

Training the Brain to Heal Painful Habits

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Objectives

- ▶ Explain how stress, trauma, and pain affect our brains and nervous system
- ▶ Describe consequences of these physiological changes
- ▶ Experience brain exercises and therapeutic approaches that heal and restore the whole self

But wait, there's more!

Do you dream of a better life?

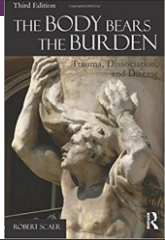
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Let's start with a stretch!

- ▶ Yogis call it "tadasana" = Mindful standing pose
- ▶ What you should know about **Power Poses** (see research by Amy Cuddy)
- ▶ Open the chest to help your body breathe
- ▶ Diaphragmatic breathing – allow the exhalation to be longer than the inhalation
- ▶ Helpful inversion poses – legs above the heart

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Trauma and Dis-ease of the Body




Includes secondary trauma (i.e. Mirror Neurons)


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Shifting Perspectives

Descartes' Pain Model



Present-Day Pain Model




Separateness ----- Togetherness

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So...

What's happening up there?



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Hardware Matters

Areas of Brain that Change with Stress:

- ▶ Amygdala
- ▶ Hippocampus
- ▶ Anterior Cingulate Cortex
- ▶ Cerebral Cortex
- ▶ Hypothalamus
- ▶ Thalamus
- ▶ Limbic System
- ▶ Insula
- ▶ Orbital Frontal Cortex

Keep in mind:

- ▶ All involved in perception of nociception
- ▶ All change shape and function within 10-14 days of chronic stress/trauma/pain
- ▶ Talk therapy can't access or rehab all parts
- ▶ **Mindfulness-Based Stress Reduction (MBSR) restores majority of brain's hardware and function***

***20 minutes per day for 14-30 days**

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Effects of these hardware changes:

- executive functions
- focus
- perception
- inhibition
- sleep
- working memory
- short- & long-term memory
- Anxiety & depression

↑ **ANS**

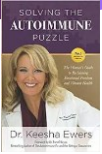

Autonomic Nervous System

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↑ ANS = ↓ Immune System

Long-term:

- ▶ Chronic Pain
- ▶ Anxiety/ Panic Disorders
- ▶ Autoimmune Diseases
- ▶ Increased Inflammatory Response
- ▶ Post-Traumatic Stress Disorder (PTSD)
- ▶ Need for immediate gratification = increased risk of unhealthy habit formation

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Signs to look for in Trauma

- ▶ Anger
- ▶ Aggressiveness
- ▶ Defensiveness
- ▶ Reactive
- ▶ Impulsive
- ▶ Poor focus/attention
- ▶ Sleep disturbances
- ▶ Bossy/ need for control
- ▶ Tantrums
- ▶ Hitting
- ▶ Fidgety
- ▶ Hyperactive
- ▶ Anxiety
- ▶ Irritability
- ▶ Delays in reaching physical, language, or other developmental milestones

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Signs of Secondary Trauma

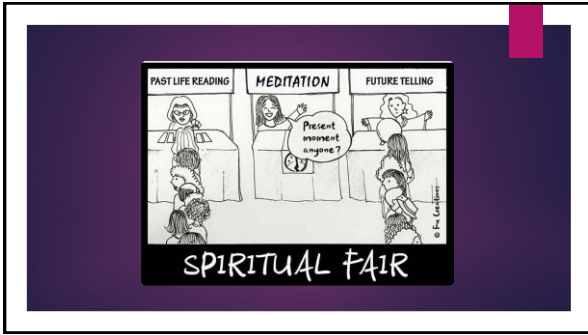
- ▶ Fear
- ▶ Guilt
- ▶ Sense of persecution
- ▶ Anger and cynicism
- ▶ Inability to empathize/numbing
- ▶ Addictions
- ▶ Grandiosity: an inflated sense of importance related to one's work
- ▶ Feeling helpless and hopeless
- ▶ Dissociative moments
- ▶ Inability to listen/ deliberate avoidance
- ▶ Chronic exhaustion/ physical ailments
- ▶ Minimizing
- ▶ Inability to embrace complexity
- ▶ Diminished creativity
- ▶ Hypervigilance
- ▶ A sense that one can never do enough

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Silver Lining?

"Although firsthand experience with trauma leads to personal suffering, it can be sublimated into social or artistic action and thus can serve as a powerful agent for social change."
 - Bessel A. van der Kolk, trauma specialist

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**Mindfulness:
The Compassionate Choice**

- ▶ Heals the physiological changes in the brain from chronic stress, trauma, and pain
- ▶ The practice of coming into the present moment as the observer, with a compassionate intention

"If your compassion does not include yourself, it is incomplete"

-Jack Kornfield, American Buddhist monk and educator



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Cognitive-Behavioral Therapy vs. Mindfulness

- ▶ Most training programs continue to teach Cognitive-Behavioral Therapy as the leading behavioral treatment for chronic pain patients.
- ▶ Unfortunately, high relapse rates
- ▶ WHY?... because hardware matters!
- ▶ Must heal the brain's hardware, then update the software

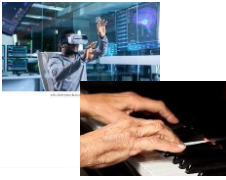
▶ **Current Best Practice Treatment =**
Mindfulness-Based Cognitive Therapy + Trauma Treatment (i.e. EFT and EMDR)

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Brain Software

- ▶ Increase Knowledge and understanding of physiological processes and status
- ▶ Increase positive thinking → hopeful thoughts
 - ▶ "Mind the (belief) gap"
 - ▶ Use Socratic logic
 - ▶ Positivity ratio* = 3:1
- ▶ Mind helps guide neural connections
- ▶ 1st: **Need to shift ANS to parasympathetic state**

*Psychologist Barbara Fredrickson's research



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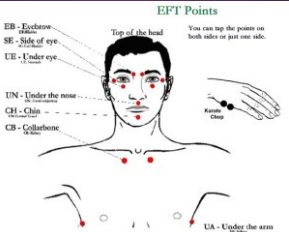
ANS Self-Regulation Techniques

- ▶ Emotional Freedom Techniques (EFT)
 - ▶ Bilateral stimulation on stress-reduction points on the body moves ANS from sympathetic into parasympathetic mode; also "neutralizes" trauma triggers
- ▶ Breath Work
 - ▶ Deep, slow inhalations and exhalations calm ANS and release tension in the pelvic floor
- ▶ Mental Reframing
 - ▶ Active, present tense, positive, informed statements
 - ▶ "I am healing."
 - ▶ "Improvement is possible"

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Emotional Freedom Techniques

EFT Points



Tip of the head You can tap the points on both sides or just one side.

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Brain Hardware Restoration = MBSR

- ▶ Mindfulness = Physical Therapy for the Brain's Hardware
 - What is Mindfulness?
- ▶ Mindfulness is about perception, and perception is everything when it comes to a brain in pain.
- ▶ Mindfulness = Attention to the present moment as a non-judgmental observer
 - ▶ Active MBSR
 - ▶ Meditative MBSR

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Active Mindfulness

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Active Mindfulness

▶ Breath work/ Singing	▶ Mindful Exercise** i.e. dancing
▶ Progressive Muscle Relaxation	▶ Playing an instrument
▶ Mindful Eating & Drinking*	▶ Playing ping-pong
▶ "I spy" with all senses	▶ "Red light/ Green light" game
▶ Yoga	▶ "Simon Says" game
▶ Swimming	▶ Brushing teeth (or any safe activity) with non-dominant hand
▶ Reading	▶ Walking (super) slowly
▶ Art	

* If your lips are dry, chances are you are already about a liter behind.
 ** It seems that in order to get the anti-inflammatory and neuro-regenerative benefits of exercise, you have to actually pay attention to what you are doing.

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Favorite Facts:

- ▶ Mindful exercise (dancing & yoga) elevates levels of BDNF* and increases brain volume
- ▶ Relapse of anxiety and depression symptoms decreases from 65% to 10-30%
- ▶ 85% PTSD remained in remission after 30-minutes of EFT
- ▶ MBSR changes brain function, immune function, and ANS regulation

*Brain-derived neurotrophic factor (BDNF) is the molecule that jump-starts the neuroplasticity, or the formation of new neurons in the brain and lowers inflammation. (Reihman, 2018)

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Meditative Mindfulness

- ▶ Body Scan & Guided Visualizations
 - ▶ "Guided Meditations for Mindful Living" audio CD by Alex Millsap
 - ▶ "Guided Meditations for 4-D Healing" – audio CD by Alex Millsap
- ▶ Apps for smartphones and tablets:
 - ▶ "Headspace" - MBSR
 - ▶ "Calm" - MBSR
 - ▶ "Recognise" – recognition exercises
 - ▶ "Lumosity" – concentration and memory exercises
 - ▶ Nick Ortner's new EFT Meridian Tapping app

MBSR Research mostly based on body scan and guided visualization exercises.

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Mindfulness: The Ethical Choice

- Improves provider's presence with patients
- Improves provider's ability to assimilate information and see the "bigger picture"
- Improves provider's ability to retain information and remember all options available for treatment
- Heals and prevents provider burnout (more on this later)

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Eye-Gazing with intention

"It is an absolute human certainty that no one can know his own beauty or perceive a sense of his own worth until it has been reflected back to him in the mirror of another loving, caring human being." –John Joseph Powell, *The Secret of Staying in Love*

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Research and Instructional Books

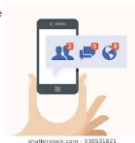
- ▶ "Explain Pain Supercharged" by Lorimer Moseley and David Butler
- ▶ "Painful Yams" by Lorimer Moseley
- ▶ "Graded Motor Imagery" by Lorimer Moseley and Adrian Louw
- ▶ "The Divided Mind" and "The Mindbody Prescription" by John Sarno, MD
- ▶ "The Body Bears the Burden" by Robert Scaer
- ▶ "Training the Brain to Heal Painful Habits" training by PESI
- ▶ "The Mindful Way Workbook" by Segal et al
- ▶ "Fully Present" by Susan Smalley and Diana Winston
- ▶ "Mind in the Making" by Ellen Galinsky
- ▶ "28 Days to Ecstasy" by Copeland and Link



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Helpful To-Do's

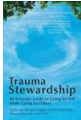
- ▶ Turn off notifications on phone, tablet, computer
 - ▶ Check messages on your schedule, not the world's
- ▶ 60 seconds every hour – "I spy" with all senses and breathe
- ▶ Eye gazing and harmonized breathing
- ▶ 20 minutes of MBSR daily
- ▶ Eat at least 1 bite per meal mindfully
- ▶ EFT before MBSR and as needed
- ▶ Decrease caffeine



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More Ideas on Preventing Burn-Out

- ▶ Emotional Freedom Techniques (EFT)
- ▶ Create an intention for the day
- ▶ Gratitude
- ▶ Each time your phone rings, take a full inhale and exhale before you pick up.
- ▶ Identify one thing that you would love to incorporate into your workday but are certain you could not. Now try everything in your power to make that aspiration a reality.
- ▶ Plan your days off NOW.
- ▶ Return your awareness to family and sensations
- ▶ Compassion
- ▶ What is your Plan B? If it feels better than what is now...why aren't you working towards it?
- ▶ BUILD YOUR "A" TEAM!



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In Summary...

- ▶ "A Very Happy Brain" by Dr. Sood on youtube.com
- ▶ "Meditation 2.0" by Dr. Sood on youtube.com

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Thank you!

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