Manual Therapy for the CHT
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Intro
- 1992 - Graduate of UTHSCSA (BS in PT)
- 1996 - Completed manual therapy residency and fellowship at the Gulf Coast Graduate Physical Therapy Institute (Gulfport, MS)
- 1998 - Orthopedic Clinical Specialist Certification
- 2003 - Transitional Doctorate of Physical Therapy, Des Moines University
- Extensive work experience in orthopedic, sports, industrial, and chronic/persistent pain rehabilitation.
- Previous private practice owner
- VP of Operations - Momentum Physical Therapy

Manual Therapy Theories
- What are the theoretical effects of manual therapy?
  - Biomechanical
    - Joint Realignment
  - Neurophysiological
    - Peripheral
    - Spinal
    - Supraspinal

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Biomechanical Model

Joint Realignment Theory

- Palpation of joint position and movement is unreliable (Seffinger et al., 2004, Walker et al., 2015)
- Techniques are not level specific as many other segments move (Dunning et al., 2013, Ross et al., 2004)
- Technique choice or direction may not make a difference on outcome.
  - However specific cervical mobilisations appear to be more effective than non specific techniques (Slaven et al., 2013)
- Signs and symptoms away from the site of application change
  - e.g. skin temperature, elbow ROM during cervical mobilisation (Chu et al., 2014)

Biomechanical Model

Breaking fibrosis: Soft Tissue Theory

- Takes approx. 850 - 925kg perpendicular force and approx. 420 - 460kg parallel force to deform plantar fascia/fascia lata 1% (using a mathematical model) (Chaudhry et al., 2008)
- Surgeons use a knife to cut fibrosis
- We don’t understand stretching (Weppler and Magnusson, 2010)

Neurophysiological Theories

Manual Therapy Myths

- You can’t increase blood flow, break down scar tissue, melt adhesions, “release” muscle or trigger points (e.g. Solomonow 1995, Chaudhry 2003, Chaudhry 2008, Weppler 2010, Konard 2014)
- Stretching a tissue in a certain way for a certain amount of time does not affect its structure in any significant way (Solomonow 2007, Weppler 2010, Katalinic 2011, Konard 2014)
- You don’t need to mobilise or manipulate a joint in a specific direction, based on a pattern of pain or specific assessment of movement and joint feel (Chiradejnant 2003, Aquino 2009, Schomacher 2009, Nyberg 2013)
- Palpation of muscles, joints, trigger points are all very unreliable and leads therapists to misdiagnose often and direct treatment down wrong and ineffective pathways (a blog I have done on palpation with all the supporting evidence is here)
- When all the different methods and techniques of manual therapy are examined through the process of systematic reviews and meta analyses, most of the research (as well as even the latest research) shows that it doesn’t do much (Menke 2014, Kumar 2014, Artus 2010, Kent 2005)
What is Important?

- Ruling out more serious conditions - Red flag signs, etc.
- Recognition and understanding of precautions and contraindications for the interventions we provide.
- Patient Education - Too often the incorrect use in healthcare can result in patient fear-avoidance and catastrophizing behaviors. We need to spend time properly explaining the patient’s condition in simple terms they can understand.
- Therapeutic Alliance - More than anything including training, experience, or technical skill, a trusting relationship between provider and patient has been shown to have the greatest impact on clinical outcomes.

Safety in Manual Therapy

- If ever in doubt, DO NOT DO MANUAL THERAPY
- The benefit must ALWAYS outweigh the risk
- Use the least amount of force necessary to accomplish the task
- Don’t forget the connective tissue and it’s innervation!

Absolute Contraindications

- Bone: any pathology that has led to significant bone weakening:
  - Tumour, e.g. cancer
  - Infection, e.g. TB
  - Metabolic, e.g. osteomalacia
  - Congenital, e.g. dysplasia
  - Latrogenic, e.g. long-term steroids
  - Inflammatory, e.g. severe rheumatoid arthritis
  - Traumatic, e.g. fracture

- Neurological
  - Cervical myelopathy
  - Cord compression
  - Cauda equina compression
  - Nerve root compression with increasing neurological deficit

- Vascular
  - Signs of cervical artery dysfunction
  - Aortic aneurysm
  - Haemophilia
  - Lack of Diagnosis
  - Lack of consent
Relative Contraindications

- Adverse reaction to previous thrust manipulation
- Disc herniation or prolapse
- Pregnancy
- Spondylothesis
- Osteoporosis
- Anticoagulant/long term steroids
- Advanced degenerative joint disease and spondylolisthesis
- Vertigo
- Arterial calcification

Why do we use Manual Therapy?

- There are many theories on how Manual Therapy works...
- But essentially no one really knows!
- My belief is that manual therapy works through a combination of neural modulation and belief in action.
- We can however utilise these mechanisms in order to:
  - Decrease pain temporarily
  - Improve ROM temporarily
  - Change how a muscle contracts temporarily

Manual Therapy – Simplified

- Manual Therapy creates a temporary change in tissue tone or mechanoreceptor and nociceptor sensitivity
- **Short Term Relief**
- Changes TONE of muscle
- Appropriate stress could guide collagen formation and therefore tissue make up
- Reduces Pain, Increases Range of Movement, Improves how a muscle contracts, Increases Patient Satisfaction
- **ALWAYS** used as an adjunct to exercise

A Suggested Structure for Manual Therapy

- Accept the majority of changes are temporary and **explain** this to the client
- Treat it as a "Warm Up" or 'loosening up for exercise or activity
- Start with superficial structures and progress deeper throughout treatment
- Select techniques and aggressiveness based on each client