Phantom Limb Pain: An Energy/Trauma Model

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Lecture Outline

- History of phantom limb pain (PLP)
- Western allopathic approaches
- Mind/body approaches; GMI, mirror box
- Trauma, PTSD and PLP
- Energy therapies: TT, EFT
- Energy imaging in PLP
- Synthesis - it’s all about the energy
Learning Objectives

After this session, you will be able to:

• 1. Identify three energy-based treatments for PLP
• 2. Describe the link between trauma and PLP
• 3. Show the limitations of a brain-based model of PLP

Humans are multi-dimensional

• Body - biology, physiology
• Energy - not recognized (yet) by MDs
• Mind - thoughts and emotions
• Society - interconnections, roles
• Spirit - beliefs, non-local dimensions

The bio-psycho-social model is incomplete.
Treatments focused on each level

- Body - Rx’s, surgery/blocks, exercise, nutrition, herbs, manual Tx’s (CST, MFR, OMT)
- Energy - acupuncture, TT/Reiki, homeopathy
- Mind - psychotherapy, mind/body Tx (meditation, biofeedback, hypnosis)
- Society - milieu, friends, family, congregation
- Spirit - prayer (self and distant)

Allopathic vs. Integrative

**Allopathic**
- Pain is the enemy (ie, a “target” symptom).
- Suppress symptoms by any & all means.
- All explanations come from neuroanatomy.

**Integrative**
- Who is the person with pain?
- What information is the pain providing?
- How can the patient’s life be rebalanced?
Phantom Limb Pain

• **Incidence:** Amputation and SCI as cause; civilian, military.

• **Characteristics:** Phantom sensations in 60-80%, pain in 10-50% (less with children, congenital; more if pre-op pain)
  Any organ (limb, tooth, breast, eye, etc.). Burning, stinging, cramping; very realistic (can try to reach or stand up).
  Intermittent, distal, gradually disappears; telescoping

• **Treatments:** medications, surgery (peri-op epidural to prevent), blocks, ablation.

• **Outcomes:** “Most currently available treatments for phantom limb pain, which range from analgesic and antidepressant medication to stimulation, are ineffective” (Flor, 2006)

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Captain Ahab and the Carpenter: *Moby Dick* (Chap. 108)

• Carpenter: “I have heard something curious on that score, sir; how that a dismasted man never entirely loses the feeling of his old spar, but it will be still pricking him at times.”

• Ahab: “Look, put thy live leg here in the place where mine once was; so, now, here is only one distinct leg to the eye yet two to the soul. Where thou feelest tingling life; there, exactly there, there to a hair, do I. Is’t a riddle?”
Integrative Approaches to PLP

- Psychotherapy and hypnosis
- Biofeedback
- Mirror Box
- Therapeutic Touch
- Energy Psychology

Treatment of phantom limb pain with combined EMG and thermal biofeedback: a case report

Belleggia G, Birbaumer N. Department of General Psychology, University of Padua, Italy.

Phantom pain is a frequent consequence of the amputation of an extremity and causes considerable discomfort and disruption of daily activities. This study describes a patient with extreme phantom limb pain following amputation of the right upper limb. The treatment consisted of 6 sessions of EMG biofeedback followed by 6 sessions of temperature biofeedback. The patient did not use a prosthesis and had not received previous treatment for chronic pain. Results demonstrated complete elimination of phantom limb pain after treatment, which was maintained at a 3- and 12-month follow-up. Pain relief covaried with increase in skin temperature at stump and perceptual telescoping (retraction of phantom limb into stump).

Hypnosis


A burning issue: Phantom limb pain and psychological preparation of the patient for amputation.


Fantasies concerning an amputated limb can contribute to the occurrence of persistent phantom limb pain. We report a case in which burning pain perceived as located in the amputated lower extremities was related to the patient's feelings about incineration of the removed limbs against her wishes. Hypnotherapy involving elucidation of the fantasy and suggestion was successfully employed in this case and may be a helpful approach in other such cases. Importantly, adequate preparation of the patient for amputation, including an awareness of concerns about the disposition of the limb, may help prevent pathological limb sensations.
Synaesthesia in phantom limbs induced with mirrors. 
Ramachandran VS, Rogers-Ramachandran D. 

Immersive virtual reality as a rehabilitative technology for phantom limb experience: a protocol. 
Murray CD, Patchick E, Pettifer S, Caillette F, Howard T. 

Phantom movements and pain. An fMRI study in upper limb amputees. 
Lotze M, Flor H, Grodd W, Larbig W, Birbaumer N. 

Graded Motor Imagery 
(2 wks/phase, 10’/waking hour)

- Laterality recognition training (pre-motor cortex) 
  Indicate laterality of photo of R/L limb
- Imagined movements (motor cortex) 
  Imagine assuming the posture of limb in photo
- Mirror therapy (sensory cortex: not all movt=pain) 
  Assume postures and movements in both limbs

TT and Osteoarthritis

Single blind, controlled, randomized study.
Population: 31 outpts with knee OA, 65ish, f>>m.
Three groups: TT, mock TT, no treatment.
Measures: pain(VAS); level of function; well-being.
Results: decreased pain, increased function
on 9 of 13 outcome measures.


Therapeutic touch stimulates the proliferation of human cells in culture.

A specific pattern of TT treatment produced a significant increase in proliferation of fibro-blasts, osteoblasts, and tenocytes in culture. Therefore, TT may affect normal cells by stimulating cell proliferation.

Gronowicz GA, Jhaveri A, Clarke LW, Aronow MS.
Phantom Limb Pain and Therapeutic Touch - Case Example

- Jim was a 35 y/o cargo loader who had a BKA after LE crush injury. Minimal response to team rehab approach, with 7-8/10 pain on VAS and significant depression, despite opiates + SSRI.
- Important aspects of TT trial:
  - Therapist could sense phantom limb.
  - Patient could sense therapist’s hand over limb.
  - Unwillingness to let pain “drain away”: (existential meaning/benefit of pain).

Martha P.

- 57 y/o woman, work injury with X-Acto knife, wound abcess, osteomyelitis, severe pain, amputation.
- Primary stressor - Case Mgt denied claims.
- Emotional issues - shame about stump, avoided socialization, etc. BDI=20/63
- WHEE x2-> release of emotions, end of pain
Imaging the Phantom Limb

- Kirlian Photography
- GDV (Korotkov)
- PIP (Oldfield)
- IGA (Kravchenko)
- ESP (Psychic perception)

Proposed EFT/PLP Study
(unfunded)

- Hypothesis - PLP is a form of PTSD
- Study type - randomized, single blind, controlled
- Patient group - 6 SRH outpts, no psych Dx’s
- Treatment - 3x45’ sessions of EFT
- Control - 6 wait-list outpts
- Measures - pre/post VAS, IES, SF-12; 1 mo. f/u fMRI (amygdala)
- Limitations - small size, MD bias, no dismantling
- Funding - HMS Catalyst?