

# Introduction to Myofascial Trigger Point Acupuncture

-An Evidence Based Needling  
Method

[www.fisiokinesiterapia.biz](http://www.fisiokinesiterapia.biz)

# What is a MTrP?

- ▶ A point of tenderness in a muscle.
- ▶ Stimulation of MTrP may cause pain at a remote remote region.
- ▶ Often associate with a taut band in a muscle.

# Causes of MTrP

- ▶ Trauma to muscle
- ▶ Muscle ischaemia
- ▶ Visceral-somatic reflex
- ▶ Radiculopathic compression of nerve root
- ▶ Anxiety
- ▶ Others possible causes

# MTrP Related Taut Band

- ▶ MTrP usually situated at the centre or terminal of a taut band
- ▶ The band disappears when the MTrP is deactivated.
- ▶ Caused by dysfunctioning motor endplate / local ischaemia.
- ▶ Taut band → Latent MTrP → Active MTrP

# Local Twitch Response (LTR)

- ▶ Essentially a spinal reflex
- ▶ Stimulation via a sensitized afferent → elicited reflex motor efferent response.
- ▶ Essential for diagnosis and treatment

# Diagnosis of MTrP Syndrome

## ► Symptoms

- Pain
- Restricted movement
  - Can be symptom or sign
- Weakness
  - Can be symptom or sign
- Sleep disturbance
- Peripheral hypothermia

# Diagnosis of MTrP Syndrome

## ► Physical Signs

- “Jump” or “Shout” sign
- Pain Reproduction
- Palpable Taut Band
- Local Twitch Response
- Cutaneous & Subcutaneous tissue thickening

# Intertesters reliability

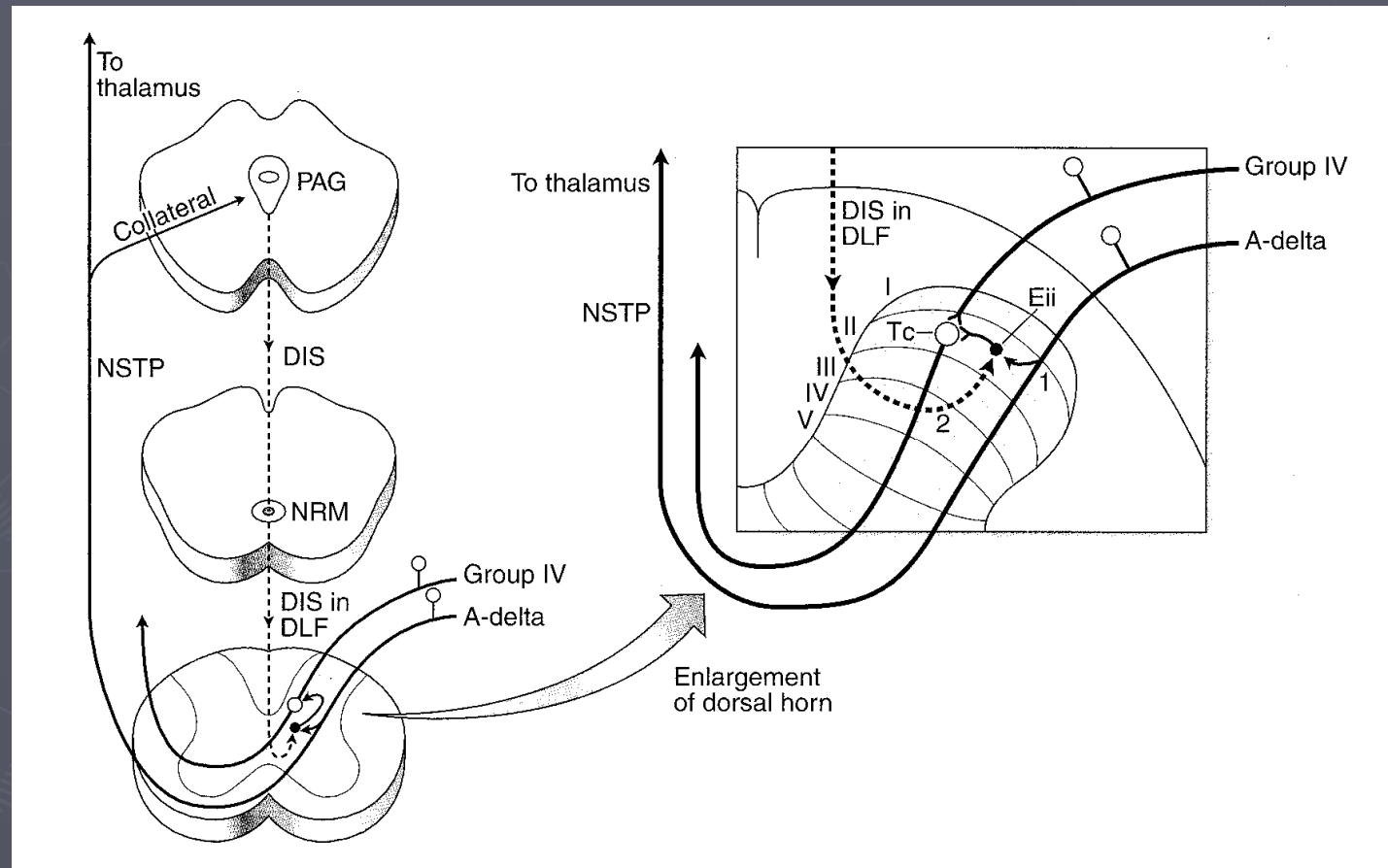
- ▶ Reliability and consistence can be improved through experience and training.
- ▶ Cardinal signs are:
  - Tenderness
  - Taut band\*
  - Local Twitch Response\*
  - Referred Pain



# The Pain Gate Mechanism

- ▶ “Stimulation of the large fibres can close the gate for transmission of the smaller fibres.”
- ▶ Skin / Muscle Nociceptors
  - A-delta fiber, Group III nociceptors
    - ▶ Myelinated, 1-5um, 5-15m/s
  - C fibre, Group IV nociceptors
    - ▶ Unmyelinated, 0.25-1.5um, 0.5-2m/s

# Pain Modulation Mechanism



# Pain Modulation Mechanism

## ▶ Endogenous Pain-suppressing Substance

### ■ Opiate receptors

- ▶ Widely distributed in the brain and spinal cord
- ▶ Their presence, indicate the existence of the endogenous opioid peptides.

### ■ Opioid peptides

- ▶ Morphine-like substance,
- ▶ Enkephalins & dynorphins mainly at limbic structure, periaqueduct grey area, nucleus raphe magnus, substantia gelatinosa → CSF
- ▶  $\beta$ -endorphine secreted from adrenal gland, gut, sympathetic ganglia, peripheral autonomic neurons → Blood

# Needling on MTrP

- ▶ Wet Needle Vs. Dry Needle
- ▶ Needling action is the Key point
- ▶ Deep dry needling Vs Superficial dry needling

# Deep Dry Needling

- ▶ A painful technique
- ▶ Insert the needle rapidly into the MTrP
- ▶ Elicit the Local Twitch Response (LTR) or soreness / swollen sensation / radiation to the affected area.
- ▶ Needle Manipulation
- ▶ After treatment soreness

# Superficial Dry Needling

- ▶ The needle is just subcutaneous, right over the MTrP.
- ▶ Working mechanism:
  - Activate Ei interneuron
  - Descending inhibitory systems and DNIC

[www.fisiokinesiterapia.biz](http://www.fisiokinesiterapia.biz)

# Superficial Dry Needling

Insertion of superficial dry needle



Stimulation of A-delta sensory fibre

Dorsal horn-situated enkephalinergic inhibitory interneuron

Serotonergic & Noradrenergic descending systems



Blockage of the intra-dorsal horn passage of MTrP nociceptive information



Alleviation of MTrP pain

# Superficial Dry Needling

- ▶ Minimal sensation technique
- ▶ 2 methods:
  - Perpendicular
  - horizontal
- ▶ Perpendicular:
  - Pointing to the MTrP,
  - Insert for 5-10mm
  - Needle manipulation



# Superficial Dry Needling

## ► Horizontal:

- Horizontally at the subcutaneous tissue right over the MTrP
- Needle manipulation

# Treatment for MTrP Syndrome

1. Assessment: locate the active / latent MTrP's
2. Deactivate the MTrP
3. Stretching to the affected muscle
4. Advice on correction and prevention

# Clean Needle Technique

- ▶ Reference

Clean Needle Technique Manual for Acupuncturist

Guideline and Standard for the Clean and Safe  
Clinical Practice of Acupuncture  
5th Edition.

[www.aomalliance.org](http://www.aomalliance.org)

# Need for CNT

- ▶ Needling treatment always has potential infection hazard.
- ▶ Good knowledge in transmission and prevention of infection, e.g. hepatitis, HIV.

# Recommendations for Equipment

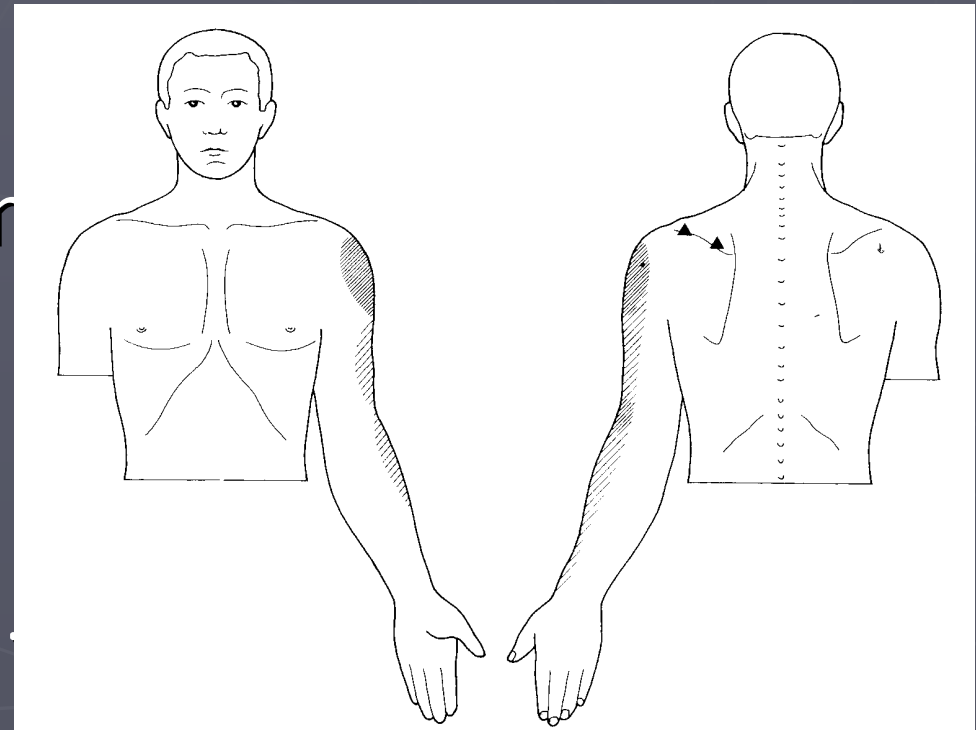
- ▶ Use only: sterile, filiform (solid), disposable needles.
- ▶ Appropriate needle package.
- ▶ Avoid contamination in needle removal from the package.
- ▶ Proper disposal of used needles.
- ▶ Cupping devices must be sterilized in chemical disinfectant bath after in contact with patient's blood. Otherwise, wash with soap and running water.

# General Guideline

- ▶ Patient positioning:
  - Comfortable and suitable for needling.
- ▶ Preparing the site for needle insertion:
  - The area should be clean, free of any cuts, wound or disease,
  - Use 70% alcohol to disinfect the skin,
- ▶ Palpating the point:
  - It is acceptable to touch the acupoint after cleaning, with uncontaminated hand.
  - Swabbing the acupuncturist's fingertips can be a substitute to the second handwash.

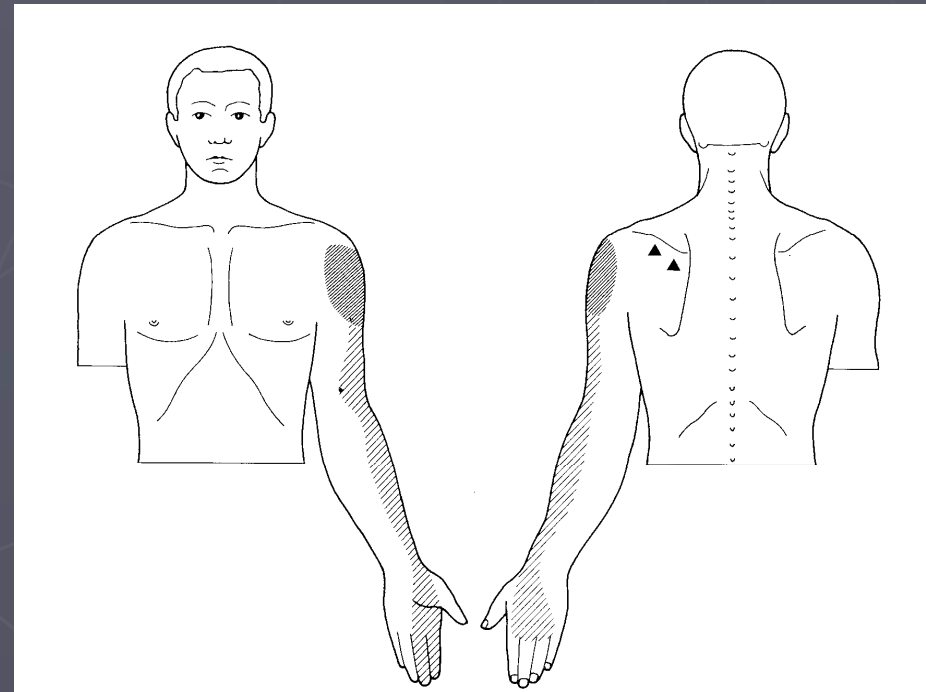
# Shoulder Pain 1

- ▶ Supraspinatus Muscle
- ▶ MTrP & referred pain
  - deltoid region,
  - lateral epicondyle, similar to the distribution of C5-C7.



# Shoulder Pain 2

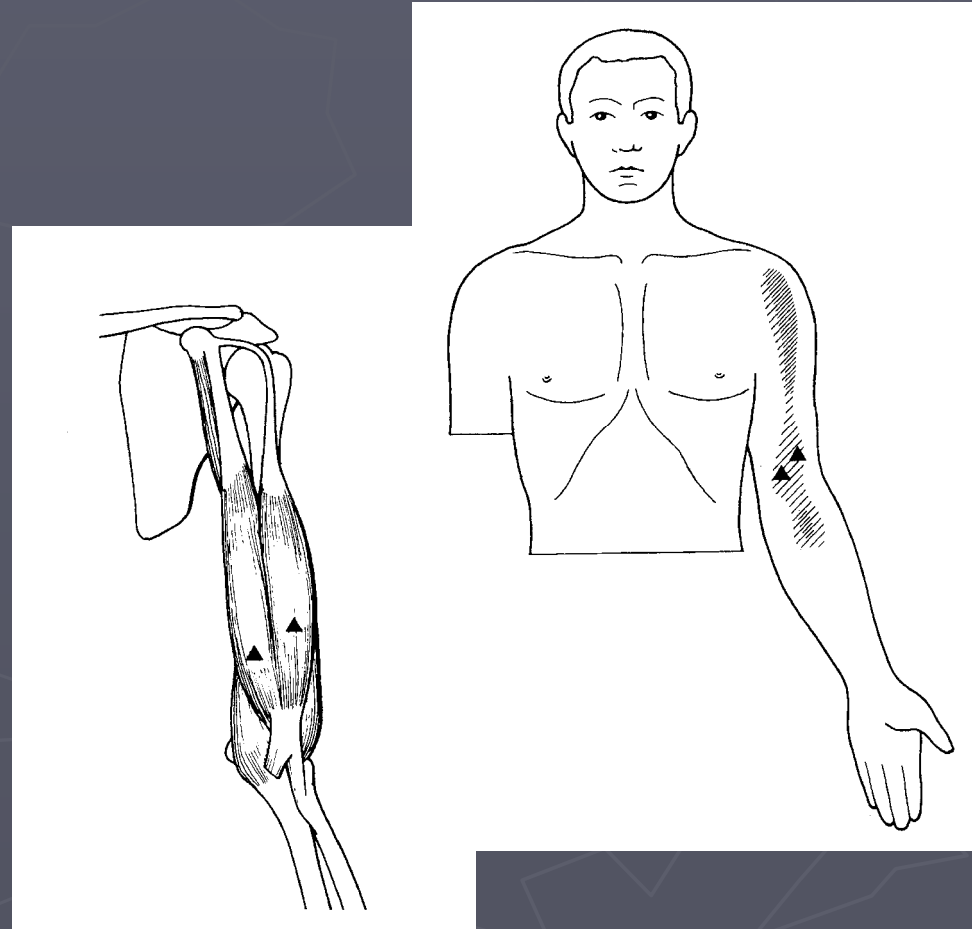
- ▶ Infraspinatus Muscle
- ▶ MTrP & Referred Pain:
  - deep inside the shoulder joint
  - similar to the C5-C7 distribution in the arm.
- ▶ Difficulty in Hand-behind-back





# Shoulder Pain 3

- ▶ Biceps Brachii Muscle
- ▶ MTrP & Referred Pain
  - MTrP usually at the lower portion of the muscle
    - Pain referred upward to the anterior surface of the shoulder.
- ▶ Biceps Tendinitis



# Points to be noted

- ▶ Sound anatomy & pain physiology
- ▶ Stimulation should be within patient's pain tolerance.
- ▶ All MTrP's should be treated in the same session
- ▶ Stretch after needling
- ▶ Tender spot Vs MTrP