

Mindfulness and TBI: Reducing Stress
and Enhancing Health-Related Quality of
Life (HRQL)

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Disclosures

- We have no disclosures

About the Presenters

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Objectives

- 1) Define mindfulness and discuss the use of mindfulness as a skill that can benefit patients, family members, and health care professionals
- 2) Review literature and scientific evidence regarding recent advances of mindfulness based interventions to enhance Health-Related Quality of Life (HRQL) variables among individuals who have experienced TBI.
- 3) Introduction and practice of mindfulness based interventions. Attendees will be exposed to and practice several experiential exercises to build mindfulness skills.

Let's relax and be mindful.....



Surge in Mindfulness

- It's a hot topic
- Mindfulness in businesses (Sutcliffe et al., 2016)
- Mindfulness in schools (Zenner et al., 2014)
- Mindfulness for physical and mental health (Segal, Williams, & Teasdale, 2013)
- Many treatments are incorporating mindfulness interventions
 - ACT (Hays & Wilson, 1994)
 - DBT (Linehan, 1993)
- A mindfulness framework can be used to help with management of residual symptoms stemming from TBI (Bedard et al., 2013)



Daily Stressors

- We are always thinking
- Thinking about the future
 - What could or may happen?
 - Leads to **anxiety**
- Thinking about the past
 - What could I have done differently?
 - Leads to **depression**
- We have a hard time being in the “present” moment
- How often do we stop and “smell the roses?”
- Our thinking tends to be automatic



Mindfulness Defined

- “Capacity to openly attend, with awareness, to what is happening in one’s present-moment experience”
 - Taking notice of experience
 - Inviting experience
 - Acceptance
- Mindfulness can be used as an “umbrella term”
 - A collection of practices and personal values that enable one to live mindfully; e.g., awareness meditations, body scan, walking meditations, yoga, psychosocial support by group members

(Jon Kabat-Zinn , 1993)

Facets of Mindfulness

- **“Focused-attention”**
 - Directing and sustaining of attention on a selected object (e.g., breath sensations); also detecting mind-wandering
 - Disengage attention from the distraction and move back to the focus object
- **“Open-monitoring”**
 - No focus on objects, maintaining an alert “openness” to whatever arises in the mental continuum
 - “Meta-awareness”

(e.g., Luts et al., 2008)

Mindfulness Interventions

- **Mindfulness-based stress reduction** (MBSR; Kabat-Zinn, 1982)
- **Mindfulness-based cognitive therapy** (MBCT; Segal, Williams, & Teasdale, 2013)

Empirical Support for MBSR for Mental Health Conditions

- **Depression** (current and risk for relapse)
 - (Hoffmann et al., 2010; Piet & Hougaard)
- **Anxiety** (Hoffmann et al., 2010)
- **Rumination** (Anderson et al., 2007)
- **General psychological stress** (Branstrom et al., 2010)
- **Post-traumatic stress symptoms** (Branstrom et al., 2010)
- **Enhance sense to spirituality** (Shapiro et al., 1998)
- **Forgiveness** (Oman et al., 2008)
- **Self-Compassion** (Shapiro et al., 2005)

Empirical Support for MBSR for Medical Conditions

- **Breast Cancer** (Cramer et al., 2012)
- **Pain conditions** (Rosenzweig et al., 2010)
- **Chronic medical diseases** (Bohlmeijer et al., 2010)
- **Fibromyalgia** (Lash et al., 2009)
- **Rheumatoid arthritis** (Pradhan et al., 2007)
- **Type 2 diabetes** (Rosenzweig et al., 2007)
- **Cardiovascular diagnoses** (Tacon et al., 2003)

Mechanisms Underlying Mindfulness Interventions

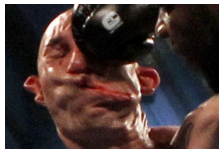
- Reduce rumination & Worry
- Increase self-compassion
- Enhance psychological flexibility
- Enhance affect regulation
- Decrease cognitive reactivity
(Gu et al., 2015)
- Increase subjective well-being
- Reduced psychological symptoms
- Reduced emotional reactivity
- Improved behavioral Regulation
(Shian-Ling et al., 2011)

Systems in the body can become out of balance when we experience stress, pain, or trauma



Traumatic Brain Injury/Postconcussive Syndrome

- 2% Americans deal with some TBI, mostly mild
- Axonal injury – Contact and inertial forces
- Effects:
 - Cognitive – Memory, Executive functioning
 - Physical – Headache, cognitive fatigue
 - Psychiatric – Anxiety, depression, emotional lability
- Physiology:
 - Mesial structures and deeper structures more vulnerable, interface between grey and white matter (frontal cortex, hippocampus, etc)



(Mcallister, 2011)

Physiological and Neurobiological Effects of Mindfulness

- MBSR, MBCT, Vipassana, Zen
- Meditation:
 - Increased Alpha and Theta EEG activity
 - Anterior cingulate cortex, prefrontal cortex
- MBSR – Improved emotional functioning and attention
- MBCT – Reduced incidence of depression (associated w/ better outcomes overall)
- (Chiesa, 2010)

Physiological and Neurobiological Effects of Mindfulness

- Cingulate gyrus – Increased density (Holzel, 2011)
- Associated with introspection and compassion



Physiological and Neurobiological Effects of Mindfulness

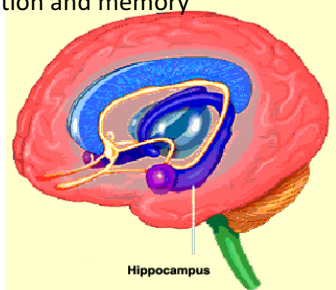
- Amygdala – Decreased density



- Associated with stress and anxiety

Physiological and Neurobiological Effects of Mindfulness

Hippocampus – Increased density associated
with emotion and memory



Mindfulness and TBI

- Improvements in subjective Quality of Life, Self-efficacy, and objective memory and attention with MBSR (Azulay, 2013)
- Reduced cortical fatigue (Johansson 2012)
- Reduced depression with MBCT (Bedard, 2012)
 - Depression associated with worsened global outcomes

My Experience

- University of Iowa MBSR 8 week course 2016
 - Bev Klug, LMFA, MA

Anxiety, Depression, Concentration, Attention

- Discipline, not revelation
- Reduced automaticity, improved flexibility

Balance.....Mindfulness Exercise



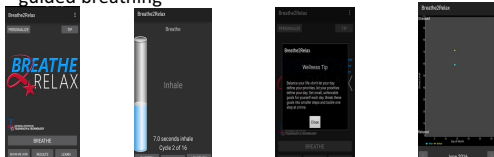
<https://pinterest.com/en/stacking-stones-balance-relax-stone-667432/>

Mindfulness Resources

- Free Mindfulness Downloads
 - <http://www.freemindfulness.org/download>
- Mindfulness Resources
 - <https://health.ucsd.edu/specialties/mindfulness/resources/Pages/default.aspx>
- University of Iowa Mindfulness Program
 - <https://uihc.org/mindfulness-programs>
- Mindfulness Apps
 - <http://www.healthline.com/health/mental-health/top-meditation-iphone-android-apps#1>

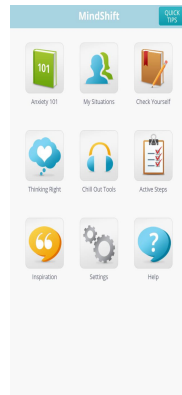
Breathe2Relax (App)

- This is a guided breathing app that has some options for personalization and tracks your stress level before and after use.
- Pros: clear instructions, option for personalization, wellness tip, stress tracker, and educational tools
- Cons: audio cuts out, constant verbal instruction during guided breathing



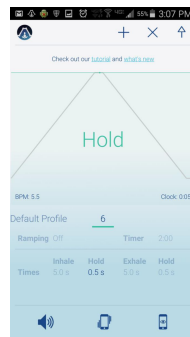
MindShift(App)

- Mindfulness exercises geared towards relaxation and anxiety reduction
- Attempts to change ways of thinking about anxiety and uses a proactive approach
- Pros: customizable, lots of exercises, measures different types of anxiety
- Cons: geared towards teens and young adults

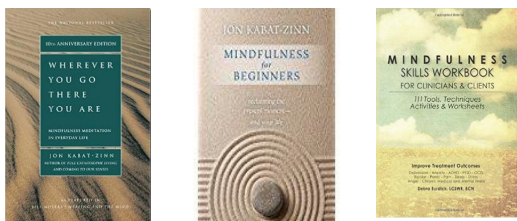


Paced Breathing (App)

- Breathing app that allows the user to customize a specific Breath rate
- Pros:
 - Nice breath pacer
 - User Friendly
- Cons:
 - Sound is high-pitched



Mindfulness Books



Recommendations and Final Thoughts

- Practice mindfulness exercises daily
 - Make your practice a part of your daily routine
- Make mindfulness a priority in your life
- Find a provider that specializes in mindfulness
- Empower yourself and take control of your thoughts, emotions, and behaviors

Questions/Contact Information

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