

## Overview of Myofascial Pain Syndrome, Fascia, Trigger Point and Myofascial Release

### Trigger Points (TrP)

- Hyper-irritable spot in skeletal muscle that is associated with hypersensitive palpable nodule in a taut band
  - Location of TrP
  - Pain referral pattern (zone)
- The spot is painful on compression and can give rise to referred pain, referred tenderness, motor dysfunction and autonomic phenomena

### Pain Referral Pattern (PRP)

- Pain that arises in a trigger point but is felt at a distance, often entirely remote from its source. The pattern is referred pain is reproducible related to its site of origin.

### Innervation

- How the brain, spinal cord, vertebrae, nerve and muscles react to each other (their relationship)

### Fascia

- A(n increasingly) loose(r) term for various types of connective tissue

### Superficial fascia – subcutaneous layer of skin

- Ectoderm
  - Integumentary system
  - Nervous system
- Mesoderm
  - Bones
  - Muscles
  - Connective tissue
  - Blood
- Endoderm
  - Digestive system
  - Endocrine system

### Fascia is not avascular

- Contains nerves and blood vessels
- Wraps all organs
- Involved in every body movement
- Fluid circulates through the tissue
  - Functions hydraulically
- Three dimensional web (microscopic)
- Hollow tubes
  - Transports fluid
- Fluid carries information throughout organism
  - Thermal, electromagnetic and mechanical energy is transmitted
- Consciousness travels through fascial fluid like information through a fiber optic cable
- Dehydration of this fluid due to trauma, injury, and adhesion breaks the flow of energy

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- Piezoelectric effect
  - Electricity generated from pressure

### **Fascia – Tensegrity**

- Tensional integrity
  - Forces applied are transferred to all of the elements of a structure

### **Myofascial Meridians**

- Muscles and associated fascia which are connected and share a common function

#### **Superficial Back Line**

- Myofascial connection from the brow-ridge to the plantar region.
- Includes
  - Occipito-frontalis
  - Paraspinals
  - Hamstrings
  - Gastrocnemius
  - Plantar fascia

#### **Superficial Frontline**

- A myofascial connection from head to toe, in the front of the body
- Includes:
  - Scalp fascia
  - Sternocleidomastoid
  - Sternalis and fascia
  - Rectus abdominus
  - Pelvis
  - Quadriceps femorus group
  - Toe extensors

#### **Deep Front Line**

- A myofascial connection from head to foot, deep in the core of the body.
- Includes:
  - Tibialis posterior
  - Toe flexors, popliteus
  - Knee capsule
  - Adductus brevis and longus
  - Psoas, iliacus
  - Pectineus
  - Diaphragm
  - Central tendon
  - Parachordium
  - Scalenes
  - Hyoids

#### **Spiral Line**

- A myofascial channel that incorporates left and right hemispheres of the body, runs contralateral and oblique and slings the leg.

#### **Superficial Back Arm Line (SBAL)**

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- Trapezoid
- Deltoid
- Lateral intermuscular septum
- Extensor group

#### **Superficial Front Arm Line (SFAL)**

- Pectoralis major
- Latissimus dorsi
- Medial intermuscular septum
- Flexor group

#### **Deep Back Arm Line (DBAL)**

- Rhomboids and levator scapula
- Rotator cuff muscles
- Triceps brachii
- Ulnar periosteum
- Ulnar collateral ligaments
- Hypothenar muscles

#### **Deep Front Arm Line (DFAL)**

- Pectoralis minor
- Clavipectoral fascia
- Biceps brachii
- Radial periosteum – anterior border
- Radial collateral ligaments
- Thenar muscles (thumb side)

#### **Lateral Line**

- Splenius capitus
- SCM
- Exterior & Interior intercostals
- Lateral abdominal obliques
- Gluteus maximus
- TFL
- IT Band
- peroneals