

# The Yoga for Seniors “Continuum of Practice”

## *An Evidence-Informed Methodology for Creating Safe and Effective Posture Modifications*

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Yoga enthusiasts are typically pictured as young, fit, and flexible; yet the reality is that more than a third of Americans who practice yoga are 50 years and older. Health benefits are a main reason why seniors practice yoga, as a growing body of evidence suggests yoga can enhance health and reduce the risk of numerous age-related disorders. Yet, like any therapeutic intervention that offers benefits, yoga practice also carries potential risks, which may be heightened in vulnerable populations such as older adults. This article outlines essential safety considerations developed in the Integrative Yoga for Seniors Professional Training offered at Duke Integrative Medicine, and details the Continuum of Practice, which is a tool we created to help yoga teachers and yoga therapists skillfully translate evidence-based movement considerations into safe, effective, and enjoyable variations of classic yoga postures.

**Key words:** arthritis, glaucoma, heart disease, hypertension, osteoporosis, seniors, yoga

Yoga enthusiasts are typically pictured as young, fit, and flexible. Yet the reality is that more than a third of Americans who practice yoga are 50 years and older—17% are in their 50s, and 21% are 60 years and older.<sup>1</sup> The number of yoga practitioners has more than doubled to 36.7 million over the last decade, with health benefits cited as the main reason why people seek and sustain their practice.<sup>1</sup>

For seniors, increasing evidence that yoga helps people age well can be particularly compelling. Research suggests that regular yoga practice reduces the risk of numerous age-related “senescent” disorders such as cardiovascular disease and metabolic syndrome.<sup>2</sup> Indeed, yoga has been shown to relieve many ailments common among older adults—including improving blood pressure, heart rate and insulin resistance,<sup>3</sup> relieving anxiety and depression,<sup>4</sup>

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easing back pain,<sup>5</sup> and alleviating sleep problems.<sup>6</sup> On a cellular level, one study even described improvements in biological markers of aging in people who practice yoga and meditation, suggesting that these practices “may hold the key to delay aging or aging gracefully.”<sup>7</sup> Supported by this evidence, there is a growing trend for health care providers to “prescribe” yoga as a complementary therapy to help prevent and treat a variety of medical conditions.<sup>8</sup>

Seniors’ strong interest in yoga, during a time when older adults are the fastest growing sector of the population,<sup>9</sup> presents a great opportunity and a serious challenge for yoga instructors. Like any therapeutic intervention that offers health benefits, yoga practice also carries potential risks. These risks are heightened in vulnerable populations such as older adults. The aging human body tends to be slower to react and recover, the cardiovascular system loses elasticity and resilience, bones weaken, and muscle mass and even cognition may decline. Unfortunately, many yoga instructors are woefully ignorant about the physiology of aging, and some commonly-taught yoga practices can be risky for older adults.<sup>10</sup> These include straight-legged forward bends, which may increase the risk of vertebral fracture for people with low bone density,<sup>11</sup> and breath holding, which can affect blood pressure and is inadvisable for people with heart disease and hypertension.<sup>12</sup> These important considerations are generally not included in basic yoga teacher trainings, which may explain why yoga participants 65 years and older have a greater rate of injury when compared with other age groups.<sup>13</sup>

### THE INTEGRATIVE YOGA FOR SENIORS PROFESSIONAL TRAINING AT DUKE INTEGRATIVE MEDICINE

Recognizing that yoga teachers have limited access to medical science’s extensive knowledge about aging and the disease process, we sought to bring together the best of current, evidence-based medicine with the ancient wisdom, experience, and tradition of yogic teachings. Offered in collaboration with health professionals at Duke Integrative Medicine, our *Integrative Yoga for Seniors Professional Training* is designed to fill the critical need to help yoga instructors work safely and effectively with older adults. Begun in 2007, when the Duke University Health

System opened its Integrative Medicine facility, this pioneering program started as a 3-day workshop and has evolved into its current format as an 8-day, 50-hour professional training, held annually at Duke Integrative Medicine ([www.dukeintegrativemedicine.org](http://www.dukeintegrativemedicine.org)). As a prerequisite, participants must be trained yoga teachers, and the curriculum features lectures by Duke University faculty—including physicians, physical therapists, and health psychologists—which focus on conditions common to seniors such as heart disease, pulmonary disorders, arthritis, Alzheimer disease, and osteoporosis. The program co-directors are both yoga therapists (and co-authors of this article) who have decades of experience teaching yoga to older adults in varied medical settings including cardiac rehabilitation, the GeroFit wellness program for older veterans, as well as hospital-based cancer and pain centers. The training explores the implications of health conditions common to seniors on widely-taught postures, breathing techniques, and meditative practices. A central part of the program involves experiential sessions designed to help participants incorporate the evidence-informed movement considerations recommended by health experts into their yoga practice and teaching. This involves extensive instruction in creative ways to modify poses for enhanced safety and reduced risk for people with varied medical concerns. The course text is our book, *Relax Into Yoga for Seniors: A Six-Week Program for Strength, Flexibility, Balance and Pain Relief*.<sup>14</sup>

Safety—the yogic concept of *ahimsa* (“nonharming”)—is at the heart of this approach. Joining with physician colleagues, our primary intention is to “First, Do No Harm.” In 2010, we published a consolidated overview of our work with safety principles, the Carson-Krucoff Principles of Practice, to promote awareness and provide guidance for yoga teachers who wanted to work safely and effectively with older adults.<sup>15</sup> Another of these safety principles is to “Encourage Yogic Balance,” which honors the classical teaching that yogic posture should embody “steadiness” and “ease”—*sthira sukham asanam*.<sup>16</sup> We encourage older adults to challenge themselves, but avoid strain, which can be complicated for yoga teachers trying to create classes for a population that includes such a diverse array of abilities. While some seniors are extremely fit and able to run marathons, others are quite debilitated and unable to get out of bed. By virtue of age alone, however, even the most fit and vital older adults need to keep safety in mind—especially if they are new to the yoga practice—as seniors are more likely to have a medical condition (known or unknown) that may increase their risk of injury.

Approximately 85% of older adults have at least one chronic health condition, and 60% have at least 2.<sup>17</sup> In addition to known, diagnosed diseases, seniors are at a higher risk than younger people for “silent” diseases that

may be aggravated without warning, including hypertension, heart disease, and osteoporosis. The first symptom of osteoporosis may be a broken bone, and the first symptom of heart disease may be a heart attack or sudden death.

Adding to the complexity of teaching yoga to older adults is the fact that that 90% of seniors take at least 1 prescription drug, and nearly 40% take 5 or more.<sup>18</sup> Several classes of medications commonly taken by seniors—including antihypertensives, antianxiety drugs, and antidepressants—are associated with an increased risk of falls.<sup>19</sup> The use of 5 or more drugs is associated with a 21% increase in the risk of falls,<sup>20</sup> regardless of the classification of medication.

A further complicating factor is that many older adults are deconditioned. More than 1 in 4 American adults older than 50 years do not engage in regular physical activity—a percentage that jumps to more than 1 in 3 for people 75 years and older.<sup>21</sup> These data also highlight the potential for harm that could occur if yoga instructors do not create a safe environment and class structure geared appropriately to older adults. For some older adults who are new to yoga, even seemingly simple expectations, such as changing positions from standing to lying down, not only poses a risk for falling, but may be emotionally disempowering if they are unable to lie down on the floor and get up again easily.

## THE CONTINUUM OF PRACTICE

In basic yoga teacher trainings, instructors are typically taught specific pose modifications to use in specific circumstances. For example, a common modification taught for Warrior One, is that—if someone has shoulder pain when they lift their arms over head—they may extend their arms out to the side at shoulder height. A common modification for Child’s Pose is that—if someone has knee pain—the posture can be flipped upside down, so the person is lying on their back and hugging their knees in toward their chest. Yet the reality is that many of these commonly-taught modifications are insufficient when working with older adults who may have *both* shoulder pain and knee pain and/or be unable to get down to the floor, and may also be dealing with other comorbidities. Serving people of all ages and abilities—including those who use wheelchairs, have limited or no use of specific body parts, and those who cannot get out of bed—requires a more comprehensive approach to modifying yoga postures. This is where creativity, humility, a broad base of knowledge about aging physiology, and a reliable tool for developing individualized variations of postures are essential.

The tool we have created to help yoga teachers and yoga therapists skillfully translate evidence-based movement considerations into safe, effective, and enjoyable variations of classic yoga postures is called *the Continuum*

*of Practice.* Based on the recognition that movement occurs along a continuum—from stillness, to intention, to muscle activation, to moving one or more body parts in one or more directions—this tool is designed to individually tailor yoga postures and practices to suit a specific person’s abilities, interests, and needs. It is our belief and practice that any person can do some component of any yoga pose along this continuum. This allows us to truly meet students where they are—whether they are training for a marathon or lying in a hospital bed.

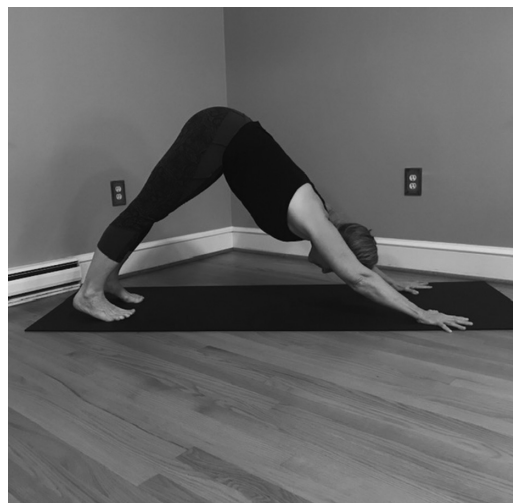
The Continuum of Practice begins by first identifying 3 things:

1. *The intention of the pose you plan to teach.* Is this pose practiced to strengthen the core, enhance flexibility of the hips, stretch the back of the legs, or maybe all 3? Define the purpose for why you are doing a specific posture.
2. *The risks of the pose.* Could this pose put undue pressure on arthritic knees, cause someone to fall, or strain a weakened vascular system? Determine the potential problem points in the posture.
3. *The specific limitations of an individual student.* Did this person have a hip replacement 3 months ago? Is she on medication that makes her dizzy? Is he in persistent pain? Be clear about the specific issues of a particular student.

As teachers begin to consider the “canon” of yoga postures from this perspective, it may require some “deconstruction”—that is viewing each pose in terms of specific benefits and risks. And it typically fosters creativity, as teachers may need to think “outside the box” to bring a particular intention (eg, building arm strength) to a student whose limitation may be needing to stay in a wheelchair. The teacher’s responsibility is to integrate the movements that will be helpful for the student and determine where the risky points of the posture may be, given the specific challenges this person faces. This integration, in turn, allows instructors to skillfully and safely guide their senior students.

Here are 2 examples of how the Continuum of Practice can be used to create accessible posture variations that meet the intention of the pose, while reducing the risks this movement might present to older adults. For these examples, we are taking into consideration the most common conditions facing the older adult population—including osteoporosis, arthritis, heart disease, and hypertension.

1. *Intention of the pose.* A central intention of Downward-Facing Dog Pose is to stretch the muscles of the back body—including the backs of the legs, torso, and arms. This posture is also an inversion, bringing the head below the heart (Figure 1).



**Figure 1.** Posture: Downward-Facing Dog (*adho mukha svanasana*).

2. *Risks of the pose.* This posture can be risky for people with compromised bone density, cardiovascular issues, and/or arthritis, as it can bring the spine into loaded flexion, places the head below the heart, and may put excessive demands on the wrists and shoulders. In addition, the increase in intra-ocular pressure caused by head-down postures, such as Downward-Facing Dog, makes this position risky for people with glaucoma.
3. *Specific limitations of seniors.* Osteoporosis, arthritis, heart disease, and hypertension.

### Variation: “Puppy dog”

This variation may be more accessible to most older adults, as it places the palms on a wall, rather than the floor, and invites a similar stretch of the back body, without these compromising factors (Figure 2).

### Posture: Tree Pose (*vrikshasana*)

1. *Intention of the pose.* Main intentions of Tree Pose are to boost balance and build strength in the core, arms, and legs.
2. *Risks of the pose.* Bringing one foot to the top of the opposite thigh in the classic expression of this balance pose is likely inaccessible to most older adults and poses a fall risk. And for older adults with arthritis in the knees and/or hips, placing all the body weight on one leg may be quite painful and discourage continuation of practice (Figure 3).
3. *Specific limitations of seniors.* Osteoporosis, arthritis, heart disease, and hypertension.





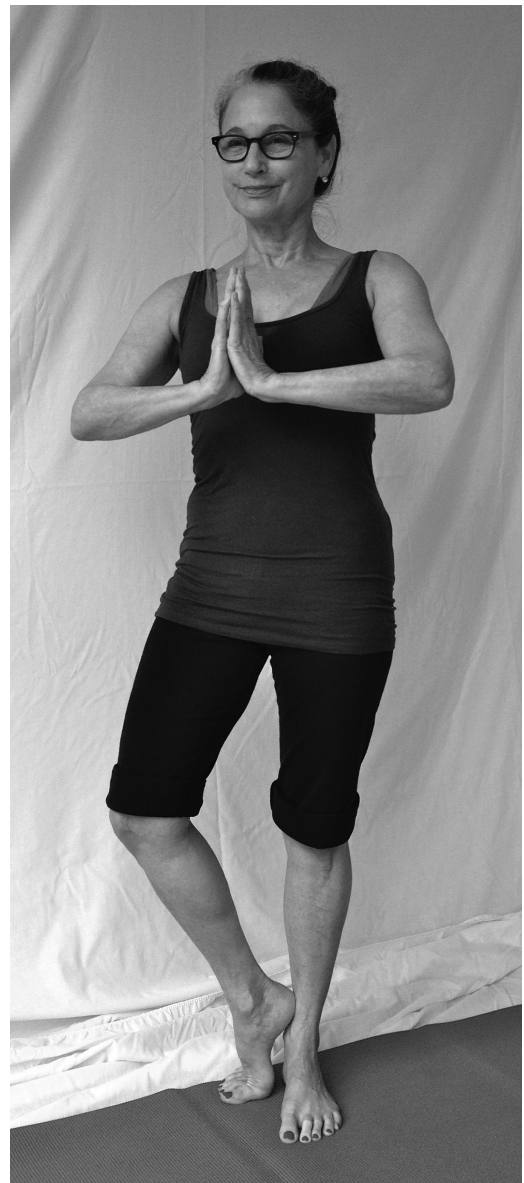
**Figure 2.** “Puppy dog.”



**Figure 3.** Tree Pose.

#### ***Tree Pose variation A***

This variation still challenges balance and strengthens the core, while reducing fall risk by being done next to a wall—that can be touched for support if necessary—and keeping the ball of the foot on the ground (Figure 4). For people with osteoarthritis of the knees and/or hips, this variation can be particularly useful as it takes some of the body’s weight off the standing leg (reducing load demand on these joints), making it more accessible for people with tender knees, hips, and/or ankles.



**Figure 4.** Tree Pose variation A: palms together at chest, ball of one foot touching the ground.

### Tree Pose variation B

This variation also challenges balance and strengthens the core, while reducing fall risk by touching the wall. Placing the foot below the knee, rather than at the top of the thigh in the classic pose, is more accessible to older adults who may have compromised joints and balance (Figure 5).

## APPLYING THE CONTINUUM OF PRACTICE

The imperative to “meet students where they are” might mean that not all of the intentions will be able to be met in the new variation. Instead, it may be necessary to focus on a subset of intentions—maybe even just 1 or 2—from the original posture. This reorientation of perspective may render the final appearance of the posture quite different from how it looks in a popular yoga publication. For example, a frail older adult practicing in a chair may need movement options for leg strength that do not match the “idea” of Tree Pose. To meet the intention of core strength and leg strength, this senior’s “Tree Pose variation” might involve sitting tall in a chair and extending one leg



**Figure 5.** Tree Pose variation B: touching wall, foot against lower leg.

forward, which bears little resemblance to the classic look of “Tree Pose” (Figure 6).

It is our conviction that variations created by applying the Continuum of Practice are as valid as “classic” postures and can be useful in cultivating strength, flexibility, and balance. Perhaps more important is the recognition that the yoga practice involves much more than helping a student “achieve” a particular posture, but centers on helping a student cultivate awareness and find stability and ease.

Although the Continuum of Practice seems like a relatively simple scaffolding for working with older adults (or others with physical challenges), it requires practice to apply it with confidence and finesse when teaching individuals and/or a class of older adults. Even someone unable to execute particular movements—either due to limitation, paralysis, or specific contraindications—can benefit from the Continuum of Practice. We call this aspect of the Continuum of Practice the “As If” variation. In this practice, a student visualizes himself doing the posture, activating any muscles available for this effort, and patterning the breath with the visualized movement. For example, if a student is unable to extend his arms overhead, he would see himself lifting his arms; activate any muscles he can that would be involved in this movement; and inhale as he envisions his arms lifting and exhale as he envisions his arms returning to rest. Research suggests that this mental imagining practice is surprisingly effective



**Figure 6.** Tree Pose variation C: sitting tall in a chair, extending one leg forward.

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in actually strengthening muscle fibers.<sup>22</sup> In fact, athletes have long used imagery to train for competition, speed recovery from injury, and enhance performance.<sup>23</sup>

One of our teacher training graduates, Lucia Plata, in Bogotá, Colombia, used this “As If” practice for 9 months with a student who had amyotrophic lateral sclerosis (ALS), a neurodegenerative disease that causes muscle weakness and atrophy. Having lost almost all of his motor control to the disease process, this gentleman painstakingly typed out (using an eye-blink recognition computer system) a testimonial about his experience with the yoga practice. He concluded with this statement: “That which has imprisoned my body has freed my soul.” This is a poignant reminder that, in the end, *yoga is not defined by the structure of the posture but by the experience of freedom.*

SKILLFUL LANGUAGE

While the Continuum of Practice is an essential component of our “Relax into Yoga” approach to offering safe yoga for seniors, it is grounded in the recognition that it is not just *what* you teach, but *how* you teach that is important. Said another way, words matter. For this reason, we encourage the use of skillful language, which is another of the Carson-Krucoff Principles of Practice: “*Use skillful language. Encourage and invite rather than direct and demand.*”<sup>14</sup> It is important to recognize that a teacher’s choice of words holds great power in helping students learn not just *what* to do but also *how* to do it. The language used in offering yoga instruction is an extremely important—yet little considered—factor in setting the appropriate tone for deepening a student’s relationship to their experience and for creating a safe environment. Both *what* we say and *how* we choose to say it play an essential role in the class dynamics, which may vary significantly depending on our use of language.

To illustrate this point, compare your reaction to the word or phrase in the left-hand column to your reaction to the word or phrase in the right-hand column:

<i>Tighten</i> your abdominal muscles	<i>Engage</i> your abdominal muscles
<i>Push</i> your foot into the floor	<i>Root</i> your foot into the floor
<i>Reach</i> your arm out	<i>Extend</i> your arm out
<i>Work at</i> staying balanced	<i>Play with</i> staying balanced
<i>Squeeze</i> your shoulder blades together	<i>Hug</i> your shoulder blades together

The words and phrases in the right-hand column invite and encourage, while those in the left-hand column are more directive and demanding. Directive and demanding language may prompt a student to

overdo it in an attempt to please the teacher or get it “right.” Directive and demanding language also tends to focus on how something “should” *look*, while skillful language helps students to pay attention to how something *feels*.

Invitational language is at the heart of another of our Principles of Practice: “*Honor the inner teacher. Don’t assume you know what’s going on with someone, even if you’ve asked. Consider yourself a guide, helping students explore what works best for them.*”<sup>14</sup>

Instead of telling students what to do, inviting them to consider moving in a particular direction helps each person find their own seat of stability and comfort. Directing someone to do something is very different than facilitating their own personal journey within. Skillful language helps cultivate a kind, mindful, compassionate approach to practice and to life—as we get good at what we practice.

The following are other suggested skillful language phrases designed to help facilitate students’ inner journeys:

- Explore the possibility of...*
- See what happens when you...*
- As you are ready, you might consider...*
- Come to where it is comfortable.*
- Notice any tightness (or resistance) and welcome breath into it.*
- Practice the art of welcoming whatever is here.*
- Notice when sensations, commentary, or emotions are arising in response to the form.*
- Notice what is arising in the thinking mind, all on its own.*
- With all that arises, do your best to take the seat of the observer—welcome it without judging it or resistance.*
- Honor the quiet space between and within the poses.*

This emphasis on using skillful language to cultivate a mindful, compassionate approach to yoga—along with our imperative of safety—informs the title of our approach: “Relax into Yoga.” The word “relax” is explicitly used to highlight an important distinction about initiating and sustaining yoga practice that is particularly relevant to seniors. A key characteristic that differentiates this ancient approach to wholeness from modern exercise is the importance of moving to a point of challenge, but not strain. In contrast to Western forms of fitness, which typically encourage striving and pushing to do more, yoga invites each individual to find an appropriate balance between effort and surrender, courage and caution, and doing and undoing. Rather than working to “achieve” a particular outcome, the yoga participant is encouraged to ease into a position of stability and comfort—recognizing the yogic wisdom that our true nature is already whole. This kind, mindful approach is often quite surprising to



new students, and we have found that helping people connect to their own inner wisdom can be quite transformative. We encourage students to start where they are, not where they think they should be. Then we offer the appropriate tools of yoga—including postures, breathing, and meditation—to help them refine their awareness and find ease. We use inclusive, nonjudgmental, and encouraging language that validates each person's experience, with the intention of creating a safe and welcoming environment that embraces the yogic concept of *ahimsa* (“nonharming”).

## CLASS STRUCTURE

Yoga classes are commonly taught to build toward a “peak” pose, which is often quite challenging, by doing a series of postures that prepare the body to perform this difficult pose. If a participant is unable to do the “full expression” of any pose along the way, modifications are generally offered. Underlying this structure are 2 unspoken implications that we find problematic in working with older adults. First is the inference that advancing in yoga means doing increasingly more difficult postures. If this were true, having the physical ability to perform in a premier acrobatic company would somehow equal the spiritual wisdom and maturity of a master yogi such as Paramahansa Yogananda. Second is the notion that there is one “real pose,” which implies that any variation is somehow less valid. This, in turn, suggests that the person requiring a modification is not doing “real yoga.”

Our Relax into Yoga approach is quite different. Rather than presenting an ideal form, then suggesting modifications for those unable to “achieve” this pose, we begin with a variation that is accessible to most students. Then we invite those who would like a little more challenge to move into a more demanding variation—being careful to make it clear that this more difficult posture is just a suggestion, and not necessary or expected. In other words, we adhere to the understanding that any posture can be “advanced” if it facilitates recognizing awareness, presence and love (*sat-chit-ananda*), the yogic description of the nature of reality. Every physical gesture is a valid opportunity for growth and clarity; wherever someone needs to be is fine, for in that moment that is the truth of things.

## RELAX INTO YOGA FOR SENIORS EVIDENCE-INFORMED POSTURE CHOICES

Over more than 2 decades of teaching yoga to older adults in medical settings and working as part of a team of health professionals, we have evolved guidelines for safely and effectively adapting the yoga practice for older bodies, minds, and hearts. These evidence-informed posture choices take into consideration the most common

health challenges facing older adults—including heart disease, arthritis, osteoporosis, and hypertension. And they also acknowledge the reality that many older adults are deconditioned. It is important to recognize that individual seniors may be exceptional—if a 70-year-old has practiced yoga headstands every day since childhood—that practice may be fine for that person. However for most older adults, especially those new to the practice, we recommend:

- *No straight-legged forward bends.* We encourage students to hinge at the hips (not at the waist), bend their knees, and keep their spine in a neutral alignment when folding forward
- *No seated postures on the floor.* Since most older adults are unable to sit comfortably on the floor with a neutral spine, we teach seated poses in a chair—and let the chair back serve as a support when we do standing poses. This effectively limits loaded spinal flexion, a position that can place large, compromising loads on vertebral bodies and is contraindicated for people with osteoporosis.<sup>24</sup>
- *No head-below-the-heart inversions.* Inverted postures may be risky for people with cardiovascular concerns.
- *Keep the breath flowing and comfortable.* Breath-holding can affect blood pressure and is inadvisable for people with heart disease and/or hypertension. Seventy percent of Americans 65 years and older have high blood pressure.<sup>25</sup> While gentle and very brief suspension of the breath may be fine, forced or prolonged breath holding should be avoided.
- *Keep twists in mid-range with a fluid quality of motion.* Deep twists may be problematic for people with low bone density.<sup>26</sup>
- *Avoid extremes of movement and breathing.* Extreme movements may put people at risk of injury and extreme breathing practices such as *kapalabhati* and *bastrika* may be problematic for people with heart disease and/or hypertension.

These are the guidelines we have recommended to more than 1200 yoga teachers and yoga therapists from across the United States and around the world who we have attended our master training at Duke or our abridged programs offered in various locations and online ([www.yoga4seniors.com](http://www.yoga4seniors.com)). The first outcome evidence on the efficacy of the Relax into Yoga program found that it was effective for improving worry, anxiety, and sleep among worried older adults.<sup>27</sup>

After many years of teaching yoga to people with health challenges and age-related issues, we have gained a deep respect for individual differences and the importance of honoring each person's unique journey. While

our priority is creating a safe and welcoming environment for each student, it is equally essential to ensure that this imperative of safety does not create a sense of fear or limitation. Rather, our focus is on inviting the empowering recognition of yoga's highest teachings that our true nature is already whole.

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