Teaching Therapeutic Yoga to Medical Outpatients: Practice Descriptions, Process Reflections, and Preliminary Outcomes

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Abstract

This article describes therapeutic Yoga practices designed for a medical population with mixed diagnoses and a wide range of health challenges. We present preliminary data from 54 adults who participated in Yoga classes at a community medical center serving seventeen counties in Northeast Georgia. Findings suggest that attending therapeutic group Yoga classes can improve health perceptions and mindfulness. These findings are discussed in terms of implications for clinical practice and future research. The Yoga practices are described in detail, for the benefit of teachers and researchers who wish to replicate the practices.

Introduction

Healthcare providers, hospital systems, and third-party payers are increasingly recognizing the need for safe, effective, low-cost, adjunctive interventions for patients with chronic medical and psychiatric conditions. Yoga is an empirically derived philosophical and practical set of principles that teaches human beings how to care for themselves and reduce suffering. Practitioners of Western medicine are discovering the efficacy of Yogic practices for psychological disorders[1-3] and other medical conditions.[4-6] There is a growing body of research suggesting that Yoga is an effective treatment for both anxiety and depression,[1,7] and Yoga is associated with improvements in musculoskeletal diseases,[8] hypertension,[9] osteoarthritis,[10] low back pain,[11] carpal tunnel syndrome,[12] fibromyalgia,[13] and cardiopulmonary diseases.[14]

The authors of this article have developed two Yoga programs for medical populations. Therapeutic Yoga is a program designed for individuals with complex medical issues and significant challenges to mobility. Gentle Yoga is a program designed for individuals with mobility, pain, mood, sleep, fatigue, and balance issues, but whose medical issues are less complicated or serious. The medical director, also a certified Yoga instructor, designed the classes with input from other Registered Yoga Teachers.

The Yoga classes are open to the community; however, the majority of Yoga students are referrals from physicians in the medical center. Individuals self-select into Yoga classes based upon the mobility criteria included in class descriptions. Participating students suffer from varied symptoms and illnesses, including cancer, neurodegenerative diseases, myofascial disorders, arthritis, chronic fatigue, heart disease and other endothelial disorders, mobility-related health challenges, and mood and anxiety disorders. All classes include a graded spectrum of ability levels and movement restriction. Participants are screened at the time of registration, and by teachers during class orientation, to improve the fit of student to class level.

In both programs, mindfulness is encouraged through linking breath and movement while observing sensation, thoughts, and feelings with benevolent curiosity. Sequencing and adaptations are left to teacher discretion, and postures are both held and dynamically performed. Home practice is encouraged and monitored each week during group discussion.

In this article, Therapeutic Yoga and Gentle Yoga classes are described in detail, for the benefit of teachers and researchers who wish to replicate the practices in teaching, or for a study of Yoga's benefits in a medical setting. This article also reports some preliminary data on the benefits of these programs, based on voluntary self-report of students. Most previously published studies and descriptions of Yoga for a medical population have focused on practices designed for a specific condition, such as cancer or heart disease. The Therapeutic Yoga and Gentle Yoga programs were designed to accommodate a broad spectrum of conditions and students, making them particularly plausible for use in a general medical or community setting.

Yoga Programs

Therapeutic Yoga

Therapeutic Yoga is designed for individuals with significant mobility, balance, pain, mood, sleep, and fatigue issues. Most participants have complex medical conditions, are on multiple medications, and have impaired ability to move independently. Nonetheless, they attend Yoga classes voluntarily, often at a treating physician's recommendation.

Classes are two hours long, with ample rest intervals, and held once a week for a six-week session. Participants can "graduate" to more challenging classes after completing the six-week series, or they can repeat the course. Each six-week session includes both new participants and students returning from a previous session.

The Therapeutic Yoga course is very challenging for an instructor to guide. Teachers work with participants individually to develop adaptations for particular physical and psychological challenges. The combination of newcomers (most with no Yoga experience) and "regulars" adds another level of challenge. Therefore, the class is taught on multiple levels simultaneously.

Throughout the course, themes are identified and explored. Themes include: self-monitoring, self-nurturing, and self-responsibility; working to the "edge" before pain and abandoning "no pain, no gain" and other self-violent beliefs; and awareness of interpersonal and intrapersonal competitiveness. Mindfulness is considered fundamental to healing and is emphasized throughout the class.

Therapeutic Yoga Protocol

Preparation. At each practice, there is a chair, Yoga mat, meditation pillow, and large bed pillow for each participant. Straps, bolsters, pillows of different sizes and shapes, blankets, and blocks are available. Classes include time to "check in" with group participants, review homework and home practice, discuss obstacles, and celebrate accomplishments. Group process and support is encouraged, to normalize the

Instructions for Seated *Sûrya Namaskâra* (Sun Salutation)

1. Sit in a chair with feet resting comfortably on the floor, and the spine erect. Spine is away from the chair back. Bring hands into prayer position.
2. Inhale: lift arms out and up and gently lengthen the spine. Look up, but do not compress the back of the neck.
3. Exhale: hinge from the hips with a straight spine, hands on hips (less load on the back muscles) or along side the ears (maximal load), into a seated forward bend. Keep the head and neck relaxed. Hold for several three-part breaths.
4. Inhale: come up out of the forward bend with a lengthened spine and hands on hips. When vertical, exhale.
5. Inhale: place hands behind the right knee. Exhale: lift right knee toward the chest. With the right knee in to the chest, lengthen the spine upward and gently extend while looking up. Take several three-part breaths.
6. Exhale: gently lower the right leg and fold forward from the hips with a lengthened back. Avoid rounding the back and collapsing at the waist to achieve the forward bend. When holding the pose, the back can be rounded and the head and neck relaxed downward. Take several three-part breaths.
7. Place hands on the hips. Inhale: come up out of the forward bend with a lengthened spine. Gently look upward and extend the spine. Exhale.
8. Inhale: place the hands behind the left knee. Exhale: lift the left knee toward the chest, lengthen the spine, look up, and take several breaths.
9. Exhale: lower the left knee and continue to fold at the hips, with a lengthened spine, into a forward bend.
10. Place hands on hips or arms extended alongside the ears. Inhale: rise with a lengthened spine into a vertical position, and look up.
11. Exhale: hands to prayer position.

experience of medical and psychological symptoms. The individuals in the group are asked what they need during any particular class. The teacher then tailors the class from a repertoire of adaptations. Students are reminded that they can sit or lie down at any time during the practice to rest and recover. This encourages students to trust their intuition about their strengths and limitations.

Opening awareness practices. Every class begins with a body scan and mindful three-part breathing in a supported supine or sitting posture. The instructor carefully addresses awareness of the body, breathing, mental events, and emotional tone through guided meditation. This awareness process allows participants to notice and eventually shift how they think about and react to physical and psychological pain, which can change the sensory, cognitive, and affective dimensions of pain. Themes of awareness, compassionate self-observation, and disidentifying with negative thoughts continue to be explored and developed over the course of the class. This approach of mindfulness and cognitive reframing has proven useful in reducing chronic pain[15-16] and preventing relapse of depression.[17-18]

Âsana. Examining and increasing range of motion is progressively and thoroughly addressed through the course of the practice, starting with the feet and moving toward the head. All movement is linked to breath and attention.

Students are frequently reminded of the nonjudgmental stance of mindfulness when observing their own thoughts, particularly about their physical mobility. This nonjudgmental, accepting orientation is important when approaching more complex *vinyasas* such as seated *sûrya namaskâra* (sun salutation). Repetitions of sun salutation are increased over the six-week class period in order to build endurance and routine.

Seated sun salutations are followed by a brief period of three-part breathing. Next, standing postures are introduced to develop strength, balance, and confidence. In standing postures, neck, shoulder, wrist, and finger motions are isolated and explored to begin releasing habitual tension. Hip range of motion and *ardha-shalabhâsana* (half-locust) are practiced standing with chair support. Depending upon the student group and instructor comfort, partner or group *âsanas* may be introduced (*see Photo 1*). These types of movements can occasionally elicit deep emotions. Instructor skill in helping participants identify and integrate these experiences is vital. The instructor focuses on supporting participants' mastery and self-efficacy, and creating the potential for participants to develop novel, integrative relationships with these emotional responses.

Following the exertion of standing poses, students are guided in to a brief *shavâsana* (corpse pose). Some participants practice *shavâsana* in a chair, and others lie down. Participants are asked to observe how the body and breathing feel, with attention to thoughts and feelings. They are asked to watch these states with acceptance and benevolent curiosity, and without undue involvement in what arises.

Photo 1. *Yoga students practicing a group* âsana.

Shavâsana is followed by a cat/cow movement that explores spinal flexion and extension. The movement is taught so that students can participate on all fours or seated in a chair. Participants are guided to move the four curvatures of the spine with awareness, acceptance, and the breath. This movement is followed by a reclining or chair spinal twist. Optional poses can be inserted here, for both sitting and lying students, to release the low back. Once again, students are guided to pay attention to sensory feedback, thoughts, and feelings—particularly those associated with low back issues.

Relaxation. *Âsana* practice is followed by *Yoga Nidra* with progressive musculoskeletal relaxation and careful observation of the breath and mind. In this practice, the instructor also guides participants in careful witnessing of the observing capacity itself, the attributes of the observer, and extended exploration of the positive attributes of the observer (e.g. peace, contentment, and silence). *Yoga Nidra*

takes 15-20 minutes to guide, and for 50-60% of that time, the instructor is silent.

Closing practices. After relaxation, participants return to a sitting position for breathing practices. Three-part breath with prolonged exhalation, *ujjayi prânâyâma*, and alternate nostril breathing are introduced. Mindfulness meditation practice is guided for the last minutes of the practice. To close, chants derived from different traditions and religions are taught.

Homework. Homework is given to reinforce what is learned in class. The homework may include practicing particular breathing techniques or postures between classes, and/or tracking moods and physical experiences on a daily basis. These types of self-monitoring techniques are in line with empirically supported treatments in the cognitive-behavioral literature.[19-20]

Gentle Yoga

Gentle Yoga classes are designed for deconditioned participants with mobility, pain, mood, sleep, fatigue, and balance issues. Typically, students in this course can move up and down from the floor unassisted. Compared to Therapeutic Yoga classes, Gentle Yoga tends to serve individuals with less chronic or serious disorders, but may include individuals with musculoskeletal disorders such as fibromyalgia, mood and sleep disorders, and chronic pain syndromes. Gentle Yoga classes follow the same general format and philosophy as the Therapeutic Yoga course.

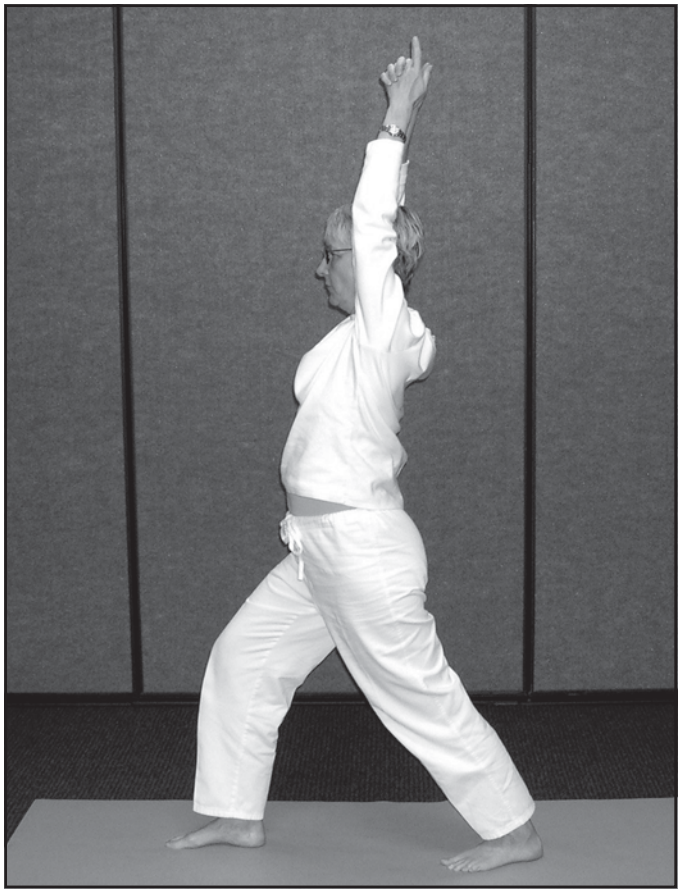

Photo 2. *Modified* virabhadrâsana I.

Photo 3. *Modified* parsvakonâsana.

Opening awareness practices. Classes begin with a body scan and mindful three-part breathing in a supported supine or sitting posture. Awareness of the body, breathing, thoughts, and emotions are carefully guided.

Âsana. The Gentle Yoga class guides participants through spinal movement, standing poses, and supine poses. Most poses are introduced with a practice time of 2-3 breaths, with some poses eventually developed to 8-10 breaths.

Movement practice begins on all fours, with adaptations offered for wrist problems and arthritic knees. This series begins with standard cat/cow, or mindful spinal extension and flexion, coordinated with breath. Throughout spinal movement, the instructor guides participants to attend to habitual thoughts and beliefs concerning the back, including anxiety about spinal movement. This process of awareness and de-identification with arousal states is related to improvements in depression and anxiety-related conditions.[18]

Each week, more challenging variations of cat/cow are added, including leg lifts, knee to chest with spinal flexion, pelvic extension, and general balance challenges. These types of postures are a good time to bring light-heartedness into the practice, reminding the students of the nonjudgmental, accepting nature of mindfulness as they relate to their own bodies. This sequence introduces significant "load" to back extensors and can be challenging for deconditioned indi-

viduals. It is layered into the cat/cow series as the six-week course progresses, and always introduced with advisory language and adaptations.

The cat/cow series ends by rocking back into *bâlâsana* (child pose) while holding the cat spinal flexion.

This sequence is followed by standing poses and movements, beginning with arm swings to loosen excess muscle tension. This is followed by dynamic palm tree, a balancing sequence of lifting the arms while rising onto the balls of the feet. In the standing poses, we introduce the process of recognizing and releasing habitual holding patterns through a neck, shoulder, and upper-extremity series. Hand and wrist stretches are integrated into this series.

Depending upon class composition and ability, optional dynamic standing poses are introduced at teacher discretion. *Virabhadrâsana* I (modified warrior I) (*see Photo 2*) and *parsvakonâsana* (modified side angle pose) (*see Photo 3*) are the primary postures. Modified *parsvottanâsana* (intense side stretch pose) is usually added to the practice late in the six weeks with advisory language and adaptations, as this pose creates significant load to the low back musculature.

A brief *shavâsana* is guided between the standing series and the following supine series. This relaxation includes three-part-breathing, a body scan, observation of mental events with mindful, non-judgmental attention, and cultivation of heart-centered awareness.

The supine series involves unloaded low back and hamstring work, and develops core strength and internal confidence. It begins with the legs extended or, alternatively, with knees bent and feet on the floor. With exhalation, participants rock the tailbone upwards slightly, rectus abdominis relaxed, and the stomach drawn inward. Simultaneously, the low back is pressed into the floor, activating the transversus abdominis and the multifidus. With inhalation, the posture is released. This movement is practiced slowly and repeti-

Photos 4-7. *Rolling Bridge Series.*

tively with the breath, the pelvis never leaving the floor. This is believed to activate inner and outer core musculature to reintegrate function and release painful tension.

This movement is followed by a series of stretches and active movements in a supine position, including single leg stretches with a bent and straight leg, lateral rocking with both knees to chest, spinal twist, "thread-the-needle" stretch for the lateral rotators of the hip, and rolling bridges. During rolling bridges, attention is given to slow, mindful movements, and linking breath to spinal and arm movements (*see Photos 4-7*). This supine series, with its subtle movements and sensations, provides another opportunity to shape a nonjudgmental acceptance accompanied by benevolent curiosity of sensation and thoughts related to movement of a specific body region.

The *âsana* portion of the practice concludes with participants coming to a comfortable crossed-leg sitting posture, using props as appropriate. A *mudra* is created by folding from the hips, arms held behind the back. After holding the *mudra* for several breaths, the mudra is released by rising slowly (3-5 breaths) with a lengthened back.

Relaxation. Deep relaxation again follows active movement, reemphasizing to the student the balance of effort and repair physiology.

Closing practices. Controlled breathing (*prânâyâma*) is introduced and developed in complexity over the six-week course. Rapid diaphragmatic breathing and alternate-nostril breathing are taught, and retention after inhalation is introduced at the instructor's discretion. Sitting mindfulness meditation is taught, and chants close the practice.

As mentioned in the Therapeutic Yoga description, students are given the opportunity to share, discuss, query, and support one another through discussion of their experiences. Homework is monitored, and obstacles to practice are identified and explored each week. This practice, along with group process, is believed to facilitate the physiological, cognitive, affective, and behavioral components of shifting from an illness-focus to a wellness-focus.

Health Outcomes: A Preliminary Report

Students attending Therapeutic and Gentle Yoga classes were invited to answer self-report questionnaires about physical and mental well-being, at the beginning of their participation in the Yoga classes and at the end of the six-week session. If participants opted not to complete the questionnaires, they were still welcome to attend all Yoga classes.

Participants

Fifty-four (42 females) of the 126 individuals who attended Yoga classes at a mind-body institute in a regional medical center participated in the research project. The average age of participants was 55 (SD = 12.4; range 21-86). This was a middle-class, homogeneous sample (96% Caucasian), as evidenced by the following: 50% had a college education or advanced degree, and 79% earned more than $50,000 per year. Participation was voluntary and no incentives or rewards were offered in exchange for completing questionnaires. All information was obtained via self-report measures.

Because participation in this research was voluntary, and because participants in the research represent a self-selected subset of the number of the individuals who participated in the classes, the following data should be considered preliminary.

Measures

Health Status. The RAND-36[21] was used to measure medical symptoms. This survey has 36 items measuring eight dimensions of health: physical functioning, role limitations due to physical health, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain, and general health. Sample questions include rating on a scale of 1-5, "Compared to one year ago, how would you rate your health in general now?" There are also yes/no items, such as "During the past four weeks, have you had any of the following problems with your work or other regular daily activities as a result of your health?" (i.e., "difficulty accomplishing tasks or completing work"). Higher scores on all of the scales indicate more favorable health status.

Mindfulness. The Freiburg Mindfulness Inventory (FMI)[22] was used to assess mindfulness. The FMI is a 30-item instrument intended for individuals with meditation experience. Items are anchored on a four-point scale from "rarely" to "almost always." Participants were asked to rate their experience, over the past 30 days, of items such as "I remain present with sensations and feelings even when they are unpleasant or painful." Higher scores indicate higher levels of awareness and nonjudgment of the present moment.

Analyses

In a combined analysis of participants in both Therapeutic and Gentle Yoga classes, participants report-

ed statistically significant improvements in overall health outcomes (t (35) = 3.313, p = .002), including increased scores on all eight subscales of the measure of the Rand-36: physical functioning, role limitations due to physical health, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain, and general health (*see Figure 1*). Mindfulness scores also significantly increased following participation in the Yoga course (t (38) = 3.062, p = .004). Health outcomes and mindfulness were positively correlated (r = .341, p = .052), supporting the notion that higher levels of mindfulness are related to improved health perceptions. However, this correlational analysis of outcomes at only one timepoint cannot provide a conclusive test of the hypothesis that participants' increased mindfulness influenced health perceptions.

Due to the pilot nature of this study and the limited sample size, interpretations of these data should be made cautiously. However, these preliminary findings suggest that mindfulness practices, as learned through a six-week Yoga program, contribute to enhanced health perceptions.

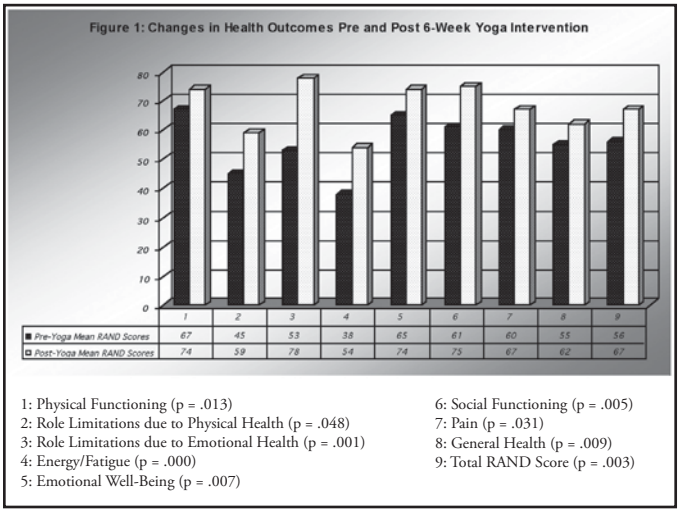

Figure 1. *Health outcomes before and after a six-week Yoga intervention (RAND-36 subscales). Note: Higher scores reflect better health outcomes. Significance of mean differences pre and post intervention are reported as p-values.*

Qualitative Observations

While the following qualitative observations are anecdotal, they are worth considering from the perspective of implementing a Yoga program in a medical setting or with a medical population. Many students in these classes either came to Yoga for the first time or were returning to Yoga after decades of discontinued practice. The general attitude from the students in the beginning was one of doubt regarding their ability to participate and/or benefit from the Yoga practices. A large number of students appeared depressed and reported profound hopelessness. They were fearful of remaining permanently disabled. Many had difficulty speaking in the group and cried in class.

Students often displayed a mind/body disconnect. They had trouble following the movements, and it commonly took considerable time to coordinate the movements with breath. In many cases, members of the groups saw improvements in other students before they saw changes in themselves. Recognition of improvement often dawns only after chronic patterns of immobility have been addressed for some time.

The spiritual benefit was usually a surprise to the students. Some came with opposition to either spirituality associated with Yoga or "spirituality" in general, but later found it an important piece of their healing process. Many reawakened to a spiritual practice from their past. Others felt that the classes supported their existing spiritual path. Still others found that Yoga provided a comfortable way to bring spirituality into their lives for the first time.

From the teachers' observations, every component of the work seemed to contribute to healing in some way. The environment itself seemed to have a profound effect, as students appreciated the sacred space and the myriad props for support. Connecting with other people sharing the same challenges was one of the most frequently mentioned benefits.

Discussion

These preliminary analyses used well-established outcome measures to discern a positive clinical impact of Yoga practices in a mixed medical population. These findings suggest that participation in Therapeutic and Gentle Yoga classes is related to improved general health status in a mixed medical population. Of important note, participants reported significant improvements in their physical functioning, energy levels, pain, and general health.

It is also important to note that self-reported levels of mindfulness increased following participation in the Yoga courses. Perhaps increased mindfulness is one of the underlying mechanisms by which psychological and physical distress improved. This is consistent with other studies that

have found empirical support for the efficacy of mindfulness-based interventions in treating psychological distress.[23] It has been suggested that mindfulness provides patients with a metacognitive awareness that allows them to alter how they process thoughts and emotions.[19]

This study demonstrates the feasibility and benefits of therapeutic group Yoga classes with a wide range of ages and medical conditions. In view of contemporary biomedicine's interest in safe, effective, and economical means of addressing chronic medical problems, further examination of Yoga's clinical utility in a medical setting is both warranted and timely. Studies that continue to bridge the psychological and medical literature, thus avoiding the mind-body dualism that often underlies research, can contribute to the effectiveness of many allied healthcare disciplines. Future well-designed clinical research can provide evidence for the cost-effectiveness of Yoga programs to interested stakeholders, including managed care insurance companies and Medicare policymakers. Research on the effects of Yoga practices for different physical and mental ailments can increase healthcare providers' willingness to refer patients to Yoga. Dismantling studies, which require larger and more diverse samples, would be of great interest to increase understanding of the active mechanisms (i.e., mindfulness) by which Yoga decreases psychological and physical burdens.

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