Integrative Healing Modalities After Brain Injury

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Learning Objectives

- Participants will develop an understanding of the impact of brain injury on emotional and behavioral functioning.
- Participants will learn about the current literature for the use of complementary and integrative medicine for traumatic brain injury survivors.
- Participants will practice at least three different healing modalities to use with TBI survivors.
- Participants will learn how to modify healing modalities for TBI survivors and integrate them into treatment plans.
Mindfulness Practice: Savoring
Savoring is the awareness of pleasure as it occurs and deliberate conscious attention to the experience of pleasure.

Appreciating the pleasures of life helps build happiness, and this practice is in sharp contrast to grasping for pleasure, always reaching for the next better thing to come along.

Savoring is believed to not just maximize positive emotions but to help overcome the built-in survival mechanism called the negativity bias.

Garland et al 2014
Mindfulness Practice: Savoring

- Stay focused on a single-task and stay aware of stimulation (too much stimulation dilutes the ability to enjoy or focus)
- Slow down - (time affluence predicts happiness better than monetary affluence)
- Pay attention to the rewarding aspects of the experience (like how good a hug feels from someone you love)
- Use all of your senses and your emotions, too, in savoring pleasures
- Share the moment when you can, as this enhances your own pleasure
- Stretch out the experience for as long as you can
- Reflect on your enjoyment
- Be active in planning and trying new activities to help avoid habituation
- Build memories of past savoring events by mental photographs or physical souvenirs and reminisce about them later with others
Brain injury is a major public health problem in the United States.

According to the CDC (2010), there are approximately 2.5 million new TBI’s each year and the rates continue to go up since 2001.

It is known as the “silent epidemic” because many of the problems that result from TBI are not immediately apparent.

TBI often results in impairments physical, cognitive, behavioral, and emotional/psychiatric functioning.

Many individuals with a traumatic brain injury have some type of ongoing physical, cognitive, and psychological impairment even when they have had a good recovery from their injury.

The development of psychological impairment is one of the best predictors of overall post-injury adjustment, even 10 years post-injury.

Other factors including mental fatigue and chronic pain which can impact individuals with traumatic brain injury which can cause irritability, sensitivity to stress, concentration difficulties, and emotional instability.

(Johansson, Bjuhr, & Ronnback, 2012)
Research has shown that patients with TBI are at an increased risk for certain psychiatric disorders:

- Depression
- Generalized Anxiety
- Bipolar Disorder
- Panic Disorder
- Obsessive Compulsive Disorder (OCD)
- Post-Traumatic Stress Disorder
- Schizophrenia
- Personality Disorders

Silver et al, 2001, Brain Injury, 15 (11)
There are many factors that play a role in developing psychiatric disorders following TBI.

**Premorbid Symptoms**
- Individualized factors: losses, survivor guilt, marital discord, poor relationships, history of problems at work, financial instability

**Injury Location**

**Injury Severity**
- **MILD**: GCS 13-15
- **MODERATE**: GCS 9-12
- **SEVERE**: GCS 3-8
Psychiatric conditions may arise from primary or secondary injury to brain tissue.

General tissue injury linked to chronic neurobehavioral problems

Disturbances in neurotransmitters (serotonin, glutamate, dopamine) can also create psychiatric symptoms and have been found in TBI patients

Fann et al, 2009
Other Factors Related to Development of Psychiatric Symptoms

- TBI can lead to isolation
- Increase in care needs
- Restricted socialization opportunities
- Alternate employment or unemployment
- These multiple factors contribute to individuals’ ability to cope, and place them at risk for further complications and hardships in addition to the TBI and psychiatric symptoms.
Depression following TBI

- Mood disorders after TBI is the most common psychiatric illness.
- Major Depressive Disorder (MDD) appears to be the most prevalent of the mood disorders.
- Prevalence of depression following TBI ranges from 30%-60%.
- The risk of depression following TBI increases over time. About half of all people suffering TBI are affected by depression with the first year. Nearly two-thirds are affected within seven years after injury.
- Patients with TBI have recurrent depressive disorder throughout their lifetime at a significantly higher frequency than comparable patients without a TBI.

Osborne et al, 2014
Depression is probably the best predictor of psychosocial adjustment to post-injury, even up to 10 years following a TBI.

Higher levels of depression are linked with poorer outcomes with health, productivity, and quality of life.

Depression can slow down the pace of cognitive recovery and decrease ability to complete activities of daily living.

Depressed TBI patients report more post-concussive symptoms including headache, blurred vision, dizziness, and memory impairment.

Social isolation is common due to difficulty remaining employed, problems with social relationships, and difficulty fulfilling many other social roles.

Depression also places the person at an increased risk for other psychiatric disorders including substance use, suicidal ideation, and can lead to risk for psychiatric hospitalization.

Haagsma et al, 2015
Depression and TBI

Suicide and TBI

- 17% of the individuals with TBI report suicidal thoughts, plans and attempts in a five year post injury period (Teasdale, 2000).
- Majority of the individuals with suicidal thoughts/plans/attempts are male, with ages 25-35 at the greatest risk. Males 65+ are the number two risk group.

- Hopelessness is a key factor in suicidality.
- Comorbidity with a psychiatric diagnosis or substance abuse problem was a common factor.
- Role of identity crisis and social disruption (Klonoff and Tate, 1995).
- Risk increases in the first 15 year period post-injury.
Depression and TBI

- Structural brain damage associated with TBI is an important contributing factor to the development of depression.
- Patients with Major Depression following TBI show structural and/or functional alterations in the prefrontal cortex.
- Mood regulation and emotional regulation involve the complex interaction between the prefrontal regions of the brain and the limbic system. Diffuse axonal injury and cerebral contusions may result in disruption of these neural circuits causing depression that persists and may evolve over time.

Jorge, 2008
Depression and TBI

- General tissue injury linked to depression especially in the frontal and temporal lobes.

- Disturbances in neurotransmitters (serotonin, glutamate, dopamine) can also create depressive symptoms and have been found in TBI patients.

- Disruption in neural circuits between frontal lobe and limbic system can lead to depression.

After depression, anxiety is the most common psychiatric condition that people develop following TBI. Anxiety prevalence ranges from 10%-30%. There is a significant co-morbidity between mood and anxiety disorders. Two thirds of patients who have major depression meet the diagnostic criteria for a generalized anxiety disorder. Most common anxiety disorder following TBI is generalized anxiety (24%-27%) followed by panic disorder (4%-6%).

Soo and Tate, Cochrane Library, 2007
Anxiety is frequently linked to the process of adjustment to the brain injury.

May present as a feeling of apprehension or fear or as a diagnosable disorder such as PTSD, or OCD.

Consequences of anxiety following brain injury are far reaching, negatively impacting rehabilitation outcomes.
Treatment Barriers: Challenges in early recovery

- Individuals with depression and anxiety may have significant behavioral problems causing problems in settings where the primary emphasis is on physical rehabilitation not emotional/psychiatric treatment.
- This could lead to brain injury patients being inappropriately placed in other settings or being discharged home too early.
- These patients are often unable to participate in traditional counseling due to cognitive deficits.
- Psychiatric medication may exacerbate aspects of the brain injury and make matters worse.
- Inappropriate settings and medications can create a cycle of failed treatments and prevent true healing and recovery to occur.
Treatment Barriers: Long-Term Outcomes

- Return to the community can add stress and complications
- The outside environment may further intensify deficits related to work, finances, and daily life
- Psychiatric problems may occur or intensify leading to an increase in hospitalizations

Areas Requiring Special Attention:
- Community Reintegration
- Peer Relationships
- Caregiver Burden
- Loss of Independence
- Economic Stress

* These problems can lead to further complication of injury as well as neuropsychiatric issues
Treatment Strategies for TBI and Depression/Anxiety

- Integration of mental health services as part of rehabilitation is a necessity.
- A team approach is most effective for long-term positive outcomes.
- Finding the right professional(s) is key to treatment.
  - Neuropsychiatrist/Psychiatrist
  - Behavioral Neurologist
  - Neuropsychologist/Psychologist
  - Substance Abuse Counselor/Social worker
  - Marriage and Family Therapist
  - Yoga therapist
  - Life Coach
Treatment Strategies for TBI and Depression/Anxiety

- Current research literature is lacking in how to treat depression and anxiety and brain injury.

- Research on pharmacological and non-pharmacological treatment of post-TBI depression is scarce, making it difficult to establish best practices.

- Comprehensive treatment for TBI and psychiatric disorders often includes a combination of medications, psychotherapy, and skills building.

- Alternative approaches to treatment should be considered as well including holistic therapies individualized for the client (nutrition, yoga, meditation)
Treatment Strategies for TBI and Depression/Anxiety

Holistic Approaches for Recovery
Holistic approaches are now being utilized as adjunct treatment for TBI and psychiatric disorders.

Meditation, yoga, and other integrative and holistic approaches have shown some promising early research results.
What is Mindfulness?

“Paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” - Jon Kabat Zinn, 1990

“Mindfulness consists of cultivating awareness of the mind and body and living in the here and now.” - Stahl and Goldstein, 2010
What are mindfulness-based interventions?

A hybrid approach to mental health issues combining western and mindfulness methods

- Acceptance and Commitment Therapy (Hays, 2011)
- Dialectical Behavioral Therapy (DBT, Linehan, 1993)
- Mindfulness-based cognitive therapy (MBCT; Segal et al 2002)
- Mindfulness-based relapse prevention (MBRP; Bowen, Chawla, and Marlatt, 2011)
- Mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982)
Recent systematic reviews of mindfulness research indicate a large number of citations (18,753) through June of 2013. Meta-analysis revealed only 3% or 47 trials using mindfulness (MBSR/TM) met inclusion criteria for RCT. (Goyal, JAMA Intern Med. 2014)
Mindfulness Research

This graph represents the number of grants awarded by the NIH through 2013 based on the Reporter database.

Reporter indexes data and analyses of NIH research activities. The NIH has spent over 100 million dollars through 2014 on Mindfulness research.
What does the research say about mindfulness and mental health?

Research has shown that mindfulness can:

- Reduce psychological distress
- Decrease depression severity*
- Improve management of anxiety*
- Improve attention and focus
- Increase sense of well-being

*strong effect size
What does the research say about mindfulness and traumatic brain injury?

- Mindfulness-based cognitive therapy reduced symptoms of depression in people with traumatic brain injury.
- Mindfulness-based interventions can improve quality of life, self-efficacy around managing their cognitive and emotional symptoms, and more positive problem solving abilities.
- Mindfulness-based interventions showed small but significant effects for improved attention.
- Mindfulness-based stress reduction can improve mental fatigue after stroke or traumatic brain injury.
- Mindfulness-based interventions have shown efficacy to improve memory and general cognition, including attention, executive functions, and processing speed.
- Mindfulness-based interventions may also help decrease neuroinflammation and preserve hippocampal function.

What is Mindfulness Meditation?

- The intentional practice of attending to the stream of awareness in the present moment without judgment.
- It is usually done in a sitting posture on the floor or in a chair, for varying periods of time, usually anywhere from 5 minutes to an hour. However, serious practitioners may do it for much longer periods of time.
Mindfulness Practices

- Informal – Weaving Mindfulness throughout your day
- Formal – mindful breathing, walking, body scan, yoga
How Does Mindfulness Work?

"Can I call you back, Ed? I'm in the moment here."
Mindfulness is to the mind what aerobic activity is to the body

- Deliberate use of attention in mindfulness helps to stimulate and thicken the anterior cingulate cortex, building up neural tissues. This part of the brain is important for mental clarity and integration of thinking and feeling. “Neurons that fire together, wire together”. (Donald Hebb, 1949)

- Regular mindfulness practice can increase activation in the left prefrontal cortex which is associated with more positive emotions. It puts the brakes on the amygdala which gets activated under distress. (Richard Davidson, 2003)

- Long term meditators have more gamma wave activity in the brain which promotes learning, increased awareness, and more integration of brain functioning.
Brain Research and Mindfulness

Meditation experience is associated with increased cortical thickness

Mindfulness Meditation also activates the insula in the temporal lobe, which is involved in regulating “visceral” awareness, the internal sense we have of our emotions and body (vs. the thalamus, which regulates primary sense systems.)

It also lights up in a similar way when we see other people having the same emotions- the underpinnings of empathy.
Mindfulness-Based Therapies: Underlying mechanisms or What Makes it Work?

- Increased Mindfulness – especially beneficial for mental health outcomes
- Reduction in Repetitive Negative Thinking - worry (about future) and rumination (about past)
- Self-compassion
- Reduction in cognitive and emotional reactivity – the extent to which mild stress activates/re-activates negative thinking and emotional distress
- Psychological flexibility – the ability to be fully present with thoughts, feelings, and experiences in the present moment

Gu et al, 2014
Mindfulness-based therapies and physical pain following TBI

- Mindfulness meditation refocuses the mind on the present.
- Mindfulness increases awareness of one’s external surroundings and inner sensations.
- Mindfulness focuses on increasing acceptance of moment-to-moment experiences including physical discomfort and difficult emotions.
- Mindfulness allows one to step back and reframe their experience.
- Mindfulness teaches the decoupling of emotional reactivity from pain experience.

Hilton et al 2017
Mindfulness-based techniques can help to calm the body, activate the frontal lobes, and can help us change behavior.

Grounding and stabilization practices can be very helpful for individuals with traumatic brain injury in terms of improving attention and focus, decreasing anger and aggressive episodes, and improving mood.

They can be easily integrated into treatment plans as they are brief, easy to teach, and easy to remember. Even with individuals with severe brain injuries, many of these techniques are accessible.

Janina Fisher, Ph.D., 2012 “Psychoeducational Aids for Working with Psychological Trauma”
Mindfulness-Based Techniques For Grounding and Stabilization

- Somatic resources are any physiological functions that support a physically felt experience of well-being and safety at a body level.

- Somatic resources can be utilized when a person is in a hypoarousal state to help them return to a state of homeostasis.

- Somatic resources include mindfulness of the breath, body, and awareness of physical surroundings.
Mindfulness-Based Techniques For Grounding and Stabilization

Sitting in a chair, gently push feet into the ground. Notice the sensations in the legs and in the back as you are pressed back against the chair. Experiment with finding the right amount of pressure or with stomping the feet instead of pushing.
Creating a safe container

- Sit comfortably in a chair and begin to notice the breath. Take a breath in and let it out. Do this a few times. Imagine a container of some kind that can hold thoughts and feelings. It might be a trash can, a box with a lock, or even a hole in the ground. Make sure that it has a lid.

- Now imagine depositing any of those negative or difficult thoughts and feelings into the container. Place all of them in the container, knowing that it’s just for a brief period of time. Put the lid on.

- You can retrieve these items any time you want or need to deal with them. For now, however, you can focus on other things. You have the freedom to choose what you pay attention to.

Adapted from Stephanie Covington, 2014 “Beyond Anger and Violence”
Palms up/Palms Down

Letting go of something negative and receiving the positive.

- Sitting comfortably in a chair. Begin focusing on your breathing. Take a slow, deep breath while counting to four. Then exhale slowly, counting to four. Do this four more times until breathing is slow and relaxed. Keep breathing slowly and evenly.

- Hold your hands gently in front of you with your palms up and imagine them holding all the negative or upsetting thoughts and feelings you have had today.

- Now turn your palms down. Imagine yourself emptying your hands of all the negative or upsetting things you've been carrying today. Let go of them.

- Keep breathing slowly. Now turn your palms up. Your palms are up and open to receive positive energy, positive thoughts and feelings. Your palms are open to receive support and help.

Adapted from Stephanie Covington, 2014 “Beyond Anger and Violence”
Using the Senses: 5-4-3-2-1

Notice and describe in some detail 5 things you see around you right now.
eg. * I see my glass of water on my desk. It’s about 1/4 full and it’s got lots of smudges on the clear glass.

Notice and describe in some detail 4 things you feel with your sense of touch right now.
eg. * I feel the mesh of my chair under my forearms. It is just a little scratchy.

Notice and describe in some detail 3 things you hear around you right now.
eg. * I hear the hum of my computer next to me. It’s quite loud really, with both a low note and a high note to it.

Notice and describe in some detail 2 things you smell around you right now.
eg.* I smell clear air. The house smells fresh but not in a cleaning-scent kind of way, just in the well-kept sort of way. It’s a neutral smell.

Notice and describe in some detail 1 things you taste right now.
eg. *I taste the dry mouth my pills give me. Just a little bitter and a little sweet. I don’t like it, but I’m used to it.

Adapted from Stephanie Covington, 2014 “Beyond Anger and Violence”
Progressive Muscle Relaxation

- Take a few minutes to relax in a comfortable position (sitting or lying down) breathing in and out slow, deep breaths.

- Shift your attention to your right foot. Take a moment to notice how it feels. Slowly tense the muscles in your right foot, squeezing as tightly as you can. Hold for a count of ten and then relax your right foot. Focus on the tension flowing away and the way your foot feels as it becomes limp and loose.

- Stay in this relaxed state for a moment, breathing slowly and deeply.

- Shift your attention to your left foot. Slowly tense the muscles in your left foot, squeezing as tightly as you can. Hold for a count of ten and then relax your left foot. Focus on the tension flowing away as your foot relaxes. Breathe slowly and deeply.

- Now tense the muscles in your right calf. Hold this for a count of ten. Relax your right calf. Feel the tension flowing away. Breath slowly and deeply.

- Now tense the muscles in your left calf. Hold this for a count of ten. Relax your left calf. Feel the tension flowing away. Breath slowly and deeply.

- Now tense the muscles in your right thigh. Hold this for a count of ten. Relax your right thigh. Feel the tension flowing away. Breath slowly and deeply.

- Now tense the muscles in your left thigh. Hold this for a count of ten. Relax your left thigh. Feel the tension flowing away. Breath slowly and deeply.
Progressive Muscle Relaxation

- Now tense the muscles in your left thigh. Hold this for a count of ten. Relax your left thigh. Feel the tension flowing away. Breath slowly and deeply.

- Now tense the muscles in your hips and buttocks. Hold this for a count of ten. Relax your hips and buttocks. Feel the tension flow out. Breath.

- Now tense the muscles in your abdomen. Hold this for a count of ten. Relax your abdomen. Feel the tension flow out. Breath.

- Now tense your chest muscles. Hold this for a count of ten. Relax your chest muscles. Feel the tension flow out. Breath.

- Now tense your back muscles. Hold this for a count of ten. Relax your back muscles. Feel the tension flow out. Breath.

- Now tense the muscles in your right hand and arm. Hold this for a count of ten. Relax your right hand and arm. Feel the tension flow out. Breath.

- Now tense the muscles in your left hand and arm. Hold this for a count of ten. Relax your left hand and arm. Feel the tension flow out. Breath.

- Now tense the muscles in your neck and shoulders. Hold this for a count of ten. Relax your neck and shoulders. Feel the tension flow out. Breath.

- Now tense the muscles in your face. Hold this for a count of ten. Relax your face. Feel the tension flow out. Breath.

- Breath slowly and deeply and when you are ready, open your eyes.

Adapted from Stephanie Covington, 2014 "Beyond Anger and Violence"
Working with fear

Place a hand on your heart (or over the place you feel anger or fear), and notice what happens in the body when you just focus on the sensations; the weight of your hand, the temperature, feeling the breath. Notice what happens to your heart rate, your breathing.

Adapted from Tara Brach, 2004 “Radical Acceptance”
Working with difficult emotions:
Breathing in the positive

- Sit in a comfortable position with your feet on the floor.
- Breath in, pause, then breath out. Feel your body expand from the center and release back toward the center.
- With each breath, breathe in a little deeper, moving the air farther into your abdomen.
- As your breath in, take in positive things, such as self-love, hope, courage, and joy.
- As you breathe out, let go of the negative things that you don’t want in your life, such as self-criticism, despair, stress, fear, anger, hatred, and violence.
- Breath in and out.

Adapted from Stephanie Covington, 2014 “Beyond Anger and Violence"
Mindfulness-techniques to activate the frontal lobes

- Mindfulness can bring us back to the present moment with a new openness and calmness like clear sky and clear air after a rain storm
- Mindfulness can direct our attention that cuts through confusion and stress
- Mindfulness can help us to label our experiences in neutral language (e.g. I am having an angry feeling)
- Recognize (what is going on in the moment)
- Allow (saying yes to what is happening)
- Investigate (discover what is going on)
- Not Identified (with bad qualities of self or bad events)

Adapted from Tara Brach, 2013 “True Refuge”
“TIPS FOR THE STOP SIGN”

1. **S=STOP=RED LIGHT:** bring yourself out of automatic pilot.

2. **T=TAKE A BREATH:** re-focus your attention using your breath as an anchor.

3. **O=OBSERVE=YELLOW LIGHT:** Observe your body sensations, your thoughts, and your feelings. What is really happening in the present moment? Breathe with these sensations for a minute or two and then gradually expand your awareness around the feelings, creating space for them.

4. **P=PROCEED=GREEN LIGHT:** continue, bringing a more skillful response to the situation.
Yoga therapy truly creates an interdisciplinary approach in neurorehabilitation.

Focus on the physical body improves balance, strength and flexibility.

Focus on breath reduces anxiety and stress level.

Focus on the mind helps to reduce negative cognitions and improves self-esteem.
What is yoga?

The word "yoga" comes from the Sanskrit root "yuj", which means "to yoke" or "union" - the spirit and physical body together.

Yoga has evolved over thousands of years to embrace a wide range of styles and disciplines. It is considered a mindfulness practice with its emphasis on movement and breath.
What is yoga?

- Yoga practice involves a combination of physical postures (asana) movement sequences, conscious regulation of breathing (pranayama), and various techniques to help maintain attention and focus (meditation).

- There are many yoga styles, but yoga practices almost always pair breath and movement.

- Breath regulation can influence emotions through its impact on the nervous system.
Yoga Research

Yoga research has shown the efficacy of yoga for treating many diseases including arthritis, stress, metabolic syndrome, asthma, chronic pain and mental health conditions.
Yoga Research

Yoga Articles by Study Type in PubMed (1980 to 2012)
101 Health Conditions Benefited by Yoga
(as found in scientific studies as of October 2016)

1. Alcoholism and Other Drug Abuse
2. Alzheimer's Disease
3. Amyotrophic Lateral Sclerosis
4. Anxiety
5. Asthma
6. Atrial Fibrillation
7. Attention Deficit Hyperactivity Disorder (ADHD)
8. Autism
9. Back Pain
10. Balance Problems
11. Breast Cancer
12. Burns
13. Cancer (General)
14. Carpal Tunnel Syndrome
15. Chronic Fatigue Syndrome
16. Chronic Obstructive Pulmonary Disease (e.g. Emphysema)
17. Cognitive Impairment
18. Computer Vision Syndrome
19. Congestive Heart Failure
20. Cystic Fibrosis
21. Depression
22. Diabetes
23. Drug Withdrawal
24. Duchenne Muscular Dystrophy
25. Eating Disorders
26. Endometriosis
27. Epilepsy
28. Fatigue
29. Fibromyalgia
30. Fractures
31. Gait (Walking) Problems
32. Gestational Diabetes
33. Guillain-Barré Syndrome
34. Heart Disease
35. Hemophilia
36. Hemorrhoids
37. High Blood Pressure
38. HIV/AIDS
39. Hypothyroidism
40. Infertility
41. Inflammatory Bowel Disease
42. Inguinal Hernia
43. Insomnia
44. Irritable Bowel Syndrome
45. Kidney Failure
46. Lung Cancer
47. Lymphoma
48. Menopausal (and Perimenopausal) Symptoms
49. Menstrual Disorders
50. Mental Developmental Impairment
51. Metabolic Syndrome
52. Migraine and Tension Headaches
53. Multiple Sclerosis
54. Muscular Dystrophy
55. Neck Pain
56. Neurocardiogenic Syncope (Fainting)
57. Neuroses (e.g. Phobias)
58. Obesity/Overweight
59. Obsessive Compulsive Disorder (OCD)
60. Organ Transplant
61. Osteoarthritis (Degenerative Arthritis)
62. Osteoporosis
63. Ovarian Cancer
64. Pain (Chronic)
65. Panic Disorder
66. Parkinson's Disease
67. Performance Anxiety
68. Periodontitis
69. Pleural Effusion (Fluid in the Lining of the Lung)
70. Polycystic Ovarian Syndrome
71. Post Coronary Artery Bypass Surgery
72. Post-Heart Attack
73. Post Implantable Cardioverter Defibrillator (ICD)
74. Post-Joint Replacement
75. Post-Operative Recovery
76. Post-Polio Syndrome
77. Post Traumatic Stress Disorder (PTSD)
78. Pregnancy (Normal and Complicated)
79. Premenstrual Depression
80. Pressure Ulcers
81. Prostate Cancer
82. Psoriasis
83. Pulmonary Hypertension
84. Restless Leg Syndrome
85. Rheumatoid Arthritis
86. Rhinitis (Inflammation of the Nose)
87. Schizophrenia
88. Scoliosis (Curvature of the Spine)
89. Sexual Dysfunction
90. Sexual Trauma
91. Sinusitis
92. Skeletal Muscle Pain Syndrome
93. Smoking Cessation
94. Somatoform Disorders
95. Stress
96. Stroke
97. Thoracic Hyperkypnosis
98. Total Knee Arthroplasty
99. Traumatic Brain Injury
100. Tuberculosis
101. Urinary Incontinence
Yoga Research and Mental Health

Yoga interventions have shown promising effects for mental health:

- Depression symptom severity
- Reduction of anxiety through its positive effects on the nervous system (particularly yoga breathing)
- Reduction in symptoms of PTSD
- Reduction in negative symptoms associated with schizophrenia
- Improved social cognition
- Improved visual attention, short and long-term memory, executive functioning, and less age-related decline in fluid intelligence
Breath focused yoga may improve respiratory functioning, perceived physical health, and psychological well-being among adults with severe TBI.

Yoga practices are associated with decreased cortical and increased BDNF which correct the autonomic nervous system imbalances that may be caused by TBI, epilepsy, and other neurocognitive disorders.

Silverthorne et al 2012; Streeter et al 2012
Yoga and TBI: Underlying mechanisms or What Makes it Work?

- Improves physical flexibility, coordination, and strength
- Increases the production of endorphins
- Reduces emotional distress, blood pressure, and improves metabolic regulation
- Decreases sympathetic nervous system arousal leading to relaxation effects
- Breathing practices may calm and focus the mind
- Reduces inflammatory markers that may be causing or exacerbating stress
- Improves and broadens cognitive processes and enhance self-efficacy for pain control which can lead to resiliency
- Fosters social networks and reinforces social support
Yoga Practice

3-part Yogic Breath, Diaphragmatic Breath

- Sit in any meditative pose (or lie down). Allow abdomen to move freely with the breath.

- Inhale. Allow the abdomen to expand, fully expand ribs, and further inhale to fill upper parts of lungs to base of neck (collar bone should move slightly). You can count to 3 imagining filling up the lungs from the bottom to the top.

- Then slowly exhale in a slow and controlled manner. You can count to 3 as the lungs empty out. For a more relaxing effect, you may want to lengthen the exhales up to twice as long as the inhales.

Hand position: In lap or on floor (if in Savasana). Also consider placing one hand on the chest and one on the abdomen.
Yoga Practice

- Sit tall in the chair in Seated Mountain Pose with the feet planted firmly below. Bring your hands to the side of the chair (or arms if the chair has them), back of the chair, or thighs.

- Inhale to arch the back by opening the chest wide and lifting the breast bone up and out.

- Lift the chin slightly, being careful not to crunch into the back of the neck. Imagine the crown of the head is reaching up and slightly back at an angle (perhaps as if you are reaching it towards where the wall meets the ceiling behind you).

Cat/Cow:

- Transition from Cow Pose (described above) with your inhaled to Cat Pose (described below) with your exhales. Continue moving between cow on the inhalations and cat on the exhalations for five breaths or as long as comfortable Cat Pose.

- On your exhale, round your spine, letting the shoulder and head come forward. Squeeze your belly button into your spine and feel a hollowing of your abdomen. You may want to glide your hands forward on the bottom of your chair or thighs.
Yoga Practice: Standing Body Scan

1. Stand comfortably. Begin to pay attention to your breathing. Notice what is happening in your body.

2. Focus on your feet. Do you feel balanced?

3. Focus on your ankles. What do you notice?

4. Focus on your calves and shins. What do you notice?

5. Focus on your knees. Are they locked or relaxed? Can you soften your knees with a slight bend if they are locked?

6. Focus on your thighs, hips, and belly. What do you notice?

7. Focus on your ribs and chest. What do you notice? When you breath in, does your breath come in easily or does it feel restricted?

8. Focus on your shoulders and arms. What do you notice?

9. Focus on your neck, throat, and head. What do you notice?

10. Focus on your lower, middle, and upper back. What do you notice?
“Suffering ceases to be suffering at the moment it finds meaning”
- Victor Frankl, Man’s Search for Meaning
Resilience

Definition: “...the ability to withstand and rebound from disruptive life challenges...involves dynamic processes fostering adaptation within the context of significant adversity.”


References


References


2. Lazar et al. “Meditation experience is associated with increased cortical thickness”, Neuroreport, 2005 16 (17) 1893-1897.


