Skin as a Handle

1

2

Takeaways

- Cutaneous Nerve Entrapments
- Threat Management
- Sensory Re-Mapping
- Autonomic Retuning
- Treatment Stack

3

4

Therapeutic Alliance

1. Provide a **safe** treatment setting.
2. **Listen, listen, listen** - tell their story; do not interrupt.
3. Provide **pain education** at the level they can take it in
4. Explain the treatment - they have **locus of control**,
5. Don't add any **nocebo or nociception** to them or their nerves.
6. Let treatment be **slow** enough to give their brain a **chance to re-regulate** and **inhibit protective processing** (autonomic Heismans).
7. Give them some **meaningful movement** homework

5

Focal Entrapment Protocol

1. Start by **SCANNING** tissues
2. IDENTIFY areas of tightness/tenderness = **TARGET TISSUE**
3. TISSUE GLIDE over the target area = **SKIN GLIDE**
4. ADDRESS tissue up/down stream to target tissue = **RIPPLE**
5. Total **DOSAGE** per Region = 90 sec – 5 mins

SCAN + IDENTIFY + GLIDE + RIPPLE

6

Skin Glide (External Glide)

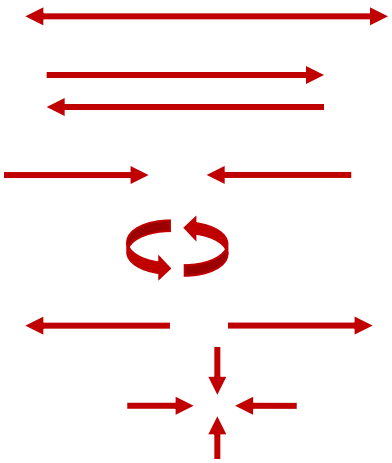
DNM Approach

7

Treatment Vectors

External Glide (Skin Glide) Vectors:

1. Linear
2. Shearing
3. Unloading
4. Torque/Rotational
5. Flattening
6. Centration (Puckering)



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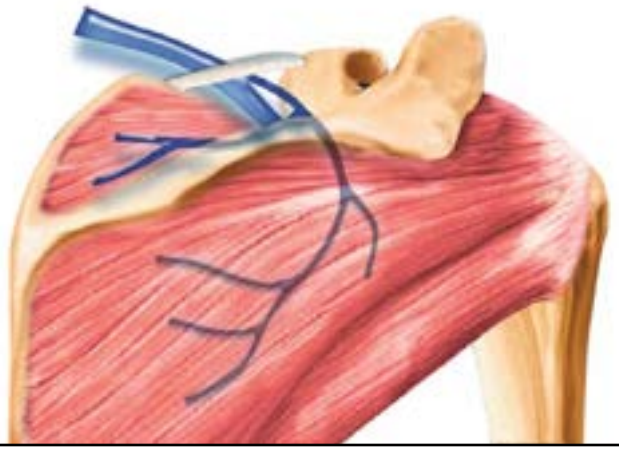
Nerve Glide (Internal Glide)

9

Upper Extremity

10

Suprascapular Nerve



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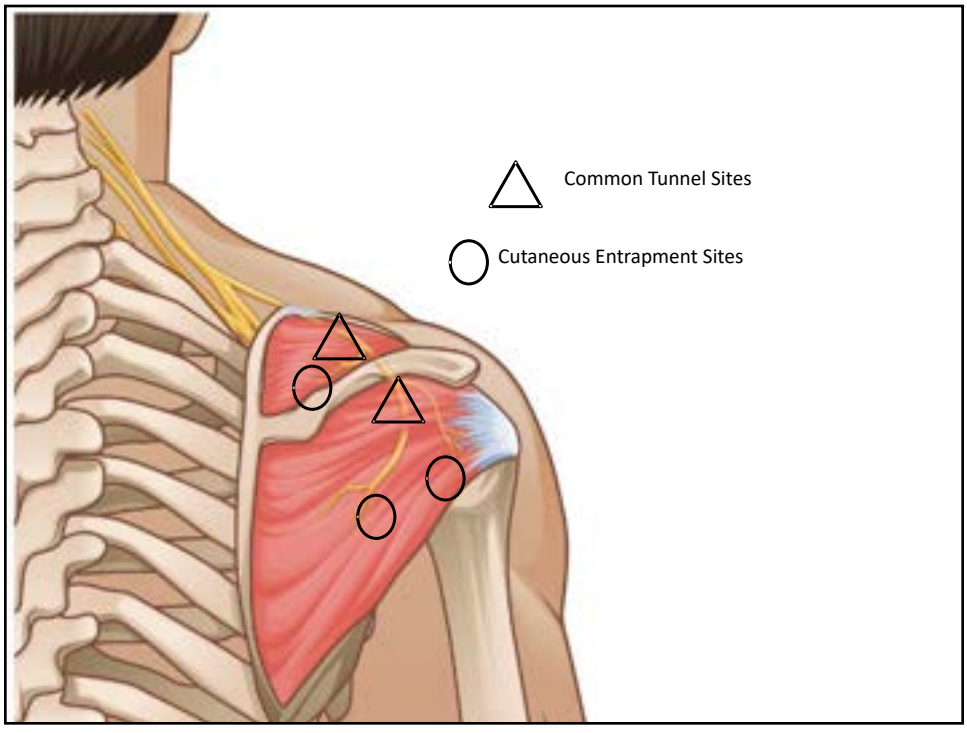

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Treatment Vectors

Which Way?

1. Into the Zone (Restriction/Bind/Pain)
2. Away from the Zone (Restriction/Bind/Pain)
3. Clockwise/Counter-Clockwise
4. Oppositional Vectors
5. External Glide
6. Internal Glide

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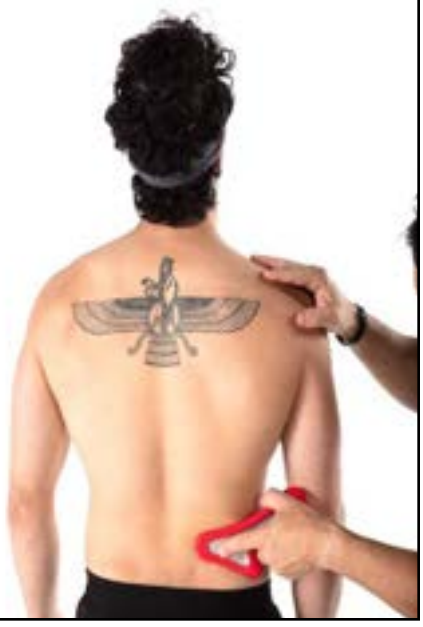
Tissue Torque

Door Handle Method



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Door Handle Method

Forearm Flexors

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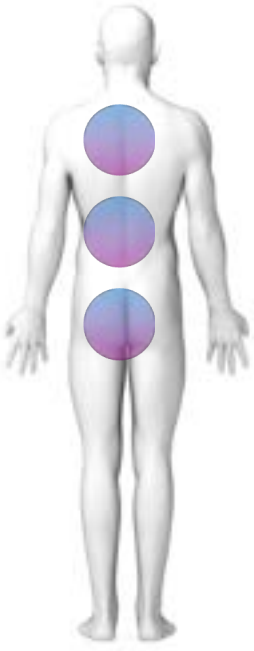

Trunk

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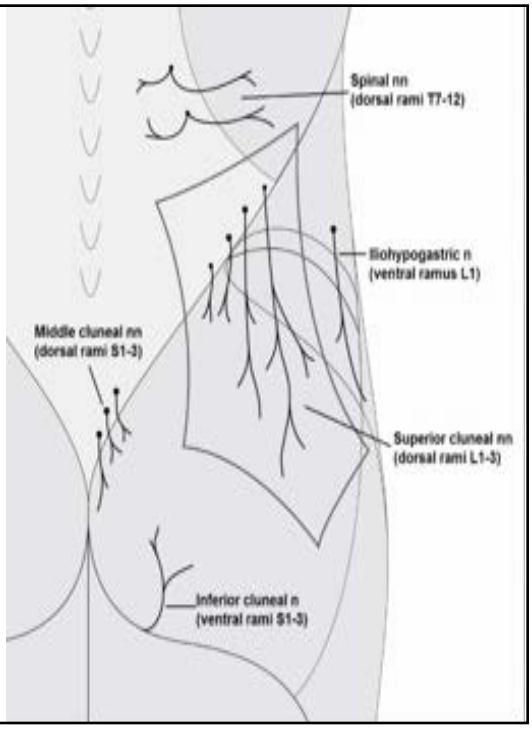
Cluneal Nerve Entrapment

Superior, Middle, Inferior Branches



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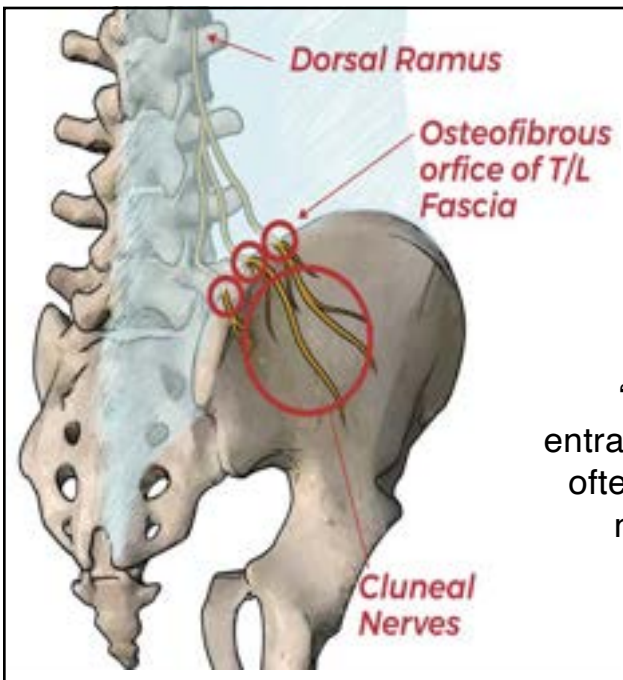
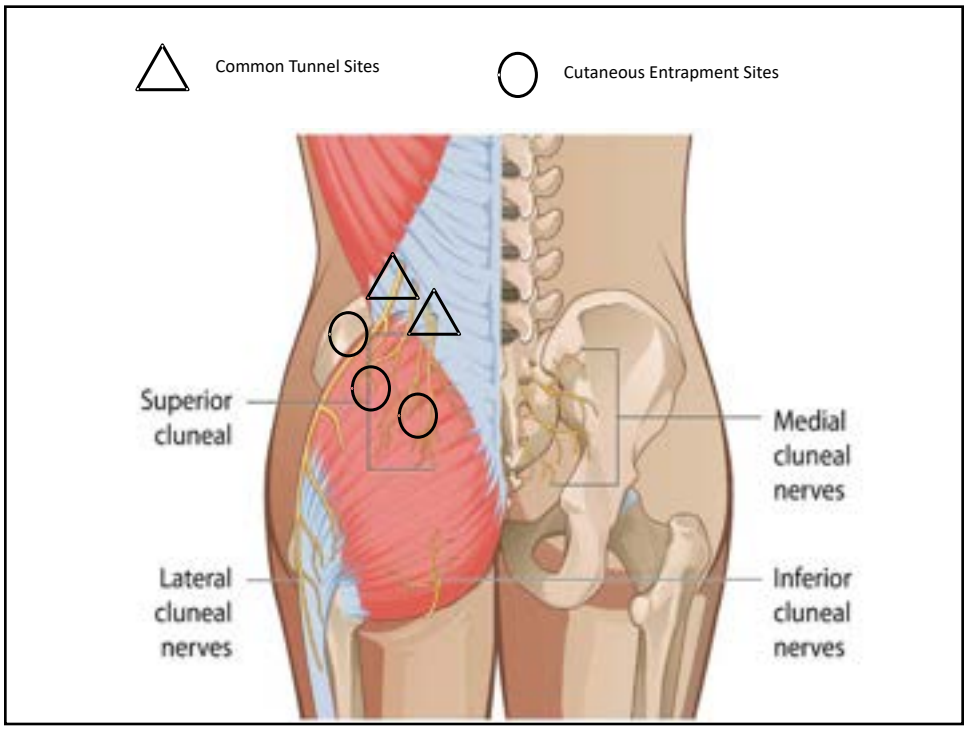


"Cluneal nerve entrapment syndrome is often overlooked and misdiagnosed."

Mizumoto J. Superior cluneal nerve entrapment syndrome: a common but often overlooked cause of low back pain. Journal of General and Family Medicine. 2022 May;23(3):183-4. Link

18



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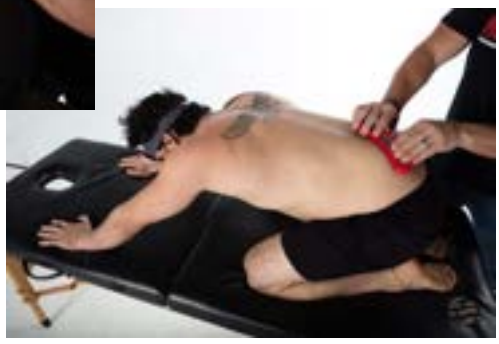
Cluneal – With Movement



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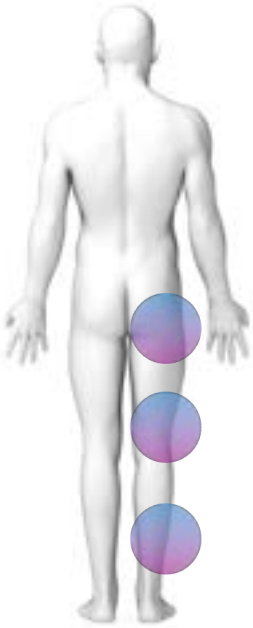

Lower Extremity

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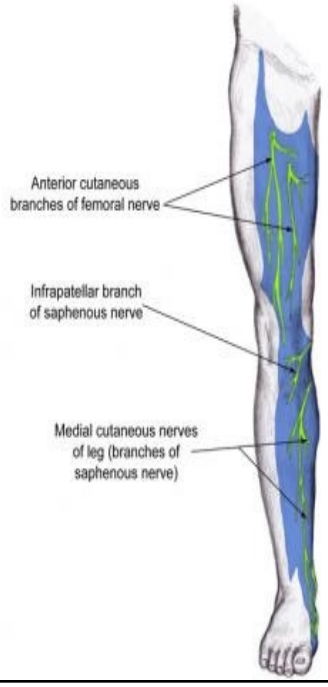
Saphenous Nerve Entrapment



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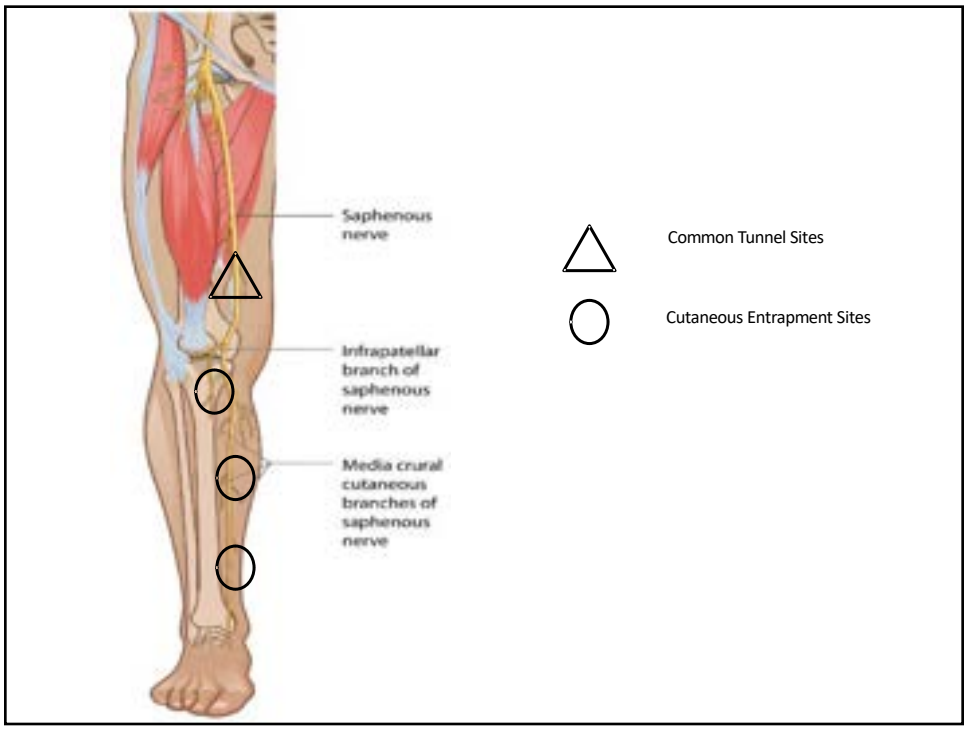

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Dermal Protocol

1. **SCAN** tissues (Screening)
2. IDENTIFY **TARGET TISSUE**
3. TISSUE GLIDE = **MULTI-VECTOR**
4. RE-SCREEN
5. ADDRESS tissue up/down stream = **RIPPLE**
6. Total DOSAGE per Region = 1-5 MINS

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Saphenous Nerve Entrapment

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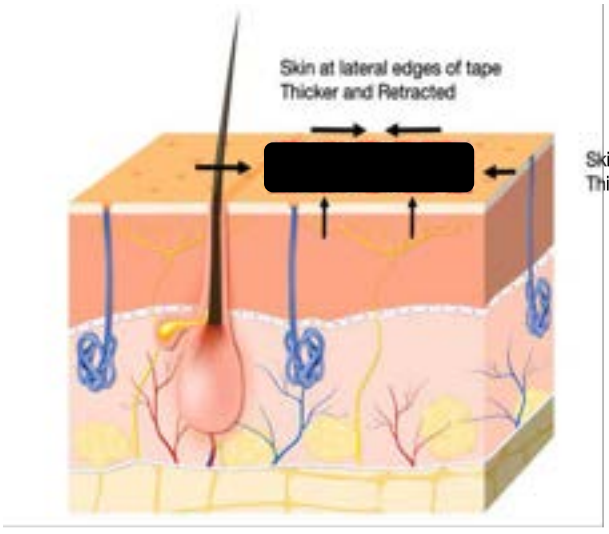
Skin Strain/Kinesiology Tape



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Lock in the Change

Skin Stretch Vectors

Kinesio taping influences the mechanical behaviour of the skin of the low back: A possible pathway for functionally relevant effects

Abstract

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Treatment Stack

Connect

Curiosity

Breath

Explore (Play)

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Exteroceptive Map

Connect

- **Painting** the Area
- Body **Re-Mapping**
- **Extinguish**/Defuse the Threat

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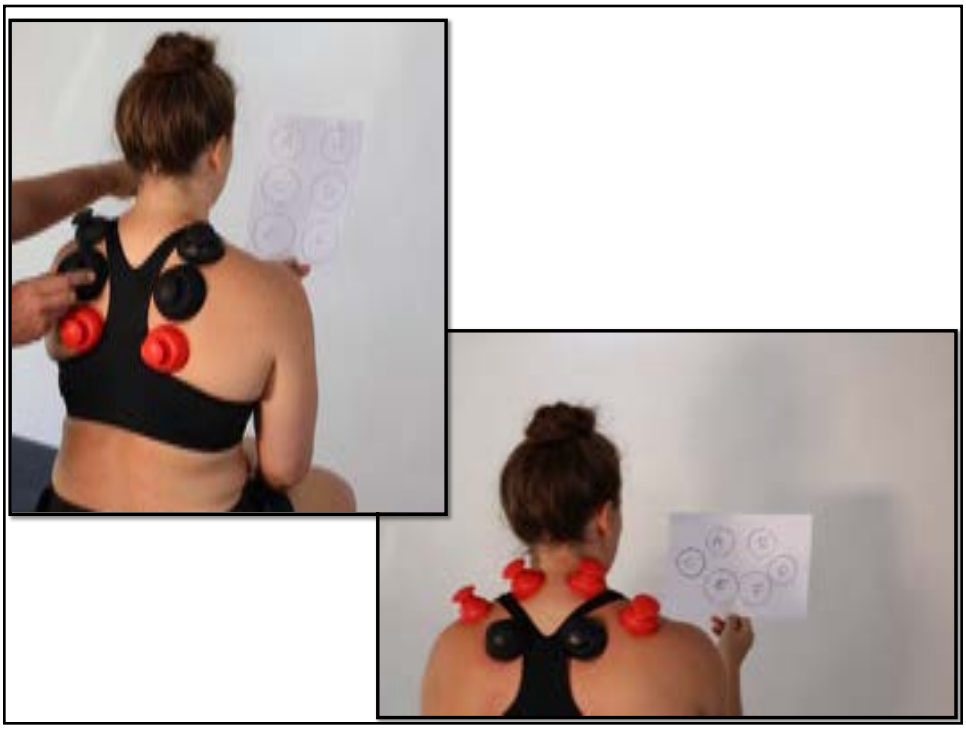

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Interoceptive Map

Curiosity 

- **Judgement-Free** Assessment 
- Productive **Attention** 
- **Reappraisal** (Rewire) 

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Exploiting Mindfulness

Non-pharmacological means of **improving the suffering** of our patients has become increasingly important

Exploiting the **mind–body connection** in pursuit of pain relief is not an unexplored concept

Mindfulness meditation has been shown to **decrease pain** and increase quality of life in adults suffering from chronic pain,

Higher interoceptive awareness correlated with **less pain catastrophizing**

Park YL, Hunter J, Sheldon BL, Sabourin S, DiMarzio M, Khazen O, Pilitsis JG. Pain and Interoceptive Awareness Outcomes of Chronic Pain Patients With Spinal Cord Stimulation. Neuromodulation. 2021 Dec;24(8):1357-1362

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Touch + Connect


Facilitating Adaptive Emotion Processing and Somatic Reappraisal via Sustained Mindful Interoceptive Attention

Cynthia Price PhD

'**Emotions** are by nature **Embodied**'

Framework where the bridge between **implicit bodily sensations** and **explicit narratives** lies in cultivating mindful awareness of bodily sensations associated with emotions

Price CJ, Weng HY. Facilitating Adaptive Emotion Processing and Somatic Reappraisal via Sustained Mindful Interoceptive Attention. Front Psychol. 2021 Sep 8;12

33

Pain Reprocessing


Effect of Pain Reprocessing Therapy vs Placebo and Usual Care for Patients With Chronic Back Pain
A Randomized Clinical Trial

A brain that **learns to produce pain** can **unlearn it too**.

Address our **thinking, feeling, & behavioral** patterns

We can train our brains, we can **change our experience of pain**

Ashar YK, Gordon A, Schubiner H, Uipi C, Knight K, Anderson Z, Carlisle J, Polisky L, Geuter S, Flood TF, Kragel PA, Dimidjian S, Lumley MA, Wager TD. Effect of Pain Reprocessing Therapy vs Placebo and Usual Care for Patients With Chronic Back Pain: A Randomized Clinical Trial. JAMA Psychiatry. 2022 Jan 1;79(1):13-23.

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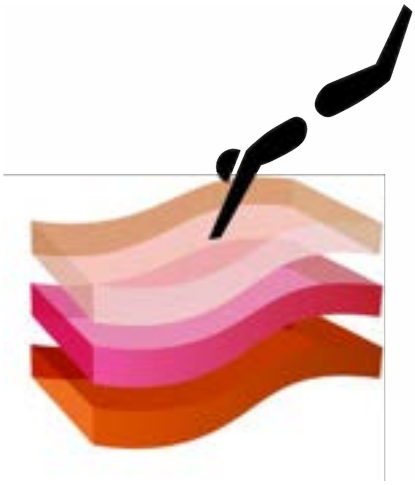
Interoceptive Exercise



Exploring the Experience from Inside-Out

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Touch Dosing

Depth:

- Light – cotton ball, painters brush, hair deflection (Force 0.04 and 5 millinewtons)

Rate:

- Slow – optimal rate of 3-6 cm/sec
- Range - 1-10cm/s

ADD:
Skin Temperature

Liljencrantz et al 2014

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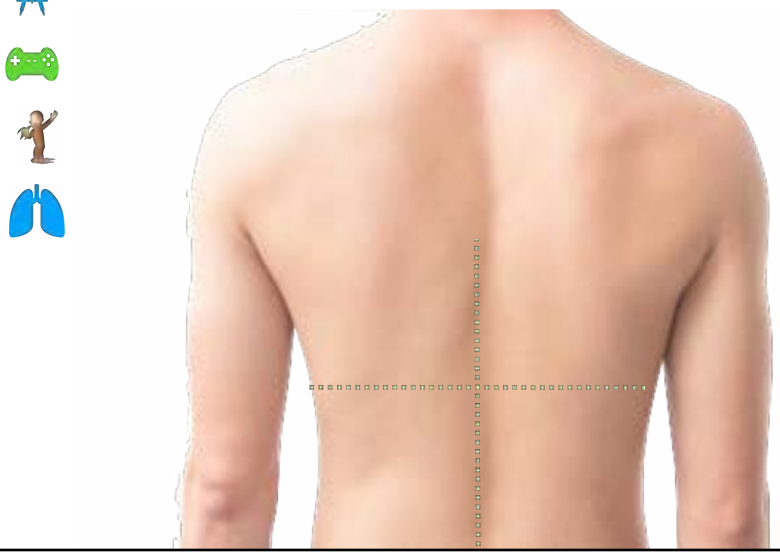
Interoceptive Mapping



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Exploration Parameters

Outside		Inside
	What are you feeling?	
Deep/Shallow	**Be Curious**	Warm/Cold
Fast/Slow	**No Judgement**	Heartbeat
Location		Lean In/Run Away
Direction		Breath
		Color?

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Find and Engage

Getting the patient/client to use conscious **THINKING** to describe an unconscious **FEELING**:

- **Where is the sensation?** – connect to Area (illuminate it)
- **What size is it?** – seed, grape, apple, cantaloupe, watermelon
- **What shape is it?** – oval, round, square, tubular, irregular
- **How Deep?** - shallow, mid level, deep
- **Quality?** – pain, pressure, ache, soreness
- **Is it empty/hollow, full, overflowing?**
- **Is it solid, liquid, or gas?**
- **Does it have a temperature?** – hot, warm, cool, cold, freezing
- **Does it have a color?**
- **Is it consistent or wavering?**
- **Does it have edges or borders?**
- **Does it stay put or radiate, expand, or move?**

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'Swaddle Approach'

Pleasant Deep Pressure

Deep pressure is perceived as **pleasant and calming**, activating brain regions similar to those involved in C-tactile stroking

Case LK, Liljencrantz J, McCall MV, Bradson M, Necaise A, Tubbs J, Olausson H, Wang B, Bushnell MC. Pleasant Deep Pressure: Expanding the Social Touch Hypothesis. Neuroscience. 2021 Jun 1;464:3-11.

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Curiosity Layer Takeaways

1. Listen and Validate
2. **Novel/Safe Stimulus** - extinguishing the prediction error stimulus
3. Productive **Attention** - the 'here and now'
4. Experiential Re-Learning - **New Narratives & Contingencies**
5. Internal Model Software Update - fundamentally changing the experience via a **bottom up** (novel, safe, touch stimulus) and **top down** (reassurance, guidance, correction, education)

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Breathing and Pain

"respiration may be considered a **behavioral interface** to change **autonomic discharge** patterns and central mechanisms known to **modulate pain**"

Jafari, Hassana; Courtois, Imkea; Van den Bergh, Omera; Vlaeyen, Johan W.S.a,b; Van Diest, Ilsea,* Pain and respiration: a systematic review, PAIN: June 2017 - Volume 158 - Issue 6 - p 995-1006

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Observation

Air Hunger

Frequent **Yawning**

Fish out of Water (**Mouth Breather**)

Chapped Lips

Frequent **Sighing**

Excessive Cervical Musc

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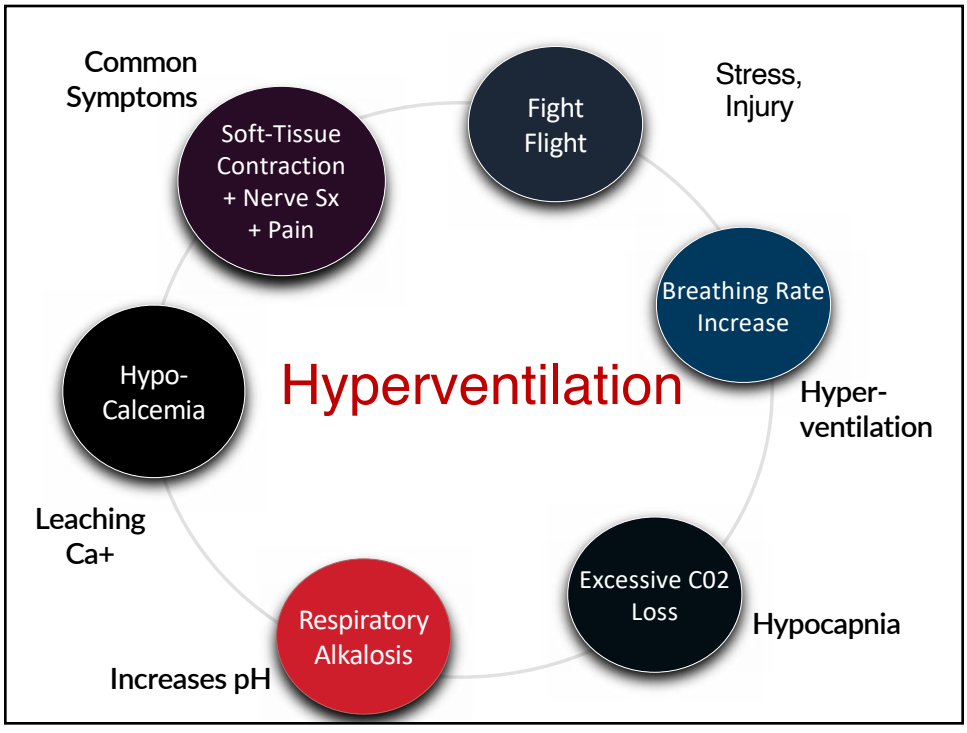

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Breath Screen

The Nijmegen Questionnaire

The Nijmegen questionnaire gives a broad view of symptoms associated with dysfunctional breathing patterns. It is only a preliminary guide to breathing training.

Please ring the score that best describes the frequency with which you experienced the symptoms listed

Symptom	Never	Seldom	Some-times	Often	Very often
Chest pain	0	1	2	3	4
Blurred vision	0	1	2	3	4
Dizziness	0	1	2	3	4
Confusion or loss of touch with reality	0	1	2	3	4
Fast or deep breathing	0	1	2	3	4
Shortness of breath	0	1	2	3	4
Tightness across chest	0	1	2	3	4
Bloated sensation in stomach	0	1	2	3	4
Tingling in fingers and hands	0	1	2	3	4
Difficulty breathing or taking deep breaths	0	1	2	3	4
Stiffness or cramps in fingers and hands	0	1	2	3	4
Tightness around the mouth	0	1	2	3	4
Cold hands or feet	0	1	2	3	4
Palpitations in the chest	0	1	2	3	4
Anxiety	0	1	2	3	4
Totals					

Grand Total Score

A grand total score of over 20 indicates significant hyperventilation.
A grand total score of between 10 and 20 suggests mild hyperventilation.
If your score is under 10 your breathing may not be causing you any serious health problems. However with any score over zero you should do the other checks on your breathing.

Open Source

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Physiological Sigh

Both animal and human research have revealed important associations between **sighs and relief**.

The pain experience is highly connected to its **emotional context.**

Sighing appears to be a marker of **relief of tension**, perceived restlessness, negative affect, and **stress**

6-12/Hr

Sighs could be considered an **emotion regulation** mechanism

Vlemincx E, Abelson JL, Lehrer PM, Davenport PW, Van Diest I, Van den Bergh O. Respiratory variability and sighing: A psychophysiological reset model. Biol Psychol. 2013;93(1):24–32.

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Sigh of Relief

Consistent evidence supports the hypothesis that **sighs** operate as general **psychophysiological resetters** and serve regulatory functions

Vlemincx E, Abelson JL, Lehrer PM, Davenport PW, Van Diest I, Van den Bergh O. Respiratory variability and sighing: A psychophysiological reset model. Biol Psychol. 2013;93(1):24–32.

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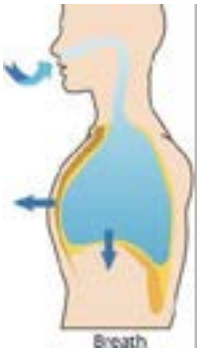
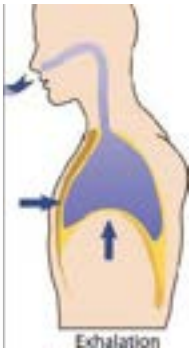
Physiological Sigh



Normal Inhale Via Nose **(3)**

Quick Sniff Via Nose (1)



Extended 'Sigh' Exhale with Pause Via Mouth (7)

Li, Peng & Yackle, Kevin. Quick Guide: Sighing. Current Biology 27, R83–R102, February 6, 2017

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Breath Stack

Position - Supine/Prone

Application:

- Frame the Target Area
- 2-3 Intentional Sighs/Minute:

i. **Normal Inhale** through nose
ii. **Short Sniff** (HyperInflation) through nose
iii. **Long Exhale** (Sigh) through open mouth

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Explore Movement

Explore

- Safe (Low Risk) Patterns
- Develop New Contingency Plans
- Reduce Threat

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Meaningful Movement

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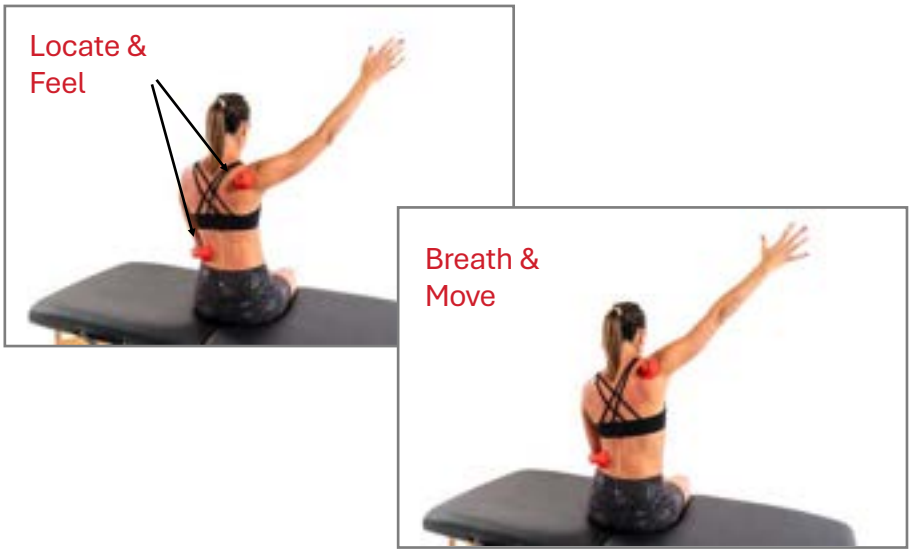
Movement Rehearsal



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THERAPEUTIC ADVANCEMENTS

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Gaining Attention

How do we acquire adoption?

- Play
- Reduce Friction
- Convenience
- Reward
- No Consequence
- Fresh Start Effect - Pivot their Identity
- Fun
- Autonomy

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Immersive Treatments

- **Virtual Reality (VR)** as a non-medical intervention for managing pain has been studied for over two decades
- The Reducept Method **trains the brain** to reduce pain
- VR technology enables users to **fully and harmlessly immerse** themselves into a **simulated 3D world** where users are **given multi-sensory stimuli**.

reducept

www.reducept.com

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Virtual Reality

reducept

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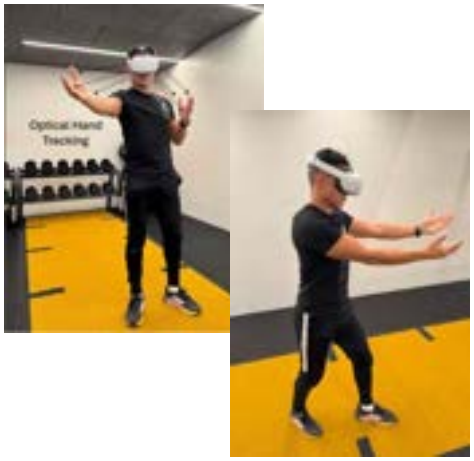
Immersive Environment



...and Nerves

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Immersive Treatments

A critical aspect of **VR is the Sense of Embodiment** (SoE).

- The **sense of agency** – control your own actions
- The **sense of self-location** – situated within a body
- The **sense of body ownership** - results from the integration of efferent and afferent information, creating the sensation that the body is the source of experienced sensations.

Wenk et al. **demonstrated that BOI (Body Ownership Illusion**) was **stronger** in an **immersive 3D** setting compared to a 2D setting.

Research by Chen et al. demonstrated that the **sensorimotor cortex (M1-S1) was significantly connected with the hippocampus** in long-term virtual conditions, a phenomenon not observed in real conditions.

This is notable as the **hippocampus** is involved in the transition of short-term to long-term **memory**, **decision-making**, and the **integration of sensory and motor information** during motor behavior

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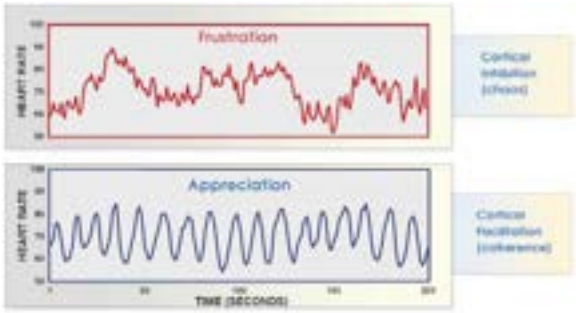
Real Time HRV



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Journaling/Mindfulness

- Fostering **awareness and acceptance**
- Awareness of the present - **Here and Now**
- Expression of emotions – **release negative emotions**
- Helping to **NOT react**
- Strengthening ability to **shift focus – positive affirmations**:
  - "I love and respect what my body is trying to tell me"
  - "I treat my body with kindness and compassion"
  - "My pain does not result in suffering"
  - "I actively use self-care to soothe me when I'm in pain"
  - "I breathe light into my pain"

Curable App

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Curiosity for the Win

Be an integrator vs. operator

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Q/A

Thank you

steve@rocktape.com

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