Introduction to Trigger Points

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History

- 1800’s - Germans: “Muskel schmerzen”
- 1843 - Froriep: “Musckelschwiele”
- 1919 - Eversbusch “Muskelharten”
- 1938 - 1957 Good: “Myalgic spots”
- 1945 ? Travell: “Trigger points”
Characteristics

- May or may not be a palpable mass
- Hyperirritable locus within a muscle
- Pain on compression or irritation
- Tremor or fasciculation on compression or irritation
- Refers pain with or without autonomic phenomena
Terminology

- *Active TP* - A focus of hyperirritability in a muscle or its fascia that is symptomatic with respect to pain; it refers a pattern of pain at rest and/or on motion that is specific for the muscle.
Terminology

- **Associated TP** - A focus of hyperirritability in a muscle or its fascia that develops in response to compensatory overload, shortened range, or referred phenomena caused by trigger point activity in another muscle.

AKA: *Satellite and Secondary TP’s*
**Terminology**

- *Latent TP* - A focus of hyperirritability in muscle or its fascia that is clinically quiescent with respect to spontaneous pain; it is painful only when palpated.
Potential Causes of Trigger Points

- Acute/chronic injury or illness
- Excessive repetitive movements
- Chilling of the muscle
- Nervous tension or stress
- Tender point of long duration
- Active primary point causing secondary TP
- Latent TP activated by any of the previous
Neurophysiological Model

Facilitation

Nociceptive Stimuli

- Increased Sympathetic Tone
  - Vasomotor Changes
  - Smooth Muscle Contraction
  - Biochemical Alterations
  - Propagation of Trigger Point(s)

- Increased Afferent Input
  - Decreased Activation Threshold
  - Increased Neural Stimulation
  - Propagation of Trigger Point(s)

- Increased Efferent Output
  - Skeletal Muscle Contraction
  - Local Ischemia
  - Biochemical Alterations
  - Propagation of Trigger Point(s)
Osteopathic Model

Contributing Factors

- Mental Fatigue & Anxiety
- Stress Management
- Personality
- Genetics
- Physiologic State
- Fitness Level
- Posture
Histological Changes

- Fatty infiltration
- Increased number of nuclei
- Serous exudates
- PG, GAG deposits
Physical Findings on Examination

- Passive or active stretching of the affected muscle increases pain.
- Stretch ROM of the affected muscle is restricted.
- Pain is increased when the affected muscle is strongly contracted against a fixed resistance.
- Maximum contractile force of an affected muscle is weakened.
Physical Findings on Examination

- Deep tenderness and dysesthesia is referred to a zone away from the TP.
- Disturbances of non-sensory function are sometimes induced in the pain reference zone.
- Muscle in the immediate vicinity of a TP feels tense to palpation.
- There will be a point of maximum tenderness.
Physical Findings on Examination

- Digital pressure to an active TP elicits a “jump sign”.
- Snapping palpation of the TP frequently evokes a local twitch response.
- Moderate, sustained pressure of a TP causes or intensifies pain in the TP reference zone.
- The skin of some patients may show dermatographia in the area overlying an active TP.
Treatment Should Include the Following:

- Address contributing factors
- Identify & normalize all somatic dysfunctions
- Stress management
- Improve level of physical fitness
- Improve overall state of health
Common Techniques & Approaches

- Injection/Needling followed by Stretch
- Spray & Stretch or Ice application & Stretch
- Counterstrain followed by Stretch *(Combined Technique)*
- Functional/Positional Release
- Deep Digital Inhibition followed by Stretch
- Myofascial Release
- Muscle Energy
- HVLA (only effective if underlying osteoarticular dysfunction is driving the Trigger point)