

COURSE CURRICULUM

Yoga for Health, Well-being and Medical Conditions– 7 hr CME

Life in Yoga Institute is accredited by the ACCME to provide Continuing Medical Education

June 9, 2018 San Antonio, TX

A. COURSE SUMMARY

1. COURSE DESCRIPTION: The course is intended for physicians and other medical professionals. The intent is to

- describe the fundamental concepts, principles, and philosophy behind the practice of and implementation of mind-body medicine and yoga therapy specifically
- bring awareness of the potential of yoga therapy as a complementary evidence-based medical practice in primary prevention and therapeutic care for chronic diseases;
- describe the research evidence of the psychophysiological impact of yoga;
- describe the research evidence of general applications for preventive and therapeutic medicine, and especially for mental health conditions of PTSD, anxiety, depression and traumatic brain injury
- have course participants experience a sample of simple, representative, relevant practices

Yoga for therapeutic purposes in clinical populations has been more recent in the Western World, although its roots are from India. Awareness of this has created an environment where the National Institutes of Health through the National Center for Complementary and Integrative Health has been funding a number of studies related to yoga regimens. The major underlying mechanisms involved in yoga's therapeutic benefit are that yoga provides stress reduction through induction of the psychophysiological relaxation response, enhancement of mindfulness and mind/body awareness, and in general restores physical and mental homeostasis, essentially allowing healing to occur naturally. Continuing research is establishing a higher level of understanding on yoga effects on the central nervous system, the neuroendocrine system, genomic expression and the immune system, and possibly a higher order understanding of the human system.

While yoga is very effective when practiced as preventive medicine for health maintenance, it is also effective as a complementary therapy for managing a wide range of existing diseases/disorders.

The course includes:

- Presentation, Discussions, Q/A;
- Introduction to, and experience of, simple yoga practices.

2. COURSE CONTENT :

| LECTURE & DISCUSSIONS | PRACTICES |
|--|--|
| <ul style="list-style-type: none"> ➤ Yoga and Yoga Therapy: Introduction, History, Principles, Philosophy, Prevalence, and Clinical Application ➤ The Science and Psychophysiological Mechanisms Underlying Yoga Practice and the Rationale as a Therapeutic Intervention ➤ Panelist Presentation and Discussion: Case history presentation of yoga therapy for different ailments followed by Q and A ➤ Review of the Clinical Research Trial Evidence Base for Yoga Therapy with a focus on PTSD, anxiety, depression and traumatic brain injury | <ul style="list-style-type: none"> ➤ A guided meditation session followed by theory of I-Rest and it's practical implication ➤ A Simple Experiential Yoga Session Covering the Basics of Asana, Pranayama, Relaxation and Meditation |

3. FACULTY

PRIMARY FACULTY: Sat Bir Khalsa PhD, Assistant Professor of Medicine, Harvard Medical School

SUPPORTING PRESENTERS AND PANELISTS:

- Mary Ellen Rose, MFA, C-IAYT, E-RYT 200, Director of Military Programs- Integrative Restoration Institute
- Melissa Aguirre C-IAYT, ERYT-500, Yoga Therapist, Author and Educator
- C. Rajan Narayanan, PhD, Executive Director, Life in Yoga Institute

4. COURSE ATTENDANCE LOGISTICS

LOCAL COURSE LOGISTICS COORDINATOR: Dr. Hetal Nayak, Phone: 830-534-9683,

Email: devraj_nayak@yahoo.com

LOCATION: [Henry B. Gonzalez Convention Center](#), 900 E Market St, San Antonio, TX 78205.

Meals: Vegetarian Lunch will be provided.

B. DISCLOSURE

All the faculty/speakers, and the planning committee members have declared:

- That they have no financial relationships with any commercial interests in the past 12 months;
- They will not accept financial remuneration directly from any commercial supporter for this program;
- They will uphold academic standards to insure balance, independence, objectivity and scientific rigor in their roles in this program.

C. COURSE DETAILS

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1. COURSE AGENDA AND SCHEDULE

| Timing | Activity | Presenter |
|--------------------------------------|--|--|
| 8:00 to 8:20 am | Registration | |
| 8:20 to 8:30 am | Intro to Course and requirements for CME | Hetal Nayak |
| 8:30 to 9:30 am 1.00 hr | 1. Lecture: Yoga and Yoga Therapy: Introduction, History, Principles, Philosophy, Prevalence, and Clinical Application | Sat Bir Khalsa |
| 9:40 to 11:00 am 1 hr 20 mins | 2. Lecture: The Science and Psychophysiological Mechanisms Underlying Yoga Practice and the Rationale as a Therapeutic Intervention | Sat Bir Khalsa |
| 11:10 to 12:00 pm 50 min | 3. I-Rest practice and theory: A guided meditation session followed by theory of I-Rest and it's practical implication | Mary Ellen Rose |
| 12:00 to 1:15 pm | Lunch | |
| 1:15 pm to 2:40 pm 1 hour 25 mins | 4. Discussion panel : Case history presentation of yoga therapy for different ailments followed by Q and A | Melissa Aguirre, C. Rajan Narayanan |
| 2:50 pm to 4:05 pm 1.25 hr | 5. Lecture: Review of the Clinical Research Trial Evidence Base for Yoga Therapy with a focus on yoga for PTSD, anxiety, depression and traumatic brain injury. | Sat Bir Khalsa |
| 4:15 to 5:30 pm 1.25 hr | 6. Yoga Practice: A Simple Experiential Yoga Session Covering the Basics of Asana, Pranayama, Relaxation and Meditation | Sat Bir Khalsa |
| 5:30 to 6:00 pm | Completing CME formalities | |

2. FACULTY & PANELIST PROFILES

CORE FACULTY:

Sat Bir Singh Khalsa, Ph.D., Assistant Professor of Medicine at Harvard Medical School

Dr. Khalsa received his doctorate in human physiology and neuroscience at the University of Toronto and has conducted research in neuroscience, biological rhythms, sleep and sleep disorders since 1978. Since 2001 he has been fully engaged in basic and clinical research on the effectiveness of yoga and meditation practices in improving physical and psychological health. He has also been personally involved in the practice of a yoga lifestyle since 1973 and is a certified instructor in Kundalini Yoga as taught by Yogi Bhajan. He is currently the Director of Research for the Kundalini Research Institute, Research Director of the Yoga Alliance, Research Associate at the Benson Henry Institute for Mind Body Medicine, Research Affiliate of the Osher Center for Integrative Medicine and an Assistant Professor of Medicine at Harvard Medical School in the Department of Medicine at Brigham and Women's Hospital in Boston.

He has conducted clinical research trials evaluating a yoga treatment for insomnia, chronic stress and generalized anxiety disorder funded by grants from the National Center for Complementary and Integrative Health of the National Institutes of Health. This research has examined both the efficacy of yoga for the treatment for these conditions and the underlying neuroendocrine and neuropsychological mechanisms. He has also been involved in yoga research for addiction, back pain, and performance anxiety. He has also evaluated the efficacy of yoga in treating post-traumatic stress disorder in the general population and also in military veterans funded by a Department of Defence grant. He has completed research projects for evaluation of a yoga program within the academic curriculum of public schools and in workplace/occupational settings to determine the benefits in mental health characteristics such as perceived stress, resilience, emotion regulation and anxiety.

Dr. Khalsa has established relationships with fellow yoga researchers both in the U.S. as well as in Europe and in India. In India he routinely attends and presents at international yoga research conferences and in the U.S. he is actively working with the International Association of Yoga Therapists (IAYT) to promote research on yoga therapy, conducting the annual Symposium on Yoga research and serving as editor of the International Journal of Yoga Therapy. He regularly presents internationally on yoga therapy research at both conferences and CME courses.

While he is well published in yoga, he served as chief editor and author of the medical textbook “The Principles and Practice of Yoga in Health Care”, which is perhaps the first comprehensive book of its kind in yoga therapy and is a text for this course.

Mary Ellen Rose, MFA, C-IAYT, E-RYT 200, Director of Military Programs- Integrative Restoration Institute

Ms. Rose is an accomplished and experienced yoga professional holding not only certification for I-Rest, but also for overall yoga therapy by being certified by the International Association of Yoga Therapy. She has been an instructor in research projects related to I-Rest as well. In her current role as Director of Military Programs for Integrative Restoration Institute her duties include, creating resources for teachers, establishing an interface with Active Duty Service Members and their families, Veterans, and like-minded

organizations. iRest is currently being taught all over the world, at Military Hospitals, on Military bases, and Veterans Hospitals

PANELISTS:

Melissa Aguirre C-IAYT, ERYT-500

As a Yoga Therapist, Author and Educator, Ms Aguirre integrates mind body techniques to empower clients to participate in their health and healing while improving quality of life. Melissa trained through Asheville Yoga Center's Therapeutic Yoga Program and Subtle Yoga. Committed to implementing holistic solutions to guide flourishing health, Melissa offers a sustainable system of somatic and mindful practices inviting her clients to generate an effective way of preventing illness and recovering health. Her passion for serving those who serve has led to the creation of her mindfulness based yoga therapy programs and Adaptive Training Programs that serve the military population along with community workshops, and classes in holistic wellness. For more information visit www.melmarieyoga.com

C. Rajan Narayanan, Ph.D., Executive Director & CME Director, Life in Yoga Institute and Foundation
Dr. Narayanan is a founder and inspiration behind Life in Yoga Foundation and Institutes, non-profits formed and active in the Washington metro area. He was the visionary behind getting CME accreditation for Life in Yoga and serves as its CME Director. He also supervises yoga therapy clinics in three locations (Maryland, Houston and Phoenix) and actively consults with patients. He has worked with several hundred patients with different types of disorders over the last 12 years. The summarized learning of his research is being published in the International Journal of Yoga in May 2018 under the title Bioenergy and its Implications for Yoga Therapy.

He also serves as the Secretary and a Board member of the Council for Yoga Accreditation International, an international body with membership consisting of the leading yoga institutions of the world, that serves to establish accreditation standards for yoga teaching institutions. He has developed the 5 by 3 by 1 approach of the Life in Yoga Foundation based on the principles of Asthaaga Yoga and the teachings of the Yoga Sutras of Patanjali. Based on these principles he has developed Gentle Yoga as a powerful practice accessible to all and Dance Yoga that would appeal more to younger and more energetic people. He has actively researched different aspects of yoga and has developed many more techniques over the last many years. He has also done a complete translation and commentary on the Yoga Sutras of Patanjali and the Bhagavad Gita. Over the last few years he has been working on techniques of instant measurability of yoga practices. He began with measurements with Electro-Acupuncture tools (used to measure meridian flows of Chinese Medicine) in 2010. Over 2011-12 he completed a research project to measure vitality through electrical conductance in collaboration with SVYASA University in India. In 2012, he also worked with the Pulmonology practice of Dr. U. Nanavaty to begin case studies on COPD that are continuing into 2013. He completed a pilot study on Obstructive Sleep Apnea in collaboration with Dr. Harminder Kaur of Clarksburg Medical Center in 2013-14. End of 2014, he developed measurability with Electro-Photonic Imaging, which has now become part of Life in Yoga's practice method called Measured Yoga Therapy. With this technique in the second half of 2016 he was

able to reverse Chronic Fatigue Syndrome of a subject who was suffering for 35 years and had spent 30 years exploring yoga options with many reputed institutions without success.

3. SUMMARY OF EACH SESSION

(References may be included with each session or in the separate fourth section or having general references in the fourth section and specific references noted along with summary of each session.)

1. Lecture: Yoga and Yoga Therapy: Introduction, History, Principles, Philosophy, Prevalence, and Clinical Application

Yoga

- definition of traditional yoga as a multicomponent practice, exercise/posture, pranayama, relaxation, meditation, lifestyle, etc.
- purpose of yoga practices, benefits on psychophysiology and behavior, expected changes experienced by beginners
- approach to traditional yoga practice, noncompetitiveness, appropriate effort and dedication, modifying exercises to avoid excessive effort and injury, personal responsibility, importance of regularity of practice
- Indus Valley Civilization, Vedas, Upanishads, Patanjali's Yoga Sutras
- Krishnamacharya, Swami Sivananda, Swami Kuvalyananda, Sri Aurobindo
- arrival of yoga in the 1960's-70's in the west by specific teachers
- hatha yoga styles – generic hatha yoga, Iyengar, Kripalu, Sivananda, Vinyasa, Ashtanga, Viniyoga, Bikram, Power, Hot, Restorative, etc.
- relative popularity, differences between styles
- diversification of yoga offerings (e.g. prenatal, kids yoga, chair yoga, yogalates, yogaerobics, etc.)
- statistics on yoga practice, Yoga Alliance/Yoga Journal survey
- evidence of yoga in the culture, popularity and image of yoga by the public
- International Day of Yoga, U.N. resolution, celebration internationally
- future of yoga in society, in education and healthcare

Yoga Therapy

- history of yoga therapy, first appearance in India in the 1920's, contrast with goals of yoga
- appearance and growth in India, work of Kuvalyananda, book "Yogic Therapy"
- appearance and history of yoga therapy in the west, current popularity
- International Association of Yoga Therapists, mission, conferences, accreditation of individuals and schools, International Journal of Yoga Therapy, Yoga Therapy Today
- basic theoretical principles in yoga therapy, role of balance in the mind/body, mind/body connection, "detoxification" and cleansing, stress and mind/body awareness, subtle energy mechanisms (prana, kundalini, chakras, subtle bodies, etc.)
- therapeutic approach in yoga therapy, individual application, mind-body connection, integrative approach, tailored yoga practices for the individual patient, targeted yoga practices specific to the disorder and the patient
- growing movement of additional incorporation of Ayurveda principles and practices in yoga therapy
- yoga therapy within the fields of mind/body and integrative medicine

- virtue of yoga therapy within modern medicine, preventive aspects, growing epidemic of non-communicable, preventable lifestyle disease

2. Lecture: The Science and Psychophysiological Mechanisms Underlying Yoga Practice and the Rationale as a Therapeutic Intervention

History of Psychophysiological Research on Yoga

Psychophysiology of Yogic Physical Exercises

- review of key physical characteristics of asanas – stretching, flexibility, isometric, movement, balance, inversion, deep relaxation exercises
- research evidence for the efficacy of conventional physical and aerobic exercise in cardiorespiratory fitness and psychology
- research evidence for efficacy of yoga on physical characteristics
- hypotheses of mechanism of action of asanas
- theory of stretching influence on the fascia and connective tissue syncytium
- polyvagal hypothesis of afferent vagal information affecting psychology
- hypothesis that body posture generates psychological changes, e.g. power poses, forced laughter

Psychophysiology of Yogic Breathing Practices

- research evidence on the effects on the efficiency of slow yogic breathing on gas exchange, O₂ and CO₂
- misconceptions of increased oxygen with yogic breathing
- research evidence on applied use under high altitude conditions
- research evidence on the effect of slow yogic breathing on the respiratory chemoreflex response
- research evidence on the effect of slow yogic breathing on the baroreceptor reflex, autonomic function, and heart rate variability
- research evidence on the efficacy of slow yogic breathing in modifying psychological state (stress, mood, emotion) and cognitive performance

Psychophysiology of Meditation

- neurophysiology of focus of attention and engagement of the attention networks vs. default mode network and mind wandering
- inhibitory connections between prefrontal cortex and limbic system
- review of EEG research on meditation, brain wave activation patterns, interhemispheric connectivity, coherence
- review of neuroimaging research on meditation, short and long term effects on brain activity, brain regions
- neuroimaging results on structural changes in the CNS
- review of evidence of behavioral changes in mood, stress, emotion regulation, pain regulation, mindfulness, cognitive performance, sleep, health behaviors
- research evidence for transformative effects and transcendental and flow experiences

Summary Logic Model of Psychophysiology of Yoga

- contribution of physical practices, self-regulation, mind-body awareness and transformative experiences

3. I-Rest practice and theory: A guided meditation session followed by theory of I-Rest and it's practical implication

The US Army Surgeon General and Defense Centers of Excellence (DCoE)(2010) confirm iRest Yoga Nidra as a CAM for the treatment of PTSD, and recommend the practice as a CAM for the management of chronic pain in Military and Veteran settings. Research studies support iRest as an evidence based program for helping people heal thru PTSD, depression, insomnia,pain,stress-related disorders and chemical dependancy. iRest is currently being used in VA Hospitals, clinics and Physical and Mental health setting throughout North America.

In this session we will cover the theory as well as experience the practice of i-Rest.

4. Discussion panel : Case history presentation of yoga therapy for different ailments followed by Q and A

Panelists will present specific cases and follow-up with discussion and answer questions. Learning objective is to understand comparative understanding of conventional versus holistic yoga-therapy approach, specific techniques used, patient behavioral management and factors that impact success with yoga therapy.

As an example, Melissa Aguirre will present on a case study evaluation of working consistently with client in remission from breast cancer. Demonstrated will be yogic techniques such as that worked to reduce pain, improve sleep, and heighten self-regulation. Through vagal toning practices, client has been able to reunite with autonomy while reducing anxiety. During the session, client will be available for Q & A as we discuss Yoga Therapy for Life After Cancer.

5. Lecture: Review of the Clinical Research Trial Evidence Base for Yoga Therapy with a focus on yoga for PTSD, anxiety, depression and traumatic brain injury.

Review of the Clinical Research Trial Evidence Base for Yoga Therapy for Medical Conditions

- Role of yoga therapy within integrative and mind body medicine relative to modern medicine
- Overview of the research evidence base, history, bibliometric analyses
- Breadth of yoga therapy research internationally, institutions, journals, conferences, funding agencies

Review of the Research Evidence Base for Yoga PTSD, anxiety, depression and traumatic brain injury

- Scientific rationale, and relevance of the logic model of the psychophysiology of yoga, for risk factors and symptoms of, PTSD, anxiety, depression and traumatic brain injury

- Overview of published research studies on yoga for PTSD, anxiety, depression and traumatic brain injury

6. Yoga Practice: A Simple Experiential Yoga Session Covering the Basics of Asana, Pranayama, Relaxation and Meditation

- a group practice session of a simple beginner's class in Kundalini Yoga
- includes basic yoga instruction principles
- includes postures, physical exercises, breathing techniques, deep relaxation and meditation practices
- includes practice of specific breathing meditations for specific conditions

4. REFERENCES

A. GENERAL TEXTS & REFERENCES

TEXT 1: "The Principles and Practice of Yoga in Healthcare" by Sat Bir Khalsa, Lorenzo Cohen, Timothy McCall and Shirley Telles, Handspring Publication 2016

TEXT 2: "Yoga Therapy and Integrative Medicine: Where Ancient Science Meets Modern Medicine" – March 16, 2015 by Larry Payne Ph.D. (Author), Terra Gold M.A.LAc. (Author), Eden Goldman D.C.

Additional Reference Books:

1. "Yoga as Medicine" by Timothy McCall, M.D.
2. "Meditation as Medicine" by Dharma Singh Khalsa, M.D.
3. "Principles of Mind-Body Medicine" by Venkat Srinivasan, M.D.
4. "Yoga Therapy, Ayurveda, and Western Medicine: A Healthy Convergence" by Dilip Sarkar, M.D.

Journal References:

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Krishnakumar D, Hamblin MR, Lakshmanan S.
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Health Impacts of Yoga and Pranayama: A State-of-the-Art Review.

Sengupta P.

Int J Prev Med. 2012 Jul;3(7):444-58.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3415184/?report=printable>