Yoga Therapeutics for Healthcare Providers

Janet Carscadden PT, DPT, Cert MDT, E-RYT
Andrea Trombley PT, RYT
Meagen Satinsky PT, PYT
Evolution PT and Yoga - 20 Kilburn St. Burlington VT 05401
East Meets West
In the Clinic
Treatment Session - Centering
Asana
Restorative Poses
Relaxation
Yoga Wall
Yoga Wall
The Science of Therapeutic Yoga
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Purpose: Review of recent research on the effects of yoga postures on psychological conditions including depression, anxiety, pain syndromes, cardiovascular, autoimmune and immune conditions & pregnancy, physiological effects of yoga (dec HR, dec BP, weight loss, incr muscle strength) & proposal of underlying mechanisms of action (dec cortisol)

Study Design: Clinical review

Findings: Yoga postures appear to stimulate pressure receptors (Gate theory) which lead to enhanced vagal activity & reduced cortisol levels

Clinical applications: lack of randomization, variability in sample sizes, lack of comparison groups, dosage variability, variability in measures, review was done in 2011 and offers a nice overview of all the various aspects of yoga and what’s been studied up to the time of this review but didn’t list the years they did their medline search - should be updated
The Science of Therapeutic Yoga - Brain


**Purpose:** Evaluate whether the number of years of yoga experience, the amount of weekly yoga practice, and the different aspects of yoga practice impact specific brain regions (gray matter (GM) volume)

**Study Design:** cross-section

**Methods:** 28 participants, matched, control but not randomized

**Findings:** Regular practice of yoga may have neuroprotective effects against whole brain age-related GM decline; more regular (weekly) yoga practice is associated with larger brain volume in areas involved in bodily representation, attention, self-relevant processing, visualization and stress regulation. Certain brain change continue to occur after several years of practice. Most changes were located in left hemisphere suggesting that increasing years of yoga practice progressively tunes the brain toward a parasympathetically driven mode and positive affective states.

**Clinical applications:** small sample size, difficult to match groups on amount of exercise performed outside of yoga, no long-term follow up, narrow age range (31-45y). Practice patterns were within the reach of the general population. Regular yoga practice (postures, meditation, breathing) leads to increases in GM with more lasting effects over a longer period of time.
The Science of Therapeutic Yoga - IBS


**Purpose:** to explore the feasibility & efficacy of a group program of mindfulness training for women with IBS

**Study Design:** randomized control trial

**Methods:** 75 female IBS patients assigned to 8 weekly and 1 half-day intensive session of either mindfulness group (MG) training or support group (SG).

**Findings:** MG showed greater reduction in IBS symptom severity after training and @ 3 month follow up relative to SG. Mindfulness training has substantial effects on bowel symptom severity, improves health-related quality of life, reduces distress.

**Clinical applications:** female patients only; cost-effective, easy to access and apply, allows for greater patient autonomy in control of symptoms; mindfulness training is effective in reducing stress and symptoms associated with chronic IBS and should be considered as part of treatment in this patient population; do more research w other chronic conditions to determine efficacy of mindfulness training.
The Science of Therapeutic Yoga-Meditation


Purpose: To draw conclusions about the neural network activated during meditation tasks and to explore functional (fMRI) and structural (sMRI) changes in expert meditators.

Study Design: meta-analysis

Methods: 46 papers were ultimately reviewed using words like MRI, meditation on PubMed search, young and healthy participants, only included meditators

Findings: Meditation leads to activation in brain areas involved in processing self-relevant information, self-regulation, focused problem-solving, adaptive behavior and interoception & induces functional and structural brain modifications in expert meditators, especially in areas of the brain connected with self-awareness and self-regulation, as well as in areas involved in attention, executive functions and memory formations.

Clinical Application: Meditation techniques could be adopted in clinical populations and to prevent disease, especially in at-risk populations such as the elderly.
The Science of Therapeutic Yoga - Migraine


Purpose: Investigate the effectiveness of holistic approach of yoga therapy for migraine treatment compared to self-care.

Study Design: Randomized controlled trial

Methods: 72 patients with migraine without aura were randomly assigned to yoga therapy or self-care group for 3 months. Primary outcomes were headache frequency, severity of migraine (0–10 scale) and pain component (McGill pain questionnaire). Secondary outcomes were anxiety and depression, medication score

Findings: Complaints related to headache intensity (P < .001), frequency (P < .001), pain rating index (P < .001), affective pain rating index (P < .001), total pain rating index (P < .001), anxiety and depression scores (P < .001), symptomatic medication use (P < .001) were significantly lower in the yoga group compared to the self-care group.
The Science of Therapeutic Yoga- LBP


Purpose: To systematically review the clinical trial evidence on effectiveness of yoga in reducing pain and disability in patients with LBP.

Methods: MEDLINE, EMBASE, the Cochrane Library, PsycINFO and CAMBASE up to January 2012. 160 records, 10 included, 967 participants with a mean age 44-48.

Findings: Meta-analyses revealed strong evidence for short-term effects of yoga on pain and back-specific disability compared with controls. At long-term follow-up, there was moderate evidence for reduction of pain and back-specific disability.

Clinical application: If patients would like to try yoga, there is evidence that it is effective. The specific yoga delivered was not standardized.
The Science of Therapeutic Yoga - LBP


Purpose: To compare the effectiveness of yoga and usual care for chronic or recurrent low back pain.

Study Design: Parallel-group, randomized, controlled trial using computer generated randomization conducted from April 2007 to March 2010.

Methods: Yoga (n=156) or usual care (n=157). All participants received a back pain education booklet. The intervention group was offered a 12-class, gradually progressing yoga program delivered by 12 teachers over 3 months.

Findings: Offering a 12-week yoga program to adults with chronic or recurrent low back pain led to greater improvements in back function than did usual care.

Clinical application: The authors did not define usual care therefore hard to compare interventions. The average duration of LBP was 10 years, meaning they found a change with one of the hardest populations to treat.
The Science of Therapeutic Yoga – Cancer


**Study Design:** Meta-analysis

**Methods:** Literature Search 1970-2010, 100 articles identified

**Findings:** Ten articles were selected; their PEDro scores ranged from 4 to 7. The yoga groups compared to control groups or supportive therapy groups showed significantly greater improvements in psychological health: anxiety (P = .009), depression (P = .002), distress (P = .003), and stress (P = .006).

**Clinical applications:** The authors note, due to the mixed and low to fair quality and small number of studies conducted, the findings are preliminary, limited and should be confirmed through higher-quality, randomized controlled trials. 96% of the participants were female, and 80% had breast cancer.
The Science of Therapeutic Yoga - Parkinson’s


**Purpose:** Investigate the effectiveness of yoga intervention on physiological and health related QOL measures in people with PD

**Study Design:** Randomized controlled pilot study

**Methods:** 13 people with stage 1-2 PD were randomized to either a yoga (n = 8) or a control group (n = 5). The yoga group participated in twice-weekly yoga sessions for 12 weeks.

**Findings:** Significant improvement in UPDRS scores (P = .006), diastolic blood pressure (P = 0.036) and average forced vital capacity (P = 0.03) was noted in the yoga group over time. Yoga participants reported more positive symptom changes including immediate tremor reduction.
The Science of Therapeutic Yoga - Yoga Nidra


Purpose: to compare the acute HRV responses to Yoga Nidra relaxation alone versus Yoga Nidra relaxation preceded by Hatha yoga

Study Design: randomized counter-balanced trial

Methods: 20 women and men ages 18-47 years participated in Yoga Nidra alone and a Hatha Yoga session followed by Yoga Nidra. Heart Rate and Heart Rate Variability was tracked in both conditions.

Findings: Positive changes in HRV were seen in both groups p<0.001 for HR and HRV.

Clinical applications: Small sample size and younger population. These changes demonstrate a favorable shift in autonomic balance to the parasympathetic branch of the ANS for both conditions, and that Yoga Nidra relaxation produces favorable changes in measures of HRV whether alone or preceded by a bout of Hatha yoga.
The Challenges of Studying Yoga

The wide variability of the styles of yoga and components of the 8 limbed path included in the interventions.

Wide variability in the training of the instructor providing the interventions.

Studies need to provide specific information on the poses, breathwork and types of meditation provided

Until recently, lack of funding. The NIH has started to expand funding of integrative health projects.

Small sample sizes

Lack of control groups

Younger age group in participants does not provide data for aging population

Historic dismissal of Indian yoga research due to methodologic problems
YT training programs and IAYT standards

International Association of Yoga Therapy (IAYT)
http://www.iayt.org/?page=AccrdPrgms
http://www.iayt.org/

Maryland University of Integrative Health
(MS in Yoga Therapy)

Professional Yoga Therapy
must hold a current medical license or
certification to begin program
http://proyogatherapy.org/
What’s Next

An Introduction to Therapeutic Yoga for Health Care Providers  March 18-19 2016
Therapeutic Yoga for Managing Low Back Pain - May 13-14 2016
Therapeutic Yoga for Calming the Autonomic Nervous System - Summer 2016