The Enigma Surrounding Soft Tissue Treatment

Lawrence Farrow
TODAY'S TALK

- What is Soft Tissue Treatment by an Occupational Therapist?
- Evidence Based Treatment / Clinical Benefits of Treatment.
- How does Soft Tissue treatment vary from Physio and other modalities?
- How can Soft Tissue Treatment assist Fibromyalgia?
- Increasing Tolerance and Range of Movement to assist return to work.
- Dove Tailing with Strengthening Program.
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We are ultimately responsible for our own health choices.

As treating practitioners, we must assist people in the responsibility of their own health choices.
WHAT DOES ENIGMA MEAN?

• Paradox
• Conundrum
• Problem
• Mystery
• Riddle
• Puzzle
• Question
• Perplexity
THE ENIGMA SURROUNDING SOFT TISSUE TREATMENT

• Soft Tissue Treatment from an OT perspective is a clinical specialization which predicates:

  • a comprehensive understanding of the neuromusculoskeletal system of the body
  • An understanding of all of the systems of the body and their referral zones
  • knowledge of viscerosomatic and somatovisceral referral zones
  • an understanding of the biomechanical and ergonomic processes involved in joint loading
  • an understanding of the enteric nervous system / the gut brain axis
  • an understanding of energy systems and hormonal systems in the body
  • an understanding of the functional soft tissue Russian model
  • an understanding of Acupuncture and Ayurvedic medicine and its relation to recovery
  • A knowledge of functional performance and recovery paradigms
The Enigma is that people enter this field with the idea that one just rubs things and gives exercises.

One can hang up a sign and treat with little understanding of the inordinate complexity of this diagnostic process which Prof Lewit said was the most complex diagnostic area in medicine today.

As I teach post grads what they want is new techniques, what they need is to increase their diagnostic integrity.

Even with years of experience we can all make errors of judgement, howbeit they should be infrequent and of a minor nature.

This area is complex to the extreme and requires serious and long term commitment to study.
WHO ARE WE ACTUALLY DEALING WITH AS AN OT FUNCTIONAL SOFT TISSUE PRACTITIONER
WHAT IS SOFT TISSUE TREATMENT BY AN OCCUPATIONAL THERAPIST?
FIRSTLY IT IS SYSTEMS
SKELETAL SYSTEM

206 bones, ligaments, tendon and cartilage.

Supports
Moves
Protects
You have more than 600 muscles in your body?

They do everything from pumping blood throughout your body to helping you lift your heavy backpack.
ABNORMAL MUSCLES
A tendon is a tough band of fibrous connective tissue that connects muscle to bone.

And then there is tendinitis, and Osteitis pubis.....
Tendo-periosteal junction

Musculo-tendinous junction

Muscle

Bone

Tendon

Bone
FASCIA

Broad Sheet - Deep
Wispy and Cloud like - Superficial
SUPERFICIAL FASCIA IS THE ADIPOSE LAYER – LOOSE AREOLAR TISSUE
DEEP FASCIA
Prof Lewit, a Neurologist from Prague, has always taught that scars have aberrant referral zones through their underlying adhesions.

11,300 references on Google Scholar
EVIDENCE BASED TREATMENT / CLINICAL BENEFITS OF TREATMENT.
OT INTERVENTION

Identify and Remove Factors Disturbing the Living System

- Review Toxicity
- Identify Emotional State
- Review Lifestyle Factors
- Review Physiology
- Assess Ergonomic Factors
- Neuro musculo skeletal review
- Viscero somatic review

Establish a Healthy Lifestyle and Environment

- Help Balance Lifestyle
- Assist with Healthy Options
- Daily Stretching & Exercise
- Relaxation Protocols
- Stress Reduction – physical chemical & emotional
- Neuromusculoskeletal treatment
- Viscerosomatic treatment
VISCEROSOMATIC PAIN

907 references in Google Scholar

<table>
<thead>
<tr>
<th>Priority</th>
<th>Suspect</th>
<th>Area of Localized Pain</th>
<th>Priority</th>
<th>Suspect</th>
<th>Area of Localized Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigeminal</td>
<td>Oculod</td>
<td>T6—12</td>
<td>Pons</td>
<td>Occiput</td>
<td>T6—9</td>
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<tr>
<td>C2—3</td>
<td>Frontal</td>
<td>T7—9</td>
<td>Gastric</td>
<td>C3, T1—6</td>
<td>Neck</td>
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<tr>
<td>C3, T1—6</td>
<td>Aortic arch</td>
<td>T9—10</td>
<td>Small intestines</td>
<td>C4, T1—5</td>
<td>Heart</td>
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<tr>
<td>C4, T1—5</td>
<td>Head and face</td>
<td>T10—11</td>
<td>Umbilical area, ovary, testicle</td>
<td>C5, T1—5</td>
<td>Stomach, cardiac aspect</td>
</tr>
<tr>
<td>C5, T1—5</td>
<td>Stomach, pyloric aspect</td>
<td>T10—12</td>
<td></td>
<td>C3, T7—10</td>
<td>Liver</td>
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<tr>
<td>C3, T7—10</td>
<td>Shoulder girdle, temple area</td>
<td>T10—12</td>
<td>Kidney, ureter, body</td>
<td>C4</td>
<td>Deltoïd area</td>
</tr>
<tr>
<td>C5</td>
<td>Biceps</td>
<td>T11—1</td>
<td>Bladder neck</td>
<td>C6</td>
<td>Pectoral</td>
</tr>
<tr>
<td>C7</td>
<td>First or index finger</td>
<td>T11—2</td>
<td>Suprarenal area</td>
<td>C8</td>
<td>Fourth finger</td>
</tr>
<tr>
<td>C10</td>
<td>Middle finger</td>
<td>T12—L2</td>
<td>Uterus</td>
<td>T1—4</td>
<td>Thorax</td>
</tr>
<tr>
<td>T2</td>
<td>Nipple area</td>
<td>L1—3, S1—4</td>
<td>Bladder body, rectum, genital organs</td>
<td>T4—5</td>
<td>Brachial</td>
</tr>
<tr>
<td>T5—8</td>
<td>Upper limb</td>
<td>L3</td>
<td></td>
<td>T2—5</td>
<td>Ulnar</td>
</tr>
<tr>
<td>T2—12</td>
<td>Plura</td>
<td>L5</td>
<td></td>
<td>T3—9</td>
<td>Median nerve</td>
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<tr>
<td>T4—9</td>
<td>Median nerves</td>
<td>S2</td>
<td></td>
<td>T4—7</td>
<td>Thigh</td>
</tr>
<tr>
<td>T5—8</td>
<td>Median nerves</td>
<td></td>
<td></td>
<td>T5—8</td>
<td>Median nerves</td>
</tr>
</tbody>
</table>

Note: Authorities differ somewhat as to exact levels, and variances of a segment above or below are commonly cited by different authorities. The above data are a composite of the findings of Panksepp, Finn, Head, and Harvey et al.
Conclusion:
Myofascial pain syndromes can occur as a result of visceral disorders, but can also mimic visceral disease. Visceral disease must be considered in the differential diagnosis of regional MPS.
**Conclusion:**

- The present results provide novel insights into peripheral mechanisms leading to the development of hypersensitivity affecting neighbouring organs or referral sites.

- The plasticity of these convergent sensory pathways may contribute to the coexistence of pain syndromes.

- Conversely, it is conceivable that interventions affecting such converging pathways could be employed therapeutically to modulate sensation in less accessible areas, such as the viscera.
ROLE OF THE VAGUS NERVE

And Gut Bacteria
This illustration comes from Byron Robinson’s *The Abdominal And Pelvic Brain* (1907). The nerve tissue of the solar plexus “ABDOMINAL BRAIN” have been colored yellow for better clarity and red text labels for the kidneys and adrenals glands added as landmarks. Robinson’s class text on the abdominal brain is almost 700 pages in length with over 200 detailed anatomical illustrations.

Enteric nervous system - second brain
46,500 references in Google Scholar

Abdominal Migraine
Abdominal Epilepsy etc
ENTERIC NERVOUS SYSTEM

- The GI tract has its own nervous system known as the enteric nervous system (ENS) referred to as the second brain.
- The ENS has millions of neurons with over 50 million neurotransmitters. Ninety (90) percent of the body’s serotonin and over fifty (50) percent of dopamine is found in the gut. These two hormones play vital roles in mood and sleep.
PROBIOTICS AND BRAIN PLASTICITY


• This data suggest that chronic stress-induced abnormal brain plasticity and reduction in neurogenesis can be prevented by a pre treatment with a probiotic formulation, suggesting that probiotics modulate neuroregulatory factors and various signaling pathways in the central nervous system involved in stress response.
GUT REFERRAL

Leaky Gut Affects the Whole Body

- Brain: Depression, Anxiety, ADHD
- Skin: Acne, Rosacea, Eczema, Psoriasis
- Thyroid: Hashimoto's, Hypothyroidism, Graves
- Joints: Rheumatoid Arthritis, Fibromyalgia, Headaches
- Adrenals: Fatigue
- Colon: Constipation, Diarrhea, IBD

Sinus and Mouth: Frequent Colds, Food Sensitivities

Dr. Axe
FOOD MEDICINE

Food and Mood

FOOD

and

MOOD

GUT REFERRAL
TRIGGER POINTS

20,200 Google Scholar references
Another complementary ancient healing art, and holistic healing practice, Reflexology has been traced back to ancient Egypt, India and China.
ACUPUNCTURE POINTS

426,000 references on Google Scholar
Ayurvedic Medicine

- It is the oldest system of medicine
- Its aim is to provide guidance regarding treatments, food and lifestyle so that health can be optimized and illness healed.
- Ayurveda is preventative medicine.
- One should recognize imbalances early, before they manifest into disease.
- When we know how to “listen”, we can make corrections through proper diet and lifestyle choices.
- Ayurveda encourages each individual to take action and responsibility for his or her own health.

Ayurveda - the science of life

53,400 references on Google Scholar
OTHER IMPORTANT ISSUES

• Organic Issues
• Breathing issues
• Tai Chi
• Ergonomics
• Sleeping Patterns
• Bedding and pillow
• Relaxation Training
• Mindfulness
• Food Intake
• Orthomolecular Medicine

• Bowel Habits
• Biomechanics – cross over pattern
• Neurological Testing
• Orthopaedic testing
• Kinesiology
• Faecal transplants
• Cranio sacral work
• Russian Manual Medicine System
• Prof Lewit – Prague
• Premature Birth and Fibromyalgia
• Stress – Physical, Chemical or Emotional
• Workplace issues – bullying etc
• Toxicity in the workplace
HOW CAN OT TREATMENT ASSIST FIBROMYALGIA?
Fibromyalgia study in Melbourne

• Among 150 patients in Melbourne with Fibromyalgia, the average number of associated conditions was five.

• The two most common were chronic headaches and irritable bowel syndrome.

• Emma K. Guymer, M.D.

<table>
<thead>
<tr>
<th>Percentage of Patients with Associated Conditions</th>
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<tbody>
<tr>
<td>Headache</td>
</tr>
<tr>
<td>Irritable Bowel</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Restless Legs</td>
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<tr>
<td>Depression</td>
</tr>
<tr>
<td>Jaw Joint Disorder</td>
</tr>
<tr>
<td>Chemical Sensitivities</td>
</tr>
<tr>
<td>Irritable Bladder</td>
</tr>
<tr>
<td>Pelvic Pain</td>
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<tr>
<td>Vulvodynia</td>
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NEW FIBROMYALGIA CRITERIA BASED UPON SYMPTOMS

• In April of 2010, a group of rheumatologists acting on behalf of the American College of Rheumatology (ACR) published new preliminary criteria on how doctors should diagnose fibromyalgia.

• There are pros and cons of these new criteria.

• Tender points have been tossed out the window and they have been replaced with a symptom checklist.

Top Ten Fibromyalgia Symptoms
- Pain all over
- Fatigue
- Sleep difficulties
- Brain fog
- Morning stiffness
- Muscle knots, cramping, weakness
- Digestive disorders
- Headaches/migraines
- Balance problems
- Itchy/burning skin
FIBROMYALGIA

• We understand through research that symptoms of irritable bowel syndrome (IBS) and fibromyalgia (FM) commonly coexist.

• It has been hypothesized in the *The American Journal of Gastroenterology* (2003) 98, 1354–136, that one of the mechanisms underlying this comorbidity is increased activation of brain regions concerned with the processing and modulation of visceral and somatic afferent information, in particular subregions of the anterior cingulate cortex.

• It appears to play a role in a wide variety of autonomic functions, such as regulating blood pressure and heart rate.

• It is also involved in rational cognitive functions, such as reward anticipation, decision-making, empathy, impulse control, and emotion.
HOW DO OT’S ASSIST IN THE TREATMENT?

• Assisting to eradicate incoming noxious stimuli which maintain nerve sensitization in the body.

• Evaluating: anxiety, dietry, biomechanically, lifestyle, sleep, neuromusculoskeletal, gut, energy, skin etc

• Successful treatment approaches must be holistic and comprehensive as previously outlined.

• No single defined health professional can cope with all of the issues related to this condition, and therefore referral to complementary health professionals is obvious and essential for long term success.
EFFECTIVE THERAPY MUST BE

• widespread and comprehensive.
• Identifying and correcting the ongoing painful input that originates anywhere in the receptive field.
• directed at eradicating all noxious stimuli transmitted to the spinal cord from the skin, viscera, MFTP's or abnormal body mechanics.
• aimed at disrupting normal pain modulation e.g. hormonal and nutritional abnormalities and sleep disturbances.
• Minimising chronic stress, which contributes significantly to neural sensitivity.
HOW DOES SOFT TISSUE TREATMENT VARY FROM PHYSIO AND OTHER MODALITIES?
OT TREATMENT

• Optimizing function in all areas of life including work, play and self care.

• An holistic occupational model based up an integrative system of neuromusculoskeletal, viscerosomatic, psychological and physiological parameters in conjunction with postural and ergonomic factors.

• It is a treatment model based upon causation ie occupation. Looking at why the condition started and dealing with it from the source.

• It refers to the blending of conventional and evidence based alternative therapies with the aim of using the most appropriate of either or both modalities to care for the patient as a whole.

• It embraces and encourages a holistic approach to treatment and recovery that incorporates patient ownership and involvement.
INCREASING TOLERANCE AND RANGE OF MOVEMENT TO ASSIST RETURN TO WORK.
TOLERANCE

• Strength and tolerance is based upon energy, not merely hypertrophic muscles.

• Energy systems need to be reviewed and recovered in relation to energy in and lactic acid out.

• Muscles need increased serial sarcomerizing through a structured gentle stretching regime.
RANGE OF MOVEMENT

• Classical view as compared to the Russian model.

• Range of motion is signal related.

• Not just related to PNF as taught in our undergraduate programs
DOVE TAILING WITH STRENGTHENING PROGRAM
OT ROLE IN STRENGTH TRAINING

• Making sure that energy systems are optimized

• Dealing with the effects of lactic acid

• Ensuring that biomechanical considerations are applied correctly – (ie hamstring issues in ballet dancers)

• Making sure that core rather than upper abs are activated

• Assisting to make strength training a part and parcel of everyday life
MY LIFE AS AN OT

- 30 years of clinical experience in treating Elite Athletes

- 21 years running post graduate courses globally

- 25 years developing an holistic model of treatment which puts the client first and systematically reviews many of the various bodily systems which can affect healing, functional performance and recovery.

- This model has been taught in many nations to multiple health professionals and doctors, and is seen as a comprehensive integrative neuromusculoskeletal model.
IS SOFT TISSUE TREATMENT STILL AN ENIGMA?

• The answer is unequivocally….. Yes
• Do we all have part to play…..Yes
• Will it be resolved in the short term…..No
• How can we help…ongoing professional education every week by competently trained senior clinicians
We probably need to do more than DNA analysis
Sometimes we just don’t know and don’t look any further...

The bad news is...you have Lyme disease. The good news is, I don't believe in that disease so you're fine!
BUT IN REALITY IT IS ALL ABOUT OUR OWN INDIVIDUAL PASSION FOR FURTHER CLINICAL EDUCATION