

INTRODUCION TO SPORTS THERAPY

Practical – Specific Soft Tissue Mobilisations

Learning Outcomes

- By the end of this session students should be able to:
- Describe and apply the principles of specific soft tissue mobilisation as part of a soft tissue treatment
- Be able to produce a safe and effective treatment in relation to SSTM
- Understand the indications and contraindications for this treatment

Introduction

- Specific soft tissue mobilisation (SSTMs)
- Moving soft tissue so that it absorbs energy, thus stimulating adaptation
- Vehicle to promote adaptation via specific mechanical input
- IMPROVISIONAL TECHNIQUE
 - Not prescriptive re: handling, application
 - Poor quality of evidence behind it: case studies or expert opinion

SSTM_s

- Pre mid 1990's Rx focus was on joint mechanics
- 1980's Rx methods focused on electrotherapy, PNF, Friction, rehab
- Pathology was not important: inflammatory or degenerative
- NOW
 - Focus on MOVING damaged tissue, in a graded fashion to promote tissue adaption
 - MOBILISE: CPM, Maitland etc

Key Concepts in SSTM

- Mobilise early
- Tissue (muscles) are ANISOTROPIC
 - Non-uniform distribution of energy
 - ORDER EFFECT
 - Movement variables to achieve stretch
- Muscles can be moved even when on a stretch
 - Transverse movement applied when tissue is stretched actually increases the stretch

Key Concepts in SSTM

- Effects of SSTM
 - Local
 - Mobilisation +/- breakdown of collagen and realign collagen
 - Central
 - Relay of info into CNS: reflex (autogenic) inhibition via mechanical stimulation
 - Cognitive
 - Fear of pain and reluctance to move in to painful ranges

Local effects of SSTM

- Water and Proteoglycans in soft tissues give viscoelastic properties
 - Non cyclical loading
 - Creep
 - Hysteresis
- Glycoaminoglycan's (GAGs)
 - Collagen spacing or collagen bridges links
 - Increase GAG content, decrease collagen spacing, decrease strength:
 - High GAGs = weakness, in tendons and fascia
 - High GAGs also associated with high Type III collagen (weak base, meshwork)
 - Opathy – pathologies

Types of SSTM

- Physiological SSTMs
 - Stretch to tissue
 - ORDER EFFECT
 - Find the actual physiological position to load specific tissues or tissue areas
- Accessory SSTMs
 - Tissue is in neutral (notion stretch)
 - Oscillatory force applied
 - Lateral
 - Medial
 - Compressive
 - Shear
 - Recommended in early healing 6- 14d
 - Grade 2 (6-14d) up to grade 4 (14d +)
 - Work with a pain threshold (VAS 4/10)
 - SIN (severity, irritability, nature)

Types of SSTM

- Combined SSTMs
 - Physiological SSTM then add a Accessory SSTM
 - OR
 - Accessory SSTM then add a Physiological SSTM
- Dynamic SSTMs
 - Contract the muscle then add Accessory SSTM
 - Isometric
 - Concentric
 - Eccentric
 - Functional: i.e hold a racket/stick
 - FWB, PWB, NWB, Hydro

Practical Process

- Pt must feel it (4/10) – make it ache
- Must provoke their symptoms
- Pt may get worse for 10-14/7 before Sx improve
- Can combine with other (therapeutic) modalities
- Apply SSTM 3x week for first 2/52
- Apply 5 x 30sec SSTMs (5 x 30sec accessory)
- Can progress up to 60 sec
- Regular tensioning of tissue every 2 waking hours

Trial 1

- The Hamstrings
 - Check for increased tone – set Objective Marker
 - (? Reduced ROM)
 - Try physiological SSTM
 - Hip flexion
 - Knee extension
 - Tibial rotation
 - Try Accessory SSTM
 - Try Combined SSTM
 - Recheck OM

Plantar Fascia

- Physiological SSTMs
 - Variables:
 - Knee flex or ext
 - Ankle Dorsiflex
 - Gt Toe Ext
 - Mid Tarsal Pronation or
 - Supination
 - PWB/FWB/NWB
- Accessory SSTMs
 - Shear
 - Lateral
 - Medial
 - Compressive

Ankle Ligaments

- Physiological SSTMs
 - ATFL
 - CFL
 - PTFL
 - Deltoid Complex
 - What positions?
 - What variables?
- Accessory SSTMs
 - Shear
 - Lateral
 - Medial
 - Compressive
 - Accessory joint mobilisations will effect stretch (tensile) load on soft tissue

Ankle Tendons

- Physiological SSTMs
 - Peroneal tendon dysfunction
 - Tibialis Posterior
 - FHL
 - FDL
- Accessory SSTMs
 - Lateral
 - Medial
 - Shear
 - Compressive

Achilles Tendinopathy

- Physiological SSTMs
 - Ankle DF
 - Knee Ext
 - Knee Flex
 - Great Toe Ext
- Accessory SSTMs
 - Lateral
 - Medial
 - Shear
 - Compressive