

Yoga Therapy in Managing Chronic Pain and SUD

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Yoga Therapy - History, Overview & Evidence Base

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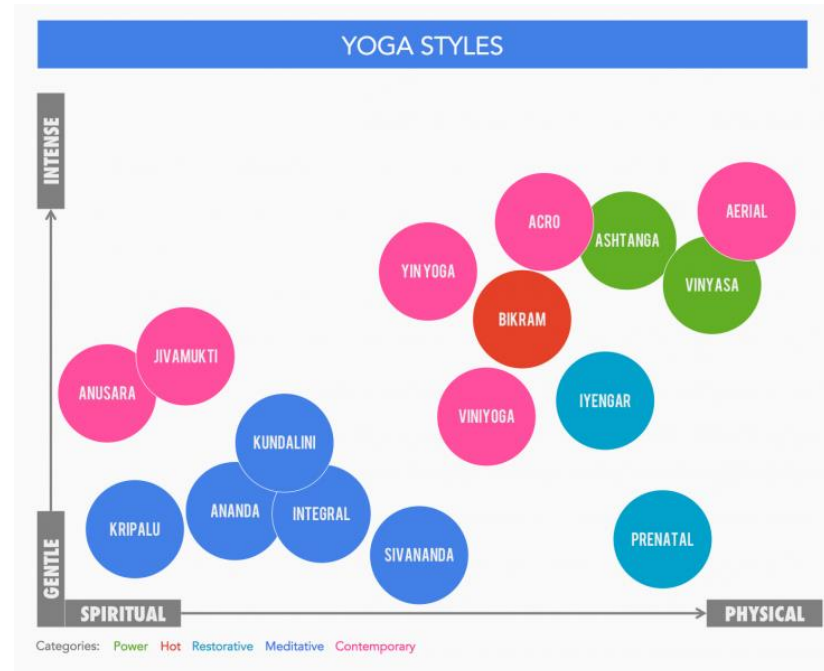
Yoga Practice in the United States



- 36.7M US yoga practitioners
- Students spend \$16B/year on classes and products
- 74 percent of practitioners doing yoga 5 or less years

*Source: The 2016 Yoga in America Study Conducted by Yoga Journal and Yoga Alliance

"Yoga" is extremely diverse



Yoga therapy is...

...the process of empowering individuals to progress toward improved health and well-being through the application of the teachings and practices of Yoga. (International Association of Yoga Therapists)



Yoga Teacher vs. Yoga Therapist

	Yoga	Therapeutically Oriented Yoga	Yoga Therapy
Description	Group classes/privates where intention is to develop a practice of yoga, greater physical, emotional, spiritual well-being	Public classes addressing a specific condition. Work with people who require therapy as a result of a situational or chronic condition.	Individual focus, also devoted to recovery, therapeutics, increasing wellbeing, vitality.
# of Schools	15,000	300-1,000	25
Estimate of #	150,000 - 300,000	10,000- 20,000	3,500
Relationship to Health Care	Doesn't seek to be approved by western health care.	Supplementary or Independent	Active partnership
Example of Content	"Inversion Workshop"	"Yoga for Back-Pain"	Personalized attention in partnership with other healthcare providers
Certification/Registration	RYT	RYT / CIAYT / Other	C-IAYT
Length of Training	200 hour & 500 hour	Usually additional 50-100 hours	1000 hours

The Start of an Evidence Base

Bagchi and Wenger, 1957

**“...physiologically
Yogic meditation
represents deep
relaxation of the
autonomic nervous
system without
drowsiness or
sleep ...”**

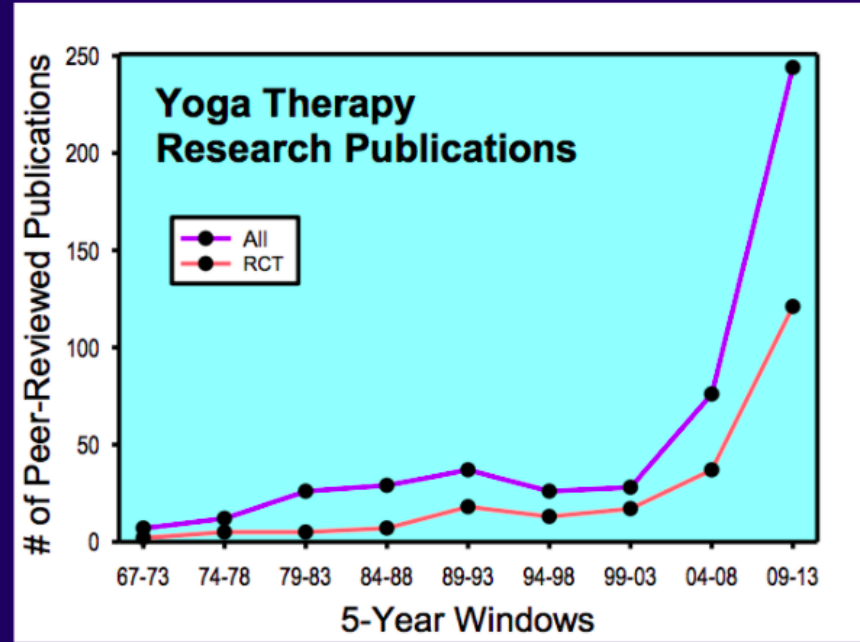


From: Electro-physiological correlates of some Yogi exercises, Bagchi BK, Wenger MA, Electroencephalography and Clinical Neurophysiology, 7 (Suppl):132-149, 1957.

**Courtesy of Sat Bir Khalsa*

The Growth of the Evidence Base

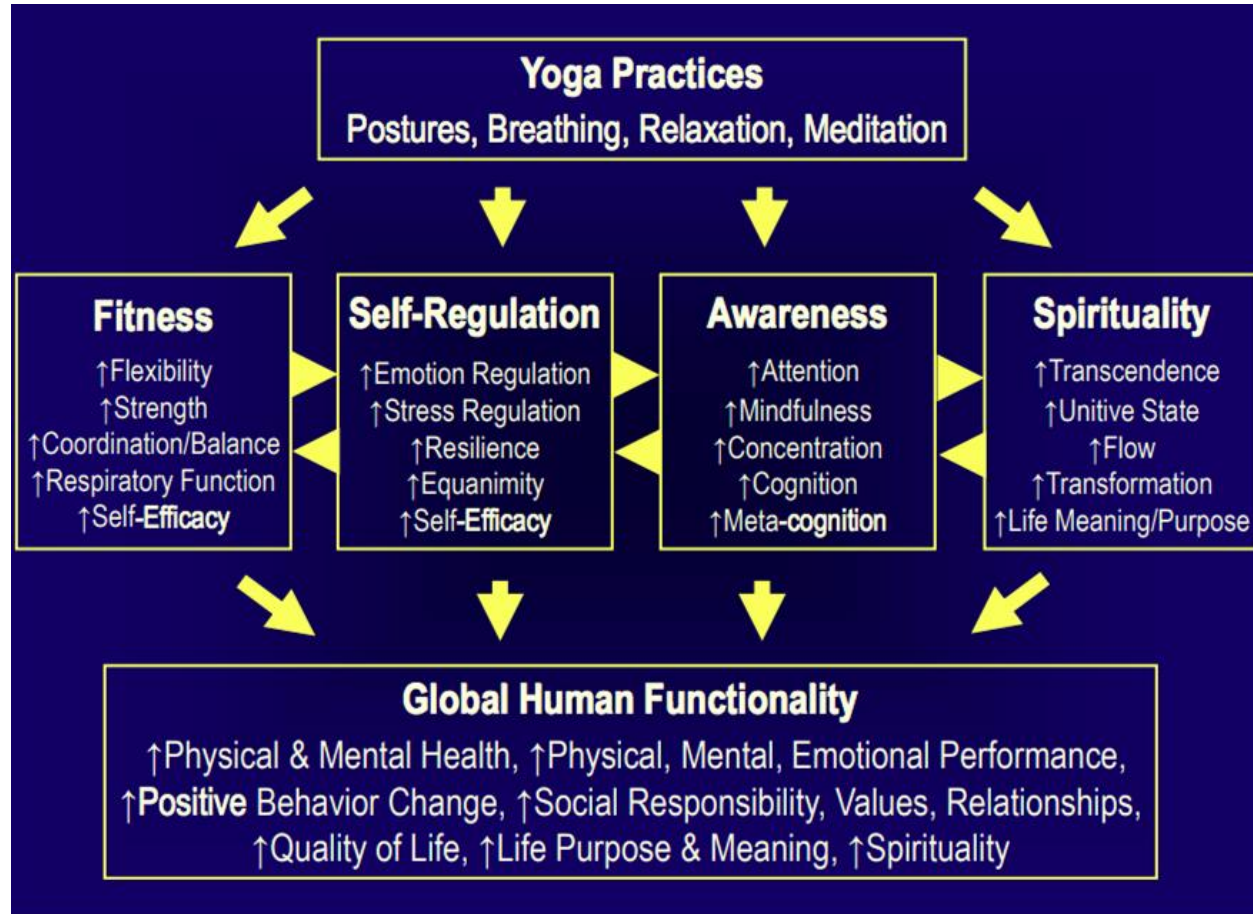
Chronology of Yoga Therapy Research



From: *Yoga as a therapeutic intervention: A bibliometric analysis of published research studies from 1967-2013*, Jeter PE, Slutsky J, Singh N, Khalsa SBS, *Journal of Alternative and Complementary Medicine*, 21:586-92, 2015.

*Courtesy of Sat Bir Khalsa

An Overview of The Range of Outcomes of Yoga Practice



*Courtesy of Sat Bir Khalsa

Mediators of Yoga for Back Pain

Hindawi Publishing Corporation
Evidence-Based Complementary and Alternative Medicine
Volume 2013, Article ID 130818, 11 pages
<http://dx.doi.org/10.1155/2013/130818>



Research Article

Mediators of Yoga and Stretching for Chronic Low Back Pain

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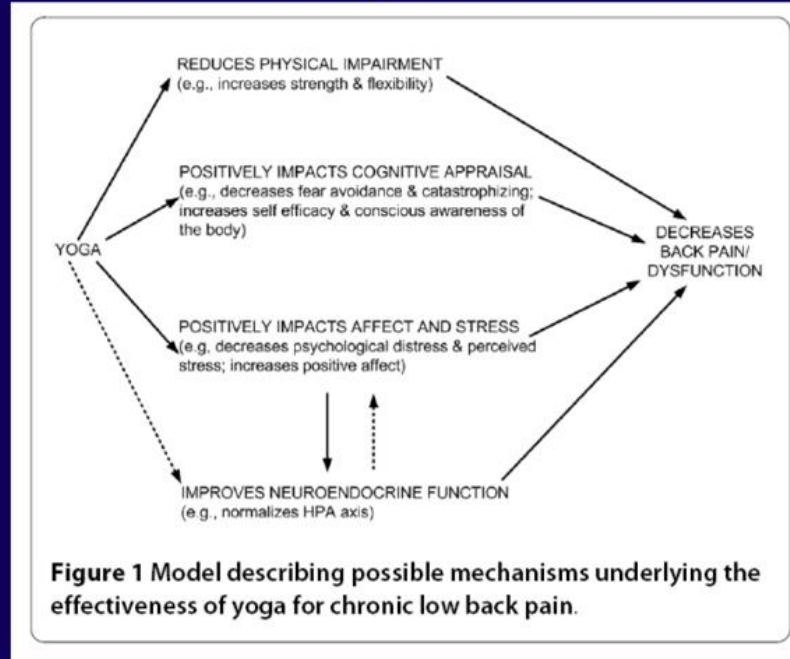
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Both yoga and stretching were superior to self-care, and our mediator analyses suggest that increased participation in back exercise and self-efficacy was responsible for most of these benefits. However, these are both complex interventions and qualitative data suggesting that relaxation and increased awareness may have contributed to the benefits of yoga...

*Courtesy of Sat Bir Khalsa

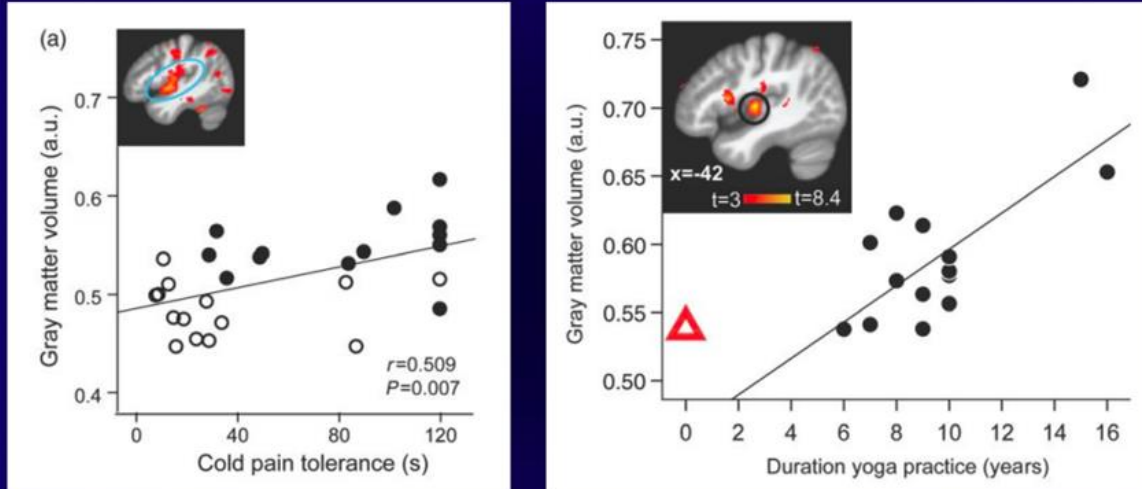
A Model of Yoga for Back Pain



From: Comparison of yoga versus stretching for chronic low back pain: protocol for the Yoga Exercise Self-care (YES) trial, Sherman KJ, Cherkin DC, Cook AJ, Hawkes RJ, Deyo RA, Wellman R, Khalsa PS, Trials 11:36, 2010.

*Courtesy of Sat Bir Khalsa

Yoga, Brain Structure and Pain



From: *Insular cortex mediates increased pain tolerance in yoga practitioners*,
Villemure C, Ceko M, Cotton VA, Bushnell MC, *Cerebral Cortex*, 24:2732-40, 2014.

*Courtesy of Sat Bir Khalsa

Slow Breathing and Pain Perception

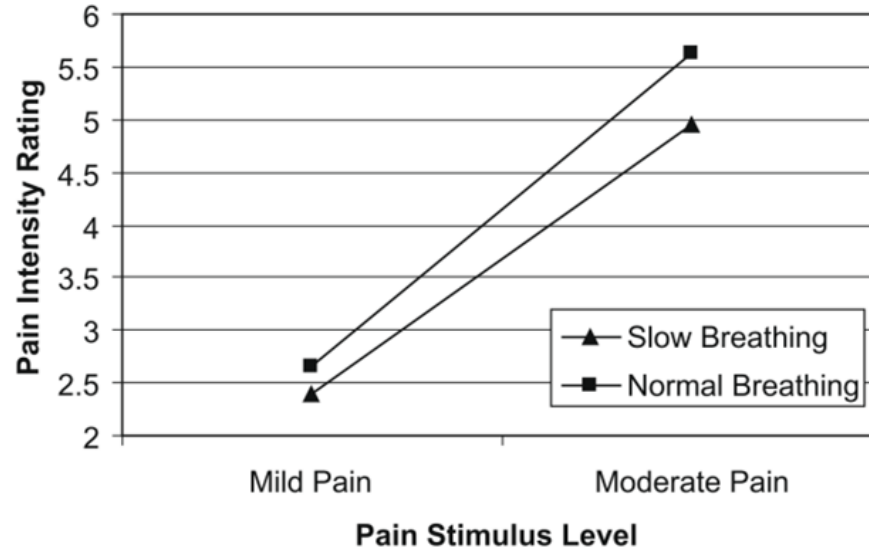


Fig. 2a. Effects of breathing rate on pain intensity ratings in healthy controls.

From: *The effects of slow breathing on affective responses to pain stimuli: an experimental study*, Zautra AJ, Fasman R, Davis MC, Craig AD, *Pain*, 149:12-8, 2010.

*Courtesy of Sat Bir Khalsa

Meta-analysis on Yoga for Pain

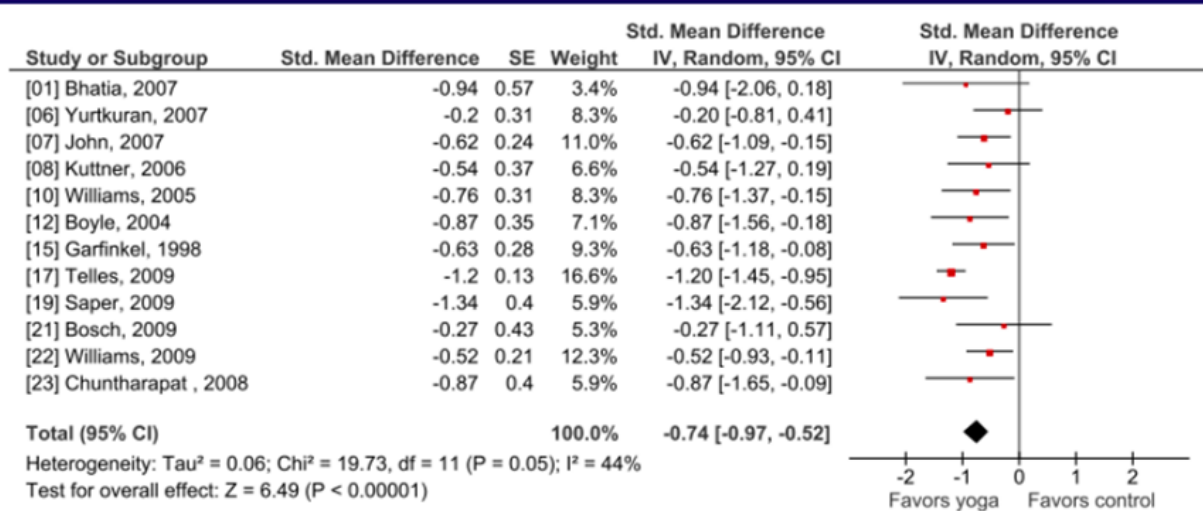


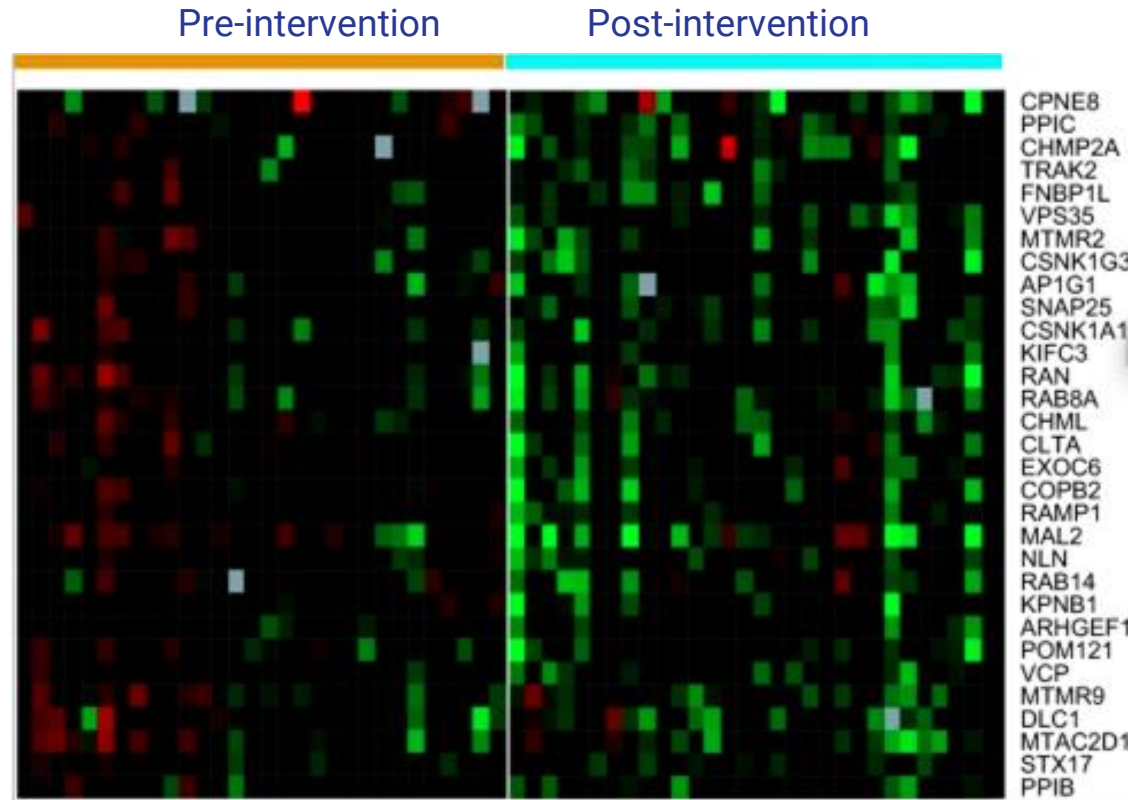
Figure 2. Standardized mean differences on pain. The size of circles represents the weight of the study in meta-regression.

This meta-analysis suggests that yoga is a useful supplementary approach with moderate effect sizes on pain and associated disability.

From: *Effects of yoga interventions on pain and pain-associated disability: a meta-analysis*, Büssing A, Ostermann T, Lüdtke R, Michalsen A, *Journal of Pain*, 13:1-9, 2012.

*Courtesy of Sat Bir Khalsa

Lifestyle Health Can Up-Regulate Positive Gene Expression and Down-Regulate Negative Gene Expression



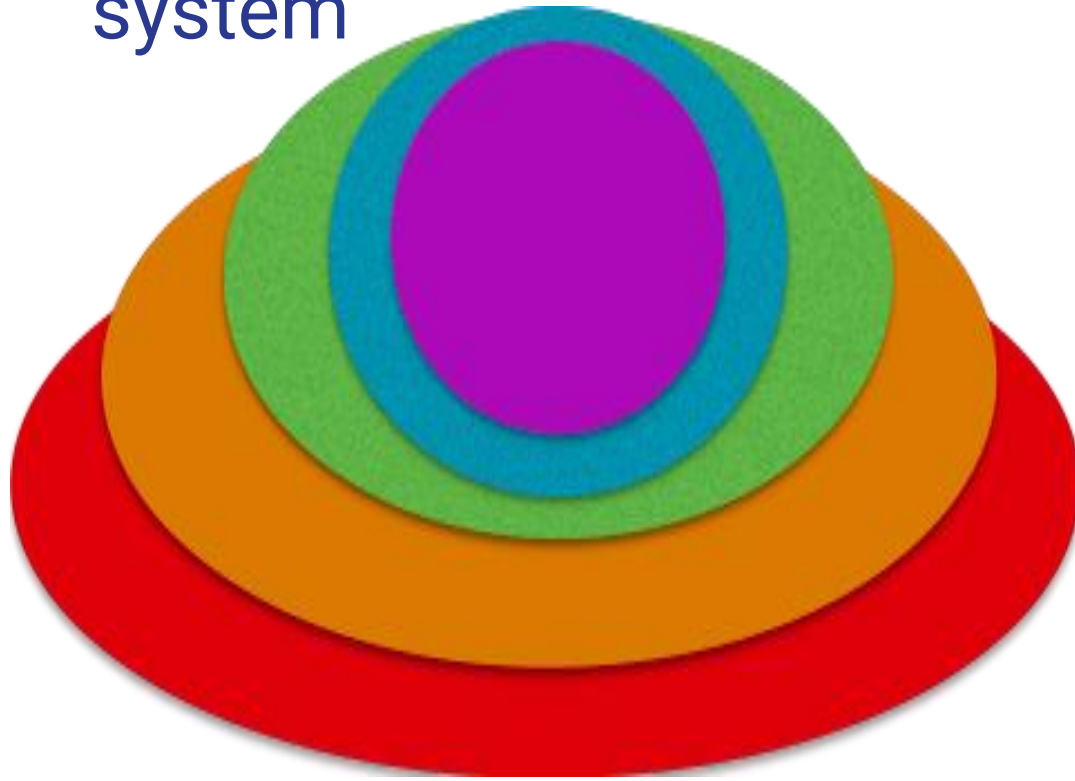
Perspectives on the Delivery of Yoga Therapy in Texas

Emily Smith, M.Ed., CRC,C-IAYT
Director YY School of Yoga Therapy

Mind Meditation on Changing Relationship to Circumstance



Yoga therapy addresses the 5 layers of the “system”



Physical: related to body in form of sensation, strength, endurance, ROM, flexibility and balance



Breath & Energy: breathing regulation, managing mood reactions



Mind: processing thoughts, emotions & feelings; reducing unhealthy attachments to emotions, feelings & beliefs



Wisdom: the intuitive aspect of mind, knowing; discerning right vs false knowledge & beliefs



Joy: the peace and joy beyond mind

Yoga Therapy

Key elements to working from a
yoga “system” approach

Symptoms are not causes

How your system functions is dependent on
healthy functioning at every layer

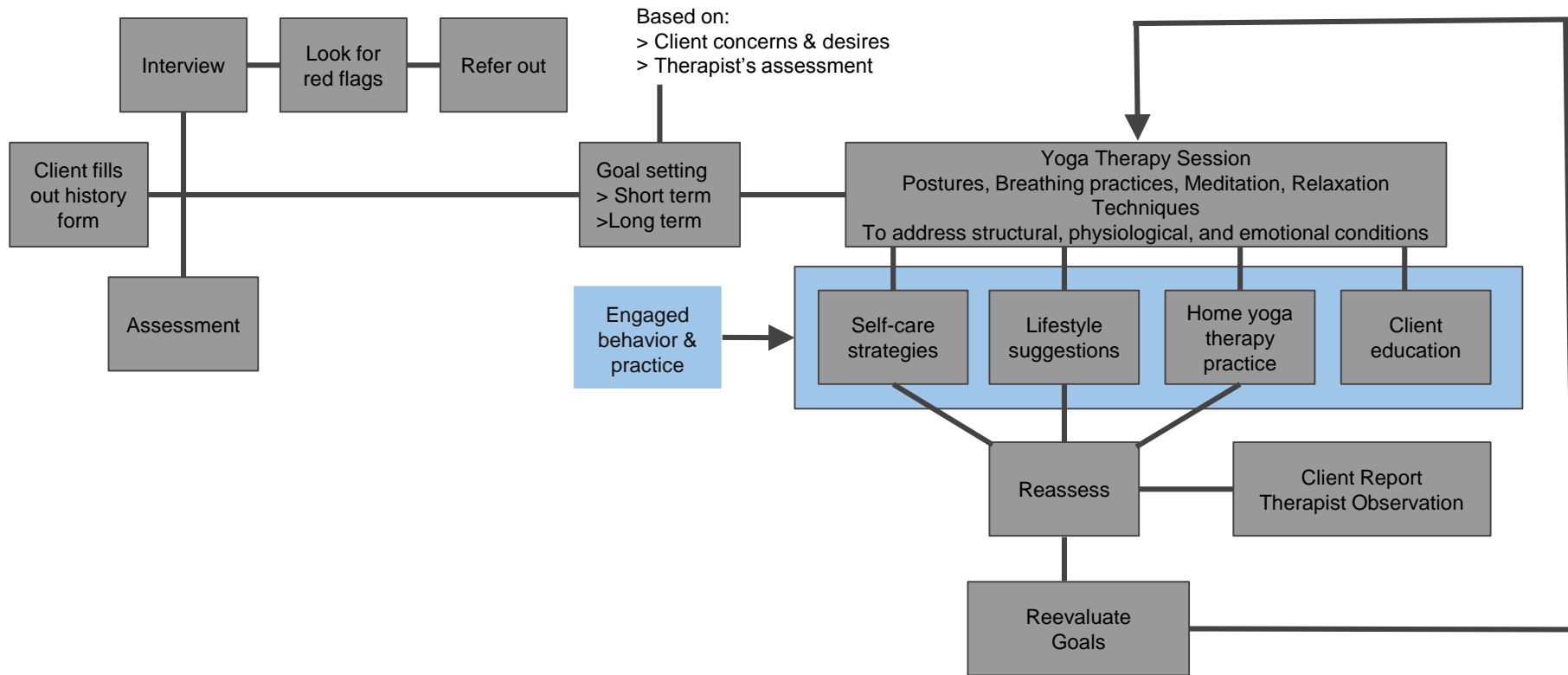
If you create change at any layer you change
the state of wellness of the system

Every experience, good or bad affects the
system as a whole

We are more than our bodies, minds, and/or
emotions.

The consciousness that created the problem
can not solve it

Process Flow of Yoga Therapy Intervention



Yoga Therapy Case Study:

- 58 year old complained of low back, neck, foot pain, poor strength and balance. Feels her pain to have started years ago and steadily became worse. Reported fears falling and not being strong enough to care for grandchild.
- Med Hx: Chronic Pain, Scoliosis, Osteoporosis, Tachycardia. Reported she did not benefit from several rounds of physical therapy. She reported weight training hurt her joints.
- Scoliotic spine, muscle imbalances, poor strength, balance, ROM, flexibility, endurance and overall conditioning; stress and anxiety expressed over poor functioning and future potential decline
- Yoga Therapy included postures to focus on flexibility, ROM, balance, strengthening and breathing. Met with YT 2x/week for 4 months with daily home practice, improved confidence, reduced pain (frequency and intensity), increased balance, strength, ROM and able to hold and care for grandchild!



Yoga Therapy in a Clinic Setting

Teri Roseman, C-IAYT - Founder, LiveYoga Wellness
Associate Director LMU Yoga Therapy Rx Clinic



YOGA THERAPY Rx PROGRAM

LMU Extension, Loyola Marymount University, Los Angeles CA
Yoga Therapy Training Program (IAYT Member School)

Level I anatomy, communication tools for working with doctors

Level II Other systems of the body circulatory, respiratory, digestive, nervous, reproductive, endocrine systems and mental health.

Level III practicum in a clinical setting

Level IV Yoga Therapy Internship with the Venice Family Clinic

Level V 100-hour supervised Mental Health clinical practicum





Venice Family Clinic

- Federally Qualified Health Center (FQHC)
- Established 1970
- 12 Locations
- 26,000 patients annually
- 76% live below federal poverty level



Patients

- 25,817 men, women, and children annually
- 76% live below the federal poverty level
- 28% are children
- 14% are homeless
- 39% speak Spanish as their primary language
- 73% have health insurance—most in history



Race/Ethnicity

- 57% Hispanic or Latino
- 27% Caucasian
- 10% African American
- 4% Asian
- 1% Other



Budget

- \$46.2 million annual operating
- \$3.6 million from in-kind donations





➤ **Simms/Mann Health and Wellness Center**

Integrative Medicine Programs

- **Team approach**
- **Blends conventional medical care and alternative modalities**

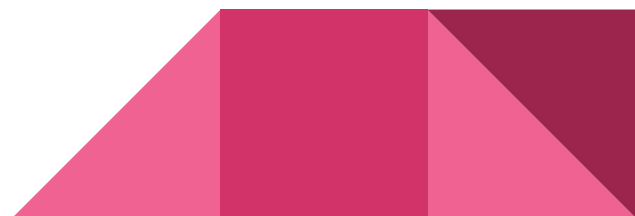
➤ **Chronic Pain Clinic** conventional medicine with

- **Acupuncture**
- **Chiropractic**
- **Osteopathy**
- **Yoga Therapy**
- **Feldenkrais**
- **Supported by: Mental Health and Wellness Education**



➤ **Chronic Pain Clinic Care Team**

- **Process of engagement**
 - **Patients referred from 12 locations**
 - **Medical consultation**
 - **6 week rotation**
- **Yoga Therapy**
(and/or multiple modalities concurrently or sequential)
 - **Intake**
 - **Evaluation**
 - **SOAP**
 - **HYP (home yoga program)**





Where are today

- **19% of total Chronic Pain Clinic appointments (fiscal 2017)**
- **5th Cohort 2018**
- **38 Yoga Therapy graduates**
- **200 + patients**
- **Yoga Therapy graduates volunteer year round**



Photo by: David Young-Wolff for LA YOGA Magazine

Increased Patient Awareness & Engagement through Yoga Therapy



“...patients become aware of their bodies, what got them into pain to begin with, and helps keep them out of pain so they don’t have to cycle back through...”

Myles Spar, MD, MPH, Director of Integrative Medicine at **Venice Family Clinic's** Simms/Mann Health and Wellness Center



Patient reported outcomes:

- **Stress reduction**
- **Reduced blood pressure**
- **Reduced pain/decreased frequency**
- **Increased strength, balance and flexibility**
- **Increased breath awareness**
- **Improved self awareness**
- **Improved sleep**
- **Self empowerment - tools to help themselves**
- **Established regular home practice**
- **Improved overall health and wellbeing**



Photo by: David Young-Wolff for LA YOGA Magazine



How Can We Help?

Where does Yoga Therapy bring value to the care team?

- We uniquely encourage and support patient engagement
 - We teach self-healing, self-awareness, self-empowerment
- We teach and support them in practicing health
 - - We don't 'do it to them'
- After PT we support continued compliance
- Patient Outcomes include:
 - Increased physical activity
 - Improved mobility & function
- We support patients to not 'cycle back'



What Symptoms, Problems & Risk Factors do we uniquely address?

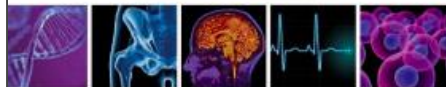
Stress

Mood Dysregulation

Quality of life



THE PRINCIPLES AND PRACTICE OF YOGA IN HEALTH CARE



Sat Bir Khalsa • Lorenzo Cohen
Timothy McCall • Shirley Telles



THE PRINCIPLES AND PRACTICE OF YOGA IN HEALTH CARE



The Principles and Practice of Yoga in Health Care is a comprehensive text that introduces the multiple origins, traditions, and benefits of yoga.

Review

- Introduce students to the history and practice of yoga therapy
- Support the emergence of yoga therapy as a distinct profession
- Comprehensive, evidence-based, and accessible text for professionals, students, and the public for yoga practice
- Includes chapter on children's health and development of yoga
- Includes the scientific evidence for yoga for a wide variety of health conditions
- Provides best practices for yoga therapy and the development of yoga therapy as a profession

The editors include three eminent yoga therapy researchers and one renowned practitioner in the field. They have brought together an exceptional team of researchers and yoga therapy contributors.

This book will prove essential to yoga therapists, physical therapists, medical doctors, psychologists, and other health professionals interested in yoga as a therapeutic intervention.

THE PRINCIPLES AND PRACTICE OF YOGA IN HEALTH CARE

CHAPTER FOUR RESEARCH ON THE PSYCHOPHYSIOLOGY OF YOGA

L SCHMALZL • CC STREETER • SBS KHALSA

Introduction

Yoga as a multicomponent practice

Yoga-based practices are inherently multifaceted in nature. In modern contexts, they typically involve a combination of specific postures or movement sequences, breath regulation, deep relaxation, and meditative techniques (Gard et al., 2014b). There are numerous "styles" of yoga-based practices representing various schools and lineages of yoga. Most of them differ in terms of the relative emphasis that is put on each of the main components as well as how these components are taught, which in turn impacts their psychophysiological effects. This chapter will outline what is currently known about the psychophysiology of the main components of yoga-based practices, and how they work in concert, primarily based on basic research studies (i.e., psychophysiology research on healthy populations).

History of basic psychophysiological research on yoga

Basic research on yoga-based practices began in the early twentieth century with the work of Swami Kuvalyananda, founder of the Kaivalyadhama Research Institute and the first yoga research journal, *Yoga Mimamsa*, which was launched in 1924. Kuvalyananda and colleagues conducted dozens of studies on individual yoga practices, which were published in their journal over the next four decades. Many of the early studies focused on investigating the effects of individual physical or respiratory practices with the use of X-rays and measures of air pressure, O_2 and CO_2 levels, acid/base balance, and blood pressure. For Western scientists, interest in the psychophysiology of yoga was likely inspired by the reports of remarkable feats of expert yoga practitioners, such as the ability to slow/stop heart rate and to reduce metabolism sufficiently to survive

in airtight enclosures. These led to observational studies and subsequently published reports in the 1950s and 1960s, which affirmed the ability of these practitioners to self-regulate internal psychophysiological processes including heart rate, respiration, metabolism, and autonomic nervous system functioning (Wenger & Bagchi, 1961).

Psychophysiology of yoga postures and movement sequences

Characteristics of yoga postures and movement sequences

Modern yoga-based practices typically have a strong emphasis on postures and movement sequences (Singleton, 2010). In fact, particularly in the West, there are yoga practice styles consisting solely of posture or movement sequences that exist alongside more traditional multicomponent contemplative yoga practice styles. Yoga postures and movements can range from large and overt to small and subtle and may even include purely internal or imagined motion (Schmalzl, Crane-Godreau, & Payne, 2014). Some types of practices involve dynamic and continuous physical movement with a focus on creating a "flow" by linking one posture to the next (Jois, 1999), some are more static with individual postures being held for a longer period of time (Iyengar, 1966), and some employ a combination of flowing movement sequences and static postures.

There are innumerable individual yoga postures and variations thereof, which are typically aimed at increasing range of motion, strength, endurance, flexibility, and balance, as well as promoting relaxation and well-being. In broad terms, yoga postures can be divided into categories including standing postures, seated postures, supine postures, forward bends, backbends, lateral bends of the spine, twists, hip-openers, and inversions. Postures are

Thank-You To...

- Sat Bir Singh Khalsa, PhD
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http://venicefamilyclinic.org/index.php?view=vfc_home
- Loyola Marymount University
Yoga Therapy Rx
<http://academics.lmu.edu/extension/crs/yoga/programs/yogatherapy/>

We appreciate the opportunity to share the work we've been doing.

Yoga Yoga
Yoga Yoga School of Yoga Therapy

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Click [here](#) for the Mind Meditation Audio