

Neuropsychological Benefits of Incorporating Yoga into Rehabilitation Services

Kiely Madhavan, PhD
Chanell Jaramillo, PhD, ERYT

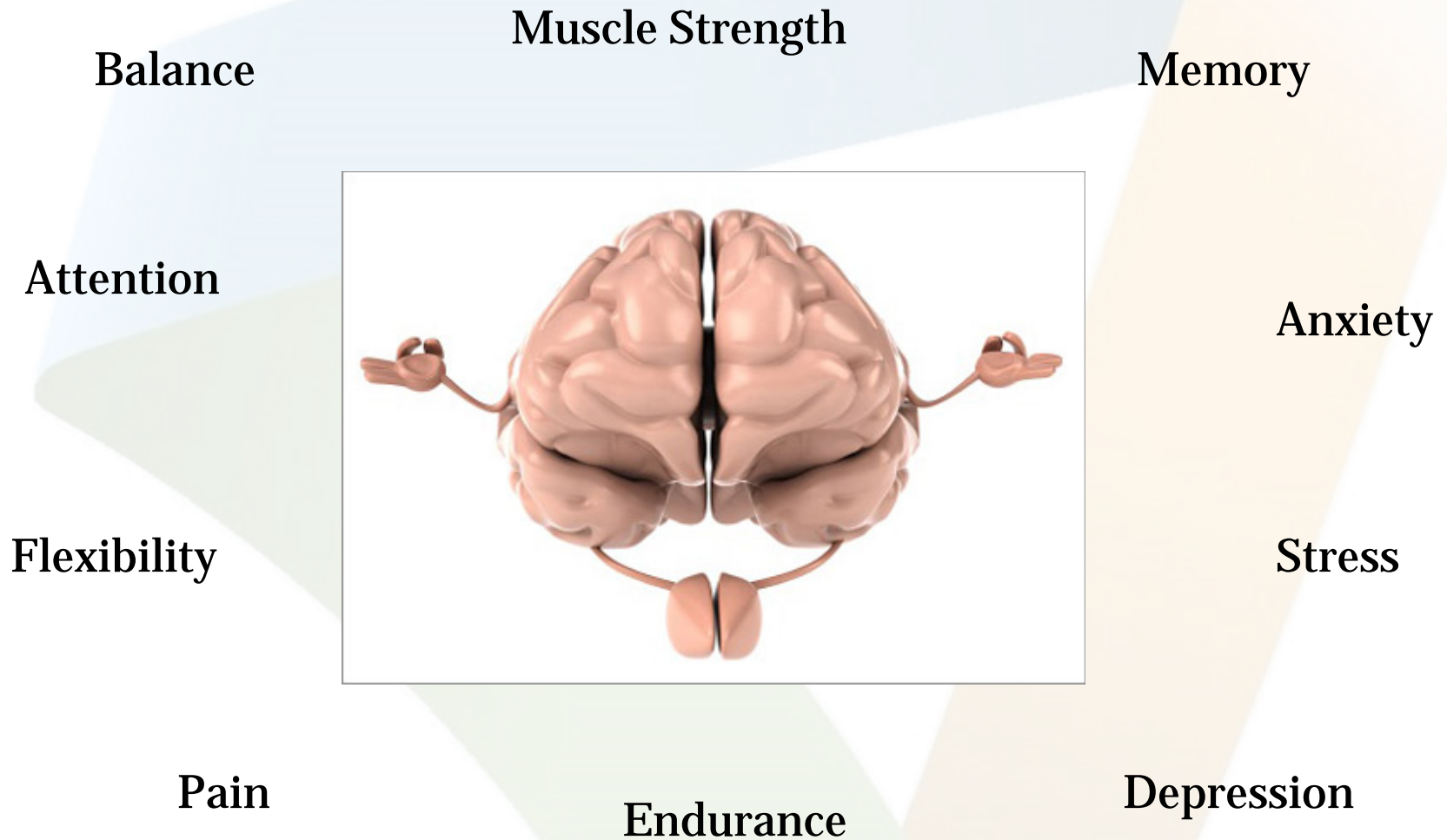


Objectives

- Discuss current research related to yoga and neuropsychology
- Identify the benefit of incorporating yoga into rehab services
- Understand yoga philosophy in regard to health and recovery through the 8 limbs of Raja Yoga
- Experience the core principles of yoga through participation!



Why yoga?



More than stretching

**....combines breathing exercises, physical postures,
and meditation to calm the nervous system and
balance body, mind, and spirit.**

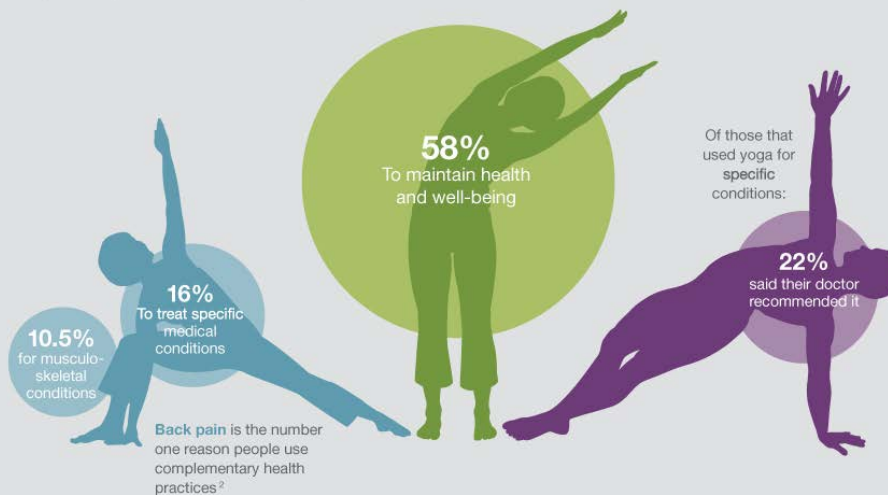


More than stretching



Yoga as a Complementary Health Approach

Why People Practice Yoga¹



To learn more, visit nccih.nih.gov

¹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2533368/>

² <http://www.thelancet.com/themed/global-burden-of-disease>

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NCCIH – Funded Research

- Previously funded
 - Chronic low back pain – less disability, pain, and depression after 6 months of yoga
- Active studies
 - Cancer
 - Sleep
 - Pain
 - Generalized Anxiety Disorder
 - PTSD
 - Depression
 - Hypertension
 - Diabetes
 - HIV
 - Multiple sclerosis






Any proof that it works for TBI?

- Schmid et al., 2016 - *Disability and Rehabilitation*
 - 3 participants; 9-21 years post-TBI
 - yoga 2x/week (1-hr sessions) for 8 weeks
 - ability to stand with or without an assistive device
- Silverthorne et al., 2012 – *International Journal of Yoga Therapy*
 - 10 yoga, 4 controls
 - 30 minute group sessions for 36 weeks
 - severe physical disability
- Hager, n.d. <http://www.seattlesomatictherapy.com/articles>
 - 1 individual, 32-yr-old female, 4 years post-TBI
 - 35 sessions over 10 months



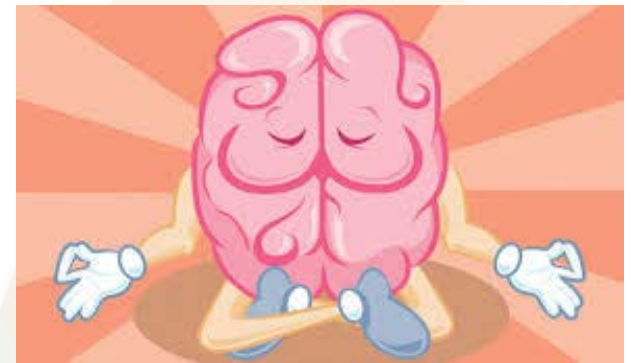
Any proof that it works for TBI?

	Schmid (2016)	Silverthorne (2012)	Hager (n.d.)
Physical	<ul style="list-style-type: none">• improved balance• decreased pain• increased ROM• increased strength• endurance/gait speed	<ul style="list-style-type: none">• decreased pain• improved respiratory function	<ul style="list-style-type: none">• increased strength• improved motor planning/coordination of movements
Psychological	<ul style="list-style-type: none">• belief that yoga had positive impact on life and improved recovery	<ul style="list-style-type: none">• improvement in self-reported emotional well-being	
Cognitive			



Cognitive Benefits

- Relationship between physical activity and cognitive function
- Meta-analysis examining the effectiveness of yoga in improving cognitive performance (Gothe & McAuley, 2015)
 - 22 studies
 - Attention, processing speed, and executive function showed largest benefit
 - Effect on memory was marginally significant
- Improved attentional control



Yoga for the Treatment of Neurological Disorders

- **Multiple Sclerosis** – improvement in measures of fatigue
- **Migraine** – reductions in headache frequency, duration, and intensity; medication intake; number of somatic symptoms accompanying headache
- **Epilepsy** – reduction in seizure frequency
- **Stroke** – improved balance and QOL



Psychological Benefits

- Decreased levels of cortisol
- Immediate effects on anxiety
- Increased sense of self-efficacy
- Beneficial in treating a variety of psychiatric disorders
 - Depression
 - Anxiety
 - Schizophrenia
 - Post-traumatic Stress Disorder



Mindfulness Based Treatments

- Mindfulness-Based Stress Reduction (MBSR)
 - Attention training technique
 - Awareness of thoughts, feelings, and bodily sensations
 - body scan, meditation, yoga
- “Third Wave” therapies
 - Acceptance and Commitment Therapy (ACT)
 - Mindfulness Based Cognitive Therapy (MBCT)
 - Dialectical Behavior Therapy (DBT)
- Meditation in healthy subjects
 - Improved emotional functioning, attention, processing speed
 - Neuroimaging evidence to support changes in neuronal connectivity among regions associated with sensory and attentional processes



Mindfulness & TBI

- Azulay et al., 2013 – *J Head Trauma Rehabil*
 - 10-week group MBSR program (1 2-hr session per week)
 - 22 participants with mTBI/postconcussive symptoms
 - Improved self-efficacy
 - Improvements in attention and processing speed
 - No significant effect on verbal learning and memory
- Johansson et al., 2012 – *Brain Injury*
 - 29 individuals with TBI or Stroke
 - 8-week MBSR program – weekly 2.5 hr group sessions and 45 min home practice 6 days/week
 - Decline in self-assessment of mental fatigue
 - Improved processing speed (Digit Symbol – Coding)



Love Your Brain

- Kevin Pearce suffered a severe TBI while training for the 2010 Winter Olympics
- <http://www.loveyourbrain.com/yoga>



Improved QOL

- LoveYourBrain & Dartmouth College
- Quality of Life After Brain Injury (QOLIBRI)
- Significant improvements
 - overall quality-of-life
 - emotional well-being
 - self-perception



Application of Yoga Principles

***"Yoga teaches us to cure what need not
be endured and endure what cannot be
cured."***

-B.K.S. Iyengar



Yoga Improves in TBI

- Improved Respiration
- Cognitive Function
- Emotional Well-being
- Calm the mind
- Re-wire the brain
- Enhances Self-Awareness
- Improves balance and physical stamina
- Reduces Stress

Yoga Does Not Fix!

- Approaching body practices as a therapy
- Yoga is a body practice
- Yoga does not “fix”
- Manual medicine’s goals are to fix
- Yoga is a neuromuscular learning taught through the 8 limbs of yoga
- Yoga may be seen strictly as an exercise, relaxation or pleasure practice

Three Recognitions of all Body Practices

- A physical, mental, emotional or energetic something is constricting, blocking, congesting, depleting, stagnating, misusing or creating imbalance in the person leading to pain, injury, instability, or limitation.
- The physical self is not concrete, it has plasticity, thus it can both be fixed and taught
- The body is the place for transformation
- If the body was not teachable, fixable, transformable we would not have a job!

8 Limbs

Asana becomes the vehicle not only for teaching the six universal principles, but also for carrying the teaching of the 8 limbs:

- Yama – Social ethics
Ahimsa, Truth, Non-stealing, Self-restraint, Not hoarding or collecting
- Niyama – Personal ethics
Purity, Self-study, Contentment, Austerity, Devotion
- Asana – Postures
- Pranayama – Breath control
- Pratyahara – Withdrawal from the Senses or mastery of external influences
- Dharana – Holding steady or Concentration
- Dhyana - Meditation
- Samadhi – Enlightenment or Self-Realization

Six core Principals of Asana

In all yoga asana we are trying to teach these six core principles verbally and non-verbally:

- Root to Rise
- Inward to Outward
- Ground
- Expand
- Balance
- Rhythm

"Principals of yoga do not discriminate, asanas do."
Matthew Sanford



Referencing the Pose

In adaptive yoga we utilize touch to reveal rather than to correct.

Reference touch teaches: (1) sukha, (2) dukha, (3) direction, (4) awareness, and (5) personal revelation

All poses have a multiple lines of energy flowing simultaneously, so then do all references require at least two directions of energy

References show direction of energy flow

Our job as adaptive yoga teacher is to facilitate awareness so we can teach consciousness

Pranayama & Meditation

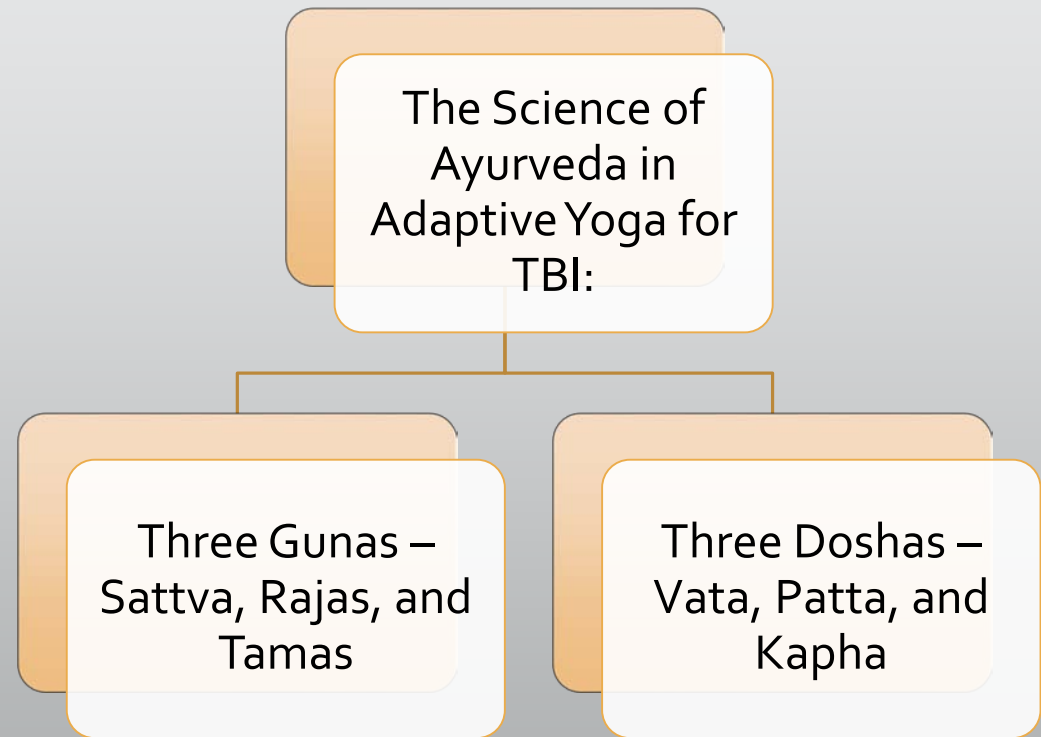
- Pranayama is the science of breath. Iyengar says “it is the hub round which the wheel of life revolves.”
- In Yoga the practitioners life is said not to be measured around the number of days, but the number of his/her breaths.
- The Goal becomes slow deep breathing to improve respiration, calm the nervous system, and reduce cravings that lead to imbalances.
- Again, the path of Yoga is ultimately to free the mind of disturbances so one can concentrate and eventually meditate.
- Meditation is the 7th limb, it is the flow of an uninterrupted concentration.

Types of Yoga Often Used for TBI

- Hatha
- Yin
- Restorative
- Chair
- Adaptive



Yoga and Her Sister Science



Yoga and the Doshas

- Vata imbalances occur whenever trauma occurs
- TBI injuries are according to Ayurveda Vata Imbalances
- Vata (air/ether) is known to be the energy of change
- Imbalance vata energy can be anxious, fearful or exhausted
- Vata governs the whole nervous system
- Structuring yoga sequence for TBI
 - Centering or Grounding, Deepening of Breath, Gentle Warm-Up, Emphasis on Pelvic Region and Spine, Meditation often with Visualization on Earth Elements, Gentle belly breathing, and Svasana.
- Yoni Mudra for nervous system

Yoga and Ayurveda Emphasize Sattvic Qualities

- In Ayurveda Sattva is a state of balance and balance promotes healing
- Yoga has two stages: The development of Sattva and the Transcendence of Sattva
- The development is purification of body-mind
- Transcendence is Self-realization, Self-acceptance, going beyond body-mind and reaching our True self.

Creating Sattva for TBIs through Yoga & Ayurveda

- Vegetarian Diet
- Control of emotional states
- Teaching non-attachment
- Cleanliness
- Quiet space, ocean waves, nature sounds, soft melodies
- Focus on concentration exercises, memory exercises, mindfulness
- Encouraging creativity, devotional practices, meditation
- Volunteer service

Yoga Improves TBI Wellbeing

Research supports that yoga is effectively improving patient well-being:

- Physical well-being is defined as the absence of symptom and side effect distress.
- Emotional well-being is defined as the absence of or reduction of anxiety, depression, negative mood, and emotional stress which are common causes of poor performance, fatigue, poor coping, and overall poor health.
- Spiritual well-being refers to the role of religion and spirituality in one's life and the extent to which beliefs and practices help an individual cope with illness.
- Cognitive function comprises intellectual processes, including perception, thinking, reasoning, and memory.

Closing

*"Yoga is
bringing fitness
in body,
calmness in
mind, kindness
in heart and
awareness in
life."*

-Amit Ray



Support Group

- Sundays in April
- April 8th, 15th, 22nd, 29th
- Time: 3:00 – 4:30pm
- Led by April Follmer, LMHP & Chanell Jaramillo, PhD
- 14450 Eagle Run Drive
#250 Omaha, NE 68116
- 402-689-0905
- Cost is \$80 for all 4 sessions

Simplicity
wellness yoga + more

A SUPPORT GROUP FOR
INDIVIDUALS EXPERIENCING A
SERIOUS ILLNESS OR INJURY

Mindfully Moving Through Grief & Loss

Grief is an individual journey. Being with others and sharing our experiences can be helpful to the process. Simplicity Wellness Yoga and More offers this group in a safe, compassionate, and supportive space. This four-week support group is for any adult who is currently coping with a serious illness or injury, or who has in the past. Group meetings will offer weekly education and support, along with the exploration of healthy and meaningful ways to honor and incorporate our losses into our lives. Each group session will also include gentle movement and a healing meditation. No previous experience in these areas is needed or required. Facilitated by professionals who are specialized in this area, this group is structured to foster meaningful connection in a consistent four-week group setting. We invite you to join us. For more information and to register, please contact Simplicity Wellness Yoga and More at 402-884-1602.

Sessions will be held all four Sundays in April from 3-4:30 pm. Each session will be 90 minutes long & will be \$25 each or \$80 for all 4. The class will be lead by April Follmer, who is a Licensed Mental Health Practitioner and Bereavement Counselor with AseraCare Hospice of Omaha.



14450 Eagle Run Drive #205

Omaha, NE 68116

402-689-0905

info@simplicitywellnessandyoga.com

<https://www.simplicitywellnessandyoga.com>

Contact Information

- Kiely Madhavan – kmadhavan@qliomaha.com
- Chanell Jaramillo – info@simplicitywellnessandyoga.com

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