Rural Acute and Chronic MSK Pain Management for Primary Care Physicians

Looking at MSK Symptoms with a Different Lens

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Queen Victoria Hospital, Revelstoke

Mar 10 ‘22 | 0800-0900 PST

THE UNIVERSITY OF BRITISH COLUMBIA
Continuing Professional Development
Faculty of Medicine

LAND ACKNOWLEDGMENT

I respectfully acknowledge that I live, learn and work on the traditional, ancestral and unceded territories of the Sinixt, Ktunaxa, Secwepemc, and Syilx Okanagan Nation.

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DISCLOSURES

- Faculty Teaching with Anatomic Medicine Foundation

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MITIGATION OF BIAS

- Content developed as part of this program was reviewed for potential bias by the members of the program planning committee.

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LEARNING OBJECTIVES

- Appreciate the complex biopsychosocial phenomenon of chronic musculoskeletal pain
- Review Flag system
- Discuss myofascial contributors to acute and chronic pain
- Discuss the role of myofascial needling and anatomical restoration in Acute and Chronic Pain Management

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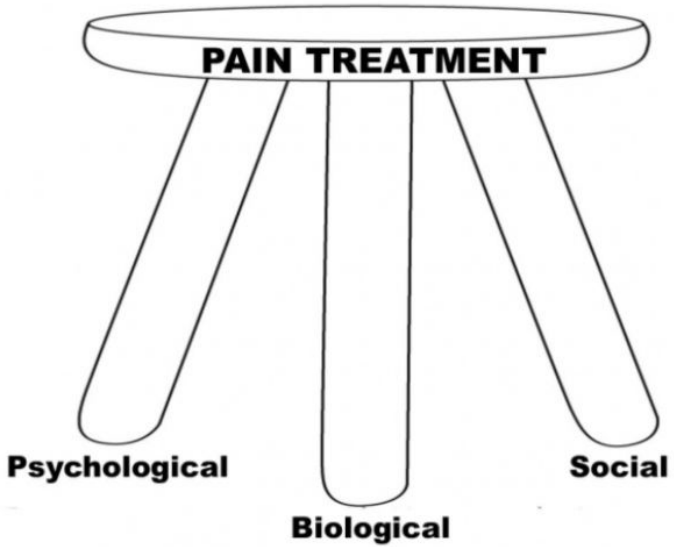
PAIN TREATMENT



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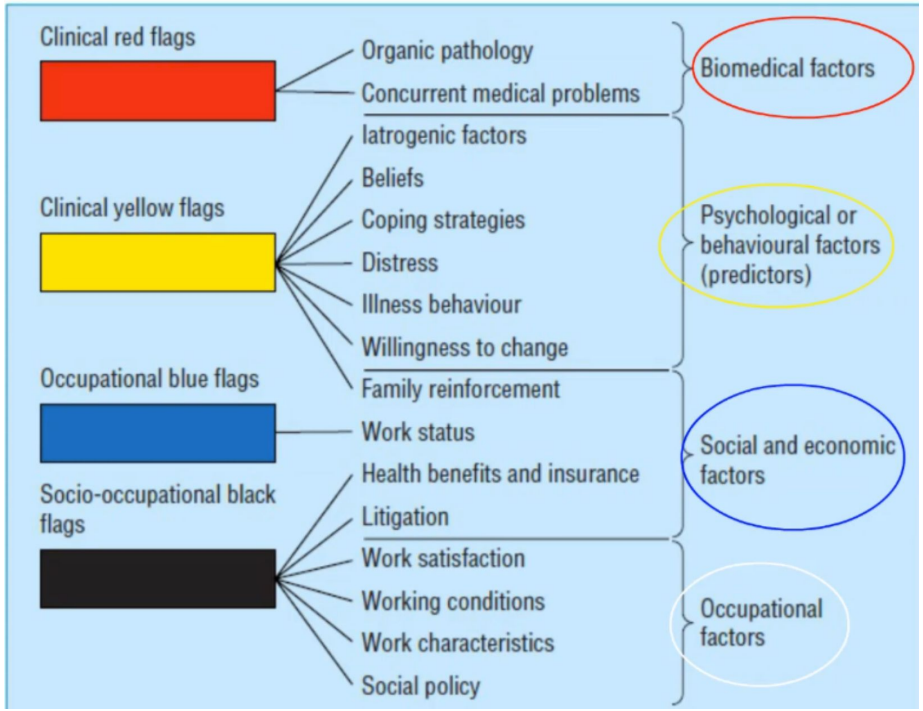
Fillingim, R. Individual differences in pain: understanding the mosaic that makes pain personal. *Pain.* 2017 vol:158 Suppl 1 pg:S11-S18

https://www.practicalpainmanagement.com/patient/chronic-pain-biopsychosocial-model

FLAGS



ABCDEFW

Attitudes and Beliefs

Behaviours

Compensation

Diagnosis and Treatment

Emotions

Family

Work

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Main CJ, Williams AC. Musculoskeletal pain. *BMJ*. 2002;325(7363):534-537. doi:10.1136/bmj.325.7363.534

Gifford, L. (2014). Aches and Pains: TJ International, Padstow, Cornwall, UK.

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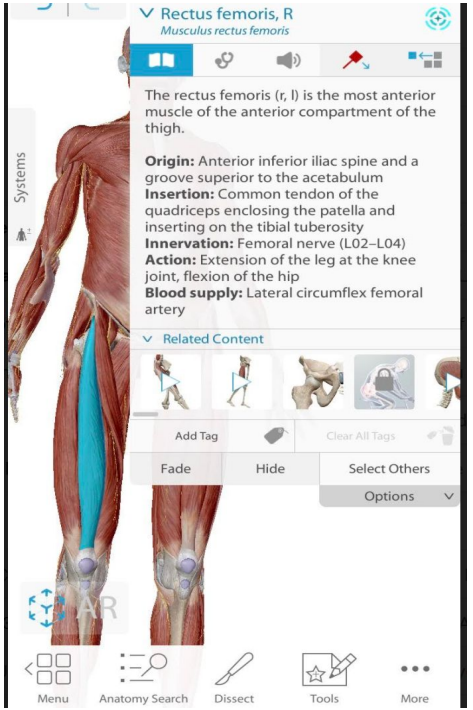
Designesque at Etsy.com

Traditional Medical School to MSK Anatomy

- Sectioned off anatomical specimens
- Origin/Insertion/Action



Muscles & Kinesiology, Version 8.0.76
Agrosy Publishing, Inc., 2007-2020.

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MYOFASCIUM

It's All Connected

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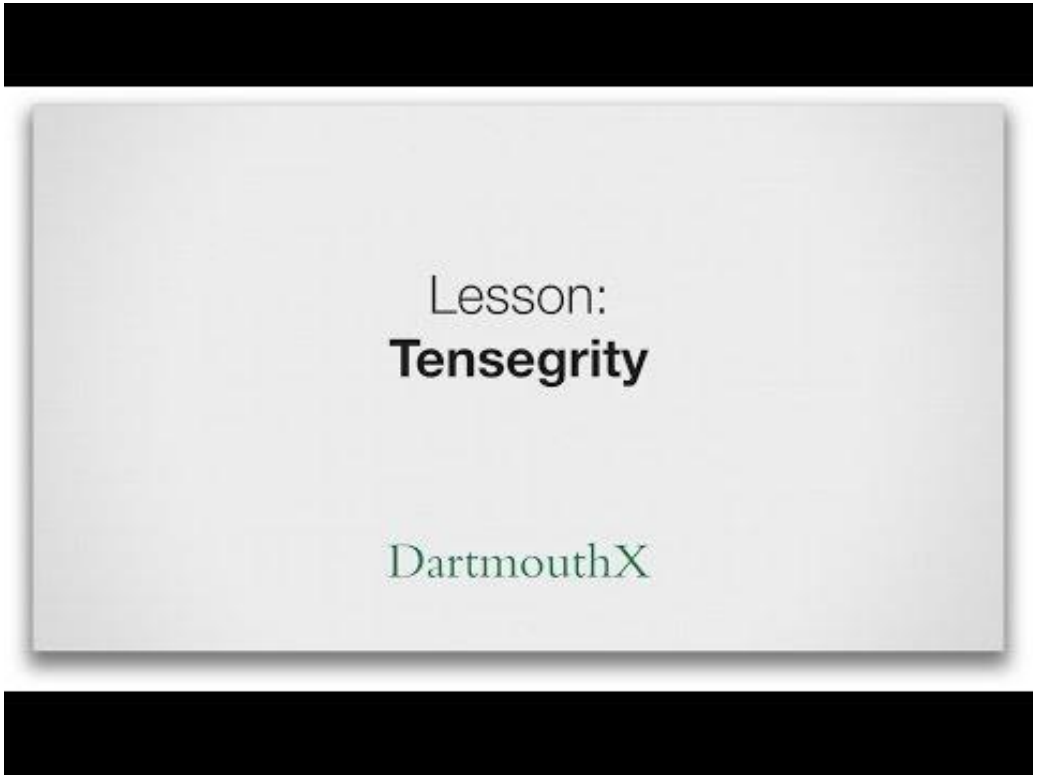
TENSEGRITY STRUCTURES



https://www.youtube.com/watch?v=Y-rNdQ6Gig8 1:22-1:55

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BioTensegrity

- Compression Elements: “Islands floating in a sea of continuous tension” = Primarily Bones / Skeleton

- Tensile Elements: = Primarily Myofascia

Various Models:

- Fascial Adhesions
- Postural Drivers

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- low back pain
- whiplash
- headache / migraine
- plantar fasciitis
- Parkinson's disease
- multiple sclerosis
- post-surgical pain
- herniated disc
- rotator cuff tear
- interscapular pain
- piriformis syndrome
- epicondylitis
- chronic fatigue
- fibromyalgia
- [illegible]
- cerebral palsy
- arthritis
- traumatic brain injury
- frozen shoulder
- pelvic pain
- restless leg syndrome
- sciatica
- post-fracture pain
- trochanteric bursitis
- trigger finger
- dysthesia
- scoliosis
- bunion
- nerve entrapment
- CRPS
- torticollis
- tenosynovitis
- sacroiliitis
- dystonia
- shin splints
- neuropathy

Soft tissue contraction or densification is a component of virtually all chronic pathologies.

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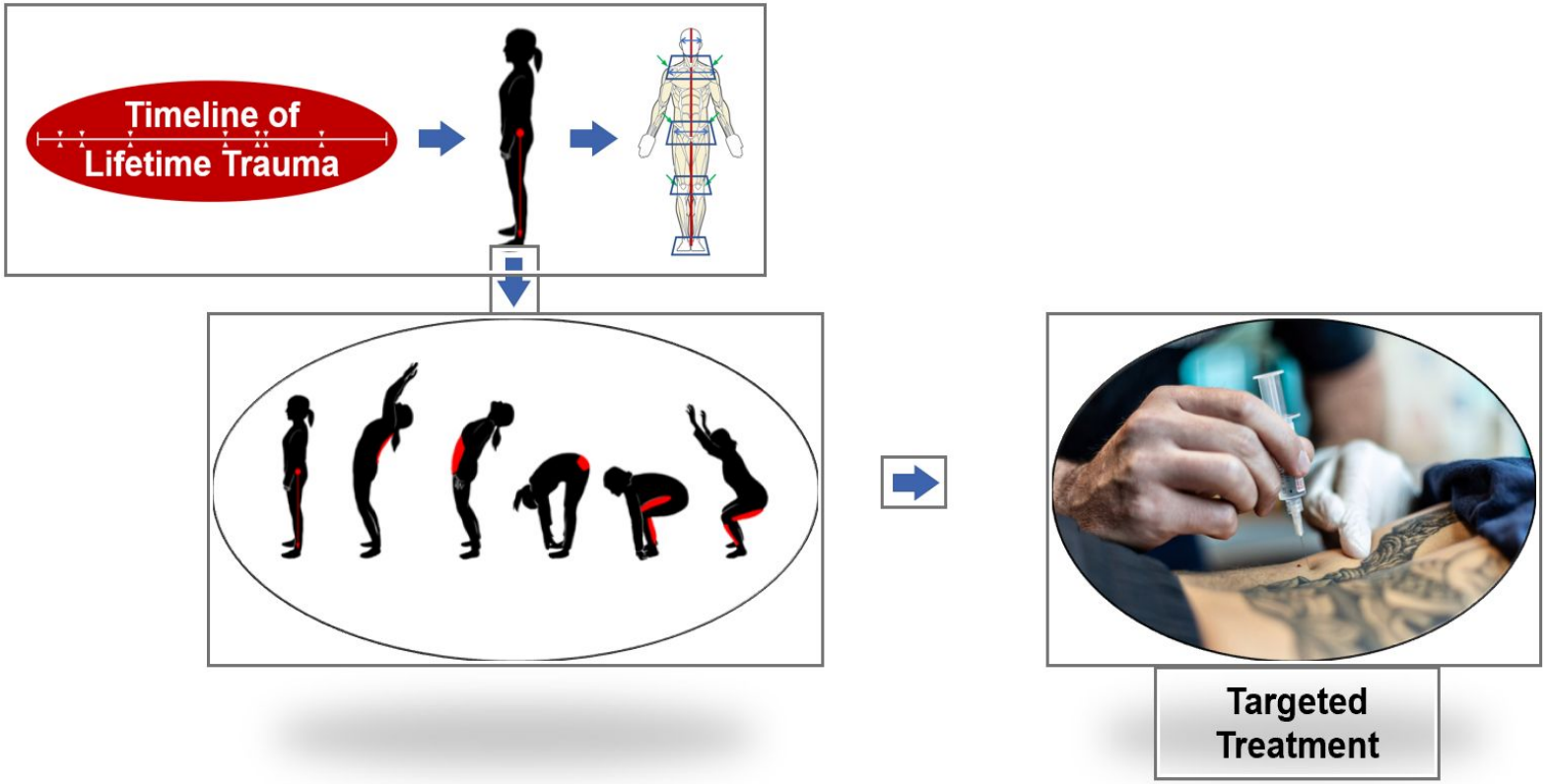

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Core BASE Tests

Balance	Extension Arms Raised	Extension Arms Down	Flexion Arms Down	Squat Arms Down	Squat Arms Raised	Lateral Arch
BAL	EAR	EAD	FAD	SAD	SAR	LLA / RLA
						
plantar weight distribution	paraspinal muscles	abdominal muscles	gluteus medius / gluteus maximus	quadriceps and calves	hamstrings and shins	iliopsoas

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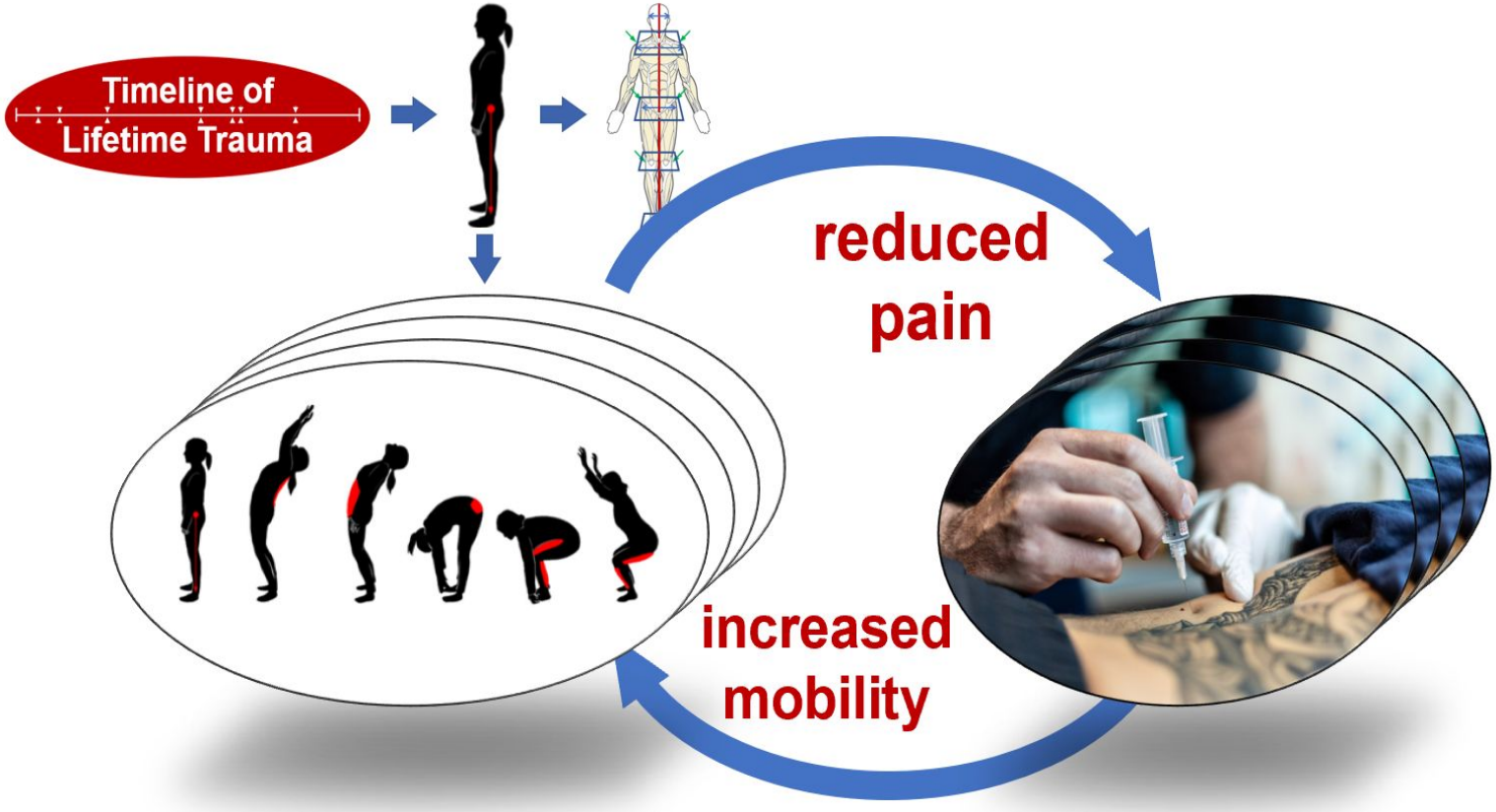

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CORE CONCEPTS

- Timeline of Lifetime Trauma (TiLT)
- The point of perceived pain ≠ necessarily the origin of pain
- The body-mind connection - Preparedness
- Setting the Stage
- Aftercare

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PRIMARY-CARE FRIENDLY

- Not conventional Trigger Point Injections, Dry Needling or Acupuncture
- No regional restrictions on tissues to treat
- MSP covered
- Anatomy knowledge fundamental but not extreme

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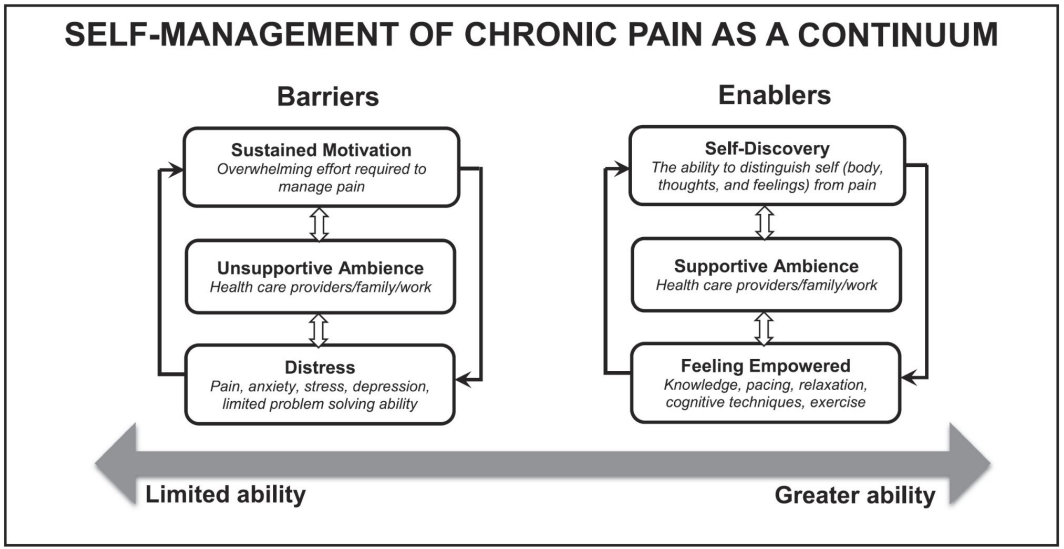
Self Management



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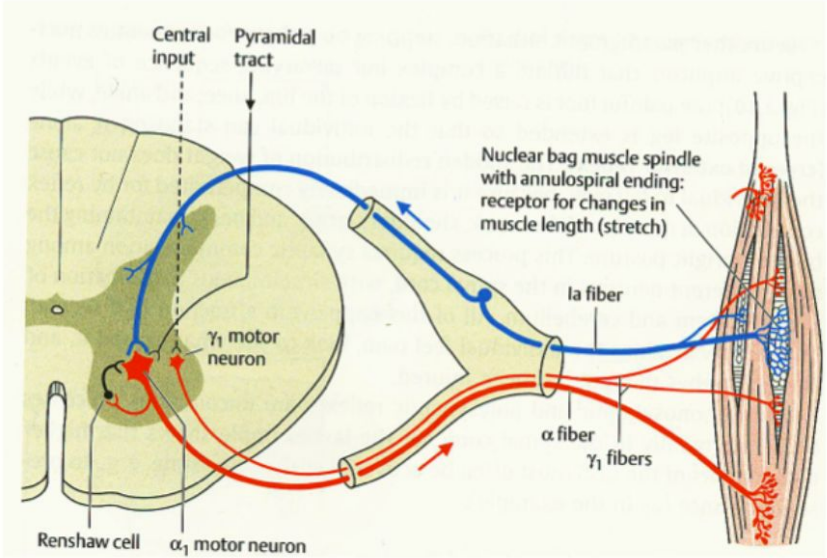
Devan H, Hale L, Hempel D, Saipe B, Perry MA. What Works and Does Not Work in a Self-Management Intervention for People With Chronic Pain? Qualitative Systematic Review and Meta-Synthesis. Phys Ther. 2018 May 1;98(5):381-397. doi: 10.1093/ptj/pzy029. PMID: 29669089.

MECHANISMS

Treatment target: Skeletal Muscle



Shah J. Myofascial Trigger Points Then and Now: A Historical and Scientific Perspective PM&R 2015

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MECHANISMS

Treatment target: Collagenous tissues

- Extracellular Fluid (H2O, Collagen, Glycosaminoglycans inc. Hyaluronic Acid, etc)

Collagenous tissues are widely distributed throughout the body.

Tissue		Mechanism of Dysfunction
fascia		thickening
skin	scars	stiffening
	creases	tethering
fat septae		compaction
tendon		densification
tissue interfaces		adherence / tethering

Distorted connective tissue structures are restored by **perforation**.

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MECHANISMS

Hyaluronic Acid: from “stiff and sticky” to “fluid and slippery”

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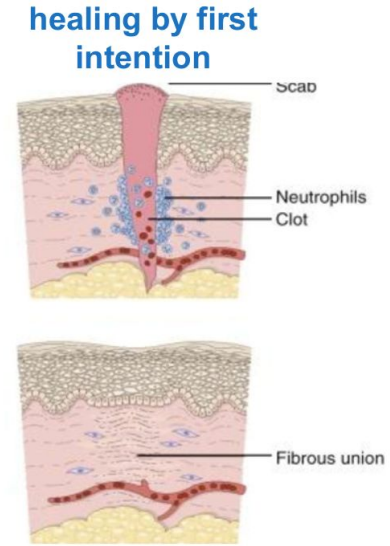
SCARS MATTER



Home > Books > Pain Management - Practices, Novel Therapies and Bioactives

OPEN ACCESS PEER-REVIEWED CHAPTER

Clinical Insights into the Importance of Scars and Scar Release in Paediatric Chronic Myofascial Pain

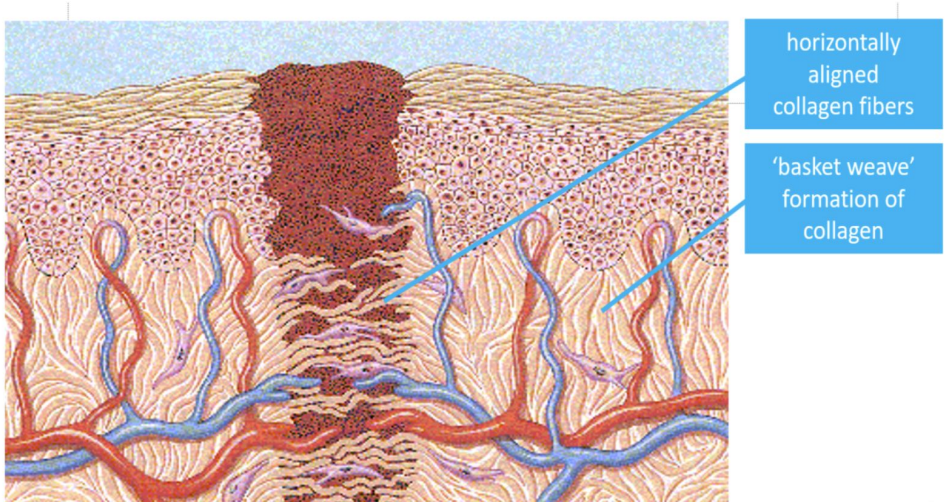
WRITTEN BY

Gillian Lauder and Nicholas West

Submitted: May 30th, 2020, Reviewed: July 31st, 2020, Published: August 29th, 2020

DOI: 10.5772/intechopen.93525

Free water is trapped in the horizontal collagen fibers of the scar.



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CASE #1

Acute Back Pain

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What is your current approach?

- RICE (Rest, Ice, Compression Elevation)? MOVE (Movement, Options, Vary rehab, Ease back)?
- IM/Oral analgesia, Muscle relaxants
- Further investigations (Xray, CT, MRI?)
- Physiotherapy Rx
- Refer for ultrasound-guided steroid injection

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Robinson, J. MOVE an injury not RICE. This Changed My Practice. UBC CPD. 2017.

AFTER CARE

Aftercare 5 | 10 | 15 | 20 | 25

> for the next **5** days while awake
> avoid repetitive movement longer than **10** minutes
> change your posture every **15** minutes
> limit walks to **20** minutes
> avoid sitting or driving without a break for longer than **25** minutes

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CASE #1 - ACUTE BACK PAIN

33 y/o Nurse

Timeline of Lifetime Trauma TiLT:

Surgery:

- 14 yo Major Abdo surgery, hospitalized for “abdominal attacks”
  - Appendectomy
  - Bowel surgery
  - L forearm IV scar- complicated
- Oral surgery, Wisdom Teeth

Excisions:

- GP excised boil mid back

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Core BASE Tests

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plantar weight distribution	paraspinal muscles	abdominal muscles	gluteus medius / gluteus maximus	quadriceps and calves	hamstrings and shins	iliopsoas

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CASE #1 - FIRST TREATMENT SESSION

Weight distribution: Lateral posterior heel L.
Less bulk L Lower leg
Iliac crest normal
Torso shift

- Catenated Cycle 1: Lumbar paraspinals
- Catenated Cycle 2: Dug-out appearing scar his midback superficially.
- Catenated Cycle 3: Rectus abdominus, triceps abdominus, R appy scar
- Catenated Cycle 4: Left gluteus minimus and medius and proximal left vastus lateralis.

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Core BASE Tests

Balance	Extension Arms Raised	Extension Arms Down	Flexion Arms Down	Squat Arms Down	Squat Arms Raised	Lateral Arch
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CASE #1 - SECOND TREATMENT SESSION

- Catenated cycle 1: L Triceps abdominus under iliac crest
- Catenated cycle 2: L Vastus lateralis
- Catenated cycle 3: L gluteus medius
- Catenated cycle 4: L iliopsoas

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CASE #2

R Foot Pain and Numbness

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What is your current approach?

- Risk stratification / CV & metabolic workup
- Ankle-Brachial Index
- Radiograph/ Bone scan
- Refer to vascular surgeon for further assessment/ diagnostics/ management
- Neurologic workup - Neurospinal, peripheral nerve contributors
- Refer to physiotherapy?
- What about musculoskeletal contributors?

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Robinson, J. MOVE an injury not RICE. This Changed My Practice. UBC CPD. 2017.

CASE #2 - RIGHT FOOT NUMBNESS

53 y/o Admin Assistant

1 year of R foot pain → R foot/ Ankle numb

Referred to vascular surgeon

Timeline of Lifetime Trauma TiLT:

- R great toe osteomyelitis 12/12
- Tape adhesive reaction → ulcer anterior ankle
- Surgery: C/S 2003
- Scars: bilateral knees (childhood)

- Greatest Trauma: 2005 rear end collision

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CASE #2 - FIRST TREATMENT SESSION

Exam: R foot numbness endorsed extending 6 cm proximal to ankle, circumferentially

BASE Testing: Unable to circumduct R ankle

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Resolution

30 days follow up

- "Bottom of toe area still quite numb. Other areas feeling a big difference." … " Pain is less and not as bad as what I was experiencing before." … " Every day I notice a bit more difference." … "Upper leg below my knee is so much better. A big difference for me." … "After your treatment I've noticed a huge difference. No throbbing pain and stuff but numbness is still there in my toe area." … "I'm back upstairs in my own bed and I'm so glad." … "I'm able to do my dishes. I'm able to do my laundry a little bit now."

3 year follow up?

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ALONGSIDE anatomic restoration

- Pain-oriented Motivational Interviewing
  - PEG, PCS, Self-Efficacy Score

- De-escalation Plan/ Next steps:
  - SMART Goal- informed exercise plan
  - Movement education
  - Massage Therapy
  - Physiotherapy

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THE ROLE OF EXERCISE

- Neuro-immune effects
- Structural/ Functional adaptations in CNS
  - Pain processing
- Changes in 2ndary pathologies
  - Psychological status, cognitions
    - Reduced Fear
    - Reduced Anxiety
    - Reduced Catastrophizing
    - Increased Self-Efficacy

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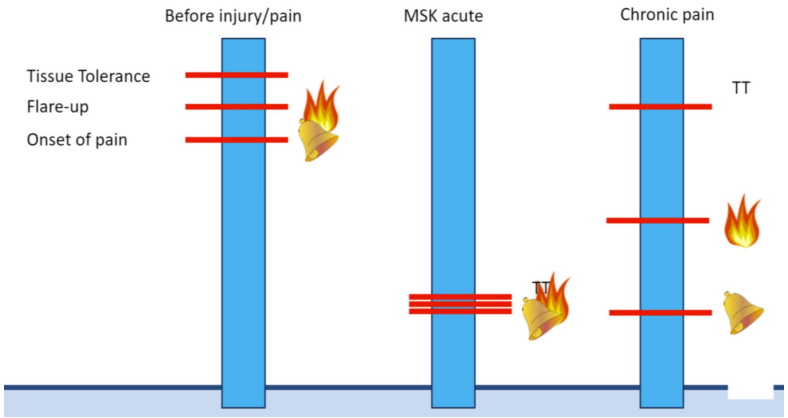
These positive outcomes cannot be explained by classic perceived benefits of exercise.

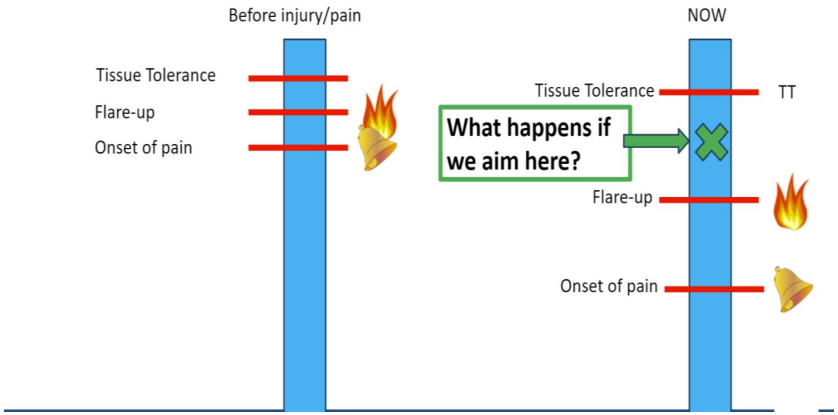
Steiger et al.. Is a positive clinical outcome after exercise therapy for chronic non-specific low back pain contingent upon a corresponding improvement in the targeted aspect(s) of performance? A systematic review. Eur Spine J. 2012 Apr;21(4):575-98.

Wallwork SB et al. Neural representations and the cortical body matrix: implications for sports medicine and future directions. Br J Sports Med. 2016 Aug;50(16):990-6.

Sluka KA, Frey-Law L, Hoeger Bement M. Exercise-induced pain and analgesia? Underlying mechanisms and clinical translation. Pain. 2018 Sep;159 Suppl 1(Suppl 1):S91-S97.

GRADED EXERCISE APPROACH 1





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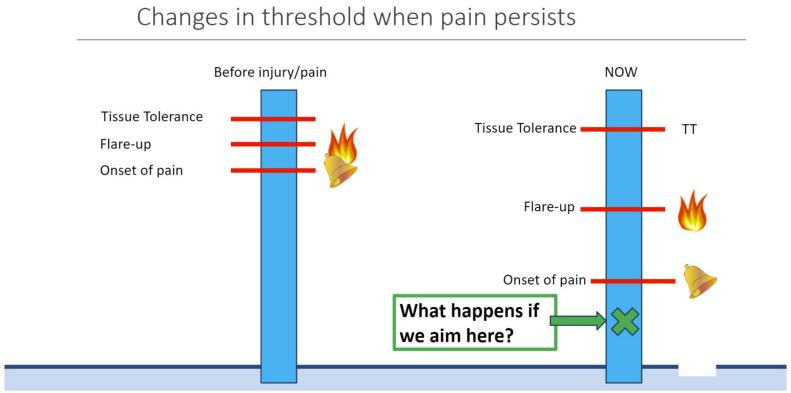
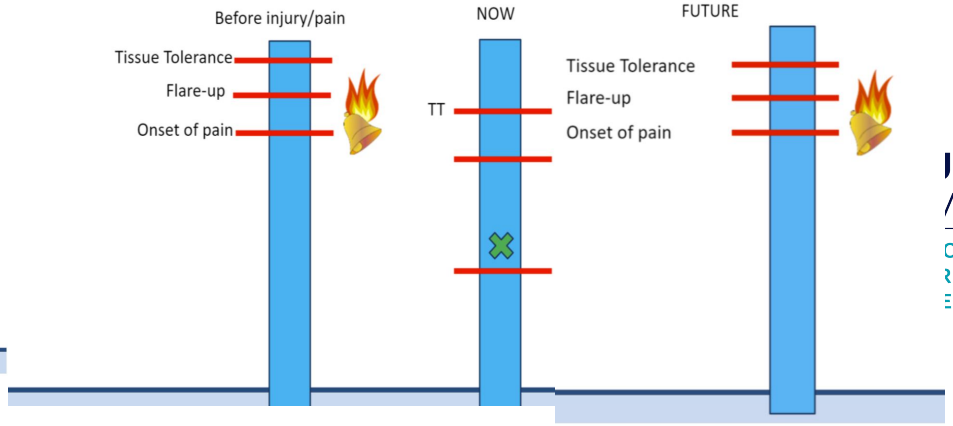
Relevant Diagram Courtesy of Dr. Judith Hunter BScPT, MSc, PhD University of Toronto

GRADED EXERCISE APPROACH 2





Courtesy of Dr. Judith Hunter BScPT, MSc, PhD University of Toronto

LEARNING OBJECTIVES

- Appreciate the complex biopsychosocial phenomenon of chronic musculoskeletal pain
- Review Flag system
- Discuss myofascial contributors to acute and chronic pain
- Discuss the role of myofascial needling and anatomical restoration in Acute and Chronic Pain Management

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RESOURCES

- myoLIVE RTVS Line
- Anatomic Medicine Foundation
- Anatomy Trains (Tom Myers)
- STECCO Fascial Manipulation
- Gunn Intramuscular Stimulation (IMS)

Rural Coordination Centre of BC

Enhancing rural health through education and advocacy

Real-Time Virtual Support

Dermatology
Add Zoom contact: rrderm@telus.net
Phone: 778-771-3376

Hematology
Add Zoom contact: hematology@rtvs-bc.ca
Phone: 250-857-5342

myoLIVE (Myofascial Pain)
Add Zoom contact: info@anatomicmedicine.org
Phone: 250-744-6334

Post-COVID-19 Recovery Clinic Referral
Add Zoom contact: postcovidclinic@rtvs-bc.ca
Phone: 604-806-8037

RheumVision (Rheumatology)
Add Zoom contact: rheum.vmoa@rccbc.ca
Phone: 250-999-3222

Thrombosis
Add Zoom contact: thrombosis-clinic@rccbc.ca
Phone: 604-655-1758

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