Pain and Anxiety Self Regulation: Strategies & Application

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The mechanism of action underlying the use of MBTs is grounded in the scientific field of psychoneuroimmunology (PNI).

PNI sees the body as a complex integrated circuit of communication between the brain, immune, endocrine, and cardiovascular systems. Since receptors for neurotransmitters of our experiences—thoughts, perceptions, and emotions, are found in nerve endings and cells throughout our body, we experience the effects of our mind throughout our physiology.
Stress Response

Internal communication network (HPA axis & autonomic nervous system) adjust to the challenge by activating and releasing hormones.
Stress Response

- Adrenaline and cortisol produce changes:
  - +cholesterol & fatty acids in blood for energy production systems
  - +blood pressure, +localized inflammation (redness, swelling, heat, pain)
  - +metabolism (faster heart rate, resp rate)
  - -protein synthesis; intestinal movement
  - - immune system
Stress Response

- Stress response allows body to rev to escape or master source of stress, but body becomes seriously compromised when stress response repeatedly switched on from exposure to stressors.
- Previous set point for coping is increasingly elevated and ability to adjust, regulate and shut off stress response becomes more difficult: Allostatic Load.
The Loop of Pain

- Chronic pain threatens the organism
- Produces cascade of events that eventually contributes to maintaining the experience of pain
- Results in allostasis – the organism attempting to “right itself” to return to homeostasis
- “Allostatic Load” inability to shut off “Stress response”
Particular to Pain
(S. Levine)

- Physical sensation called “pain” followed by mental response: aversion, repulsion
- Most of what we call pain is actually our experience of resistance to the phenomenon
- Resistance fuels pain/discomfort
- Discomfort we call “pain” is multi-faceted
Predominant Emotions of Pain

- Anxiety
- Depression
- Anger
Anxiety

- Trauma often a component of original injury
- Unexplained symptoms increases anxiety
- Anxious about the future
- Vigilant for any noxious stimulation – fear of inciting more pain – harm avoidance
- Fear of movement exacerbates pain
40 – 50% of chronic pain sufferers have depressive disorders

“Chicken or Egg?” Appear to exist in mutually reinforcing relationship

Two factors appear to mediate relationship
  - Pt’s appraisal of pain’s effects on life
  - Pt’s appraisal of ability to exert any control over pain and life
Anger

- Persistence of symptoms, limited info on etiology, repeated treatment failures, anger toward others: employer, insurers, health care system, family
- Internalization of anger strongly related to measures of pain intensity, perceived interference, and frequency of pain behaviors
- Correlations between pain & anger significant, but, again, cause and effect not clear
Pain & Cognitive Factors

• “There is nothing either bad or good but thinking makes it so” Epictetus
• Appraisal and Beliefs
• Catastrophizing & Fear-Avoidance Beliefs
• Perceived Control & Self-Efficacy
Appraisal and Beliefs

• A & B about pain have strong impact on one’s affective and behavioral response

• Pain associated with cancer consistently rated more unpleasant than labor pain, even when intensity rated same

• Maladaptive pain beliefs  PAIN:
  – is a signal of damage, activity to be avoided, leads to disability, is uncontrollable, is permanent
Catrastrophizing & Fear-Avoidance Beliefs

- Associated with increased pain, increased illness behavior, and physical and psychological dysfunction
- Evidence to suggest that fear-avoidance beliefs of healthcare providers related to their recommendations for engaging in physical activities
Perceived Control & Self-Efficacy

• You so already know all about this!
Tool: Breath

- Inhale through nose (parasympathetic nervous system)
- Be sure to exhale
- Engage diaphragm muscle
- Soften shoulders, hands, face
- Observe the breath moving throughout your body
Beathing Techniques

• Counting
• Blowing Out the Candles
• Alternate Nostril
• Pranayama
• Ujjayi
Tool: Sense of Touch

- Physiological response to tactile stimulation
- Stone/Bead
- “Blankie”
- “Touchstone” (infused object)
- Word or Message in Pocket
Tool: Self-Talk

- Soothing/Acknowledging Inner Critic
- “Name” in order to “Reclaim Control”
- Mind Lacks Filters for Negative
  - Don’t
  - Quit
  - Stop
Tool: Self-Talk

• “Take a few full, easy breaths.”
• “Let it go. Soften. Easy.”
• “This is just fear. Of course I’m scared. I have reasons to be fearful. Now, what do I want to do in this moment?”
• “I can control how I respond to this or any other moment.”
Self-Talk - Continued

- “I can release this tension and fear of the moment to allow calm to be present.”
- “I can ask questions and be open to receive answers.”
Tool: Movement

• Tendency may be to restrict movement
• Walk
• Change rooms/change chairs
• Yoga/ Tai Chi/ Qigong
• Change your perspective, change your experience
Tool: Imagination

• Leapin’ Lemons, Batman!
Guided Imagery
Physiology of Imagination

- Decreased levels of circulating stress hormones (Walton et al, 1995; MacLean et al, 1997; Jin, 1992; Sudsuang et al 1991)
- Decrease in blood pressure (Sudsuang et al, 1991; Schneider et al, 1995)
- Decrease in blood glucose levels (Richard et al, 2002; Chaiopanont, 2008; McGinnis et al, 2005)
- Decreased rate of oxygen consumption (Travis & Wallace, 1997)
- Decreased severity of headaches (Astin et al, 2003)
Guided Imagery

Physiology of Imagination

- Enhances sleep (Astin et al, 2003)
- Decreases pain (Kabat-Zinn et al, 1986)
- Lessen side effects (n & v) (Astin et al, 2003)
- Boost immune system (Henderson, 1989; Solberg et al, 1995, Cresswell, 2008)
- Decrease blood loss during surgery (Astin et al, 2003)
- Decreased length of hospitalization (Montgomery et al, 1997; Halpin et al, 2002)
Guided Imagery

Psychological Benefits

• Lowered levels of anxiety and stress
  – Increase in serotonin levels
• Less substance abuse
• Better overall psychological health
• Enhanced sense of self-confidence

(Speca et al, 2000)
Guided Imagery
Subjective Benefits

- Personal transcendence
- Equanimity
- Tranquility
- “Relaxation Response” (Herbert Benson)
Guided Imagery

• A mind-body intervention aimed at:
  – Easing stress
  – Promoting sense of peace, tranquility
  – Changing Physiology
Guided Imagery

• Mind-body connection

• Taking conscious control over imagination and guiding it in desired direction

• Intentional generation of mental images to evoke a psychophysiological state of relaxation or a specific outcome
Guided Imagery

- Ancient
- Spiritual
- Athletic
- Wholistic/Wellness
- Clinical
How Does it Work? (Naparstek)

- The Mind-Body Connection
  - to the body, images created in the mind can be almost as real as actual, external events
  - Senses are stimulated
  - Sensory images are “body language”
How Does it Work?

• The Altered (Relaxed) State
  – Brainwave activity & biochemistry shift
  – Relaxed Focus
  – Capable of more rapid & intense healing, growth, learning & performance
  – Altered state is power cell of guided imagery
How Does it Work?

• Locus of Control Factor
  – When we have a sense of being in control, that, in & of itself, can help us feel better and do better
  – Guided imagery is an internally driven activity that user decides when, where and how and if it’s applied
Some Indicators for Guided Imagery

- Grief
- N/V
- Depression
- Pain
- Difficulty with concentration/organization
- Chronic illness
- Anxiety/PTSD
Images: Limbic Formation

- Primitive brain attuned to signs of danger
- Amygdala instantly activated when sensing danger – overrides neocortex
- Biochemical cascade:
  - Fight
  - Flight
  - Freeze
Right Hemisphere is Portal for Images

Left Hemisphere
- Thinking
- Analytical
- Linear
- Logical
- Judging

Right Hemisphere
- Sensing
- Perceiving
- Feeling
- Apprehending
- Empathizing
Imagery: Giving the Judge the Slip

- Sidesteps the logical, analytic centers of brain
- Bypass psych resistance, fear, hopelessness, worry and doubt
- Grab foothold on attitude & self-esteem

(Naparstek)
Getting Started: Induction

- Relaxation (achieving altered state)

- Breathing
  - Hand on abdomen, visualize breathing in & out of belly button
  - Breath slowly, smoothly
  - Cooling/warming breath in, tension out
More Relaxation Techniques

- Sigh
- Hum
- Systematic relaxation of muscle groups/Progressive muscle relaxation
- Elevator/Stairs
Naparstek’s 10 Ingredients for Comprehensive Healing

1. Regular check-in with therapist/counselor
2. Support/therapy group
3. Education/cognitive information
4. Consideration of Meds
5. Form of regular prayer/symbolic ritual
6. Skills development for regular relaxation, attunement, self-soothing practice, e.g. GI
Naparstek’s 10 Ingredients for Comprehensive Healing - continued

7. Physical exercise or moving meditation

8. Bodywork: Massage, Myofascial Release, Craniosacral Therapy, Reiki, Polarity, etc.

9. Expressive practice: journaling, dance, poetry, artwork, singing

10. Guided imagery as stand-alone or part of “alphabet” therapy
I don't know... sometimes I question whether there really is a hand.
Names to Know and Read

- David S. Sobel, MD
- Martin Rossman, MD
- David Bressler
- Peter Gruber
- James Gordon, MD
- Kenneth R. Pelletier, PhD, MD
Names to Know and Read

- C. Norman Shealy, MD
- Belleruth Naparstek, MSW
- Larry Dossey, MD
- Barbara Dossey
- Jon Kabat-Zin