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TRIGGER POINT SOLUTION

2.0

**EXERCISE &
STRETCH GUIDE**

Get Pain Free and Enjoy Life

TRIGGER POINT SOLUTION



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Table of Contents

Lower Body Trigger Points	8
Adductor Longus and Brevis	8
Biceps Femoris	9
Gastrocnemius	10
Gluteus Maximus	11
Gluteus Medius	12
Gluteus Minimus	13
Peroneus Longus and Brevis	14
Piriformis	15
Rectus Femoris	16
Semitendinosus and Semimembranosus	17
Soleus	18
Tensor Fascia Lata	19
Tibialis Anterior	20
Vastus Medialis	21
Upper Body Trunk Trigger Points	22
Biceps Brachii	22
Infraspinatus	23
Latissimus Dorsi	24
Pectoralis Major	25
Pectoralis Minor	26
Quadratus Lumborum	27

Subscapularis	28
Supraspinatus	29
Teres Minor	30
Triceps Brachii	31
Upper Trapezius	32
References	33
TRIGGER POINT SOLUTIONS RESOURCES GUIDE	34

This e-book is to accompany your **Trigger Point Solutions** power point presentation and seminar.

Below I have provided a legend to simplify my information:

Legend

O-origin

I-Insertion

N-Innervation

RP-Referral Pattern

TPL- Trigger Point Location

SF- Special Features

NT – Additional Notes

Mtrp – Myofascial Trigger Point

Throughout the course of this book you will find images, descriptions, stretches and special features for 25 of the most common myofascial trigger points. Although these are some of the most common myofascial trigger points they will not always be found as these images depict them.

Research and text books have varying opinions as to where trigger points are located. Likewise, referral patterns vary slightly depending upon the text of origin.

Furthermore, remember trigger points must meet assessment criteria and display certain characteristics to be considered as such. Refer to your seminar for this information. I would recommend watching the seminar with this e-book a second time. It is common to find tender spots in the body. If these do not display characteristic signs, they are not considered trigger points by definition.

Trigger points in the pictures are labeled with an “X”. Certain muscles have more than one trigger point. In this case there are multiple Xs. Referral patterns are depicted by circular or linear patterns in red. This does not mean the referral pattern is a perfect circle. Circular patterns describe regional distribution of a referral pattern. Circular patterns also depict areas of greatest intensity felt by the client.

Special features are important notes for each trigger point. For example, soleus, which refers pain to the sacro-iliac joint, is a special feature. Special features can range from interesting referral patterns, to trigger points mimicking certain injuries or conditions (example: appendicitis).

Stretching images are provided to the right of the referral images. There are many variations on how to stretch a particular muscle, muscle unit, myofascial chain or movement pattern. I have chosen stretches that I use clinically, and have success with. If you have stretches that you currently use, I certainly encourage you to continue using those in your practice.

Plenty of research has gone into the application of static stretching. Static stretching used during trigger point application helps create change following the soft tissue application. Clinically I use sustained stretching for times lasting in between 30 seconds – 1 minute in length. I perform each stretch 3-5 times. Stretching should be comfortable for the client, and not evoke neuromuscular guarding or spasm.

Other methods which help restore tissue alignment following trigger point application include low grade isometric and eccentric contractions of the involved muscle. Contractions should be within client comfort and range between 50-70% of a maximal voluntary contraction. This will vary on a client by client basis. I understand the above values vary depending on research and background training of individuals. If you currently have exercise protocols for stretching and low grade neuromuscular activation you are comfortable with use them.

Lastly, this e-book was written to provide you with information on myofascial trigger points and their application for use in training, rehabilitation and manual therapy. Methods used in this text or seminar should not become your sole means of client evaluation. Take what you have learned here and add it to your ever expanding box of tools which help improve performance, health and pain modulation.

If you have any questions regarding the material presented in this book or the seminar you can contact me by email. Feedback is always appreciated and will be taken seriously. My e-mail address is conor@conorpcollins.com

I would like to personally thank you for purchasing my product. This means a great deal, to have people supporting my dream and passion. I hope to develop new products in the future and appreciate your continued support.

I sincerely hope this product helps you, your clients, friends and family. Please continue to update me on your results as you begin to use your knowledge of trigger points in practice!!!

Lower Body Trigger Points

Adductor Longus and Brevis



O • Longus: Body of the pubis Brevis: Inferior Ramus of the pubis

I • Longus: Mid 1/3 of linea aspera of femur Brevis: Pectineal and linea aspera of femur

N • Obturator

TPL • Groin at musculo-tendinous junction of adductor group

RP • Medial aspect of groin and medial knee

SF • Common source of groin pain and restricts abduction of the hip

NT • Assess your client for hip flexion weakness/dysfunction if Mtrps are present. Chronic Mtrps may mimic symptoms of hernia or sports hernia (these symptoms should be evaluated further).

Biceps Femoris



O • Ischial tuberosity (long head), linea aspera (short head)

I • Head of the fibula

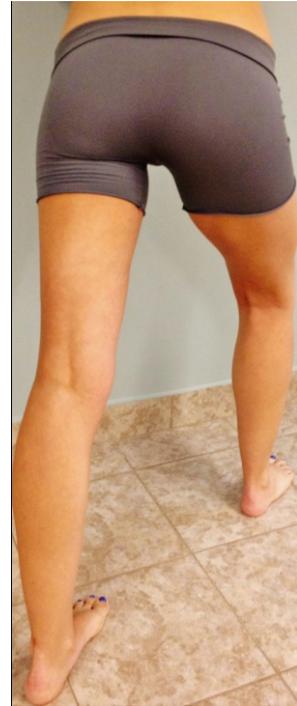
N • Sciatic (long head), Common fibular (short head)

TPL • In the muscle belly, predominantly the short head

RP • Posterior aspect of thigh, knee and proximal calf

NT • Internal rotation of the hip can increase tension on biceps femoris during stretch. Be sure to hinge at the hip not the low back during this stretch. Mtrps can be present in peripheral sciatic nerve entrapment or cause posterior fixation of the fibular head (leading to ankle pain).

Gastrocnemius



O • Medial/Lateral femoral condyles

I • Calcaneous

N • Tibial

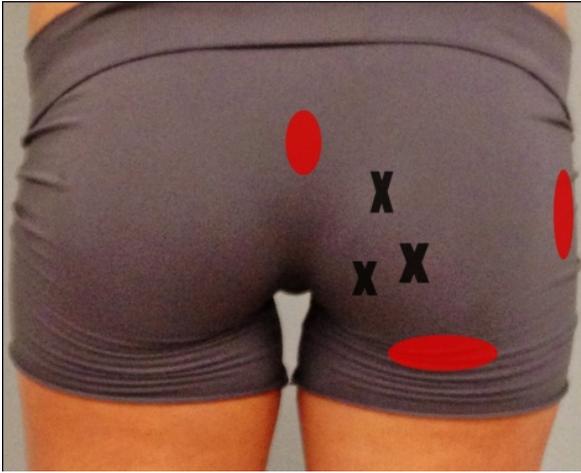
TPL • Proximal medial and lateral muscle belly

RP • Medial and lateral proximal calf, midfoot

SF • Calf cramps, associated with plantar fasciitis

NT • Mtrps can restrict ankle dorsiflexion. This muscle can be quite symptomatic however may not be the root cause of dysfunction. It is often implicated with biceps femoris especially with lateral knee pain.

Gluteus Maximus



O • Posterior sacrum, coccyx, iliac crest

I • Gluteal tuberosity, iliotibial band

N • Inferior gluteal

TPL • Medial aspect of muscle belly near gluteal fold

RP • Lateral hip, gluteal fold and sacrum

SF • Commonly present with “tight” hamstrings

NT• It is important to determine the cause of hamstring “tightness”. Causes can include muscle weakness, muscle tightness, increased muscle length, increased resting tone or dysfunctional neuromuscular patterns. Gluteus maximus can display weakness and is commonly the case when a client presents with low back pain.

Gluteus Medius



O • Between the anterior and posterior gluteal lines of the ilium

I • Greater Trochanter

N • Superior gluteal nerve

TPL • Inferior to iliac crest in muscle belly

RP • Iliac crest, sacrum and posterior buttock

SF • Mtrps are perpetuated by Morton's toe (long 2nd metatarsal)

NT • Client may present with a positive Trendelenburg Sign (adduction of stance leg). Mtrps can also develop in the muscle due to injury of the ankle or foot. Gluteus medius should be evaluated in all cases where there is a history of ankle or foot injury.

Gluteus Minimus



- O** • Between anterior and inferior gluteal lines of the ilium
- I** • Greater trochanter
- N** • Superior gluteal nerve
- TPL** • Muscle belly near insertion point
- RP** • Lateral thigh to ankle, lower buttock
- SF** • Sciatic distribution, only gluteal muscle to refer pain down the leg
- NT** • Muscle blends into posterior hip capsule. Mtrps can restrict mobility or stability of the hip or flexibility of the leg, especially when client attempts to touch their toes.

Peroneus Longus and Brevis



O • Head of fibula and superior 2/3 of fibula (longus), inferior 2/3 of fibula (brevis)

I • Base of 1st metatarsal and 1st cuneiform (longus), 5th metatarsal (brevis)

N • Superficial peroneal

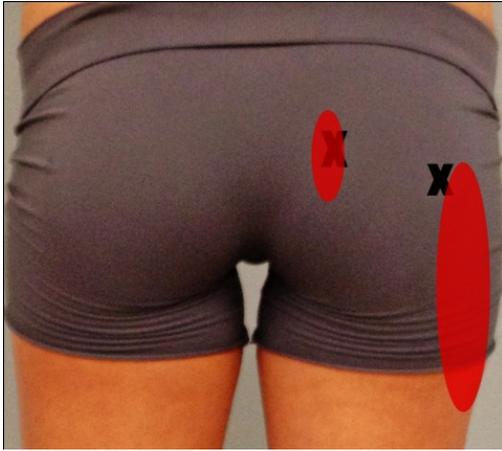
TPL • Muscular origins

RP • Lateral leg and lateral malleolus

SF • Drop foot, feeling of walking on “knife edge”

NT • May be involved in peroneal nerve entrapment. Mtrps can also develop as a result of inversion ankle sprain. Peroneals also share a close relationship with tibialis anterior and the two should be evaluated together.

Piriformis



O • Anterior surface of the sacrum

I • Greater trochanter

N • Piriformis

TPL • Origin and insertion in muscle belly

RP • Sacroiliac joint, lateral posterior thigh

SF • Mtrps restrict adduction and internal rotation of hip, Mtrps can cause entrapment of sciatic nerve, restless leg syndrome

NT• Piriformis lies high in the buttock directly inferior to gluteus medius. Be sure to review the anatomy of this muscle as it is generally addressed far too inferior in the hip during myofascial techniques. Be mindful the obturator internus muscle can just as easily be implicated in the presence of sciatic nerve entrapment.

Rectus Femoris



O • Anterior inferior iliac spine

I • Tibial tuberosity

N • Femoral

TPL • Muscle belly just distal to AIIIS

RP • Anterior knee

SF • Mimics knee arthritis

NT • Develops secondary Mtrps with tensor fascia lata when the psoas major is unable to stabilize the hip in flexion, and is very commonly seen in cyclists.

Semitendinosis and Semimembranosis



O • Ischial tuberosity

I • Medial condyle of tibia at pes anserine (semitendinosis), posterior aspect of medial condyle of tibia (semimembranosis)

N • Sciatic

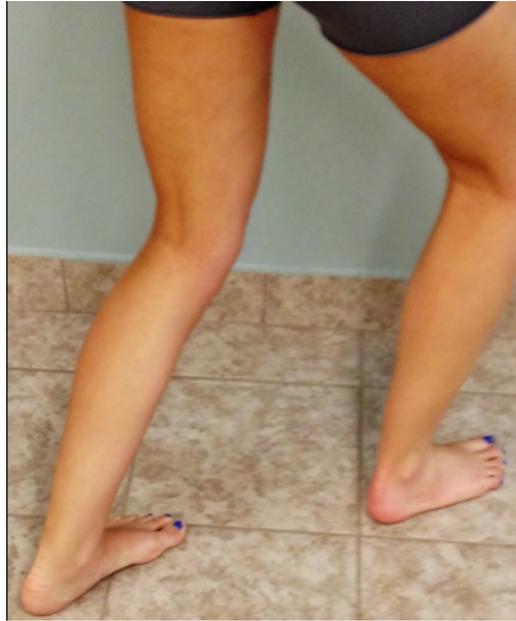
TPL • Medial aspect of leg in muscle belly

RP • Medial aspect of posterior leg and posterior aspect of the knee

SF • Implicated in low back pain

NT • Slight external rotation of the hip can increase tension on medial hamstrings during stretch. Be sure to hinge at the hip not the low back during this stretch. Pay special attention to Mtrps in cases of surgical repair to the meniscus or cruciate ligaments of the knee. In presence of Mtrps also evaluate the adductors for secondary Mtrps and hip external rotators for weakness.

Soleus



O • Posterior aspect of fibula and tibia

I • Calcaneous

N • Tibial

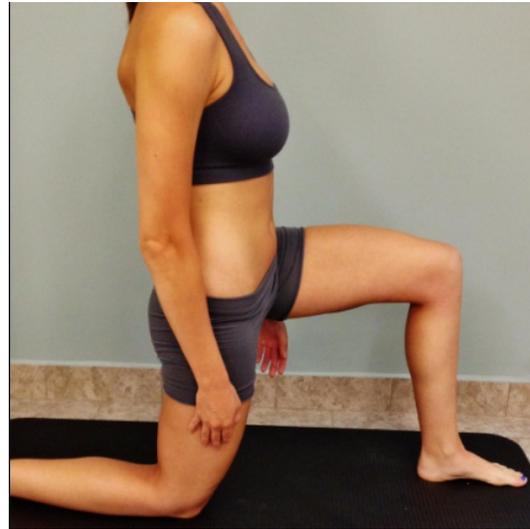
TPL • Medial and lateral calf at the junction of muscle belly and achilles tendon

RP • Calf and heel, underside of foot, sacroiliac joint

SF • Sacroiliac pain

NT • Those suffering from long standing SI pain should be evaluated for this Mtrp. This can also cause Mtrps in the contra-lateral gluteus medius. Evaluate for Mtrps in cases of long standing “runners knee” as restrictions in ankle dorsiflexion will directly affect hip mechanics.

Tensor Fascia Lata



O • Anterior superior iliac spine (ASIS)

I • Ilio-tibial band

N • Superior gluteal

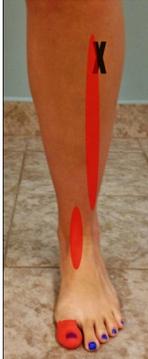
TPL • Muscle belly

RP • Lateral aspect of the thigh

SF • Commonly involved in runners knee

NT • Often an ignored muscle TFL plays an important role in lateral hip stability. Always evaluate gluteus medius for weakness when Mtrps are present in TFL.

Tibialis Anterior



O • Lateral condyle and superior aspect of tibia

I • 1st metatarsal, 1st cuneiform

N • Deep peroneal

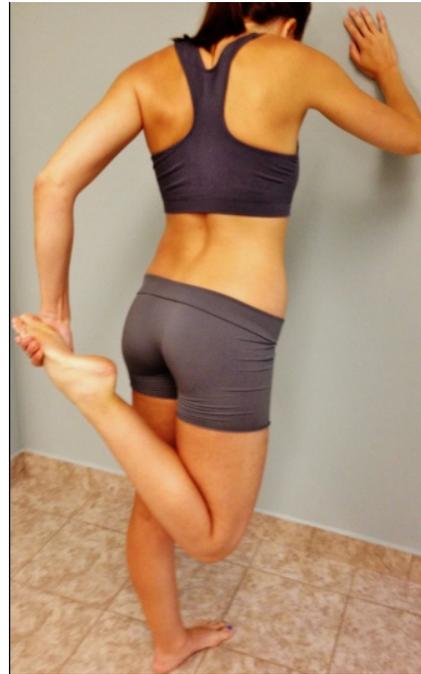
TPL • Muscle belly

RP • Anterior shin and big toe

SF • Can mimic foot drop, decrease balance and proprioception

NT • When Mtrps are present look for weakness in extensor hallucis longus and brevis. Mtrps in this muscle can be present in cases of hallux limitus (rigid big toe).

Vastus Medialis



O • Medial linea aspera

I • Tibial tuberosity

N • Femoral

TPL • Largest portion of muscle bulk and medial thigh

RP • Medial thigh and knee

SF • Knee buckling, mimics knee arthritis and patella femoral pain syndrome

NT • Be sure to address the adductors when Mtrps are present. Mtrps can also be present in cases of long standing swelling in the knee or lower leg. Mtrps can also develop as a result of saphenous nerve entrapment.

Upper Body Trunk Trigger Points

Bicep Brachii



O • Coracoid (short head), Supraglenoid tubercle (long head)

I • Radial tuberosity, bicipital aponeurosis

N • Musculocutaneous

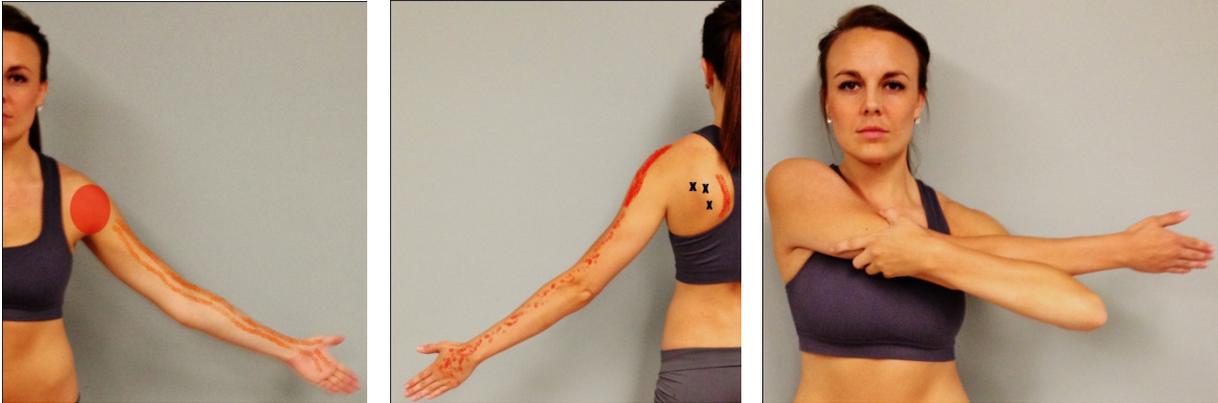
TPL • Muscle belly

RP • Anterior shoulder, elbow crease

SF • Bicipital tendinopathy

NT• Mtrps can develop in the presence of rotator cuff weakness, which forces the bicep to increase shoulder stability. Can develop satellite Mtrps due to primary Mtrps in pectoralis minor.

Infraspinatus



O • Infraspinous fossa

I • Greater tubercle of humerus

N • Suprascapular

TPL • Spine of scapula and medial border

RP • Posterior shoulder, lateral aspect of arm into digits 1-3

SF • Deep shoulder pain, mimics arthritis and sub-deltoid bursitis, may cause satellite Mtrps in anterior deltoid

NT • Investigate all other rotator cuff musculature if Mtrps are present. Common source of spasm in the posterior shoulder. Mtrps may also develop due to suprascapular nerve entrapment, an injury suffered by volleyball players.

Latissimus Dorsi



O • Posterior iliac crest, lumbo-sacral fascia, lower 3-4 ribs, inferior angle of scapula, spinous processes of T7-T12

I • Medial bicipital groove

N • Thoracodorsal

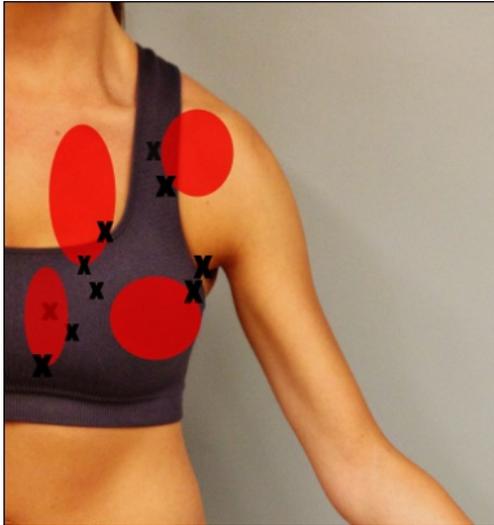
TPL • Lateral border of muscle belly

RP • Over scapula, down posterior arm, 4-5 digits

SF • No arm position is comfortable when Mtrps are present

NT • Provides significant stability between the shoulder and contra-lateral hip. Mtrps in this muscle should be considered in all unresolved shoulder and elbow conditions.

Pectoralis Major



O • Medial clavicle, sternum, upper 6 costal cartilage

I • Medial bicipital groove

N • Medial and lateral pectoral

TPL • Many Mtrps located at various points in muscle belly

RP • Breast and armpit

SF • Can give rise to Mtrps in rhomboids, nipple sensitivity, decreases humeral abduction and external rotation

NT • Develops Mtrps when it becomes the dominant force producer in shoulder internal rotation. Subscapularis is often weak in these cases and should be considered in all throwing athletes.

Pectoralis Minor



O • Anterior surface ribs 3-5

I • Coracoid Process

N • Medial Pectoral

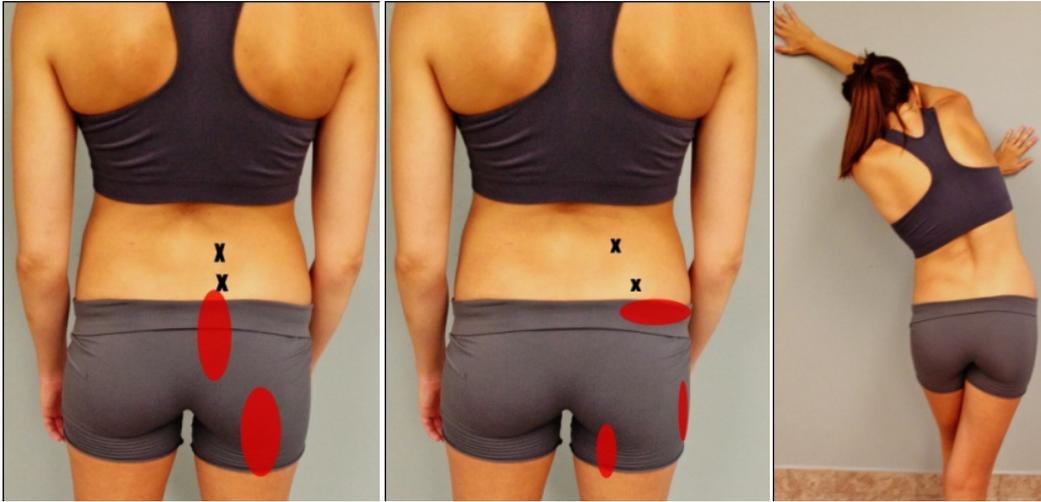
TPL • Muscle belly

RP • Ulnar aspect of arm to 4-5 digit

SF • Can mimic thoracic outlet syndrome or symptoms of heart attack

NT• All symptoms of heart attack should be taken serious and evaluated immediately. Mtrps often present with apical breathing patterns. Breathing evaluation is always important when Mtrps are present in this muscle.

Quadratus Lumborum



O • Posterior iliac crest

I • 12th rib, transverse processes of lumbar vertebrae

N • 12th thoracic, 1-4 lumbar

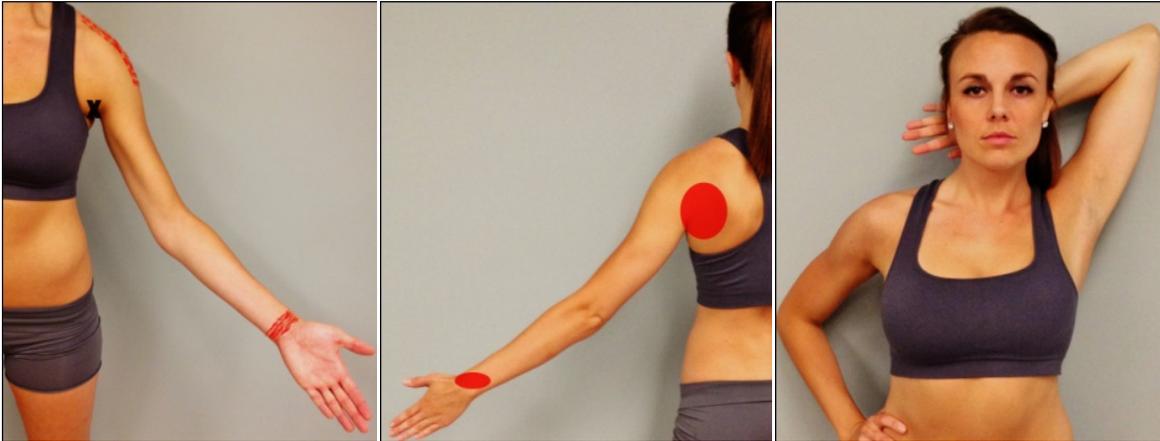
TPL • Muscle belly [Picture #1 depicts deep QL Mtrps, Picture #2 depicts superficial Mtrps located more lateral]

RP • Sacroiliac joint, lower buttock and lateral hip

SF • Common source of low back pain, can generate satellite Mtrps in gluteus medius, bi-lateral QL Mtrps will cause pain across the low back

NT • Mtrps are very common in this muscle, which plays an important role in lateral trunk stability. Mtrps can also result due to weakness in psoas major.

Subscapularis



O • Subscapular Fossa

I • Lesser tubercle of humerus

N • Upper and Lower Subscapular

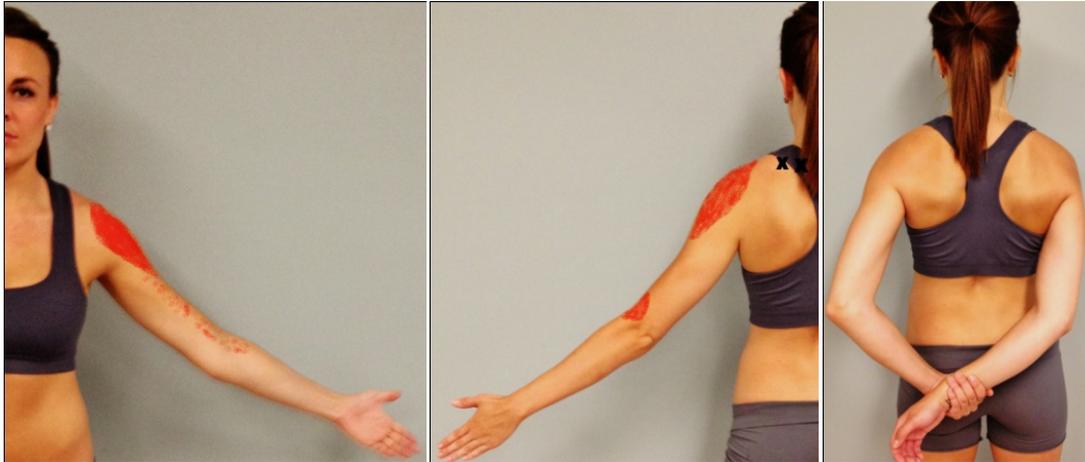
TPL • Deep in the armpit

RP • Back of shoulder, band around the wrist

SF • Band of pain around wrist, may be implicated in frozer shoulder

NT • Investigate all other rotator cuff musculature if Mtrps are present. Frozen shoulder is often complex and requires significant evaluation. Mtrps can also develop with dysfunction in serratus anterior. Mtrps in either of these muscles will negatively affect scapular stability.

Supraspinatus



O • Supraspinous fossa

I • Greater tubercle of the humerus

N • Supraspinous

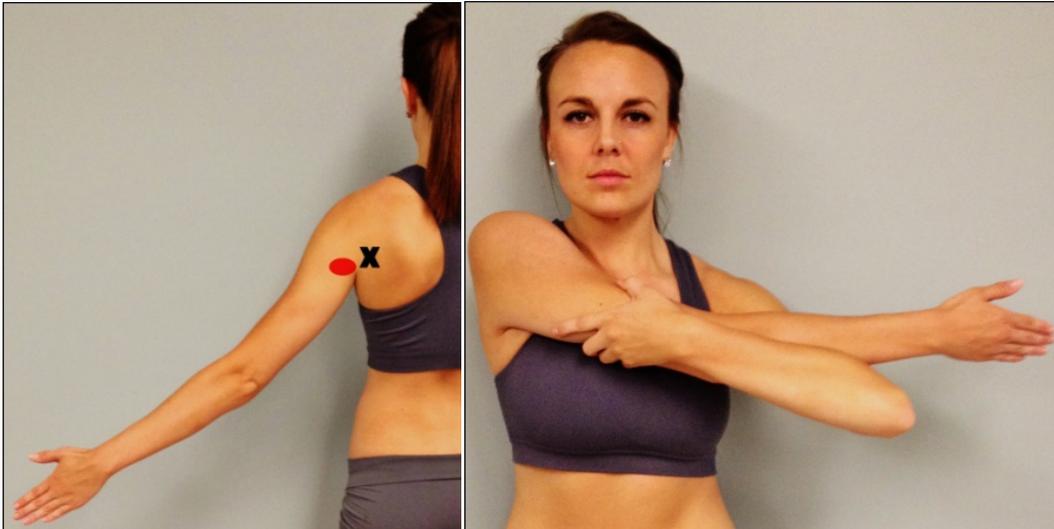
TPL • Superior to the spine of the scapula

RP • Mid deltoid, lateral aspect of the arm

SF • Mimics sub-deltoid bursitis

NT • Investigate all other rotator cuff musculature if Mtrps are present. Mtrps in supraspinatus are often mistaken for Mtrps in upper trapezius.

Teres Minor



O • Upper 2/3 of the lateral border of the scapula

I • Greater tubercle of the humerus

N • Axillary

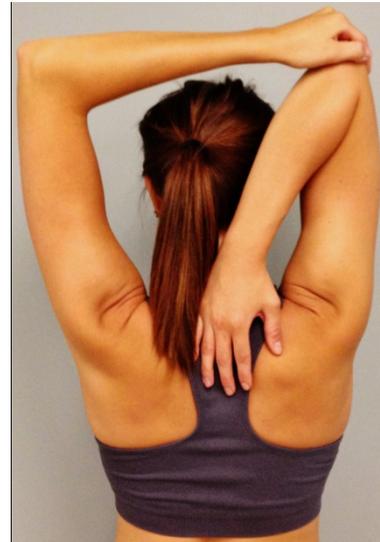
TPL • In muscle belly near insertion on greater tubercle

RP • Locally to posterior aspect of the shoulder

SF • Restricts internal rotation of the shoulder

NT • Investigate all other rotator cuff musculature if Mtrps are present. Mtrps in this muscle can restrict overhead motion and cause satellite Mtrps in the long head of triceps.

Triceps Brachii



O • Infraglenoid tubercle (long head), proximal $\frac{1}{2}$ of humerus (lateral head), distal $\frac{1}{2}$ of humerus (medial head)

I • Olecranon Process

N • Radial

TPL • Posterior axilla (long head), superior lateral arm (lateral head), medial aspect of arm above elbow (medial head)

RP • Posterior arm from shoulder to dorsal aspect of hand, strongest referral just lateral to spine of scapula and elbow

SF • Can mimic both golfers elbow and tennis elbow, restricts shoulder flexion, causes thumb numbness

NT • Thumb numbness and distal referral patterns can involve irritation of the radial nerve. Mtrps in this muscle are often forgotten in cases of posterior shoulder pain.

Upper Trapezius

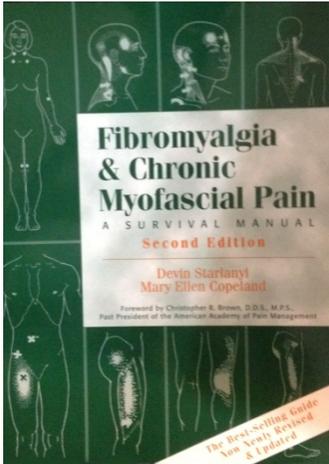


- O** • External occipital protuberance, nuchal ligament, spinous process C2-C7
- I** • Lateral 1/3 of clavicle, acromion, spine of scapula
- N** • Spinal Accessory
- TPL** • In muscle belly at the junction between the neck and upper shoulder
- RP** • “?” referral pattern to temple, behind eye and jaw
- SF** • Develop Mtrps due to stress, common source of temporal headaches, Mtrps activated by lack of elbow support
- NT** • Upper trapezius is often on eccentric load with forward shoulder and head posture. Frequent and aggressive stretching of this muscle can increase the number of Mtrps.

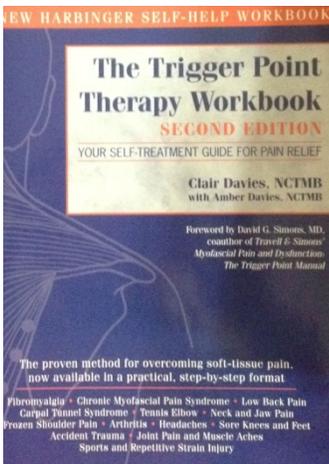
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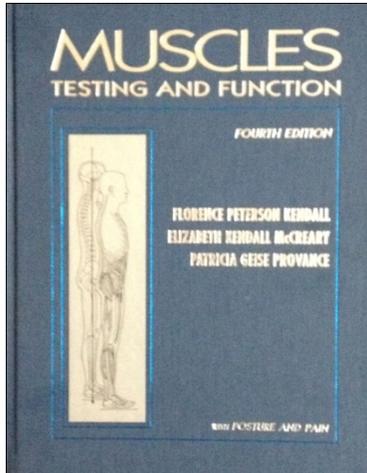


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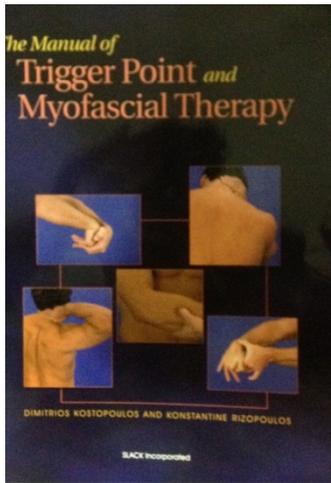


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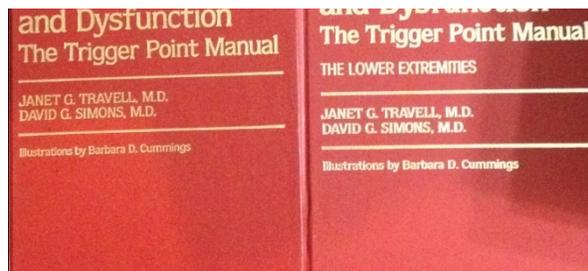
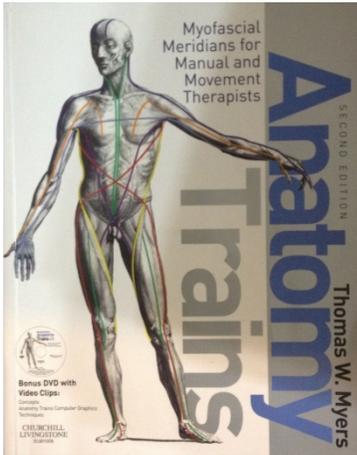


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