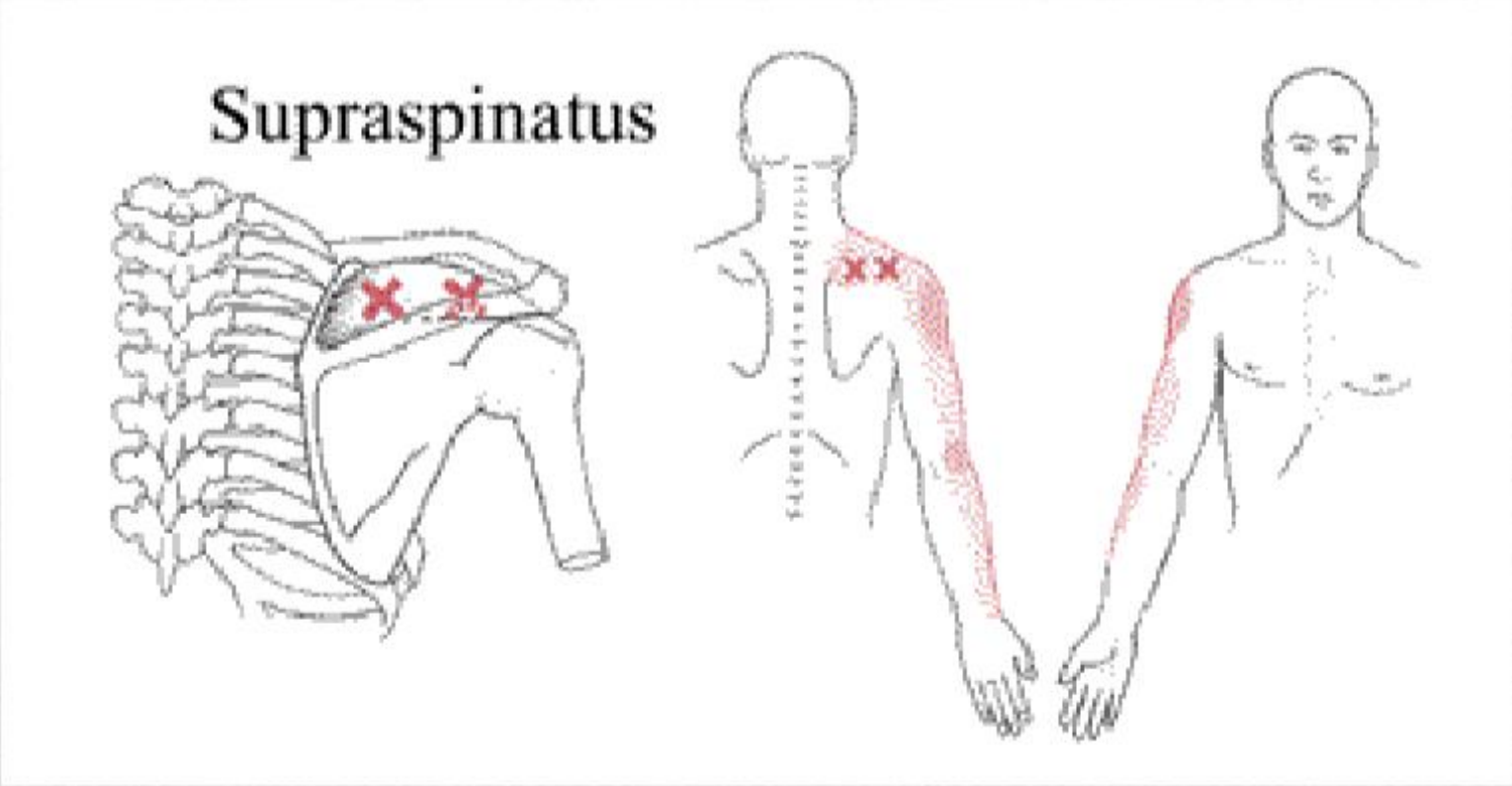
Extensors

Extensor Stretch



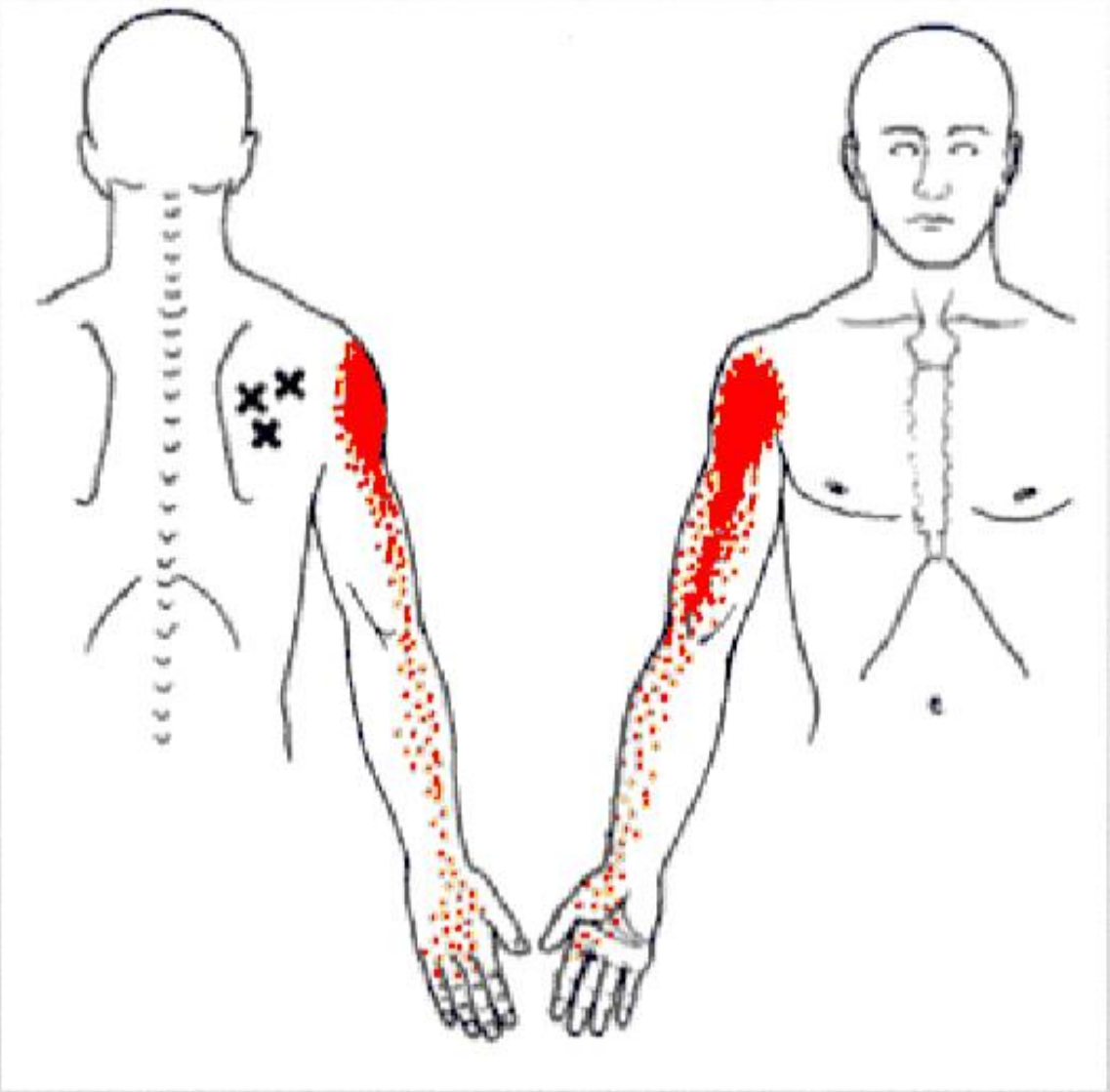
Triceps

Triceps Stretch



Supraspinatus

Supraspinatus stretch

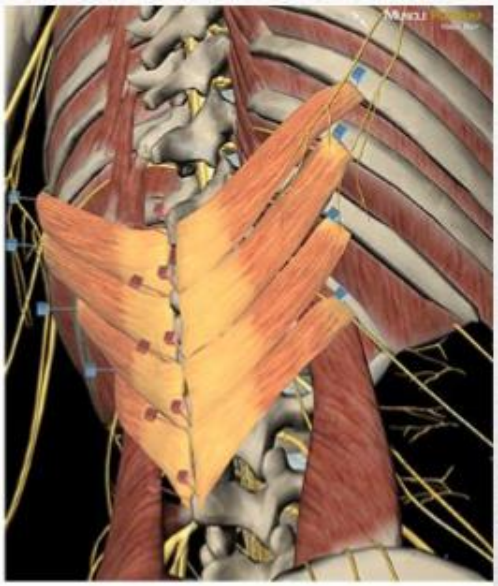


Infraspinatus

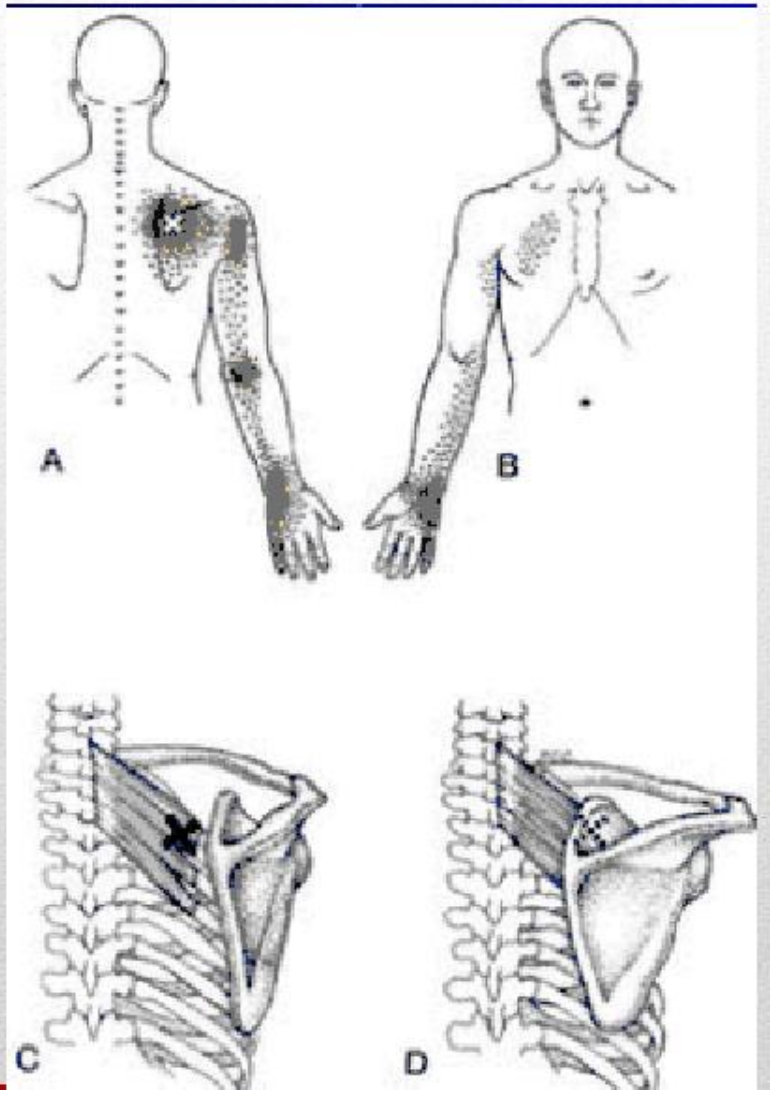
Infraspinatus stretch

BREATHING MUSCLES

serratus posterior superior

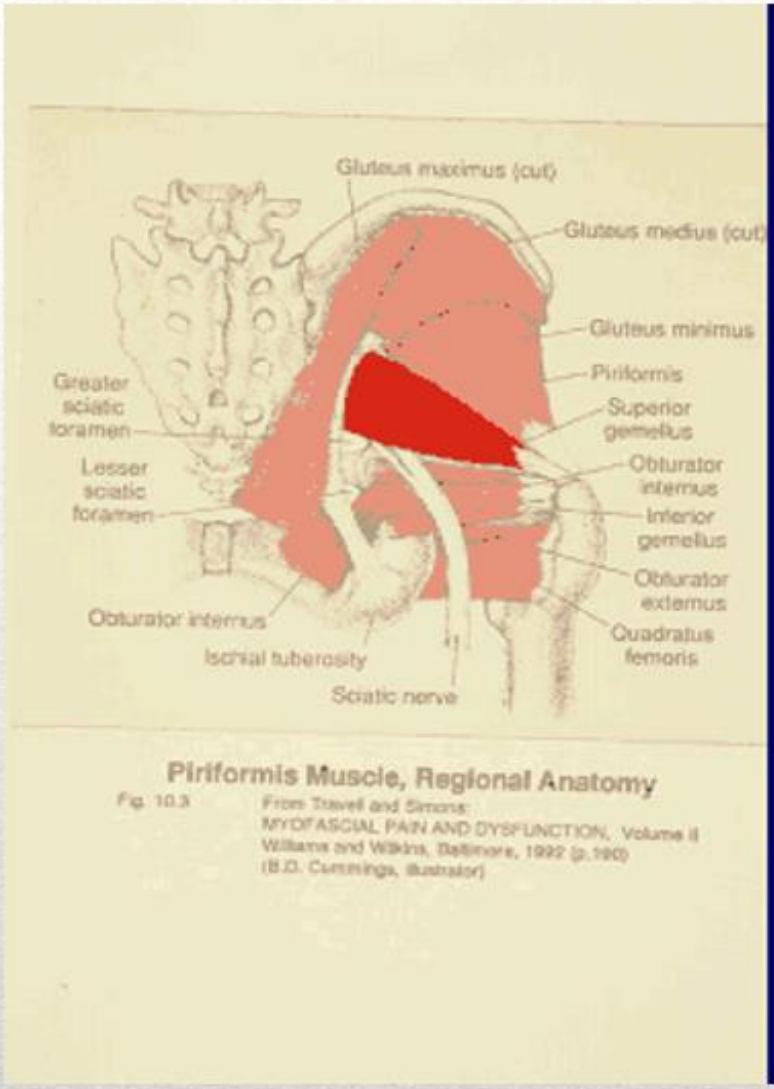


serratus posterior inferior



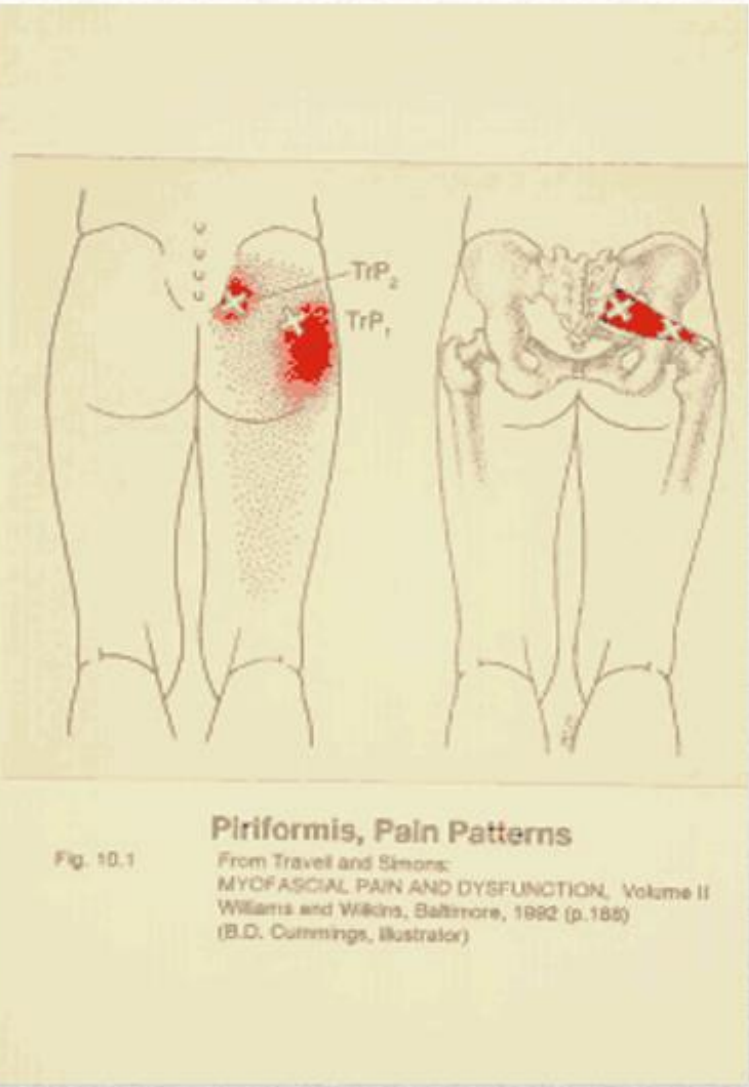
Serratus Post

Serratus Post Stretch



Piriformis Muscle, Regional Anatomy

Fig. 10.3 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION, Volume II Williams and Wilkins, Baltimore, 1992 (p.190) (B.D. Cummings, Illustrator)



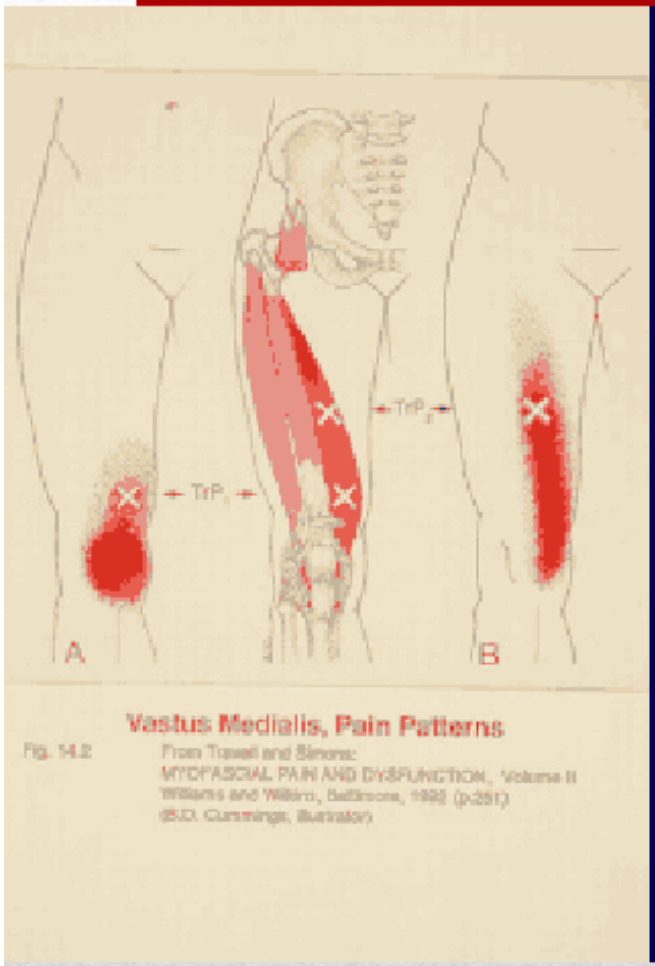
Piriformis, Pain Patterns

Fig. 10.1 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION, Volume II Williams and Wilkins, Baltimore, 1992 (p.188) (B.D. Cummings, Illustrator)

Piriformis

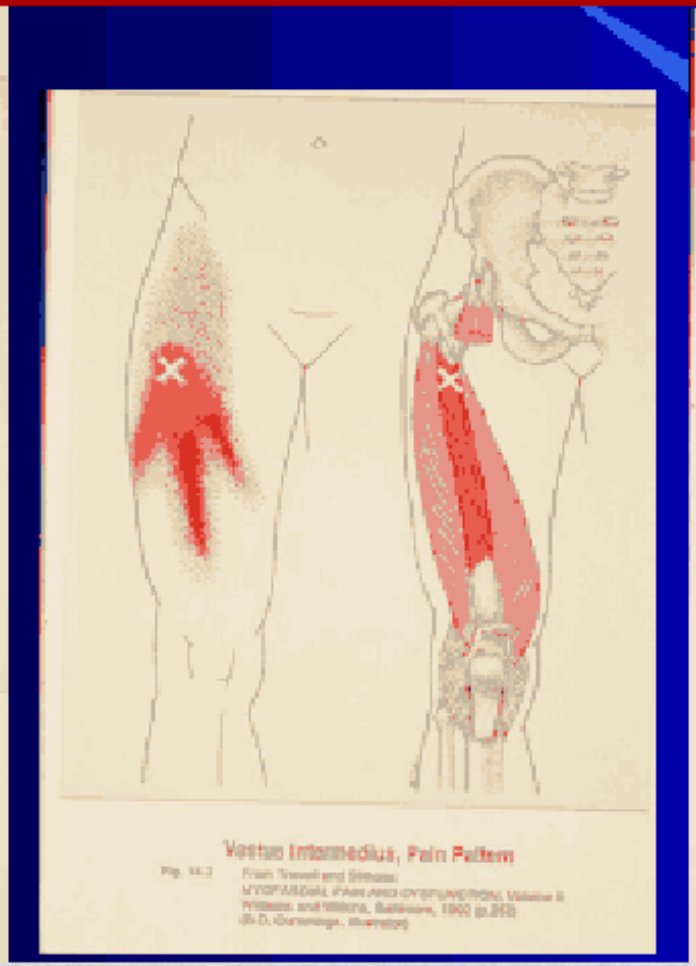
Piriformis stretch

Piriformis Entrapment

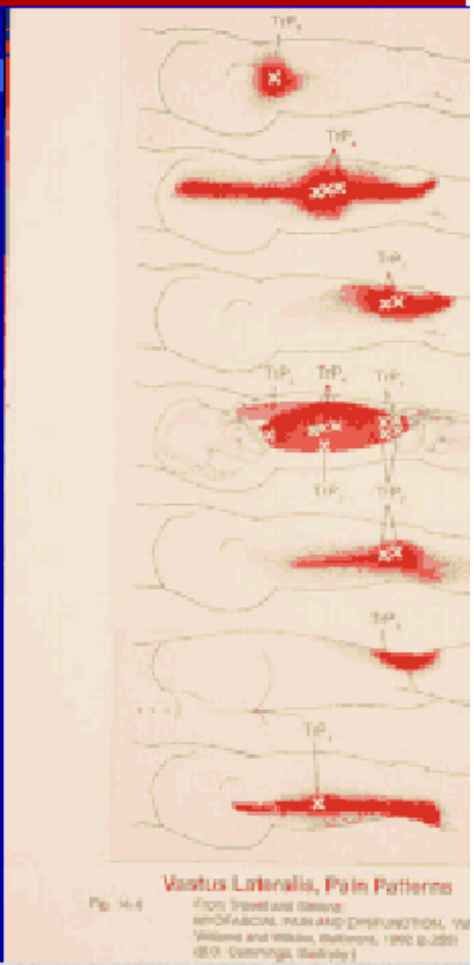


Vastus Medialis, Pain Patterns

Fig. 14.2 From Travell and Simons: MYOFASCIAL PAIN AND DYSFUNCTION, Volume II Williams and Wilkins, Baltimore, 1992 (p.291) (B.D. Cummings, Illustrator)



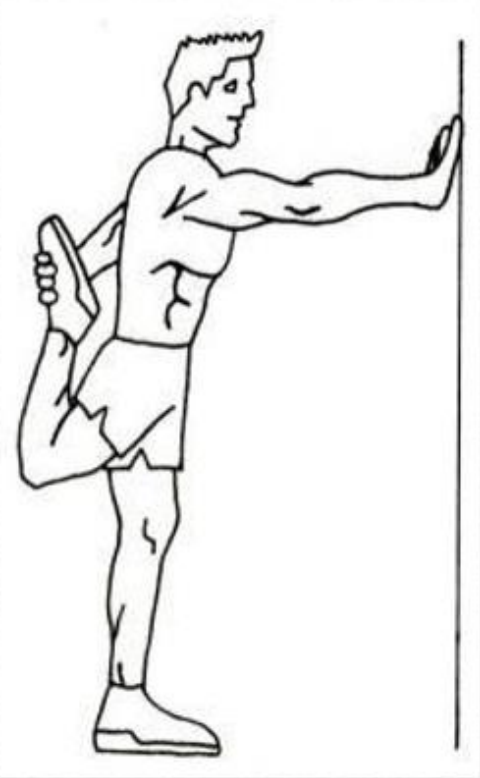
Vastus Intermedius, Pain Pattern

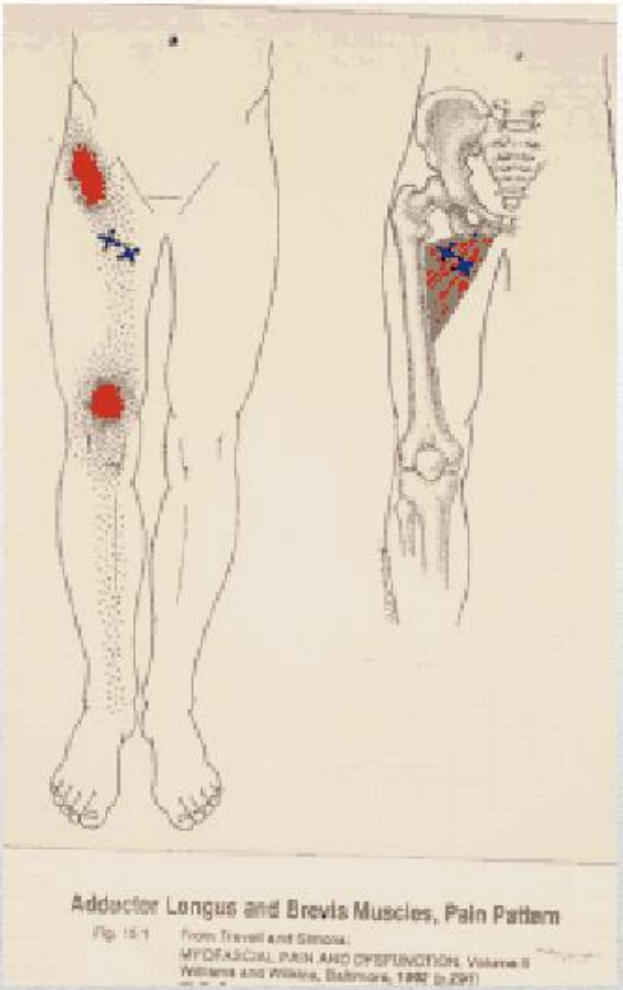


Vastus Lateralis, Pain Patterns

Vastus Med, Intermed lateralis

lateralis





Adductors

Adductor Stretch

End Mod5

Trigger Points