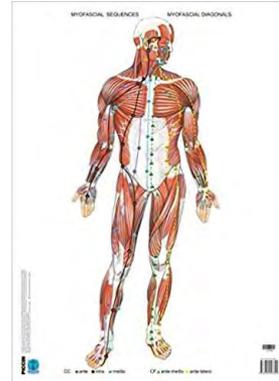


Soft Tissue Interventions

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Soft Tissue Interventions

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Soft Tissue Interventions

Introduction



Skilled hand movements intended to produce any or all of the following effects:

- Improve tissue extensibility
- Increase range of motion of the joint complex
- Mobilize soft tissues
- Induce relaxation
- Change myofascial function
- Modulate pain
- Reduce soft tissue swelling, inflammation or movement restriction.

3

Soft Tissue Interventions – Introduction

- Sports Chiropractic is not ONLY about adjusting. There are numerous tissues in the human body that we as sports chiros can, and absolutely must be able to influence in order to help our athletes recover and heal from injuries and to reach their optimal performance.
- Where to start? With so MANY techniques and approaches it can seem overwhelming
- Mix and match techniques, use what works, mix things up to best suit each patient
- What is the correct soft tissue modality and how do you know which one to use?
- Cost / Return on Investment
- New and Shiny Techniques – Are they worth your time?



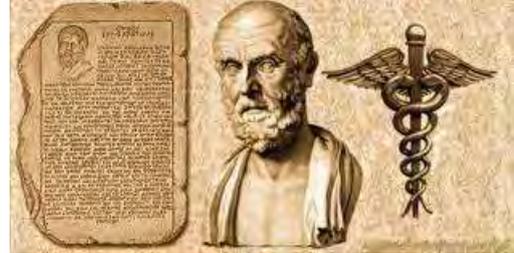
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Ancient History of Manual Soft Tissue Therapies

- Biblical Laying on of Hands
- Hippocrates 5th Century BC – Prone Traction with Manipulation
- Galen 2nd Century AD – Massage and Joint Manipulation to Spine and Extremities
- Ali ibn Sina – 1st Century AD – Arabian Physician Authored Text on Manual Medicine
- Ambrose Pare - Renaissance Surgeon – Traction With Ropes and Manual Pressure over Vertebrae



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A World of Soft Tissue Techniques

Cyriax

Connective Tissue Manipulation

Skin Rolling

Fascial Unwinding

Balanced Ligamentous Tension Technique

Active Release Technique

Neuromuscular Technique (NMT)

Muscle Energy Technique

Positional Release

Rolfing Structural Integration

The 30,000 ft
(9000m) view

You could
dedicate years or
even your whole
life to one soft
tissue method.

Search, try and
pick those that
resonate with you.



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Our Favorites

01

Therapeutic Dry Needling

02

PNF/PIR

03

Fascial Manipulation



04

Trigger Points

05

IASTM

06

Cupping



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Therapeutic Dry Needling

- Dry needling is a manual therapy in which fine needles are inserted into myofascial trigger points, tendons, ligaments, or fascia with a goal of increasing blood flow in an injured region and stimulating a healing response in painful musculoskeletal conditions.
- Dry needling is NOT Oriental Medicine Acupuncture, that is, it does not have the purpose of altering the energy flow ("chi") along traditional Chinese meridians for the treatment of disease.
- Therapeutic Dry Needling IS a modern, science-based intervention for the treatment of pain and dysfunction in musculoskeletal conditions.

The exact mechanism of action underlying the effects of acupuncture and dry needling is still not fully clarified

- Inhibition of Nocioceptive Input
- Alteration of Sympathetic Outflow
- Changes in Motor Output
- Serotonergic and Noradrenergic Descending Inhibitory Pathway Theory
- Diffuse Noxious Inhibitory Pain Theory



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Therapeutic Dry Needling



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Therapeutic Dry Needling



Indications

Dry needling is used for pain and dysfunction of the musculoskeletal system of various origins. TDN is used primary to treat myofascial trigger points and centers of coordination.

Further indications include restricted range of motion, multi-layer adhesions, functional limitations, insertional tendinopathies.

In my experience almost ALL MSK conditions can benefit from properly and safely applied TDN



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Therapeutic Dry Needling



Absolute Contraindications

Medical Red Flags

- Pregnancy
- Acute Systemic Infection
- Uncontrolled Hypertension
- Peripheral Neuropathy
- Anti-coagulant and Coagulant Dysfunction
- Acute Skin Conditions / Infections
- Bleeding Disorders

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Therapeutic Dry Needling



Cautions

Yellow Flags

- Cancer – Primary or Secondary
- Generalized Infection / Viruses
- Acute Inflammatory Conditions
- Scars and Burns
- Varicose Veins
- Hematomas

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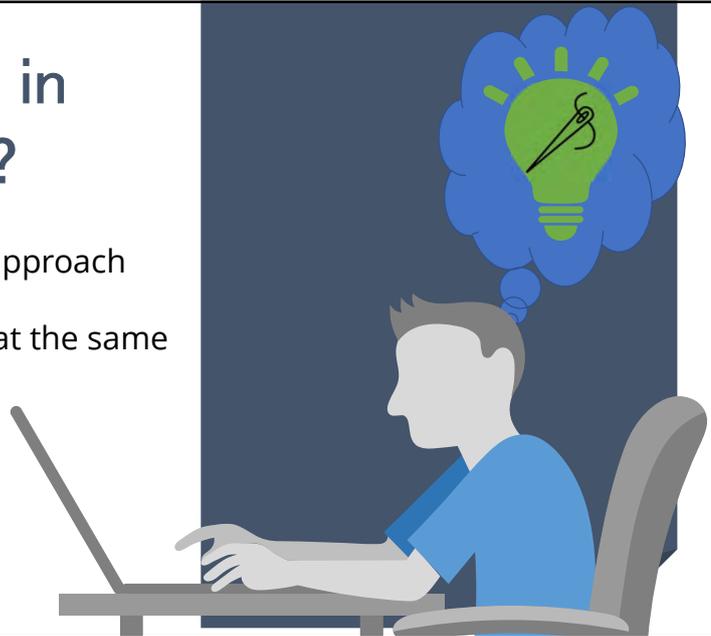
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Why Use Needles in Your Treatments?

- Light force alternative treatment approach
- Can treat multiple areas/patients at the same time
- Preserve your hands
- Ultra focused therapy



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IASTM – Instrument Assisted Soft Tissue Mobilization

Graston®, Gua Sha, FAKTR ect.

- Lots of different tools and devices available on the internet.
- **Benefits – Why?**
 - Reduced pain
 - Increased Range of Motion
 - Increased Tissue Elasticity
 - Improved Recovery
- **What actually happens?**
 - Increased cellular exchange
 - Increased vascular response
 - Breakdown / realignment of collagen fibers

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IASTM

Indications:

- Muscle strain or sprain
- Achilles tendinosis
- Carpal tunnel syndrome
- Cervical sprain/strain
- Plantar fasciitis
- Rotator cuff tendinosis
- Shin splints
- Tennis/golfer's elbow

Contraindications:

- Open wounds
- High blood pressure
- Cancer (consideration of type and location)
- Pregnancy (over spine, pelvis, abdomen or certain meridian points)
- Unhealed fractures
- Patients undergoing Anticoagulant therapy
- Some kidney disorders



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Soft Tissue Interventions - IASTM

- Evidence to support
 - [The efficacy of instrument assisted soft tissue mobilization: a systematic review – Cheatham et al, Sept 2016](#)
 - [The effects of instrument-assisted soft tissue mobilization compared to other interventions on pain and function: a systematic review – Lambert et al., March 2017](#)
 - [Effects of instrument-assisted soft tissue mobilization technique on strength, knee joint passive stiffness, and pain threshold in hamstring shortness – Kim et al., November 2018](#)

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PNF / PIR

- PNF stretching was developed by Dr. Herman Kabat in the 1940s to treat neuromuscular conditions including polio and multiple sclerosis
- While there are multiple PNF stretching techniques, all of them rely on stretching a muscle to its limit. Doing this triggers the inverse myotatic reflex, a protective reflex that calms the muscle to prevent injury.
- Proprioceptive neuromuscular facilitation (PNF) stretching relies on reflexes to produce deeper stretches that increase flexibility.

PNF - Proprioceptive Neuromuscular Inhibition

PIR – Post Isometric Relaxation

“PNF causes the brain to say, ‘I don’t want that muscle to tear’ and sends a message to let the myofascia relax a little more than it would normally”



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PNF / PIR



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PNF / PIR Stretching



Indications

- Increase Flexibility
- Increase Range of Motion
- Improved Neuromuscular Control
- Increase Strength
- Improved Running Mechanics*
- Does not increase exertion significantly (BP)



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PNF / PIR Stretching



Contraindications

- Bony block on end of range (EOR) on passive assessment
- Unstable/recent fracture
- Acute soft tissue injury
- Infection/hematoma
- Post surgical repairs e.g, skin grafts, tendon repair
- Hypermobility
- Client refusal

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Cupping – Decompression Therapy

Types: Dry/wet cupping, sliding cupping, fire cupping, moxa cupping

Devices: glass, plastic, silicone, horn

Benefits:

- Cupping helps to reduce pain and inflammation
- Improves blood flow
- Used for relaxation, wellbeing, and deep tissue massage
- It is safe and non-invasive treatment
- Rejuvenation of body organs
- Facilitates healing process and may strengthen immune system
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Cupping - Contraindications

Excessive dry or cracked skin

Open wound or ulcer

Fractured bone

Dislocated joint

Bleeding disorders

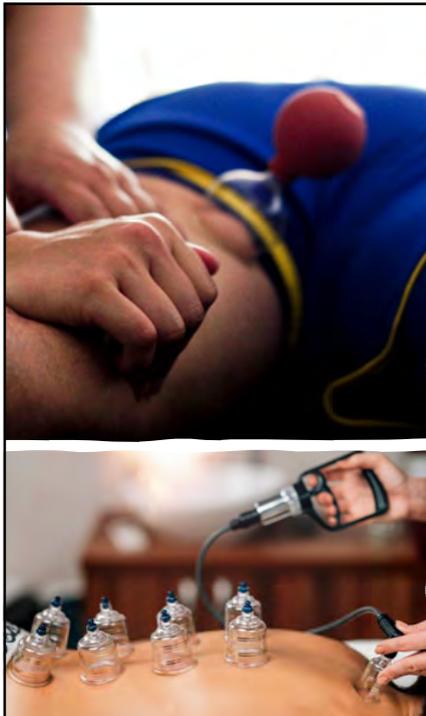
- Severe anaemia
- Muscle dystrophy
- Infants and Children under 7
- Abscess
- Excessive swelling



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Cupping

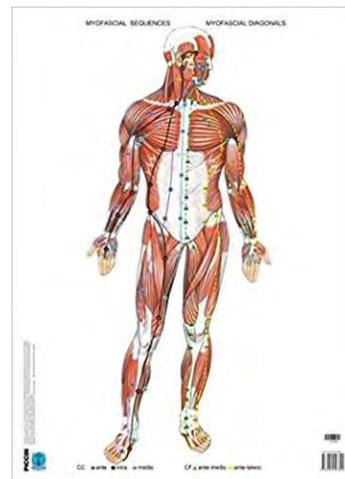
- Evidence to support:
 - [The Evidence for Common Nonsurgical Modalities in Sports Medicine, Part 2: Cupping and Blood Flow Restriction – Trofa et al., January 2020](#)
 - [Effects of Cupping Therapy in Amateur and Professional Athletes: Systematic Review of Randomized Controlled Trials – Bridgett et al., November 2017](#)
 - [Dry Cupping Therapy for Improving Nonspecific Neck Pain and Subcutaneous Hemodynamics – Stephens et al., June 2020](#)

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Fascial Manipulation©

- Fascial Manipulation© is a manual therapy that has been developed by Luigi Stecco PT, in collaboration with his children Carla Stecco and Antonio Stecco (both MDs, PhDs), over the last 40 years. Focusing on fascia and in particular the deep muscular fascia. FM considers the myofascial system as a three-dimensional continuum
- The mainstay of the manual method lies in the identification of specific, localized areas of the fascia in connection with specific limited movements. Once a limited or painful movement is identified, then a specific point on the fascia is implicated and through the appropriate manipulation of this precise part of the fascia, movement can be restored.



www.fascialmanipulation.com/en/
www.fascialmanipulation-stecco.com

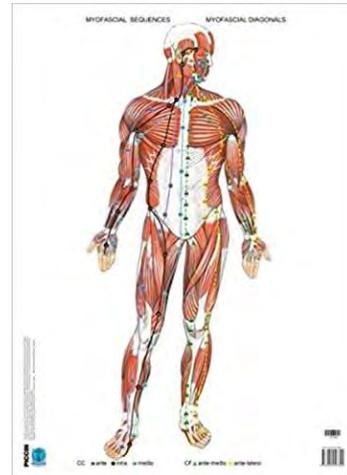
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Fascial Manipulation©

- The technique involves deep manual friction over specific points on the deep muscular fascia that are always at a distance from the actual site of pain. In this way, the method can be applied safely even during the acute phase of a dysfunction.
- Hyperemia caused by deep friction could modify the extracellular matrix and restore gliding.



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Fascial Manipulation



Indications

- Myofascial Pain
- Repetitive Strain Injury
- Movement Imbalances
- Chronic / Compensatory Movement Patterns
- Chronic Pain Syndromes
- Somatovisceral Dysfunction
- **Complicated Cases Unresponsive to Other Soft Tissue**

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Fascial Manipulation



Contraindications

- Malignancy
- Aneurysm
- Acute rheumatoid arthritis
- Advanced diabetes
- Severe osteoporosis

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Treatment may feel intense to the patient,
but the results are worth the pain!



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What is a Trigger Point?

- A **myofascial trigger point** is a hyperirritable spot, usually within a taut band of skeletal muscle, which is painful on compression and can give rise to characteristic referred pain, motor dysfunction, and autonomic phenomena.
- They come in many disguises and may manifest in:
 - Muscles
 - Fascia
 - Tendons
 - Ligaments
 - Periosteum



29

Trigger Point Therapy

- **Indications: Pain, Restriction of ROM**

- Types

- Ischaemic compression
- PIR
- Passive Stretching Massage
- Strengthening
- Postural Correction / Activity Modification
- Muscle Energy Techniques
- Neuromuscular Techniques

Foam Roller

Taping

Laser Treatment

Ultrasound Treatment

Dry Needling / Acupuncture

Trigger Point Injections (Pharmaceutical Management)

30

Trigger Point Therapy

- **Contraindications:**

- Bleeding Disorders: haemophilia, thrombocytopenia
- Anticoagulant drugs (warfarin, heparin etc)
- Systemic or local infection
- Acute muscle trauma



31

Trigger Point Therapy

- Evidence to support

- [Myofascial Trigger Points: An Evidence-Informed Review – Dommerholt et al., October 2006](#)
- [Chiropractic Management of Myofascial Trigger Points and Myofascial Pain Syndrome: A Systematic Review of Literature – Vernon and Schneider, January 2009](#)

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32

Soft Tissue Interventions – Movement Flow

Simple repetitive movements prescribed as “exercises” to aid fascial gliding and resolution of tension and dysfunction

Make it up as you go

Refer to work from Stecco Family and Anatomy Trains (Myers)

Try and keep it simple – Don’t over prescribe and get too technical

33

Soft Tissue Interventions “Gold Nuggets”

- A lot of it boils down to your clinical experience and to a degree preference. The more tools you have in the tool box, the more capable you are in treating different athletes.
- Pick one technique and use it on EVERYTHING for 6+ months minimum before adding another.
- “Good decisions are made based on experience. Often Times experience is gained from bad decisions.”
- Unknown
- Don’t be afraid to try things out. Use your intuition to guide you as no single method holds the answers to all possible questions and scenarios. If your favourite modality doesn’t seem to work with a particular athlete, try something else - you might be surprised by the outcome.
- The best practitioners have taken years to develop these skills. Be patient! ☺

34

Soft Tissue Interventions

Time for Case Studies and Stories



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Case Study



- Olympic Gold Medal Bobsleigh Pilot
- Quad Complaint
- 8 Months Duration
- Multiple Multidisciplinary Interventions and Imaging
- Unknown Onset
- Limiting Training Volume, Push Speed and Velocity, and Load in Sled

Failed Interventions

- Massage Therapy
- Active Release Technique
- Cupping Therapy
- EMS/US Therapy
- Therapeutic Exercise
- Injection Therapy
- Therapeutic Dry Needling

Successful Interventions

- Deep Fascial Manipulation
- TDN with Point EMS and Fascial Twist Technique to Vastus Intermedius

Notes

Problem was deeper than suspected. Treatment was intense, with immediate notable post-relief. TDN had been applied, but not this technique and not by me.

36

Case Study



Failed Interventions

- Rest
- Hamstring Rehab
- Hamstring Soft Tissue

Successful Interventions

Fascial Manipulation and TDN to Medial Obturator Internus, Adductor Longus/Magnus.

Specific Activation Loaded Isometrics To Obturator

Notes

Problem was initial misdiagnosed by physio and coach.
Buy-in was not immediate.
I had 3 days to be wrong.
Communication was paramount.

- Olympic High Jumper
- "Hamstring Origin" Complaint
- 2.5 Weeks Duration
- Onset at Training Camp
- 13 days to National Competition
- Limiting Acceleration, Explosive Feel and Confidence in Jumping



37



Soft Tissue
Interventions

Questions

38

