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SPECIAL HEALTH REPORT

# An Introduction to Tai Chi

*A gentle exercise program for mental and physical well-being*



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## AN INTRODUCTION TO TAI CHI

### SPECIAL HEALTH REPORT

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*Trusted advice for a healthier life*

Dear Reader,

As an ancient Chinese practice, tai chi may seem foreign and even intimidating. Perhaps your only experience with tai chi is watching video clips or seeing photos of large groups of Chinese people doing tai chi in parks—a rare occurrence in the United States. Only about 1% of the U.S. population, or about 3.65 million Americans, reported doing tai chi in 2015. That means a lot of Americans are missing out on myriad benefits that tai chi has to offer. The goal of this report is to make tai chi more familiar, more accessible, and easy to practice regularly—even right in your living room.

Mind-body exercises, such as tai chi and yoga, have been gaining popularity over the past few decades. This is not surprising, given the increasing number of studies on the positive effects of these gentler forms of exercise—everything from lowering blood pressure and managing depression to building strength and improving balance. There is even evidence that tai chi may help you live a longer, more vital life.

For roughly two decades, I've been working to bridge the gap between the practice and the science of tai chi and to integrate it into Western health care. By day, I am a medical researcher at Harvard Medical School, and by night, I am a community-based tai chi instructor.

My interest in tai chi grew out of a passion for sports and martial arts that started when I was in high school. It was during that time that I also became interested in science, which led me to study human ecology and get a Ph.D. in evolutionary biology from Harvard University. But it wasn't until a trip to China in 2000 that my two worlds came together, and I made a major career shift, ultimately resulting in my current position as research director for the Osher Center for Integrative Medicine, which is jointly based at Harvard Medical School and Brigham and Women's Hospital.

In my role as a scientist, I focus on objective, rigorous scientific research to understand what works, what doesn't work, what is safe, and what offers promise to help people. Yet while I use research and science to inform my personal tai chi practice and the classes I teach, I must suspend pure rational thinking at times in order to get the most out of my practice. Tai chi and other meditative arts include tapping into intuition and imagination, processes less understood by science. In this report, I've brought these two worlds together to introduce you to tai chi and give you a program so you can begin practicing this gentle, mind-body exercise today.

Sincerely,

Peter M. Wayne, Ph.D.

*Medical Editor*

# What is tai chi?

Tai chi is a form of mind-body exercise that is based on slow, flowing, choreographed movements. To this day, you can see groups of people in China performing tai chi together in public parks and alongside rivers, in routines that can be both graceful and mesmerizing. Some people have even described it as “meditation in motion.”

If your first exposure to the practice is observing one of these choreographed routines, you might easily conclude that tai chi is a form of exercise for older or frail adults. But tai chi has something to offer to everyone, of every age and fitness level. If you're in your 20s or 30s, it can help enhance your athletic skills by improving your ability to focus, getting you more in touch with your body, and helping you to understand its potential and limitations. In your 40s and 50s, tai chi can be an escape from a hurried pace and pressures from family or work. In your 60s, 70s, 80s, and even 90s and beyond, tai chi's restorative powers can help you to age more gracefully and function at a higher level than peers who don't take advantage of this mind-body exercise. Tai chi can also be adapted

to suit a variety of needs. As a result, it's been used by people ranging from high-level athletes like Patriots quarterback Tom Brady to people in wheelchairs or bedridden.

Others come to the practice not for exercise, but as a martial art. While tai chi's slow, flowing movements differentiate it from karate or kung fu, its core techniques and moves can also be used for self-defense. In fact, tai chi's formal name, tai chi chuan (pronounced tie-chee-chwan or tie-jee-chwan), translates as “supreme fist,” hinting at the practice's origins in the Chinese martial arts.

Other martial arts rely on speed and muscular strength. By contrast, tai chi relies on self-awareness and what practitioners call “intelligent strength”: If an opponent strikes out at you, rather than resisting force with force, you yield, deflect the blow, and then redirect the energy, using your whole body rather than just strong arms to send an opponent flying. Centuries ago, martial skills were tested in hand-to-hand battles to the death. Today, the martial dimensions of tai chi are tested in two-person practices called Push Hands, where the opponents stand face to face with their feet rooted to one spot. The goal is to uproot your opponent without moving your own feet.

Although tai chi began as a martial art, it has been influenced over the years by Chinese healing arts and philosophy (see “Chinese concepts,” page 3). Some key concepts in tai chi draw on the classic Taoist text, the *Tao Te Ching*. For example, Taoism uses the analogy of water to explain the idea that softness can equal strength rather than weakness. As Taoist text says, “Nothing in the world is as soft and yielding as water. Yet for dissolving the hard and inflexible, nothing can surpass it. The soft overcomes the hard; the gentle overcomes the rigid.”

The result is a type of exercise that differs markedly from most others. For many types of exercise, the goal is to push harder or go faster. Tai chi is the oppo-



To this day, you can see groups of people in China performing tai chi together in public parks and alongside rivers, in routines that can be both graceful and mesmerizing.

site. Instead of tensing your muscles, you want to relax them so your body moves more freely. Instead of isolating certain muscle groups—for example, by doing ab crunches or biceps curls—you want to integrate your entire musculoskeletal system. Instead of picking up the pace, you want to slow down. In fact, you don't want to push yourself to the max (see “Obey the 70% rule,” page 18). Tai chi shows you how to get more out of less.

Although tai chi doesn't aim to get your heart rate up to very high levels or build bulky muscles, it does require great control. As such, it helps improve your balance and also enhances the muscle tone required to produce such slow, flowing movements. If you practice more vigorously or sink deeper into movements, it can also provide a moderate aerobic workout. And it does all this while fostering a calm, focused clarity of thought that is central to tai chi's meditative benefits. “Strong as an oak, flexible as a willow, and [mentally] clear as still water”—that's what tai chi has to offer, according to classic texts.

All these features combine to produce a form of exercise that carries over in practical ways to help you function better in your everyday life. For example, tai chi movements mimic activities of daily living, such as lifting, pushing, and pulling. Even the mental component can carry over, helping you to stay centered

during emotionally challenging times. This report will provide an introductory program that will help you reap all of these benefits.

## The history of tai chi

Although the roots of tai chi reach back thousands of years, stories of its early days are obscured by legend. A key figure in the tale of its founding is the semi-mythical Chang San-feng, a Shaolin monk who is thought to have lived in the 13th century. According to legend, Chang left the monastery to become a hermit. Living in isolation in the Wudang Mountains, he had a moment of insight when he observed a fight between a snake and a crane. Whenever the crane lunged at the snake's head, Chang noticed that the snake would recoil, dodge the open beak, and lash at the crane with its tail. This led the monk to the basic concept of evading, yielding, and attacking as a method of self-defense, rather than trying to overcome force with brute force.

Some time in the 1600s, a martial artist by the name of Chen Wang-ting is thought to have merged traditional Chinese boxing with the more meditative exercises of qigong (see “Tai chi versus qigong,” page 4). Whether he took Chang's hybrid martial art as a starting point or came to this insight himself, he

### Chinese concepts

Tai chi is rooted in multiple Asian traditions, including traditional Chinese medicine and philosophy. Two concepts that are central to it are qi (vital energy) and yin and yang (opposing yet complementary forces). A better understanding of both terms will help you appreciate the goals of tai chi.

**Qi.** In traditional Chinese medicine, qi is the vital energy that gives life to the body. However, it can mean different things to different people, including life force, breath, or spirit—and it flows not just within the human body, but also throughout the whole universe. In the body, this energy is believed to move along pathways called *jinglous*, or meridians. When qi flows freely, you are balanced and healthy. By contrast, when qi is blocked, stagnated, or weak, it can cause physical, mental, and emotional problems. In our modern society, there are lots of things that can interfere with your qi—for example, insufficient sleep, a poor diet, stress, and inactivity.

Tai chi promotes the flow of qi. (While it is pronounced the same, qi should not be confused with the “chi” in tai chi. The latter is a superlative, meaning “supreme” or “ultimate.”)

**Yin and yang.** This concept is illustrated by a traditional symbol showing the complementary character of opposing forces. The darker half of the circle (yin) relates to inactivity and non-doing, while the lighter half (yang) is about activity and doing. But within each half is a small circle of the opposing force, a reminder to maintain balance and avoid extremes. You want to have both yin and yang, two complementary polar opposites, in your life because together they create a dynamic, balanced, integrated, and interdependent whole. This duality can also be found in nature—for example, in day and night, or fire and water. Tai chi aims to foster balance between yin and yang.



## Tai chi versus qigong

These two forms of mind-body exercise have more similarities than differences. Both involve good posture and gentle movements. Both integrate breath with movement and use cognitive skills such as imagery and visualization to heighten awareness. Both practices also center around the idea of cultivating qi, the life force or vital energy. For this reason, many people think of tai chi as a form of qigong. One difference is that sometimes qigong is practiced as a stationary meditation—for instance, while standing still or sitting on a pillow. Most people who practice tai chi also incorporate qigong into their practice. No matter which exercise you pursue, you will likely gain similar benefits.

ended up founding one of the five major styles of tai chi (see “Five tai chi styles,” below right). In the same century, the name tai chi chuan was coined, and tai chi formally split from kung fu.

However, tai chi up until this point was primarily a secret self-defense or military system. Its teachings were transmitted orally, making it hard to track. It wasn't until the 1800s that this began to change, when a young martial artist named Yang Lu-chan moved to Chen village, where the Chen tai chi masters lived. Yang found work as a servant and observed the Chen masters closely day by day until he himself could perform tai chi. After proving himself in a match, Yang gained the recognition of the Chen masters and received permission to begin teaching others outside their village. In 1852, Yang moved to Beijing and began teaching what he called “soft boxing.”

After this, tai chi became accessible to people other than martial artists and the military. People became interested in tai chi for personal development and as an exercise that could promote longevity. This initiated a shift from martial prowess to health promotion.

However, China's Cultural Revolution in the 1960s and '70s dealt a blow to the practice of tai chi. Set in motion by Chairman Mao Tse-tung in 1966, the Cultural Revolution aimed to purge the country of reactionary beliefs and outmoded superstitions, replacing them with Maoist thought. The Cultural Revolution marked a period of upheaval and violent class struggle in China, with no tradition escaping notice. Because

of its connections to Taoism and Buddhism, tai chi also became a target. As a result, tai chi masters took their teaching underground. Some even fled the country, taking their knowledge overseas. Shortly before the Cultural Revolution, in 1964, Cheng Man-ching, a practitioner trained in the Yang style of tai chi, left Taiwan and moved to New York, where he began teaching classes.

In the 1980s, China's Communist Party put a definitive end to the Cultural Revolution, claiming that it had been “responsible for the most severe setback and heaviest losses suffered by the party, the country, and the people since the founding of the People's Republic of China.” As China's government began to focus on health, it embraced the health-promoting aspects of tai chi while downplaying the religious ones. The government even started to create simplified forms of tai chi and promote them across the country, encouraging the large group practices in the parks. Tai chi became the national exercise of China, and the government showcased it to the rest of the world.

While Cheng Man-ching was a key figure in advancing tai chi in America, its introduction actually happened a decade before he arrived. American dancer Sophia Delza, who had studied tai chi while living in China, is believed to have given the first public demonstration in the United States at New York's

## Five tai chi styles

Just as there are many types of yoga, there are multiple styles of tai chi. But this isn't some branding attempt to differentiate schools in the marketplace. They are named after the families who created them, and the oldest of these styles dates back to the 17th century. The most common styles are Chen, the oldest; Yang, the most popular style in America; Wu (Hao); Wu; and Sun, the youngest style. While each has some unique aspects, they all share basic tai chi principles.

There are also offshoots of these styles, and new ones are evolving constantly. Some of them feature shortened and simplified routines, like the ones in this report, which were developed in the context of medical research.

If you are looking for a tai chi class, don't worry about the name. Rather, focus on the class itself and whether it matches your interests and goals.



Museum of Modern Art in 1954. She also opened a tai chi school at Carnegie Hall, taught tai chi across the country, and wrote the first English-language book on tai chi. Her efforts to promote tai chi had some effect. In 1960, 1,000 people from 40 states wrote in for more information following a television appearance she made.

Up to this point, interest in tai chi in America had been largely limited to Asian communities, but thanks to Delza's influence, tai chi's popularity grew, especially among artists like dancers, actors, and musicians, who found the practice enhanced their abilities. A further boost came from the burgeoning interest in Chinese martial arts beginning in the early 1970s, fostered by Bruce Lee's movies and the popular television series *Kung Fu* starring David Carradine.

Tai chi's emergence as a mainstream form of exercise in America, though, seems to parallel the scientific study of tai chi. The first randomized controlled trial of tai chi was published in Chinese in 1988. English-language studies and media reports of tai chi's benefits followed from there, with research really taking off in the new millennium. Today, many hospitals and rehabilitation centers offer tai chi programs.

Organizations such as the Centers for Disease Control and Prevention, American Heart Association, Arthritis Foundation, and National Parkinson Foundation encourage the practice of tai chi. And classes can be found in many community and senior centers across the country, and even in some schools.

In an effort to further spread the word about tai chi, World Tai Chi and Qigong Day was established in 1999. It is celebrated on the last Saturday of April with free classes around the world. In 2017, all 50 U.S. states and 80 countries participated. For more information, go to [www.worldtaichiday.org](http://www.worldtaichiday.org).

## The eight active ingredients of tai chi

When Peter M. Wayne, medical editor of this report, began conducting scientific studies on the health benefits of tai chi, he began noticing that tai chi works in a variety of ways, not just one. Whereas most drugs have a single active ingredient, he observed that tai chi was more like a multidrug combination that uses different components to produce a variety of effects.



### Meditation in motion

The meditative state you're in during tai chi may help explain its broad benefits, which extend well beyond what you would expect from moderate physical activity.

When you meditate, your brain cells develop new connections and there are changes in the brain's physical structure, resulting in better cognitive skills, such as learning and memory. The longer you practice meditation, the more enduring the changes. The first study to show these alterations was published in the journal *NeuroReport* in 2005. Researchers used MRI scans to compare the brains of longtime meditators, who had practiced an average of nine years, to those of people who didn't engage in meditation. The findings showed that people who meditated had a thicker

cerebral cortex, the area of the brain responsible for information processing, than those who didn't. This area of the brain typically shrinks as you age, but the older participants showed less decline in this area compared with nonpractitioners. This suggests that meditation may counteract age-related declines in memory and other cognitive skills.

But that's not all meditation does. Using brain imaging technology, scientists have found that the act of meditating also engages the frontal lobe connections that directly influence the brain's limbic system, which controls emotions. These changes in brain activity—and, over time, even brain structure—enable you to better manage stress and handle

negative emotions such as fear, anger, depression, and anxiety in more positive ways.

All of these benefits sound great, but what if you just can't sit still and clear your mind?

That's where tai chi, a moving form of meditation, comes in. You don't have to sit still. In fact, it's some of tai chi's movements—such as circular patterns—and the attention or awareness that you give them that help to lull you into a meditative state.



He formulated the idea of the “eight active ingredients” of tai chi, which he and his colleagues now use as a conceptual framework to help evaluate the clinical benefits of tai chi, explore the underlying mechanisms that produce these effects, and shape the way tai chi is taught to participants in clinical trials (and to teachers). Although this report describes eight separate ingredients—and different styles of tai chi emphasize different ones—these therapeutic factors are interwoven and synergistic.

For example, studies have shown that tai chi helps prevent falls in older people by improving their balance. But closer examination reveals that this benefit is actually the result of multiple factors, or active ingredients. The most obvious are the physical components such as improved muscular strength and flexibility (active ingredient 5) along with better function due to improved posture and alignment (active ingredient 3).

Less obvious is the mental piece. According to research, a fear of falling is a key predictor of falling. When you are afraid of falling, you are anxious, you walk tentatively, and you hold your breath. In Chinese medicine, this is described as having your qi uprooted, with no connection to the ground. Tai chi helps you correct these problems by helping you relax (active ingredient 4), breathe (active ingredient 6), increase your awareness of both your body and your surroundings (active ingredient 1), and visualize yourself as walking steadily (active ingredient 2). Combined, these elements stabilize the physical body and help boost your confidence and alleviate fall-related anxiety.

Following is a closer look at the eight active ingredients.

**1 Awareness.** This ingredient is essential in order to fully develop all the others. It begins as self-awareness. Paying attention to your breathing and the sensations in your body as you practice the slow, graceful movements of tai chi helps you become more focused. It counteracts what Asian meditative traditions call “monkey mind,” the distracted thinking that focuses on external, past, or future events and commonly dwells on negative thoughts and what-ifs. This mental chatter often intrudes when you’re trying to do seated meditation. But in tai chi, as you concentrate

### A tai chi joke

**Student:** “Master, what is the secret of a long life?”

**Master:** “Don’t stop breathing!”

on shifting your weight, moving your hands and arms, or turning your body, your mind is less likely to wander to tonight’s dinner or an argument with your partner, and you are more likely to be present in the moment. Cultivating this skill during the practice of tai chi helps you to be more focused throughout your day, even when you’re not doing tai chi. And there are other advantages as well. A heightened body awareness may contribute to better balance. And having a clearer mind may help you to more calmly navigate challenges such as a high-pressure work deadline or an emotional teenager.

**2 Intention.** Through visualization, imagery, and other cognitive tools used in tai chi, you alter your intentions, beliefs, and expectations. This has real-world effects. For example, instructions in tai chi such as “stand rooted like a tree” can simultaneously affect your muscle tension, postural alignment, and mental state, resulting in enhanced balance. Research on stroke patients has demonstrated that motor imagery—for instance, visualizing movements in paralyzed arms without actually moving—can help some people recover motor function. Similar mental training has also been used in athletes and musicians to improve their performance. This power of imagination and belief is behind the placebo effect as well. All of these examples are evidence that the power of suggestion can have a physical impact—or, as tai chi masters say, “Imagination becomes reality.” In an exercise like “Washing yourself with healing energy from nature” (see page 30), when you picture yourself bathing every cell in your body with healing energy, it just may help you to feel better and be healthier.

**3 Structural integration.** Tai chi looks at the body as an interconnected system, not as a collection of individual parts. As a result, when practicing tai chi, you won’t do one exercise for your biceps and another for your glutes. Instead, tai chi integrates the upper body with the lower body, the right side with the left side, and the extremities with the core.

Alignment and posture are part of this structural integration, and tai chi trains you to find alignments that are safe and unstrained, allowing you to perform graceful movements. You move more efficiently—not just during your tai chi practice, but throughout your day. The result is less stress and load on your joints and better balance. Similarly, improved posture has benefits that extend well beyond your tai chi class. When you walk or sit with your shoulders rounded and your torso hunched over, it is hard to take deep breaths. But when you straighten your back, roll your shoulders back and down, and open your chest, you breathe more deeply and efficiently. Not only does this integration improve your ability to move without pain, but it also affects your mental health. In two different studies, people who sat or walked more upright during the experiments had a more positive outlook afterward

than those who slouched while sitting or walking.

**4 Active relaxation.** When you hear the word relaxation, you may think of chilling out by the pool or flopping on the couch in front of the TV. In tai chi, relaxation is an active concept, not a passive one; it has to be, since you're doing tai chi while standing. Muscles that are actively relaxed have a greater range of motion and can move more efficiently. What's more, tai chi promotes "intelligent strength," using all parts of the body efficiently and in a connected way so no part is overloaded. The circular, flowing motions of tai chi are also meditative, helping to shift your mind and body into a deeper level of relaxation (see "Meditation in motion," page 5). Tai chi is a balance of moderate effort with active relaxation—like yin and yang.

**5 Strengthening and flexibility.** There are myriad studies supporting the benefits of exercise, but

## Basic tai chi breathing

Natural, freer breathing is one of the eight active ingredients of tai chi. There are a variety of techniques to achieve this, but this report focuses on belly breathing. Also called natural, abdominal, diaphragmatic, or *tan tien* breathing, this form of breathing is often used in clinical trials.

If you've ever watched a sleeping baby, you've observed belly breathing. As babies inhale, their bellies effortlessly expand like a balloon being inflated, with their chests expanding to a lesser degree. Then, as they exhale, their bellies relax along with their entire bodies. It is deep, slow, and rhythmic, and appears natural and effortless. In contrast, most adults take shallow, rapid breaths, using only their chests.

Belly breathing requires deeper breaths. The diaphragm, the dome-shaped muscle that sits atop the stomach and liver, is the primary muscle of healthy breathing. When you inhale, the diaphragm moves downward, increasing the space in the chest cavity. This action reduces pressure on the lungs and creates a vacuum that draws air in all the way to the bottom of the lungs. When you exhale, the diaphragm relaxes and returns to its domed shape, compressing the lungs and squeezing air out.

Before you attempt belly breathing, simply observe your breath. Don't change anything; just be aware of each inhalation and exhalation. Feel the sensations of breathing in your nose, throat, chest, and throughout your body. Pay attention to where your breath is going. Is it flowing freely? Are there places where it is getting stuck or areas where it doesn't go? Does trying with a little less effort ease or enhance the flow of breath in and out?

When you are ready to try belly breathing, it's best to sit or lie down and practice it on its own at first, without trying to combine it with tai chi exercises. Get into a comfortable position, relaxing your whole body. Now, imagine you have a balloon in your belly. As you inhale, it gently inflates, expanding your belly. As you exhale, it deflates, relaxing your belly. To encourage belly breathing, bring your hands in front of your abdo-

men and mimic the action: let your hands expand as you inhale and then contract as you exhale. Repeat this inhale-exhale cycle nine to 36 times. (In tai chi, multiples of three are regarded as "round" numbers.) As your breaths deepen, imagine the balloon expanding into the upper regions of your torso and all the way down to your toes. With each inhalation, imagine that you are taking in healing, nourishing energy and sending it throughout your body. Relax deeply with each exhalation. Remember not to force the volume of the breath—less can be more. You don't have to follow any particular rhythm. Do what is comfortable for you, resting in between if needed or stopping if you get lightheaded.

Once you feel comfortable with belly breathing, give it a try as you perform the tai chi exercises in this report. Do the best you can. It doesn't have to be perfect. You can also practice belly breathing anytime, anywhere for a tai chi break that will relax and balance your body and mind.

many people also suffer injuries, especially when they try to push themselves too far, too fast. Tai chi provides a gradual approach to building strength, increasing flexibility, and even improving cardio fitness. It's about moderation and minimizing the risk of injury. Instead of hoisting heavy weights, you'll build strength through slow movements, slightly flexed stances, shifting your weight from leg to leg, and swinging and lifting your arms. Slow, continuous, relaxed movements that you repeat provide dynamic stretching to increase your range of motion and flexibility. And despite its deceptively mellow look, tai chi is a low- to moderate-intensity aerobic activity, depending upon your fitness level and how you practice it. (Deconditioned individuals will get more of a cardio workout than someone who exercises regularly.) In addition, moving more quickly from one position to the next, sinking deeper into postures, and doing tai chi for longer periods of time can increase intensity up to the level of a moderate walk, according to studies. Because tai chi appears to affect your cardiovascular system in more ways than just aerobic training, even healthy individuals may be able to improve their heart health (see "A stronger heart," page 14).

**6 Natural, freer breathing.** You can survive days without eating, maybe even a few without drinking, but mere minutes without breathing. Tai chi corrects the slumped, rounded posture that you often resort to after too many hours at the computer, behind the steering wheel, or in front of the TV. As soon as you stand or sit taller and open up your posture, breathing becomes easier, and you're able to take in more air (see "Basic tai chi breathing," page 7). The deeper you breathe, the more oxygen your body takes in, improving performance. Your breath also has a direct physiological effect on your nervous system. Deep, slow, and rhythmic breathing activates your parasympathetic nervous system, which promotes a more balanced, relaxed state. Your heart rate slows, and hormones that promote feelings of calm and social bonding increase. The opposite happens with fast, superficial patterns of breathing. Deep breathing

also, in the parlance of Eastern philosophy, helps to "massage" your internal organs. Researchers in Japan placed pressure sensors into participants' colons. The sensors, which behaved like little floating buoys, detected pressure waves that corresponded to all types of breaths, both normal and deep. Other research has shown that these breathing-induced pressure changes and rhythms can increase blood flow to organs and may help to alleviate musculoskeletal pain, including back pain. The effects are greater with deeper breaths.

**7 Social support.** Most people practice tai chi in a class setting, which affords them the opportunity to interact with the instructor and with others in the class, creating a community. This sense of belonging can be a strong motivator to stick with your practice. Plus, the social support you receive from this type of group has been shown in research to have beneficial effects on your health. People who have strong ties to others tend to be healthier and happier, and when they do become sick, they tend to recover more quickly. Even if you practice on your own, think of yourself as part of the larger community of tai chi practitioners.

**8 Embodied spirituality.** Tai chi, with its influence from Taoism, creates a framework for integrating body, mind, and spirit for a more holistic life. When you practice tai chi, you are doing more than just physical exercise. Your psychological well-being, your social interactions, and your larger beliefs about nature are all affected. You become more aware, more sensitive, more balanced. And the experiences you have while doing tai chi begin to spill into your everyday life. For example, after a tai chi session, you may eat more slowly and mindfully. You may drive less aggressively. You may respond to a stressful interaction with a screaming child or a rude salesperson more calmly. Tai chi's philosophy can affect your behavior in a good way. You learn to "go with the flow," a tenet of Taoism. This adaptability or resilience enables you to better manage stress and bounce back from adversity or trauma. It's like an emotional form of self-defense. ♥



# The health benefits of tai chi

Gentle, yet powerful—that’s a good way to describe tai chi. The movements are slow and gentle, but they can have a very powerful impact on both your physical and mental health.

When researchers from Beijing University and Harvard Medical School published a scientific review of all of the research on tai chi in 2015, they had over 500 studies from 21 countries to analyze. The number of studies has increased since then, highlighting that this is a new and thriving area of research. More than a quarter of the studies were done in healthy people with the goal of preserving health. Another 10% focused on balance and the prevention of falls. Other conditions studied included heart problems, high blood pressure (hypertension), diabetes, osteoarthritis, and osteoporosis. Overwhelmingly, 94% of the studies reported improvements. And on average, participants practiced tai chi only two hours a week for 12 weeks to reap benefits.

With so many scientifically backed benefits, some have suggested that tai chi might well be dubbed “*medication* in motion” rather than “meditation in motion.” This chapter spells out some of the ways that tai chi can help you to be healthier and happier.

## Better balance

Of all the benefits of tai chi, better balance is probably the best documented in the medical literature. In fact, in 2004 the Surgeon General of the United States



For such a gentle form of exercise, tai chi has very powerful health effects. Among them are better balance and less stress.

specifically recommended tai chi as a form of exercise to prevent falls, the leading cause of injury and death in people 65 and older. Every 11 seconds, an older adult is treated in the emergency room for a fall-related injury—and one out of every five falls results in fractures, concussions, or other serious injuries.

Tai chi can help prevent that from happening to you. A 2017 analysis of 10 high-quality studies published in the *Journal of the American Geriatrics Society* found that older adults who did hour-long tai chi sessions one to three times a week for 12 to 26 weeks were 43% less likely to fall and halved their risk of suffering an injury from a fall.

These reductions in risk were greater than researchers found for other approaches such as physical therapy, balance training, resistance training, stretching, or yoga. An earlier Australian study found tai chi to be the most cost-effective strategy for preventing falls.

Tai chi may be so effective because it acts in a variety of ways to improve balance, including strengthening the lower body, improving your posture, and promoting flexibility (see “The eight active ingredients of tai chi,” page 5). Tai chi also increases body awareness and proprioception, your sense of where your body is in space. This can help you to avoid tripping and, if you do stumble, may assist you to recover more quickly before falling. Tai chi may further help by increasing your confidence and thereby alleviating the fear of falling, which is a key risk factor for falls (see “Steady yourself,” page 10).

Unlike many other types of exercise, tai chi involves full-body movements and the coordination and integration of different parts of the body simultaneously—the upper and lower body, the right and left sides, and the trunk and extremities. In a small study published in the journal *Research in Sports Medicine*, older adults who practiced tai chi were better able to navigate obstacles as they walked. They had a stronger stride and greater hip flexibility, enabling them to more effectively get around or over obstacles.

## Less pain

If you have ever had any type of musculoskeletal pain (as half of American adults have, according to a 2016 report from the U.S. Bone and Joint Initiative), you know that it can affect your entire life, both physically and mentally. The most common types of musculoskeletal pain are arthritis and related conditions; back and neck pain; and injuries from falls, work, military service, and sports. In addition to limiting activity, pain can lead to depression and even damage your relationships.

Because pain conditions can be so persistent and often don't respond to conventional therapies and medications, many people turn to alternative therapies, such as acupuncture, relaxation techniques, yoga, and tai chi. A growing number of clinical trials support tai chi's benefits.

Tai chi appears to help pain conditions in a variety of ways. It promotes better posture (see “Proper posture the tai chi way,” page 13), which can help reduce strain as well as wear and tear on joints and tissue. It improves blood and lymph circulation, which fosters the healing of injuries. It also helps you learn to move your body safely and efficiently. A natural tendency when you have pain is to avoid moving the affected joint or tissues. Unfortunately, that typically worsens the problem by weakening the surrounding muscle and decreasing flexibility. With tai chi, you learn to move within a pain-free range of motion (see “Obey the 70% rule,” page 18), which over time usually increases as you keep the area active.

Even more important may be the psychological effects, which may account for as much as three-quar-

## Steady yourself

Here's a quick tai chi imagery exercise to try anytime you start to feel unstable.

1. Take a few slow, deep breaths.
2. Feel your feet on the ground.
3. Imagine your feet growing deep roots like a tree's.
4. Continue for a few more breaths, relaxing your weight deeper into your roots with each exhale.

ters of the pain relief that people derive from tai chi. Rather than letting you ruminate on your pain and catastrophize about it, tai chi helps instill the belief that you have a measure of control over the pain and that you can reduce it. For example, believing that you are increasing the flow of healing energy to painful areas may elicit measurable neurochemical changes that can provide relief. The meditative components of tai chi likely also play a role, as meditation has been shown to lower levels of inflammatory compounds that are known to increase pain. And even if you can't eliminate the hurt, tai chi may help increase your tolerance for pain. Studies in Zen monks, experienced meditators, show that they have higher pain thresholds even when they aren't meditating. And neuroimaging studies have found meditation-related decreases in pain sensations.

Following are the major types of pain that researchers have studied in relation to tai chi.

**Back pain.** Back pain is one of the most common reasons that people see a doctor. In 2011, the first large-scale randomized controlled trial of tai chi and back pain was published in the journal *Arthritis Care and Research*. Researchers assigned 160 adults with persistent nonspecific back pain either to do tai chi or to continue their usual activities without changes. After practicing tai chi twice a week for 40 minutes per session, the participants reported fewer symptoms and less pain. They were also better able to function and generally felt better.

Despite limited research, the American College of Physicians included tai chi in its 2017 guidelines for the treatment of back pain. The physicians group recommends that before taking medication, back pain

sufferers should try alternative therapies such as exercise, mindfulness-based stress reduction, acupuncture, yoga, and tai chi, which are less likely to have harmful side effects.

**Osteoarthritis.** Osteoarthritis is a painful degenerative disease, in which the protective tissue (cartilage) in joints wears away, causing bone to rub on bone. There is no cure, and the condition worsens over time. The knee is the most commonly affected joint; others include the hips, hands, neck, and low back. This condition can lead to significant disability and expensive treatments like hip and knee replacements. But exercise and physical therapy have been shown in studies to slow disease progression, ease pain, and improve joint function. And research on tai chi is building a case for its value in managing this type of pain.

A 2016 randomized controlled trial, published in *Annals of Internal Medicine*, found tai chi to be just as effective as physical therapy for people with knee osteoarthritis. In the study, 204 people with painful knee osteoarthritis did either tai chi or physical therapy twice a week. After 12 weeks, both groups reported similar reductions in pain, and when the researchers checked in with them a year later, the improvements remained. An added benefit of tai chi, though, may be its psychological effects. The tai chi group reported less depression and better quality of life than the physical therapy group. The benefits are so promising and the risks are so low that the Arthritis Foundation has a Tai Chi for Arthritis program, including a DVD (see “Resources,” page 44).

**Neck pain.** The first study looking at tai chi’s effect on chronic neck pain was published in *The Journal of Pain* in 2016. When compared with standard neck exercises, tai chi was equally effective at reducing pain, increasing function, and improving overall quality of life. Participants did 75 to 90 minutes of tai chi for 12 weeks to achieve the results, which were in part due to postural awareness.

**Rheumatoid arthritis.** This autoimmune disease attacks the linings of joints, causing pain and swelling along with fatigue. Though research is limited, reviews of small, preliminary studies have shown reductions in pain and fatigue and have found tai chi to be a safe

exercise option for people with rheumatoid arthritis. In a small pilot study published in the journal *Rheumatology*, long-term sufferers did either tai chi or stretching exercises combined with health education, twice a week for an hour. After 12 weeks, half of the tai chi group achieved clinically relevant improvements in their symptoms, while no one in the stretching-plus-education group had such improvements.

**Fibromyalgia.** Unlike other pain conditions in which the pain tends to be concentrated in joints, fibromyalgia pain tends to be more diffuse in the soft tissues on the back of the neck, shoulders, chest, lower back, hips, shins, elbows, and knees. Even a light touch can be very painful for a person with fibromyalgia. In addition to musculoskeletal pain, this disorder also causes fatigue, sleep problems, memory issues, and moodiness. To make matters worse, many of the medications used to treat the symptoms have unpleasant side effects. For that reason, the results of a single-blind randomized trial in *The New England Journal of Medicine* are very exciting. After 12 weeks, 33 people with fibromyalgia who were assigned to do twice-weekly tai chi for 60 minutes per session had clinically important improvements in their symptoms. Another 33 participants with fibromyalgia, who were assigned to stretching and wellness classes, did not show these improvements. In the tai chi group, the improvements were maintained at six months.

## A sharper mind

There are lots of jokes about forgetting where you put your keys, but as you get older, changes in your mental function are no laughing matter. Changes in your brain that start around age 50 can affect your memory, as well as other cognitive functions such as your ability to juggle multiple tasks, process information rapidly, and focus on details. By age 70, one in six people



Tai chi can help reduce age-related cognitive decline and can even slow the progression from mild cognitive impairment to dementia. In those without cognitive decline, it can even improve certain types of brain function.



has mild cognitive impairment (often a precursor to Alzheimer's disease). Up until about two decades ago, it was believed that your brain only produced new cells early in life. But research has shown that the brain has the ability to change throughout your entire life span, growing new cells, making new connections, and even increasing in size. These changes can improve cognition—and various forms of exercise, including tai chi, can help.

In a meta-analysis of 20 studies on tai chi and cognition, tai chi appears to improve executive function—the ability to multitask, manage time, and make decisions—in people without any cognitive decline. In those with mild cognitive impairment, tai chi slowed the progression to dementia more than other types of exercise and improved their cognitive function in a comparable fashion to other types of exercise or cognitive training. In one study, researchers had nearly 400 Chinese men and women with some cognitive impairment perform either tai chi or a stretching and toning program three times a week. After a year, the tai chi group showed greater improvements, and only 2% of that group progressed to dementia, while 11% from the traditional exercise group did.

In another study, tai chi outperformed walking. Following 40 weeks of either tai chi, walking, social interaction, or no intervention, researchers compared MRI images and discovered that brain volume increased the most in the tai chi group. In addition, that group also performed better on cognitive tests.

## A happier disposition

About 43.4 million American adults suffer from a diagnosable mental illness such as depression or an anxiety disorder (including generalized anxiety disorder, post-traumatic stress disorder, panic disorder, or phobias). Many more people go undiagnosed or suffer with subclinical levels of depression or anxiety.

With all of the psychological benefits that tai chi has to offer, it's an obvious tool for managing and even treating some of these conditions, used either alone or in combination with medications or other behavioral therapies. Two meta-analyses on tai chi and well-being—one reviewing 40 studies and the

other reviewing 42 studies—supported this. Both showed reductions in anxiety, depression, and stress (see “Less stress,” below), along with improvements in mood and self-efficacy (see “More self-confidence,” page 13). According to a 2012 review of 35 trials, published in the journal *Archives of Gerontology and Geriatrics*, 82% of the studies on mood and depression reported significant improvements from tai chi. In studies that tracked anger or tension, 88% showed favorable results, and 60% of studies looking at anxiety found decreases. With odds like that, it's worth giving tai chi a try if you suffer from any of these problems. Even if you don't, tai chi may help you avoid them in the future.

A 2017 study in *The Journal of Clinical Psychiatry* even showed that tai chi by itself—without drug treatment or psychotherapy—may be an effective treatment for depression. Researchers tested 67 Chinese Americans who had a major depressive disorder but were not taking medications. A third of them participated in a tai chi class twice a week and were encouraged to practice three times a week on their own. Another third received health education twice a week. The final third, a control group, made no exercise or lifestyle changes. After 12 weeks, the tai chi group had the greatest improvements, with half of the group's members improving their symptoms to the point of remission—five times more than in the control group and more than twice as many as in the education group.

## Less stress

When you're looking to improve psychological well-being, you can't ignore stress. In today's 24/7 world of information overload, noise, and electronic devices demanding constant attention—not to mention work, family, and community responsibilities—stress is a common feature of daily life. On the most obvious level, chronic unmanaged stress can affect your state of mind. It increases the risk of depression, anxiety disorders, suicide, substance abuse, and other harmful behaviors. Less obviously, chronic stress is also associated with a host of physical problems. That's because the so-called fight-or-flight response—the classic stress

## Proper posture the tai chi way

If you're like most people, your posture could use some improvement. But how do you do that? The classic advice is to stand straight, with your head up, shoulders back, and belly in. While these are reasonable adjustments, tai chi takes a different approach that may be more effective. It aims to align the body in ways that afford safe, unstrained, and graceful postures—not the military-like, one-size-fits all, rigid stances many think of as good posture.

Instead, in tai chi, good posture centers around the principle of verticality. That means the head is centered over the torso, the torso rests over the hips, and the hips are centered over the legs and feet, your base of support. Here's how to do it.

**1** The spine is literally the backbone of verticality, so let's start there. Tai chi classics say, "The spine should be like a necklace of pearls hanging from heaven." Your goal should be to elongate the spine while still allowing for its natural curves. This can reduce

wear and tear on the discs between your vertebrae. In this position, your head will also sit squarely on top of your spine instead of jutting forward—a common profile that you will see if you take the time to observe others. Your head weighs about 10 to 12 pounds, but just a slight tilt forward more than doubles the amount of strain on your neck muscles. Get into typical texting position, and your muscles must work five times as hard. No wonder your neck and upper back are tight and achy. Proper alignment helps prevent that.

**2** The next area to focus on comprises the waist and pelvic region, which connect the upper body and lower body. In tai chi classics, this area is called the "commander." It's the central, coordinating hub where all movements originate. Muscle imbalances in this area have been associated with pain in the back, knee, and even neck, along with affecting your gait and balance. Maintaining tone and flexibility in the muscles and other soft tissues

of the hip and pelvic area facilitates good posture and movement patterns and reduces pain.

**3** At the foundation of good posture are your feet, but you rarely hear about them in traditional posture advice. If alignment is off at your feet, though, the imbalance travels up the body, possibly causing painful problems along the way. Western thinking usually attempts to correct these misalignments with products like shoe inserts, but tai chi works to naturally correct imbalances and improve range of motion. While specifics vary with different tai chi movements, in general you should keep your weight centered over the balls of your feet and all of your toes, and point your feet in the direction of your kneecaps. The result is a healthier posture that works for you without forcing your body into uncomfortable positions.

So, the next time you want to improve your posture, skip the stiff stance and focus on your spine, pelvic region, and feet.

response, which primes your body to deal with an immediate physical threat—can be damaging when it becomes a constant feature of daily life, playing a role in some of the nation's leading causes of death and disability, including heart disease and type 2 diabetes (see "Toning the sympathetic nervous system," page 15).

Though you are never going to escape stress—and some people actually thrive on it—tai chi can help you to manage it better. Instead of reacting (often in not the best way) to stressful events, you learn to step back and give yourself time to assess a situation more accurately and less emotionally, and react appropriately.

A regular tai chi practice also seems to have spill-over benefits that foster greater well-being in general. By enhancing your ability to cope with stress, for example, tai chi may reduce the likelihood that you'll turn to behaviors such as smoking, drinking, overeating, taking recreational drugs, or skimping on sleep, all of

which have their own multipronged harmful effects. In addition, the ability to deal better with stress can make you more productive, help you make better decisions, and help improve your interpersonal relationships. Instead of creating a vicious circle that leads to more problems, it sets up an auspicious circle, in which positive effects reinforce positive behaviors and vice versa.

## More self-confidence

As mentioned earlier, tai chi also appears to have an effect on self-efficacy, your belief that you can accomplish a task. The task can be anything—starting to exercise, reducing the amount of sugar you eat, or quitting smoking. If you have high self-efficacy, you believe you will follow through on the task, which in turn makes you more likely to actually do so. Research shows that the higher your self-efficacy for a particu-

lar behavioral change, the more likely you are to be successful in that change.

Tai chi can help improve self-efficacy, as well as mood, even when it's done while sitting, according to a study of wheelchair users in a long-term care facility in Taiwan, published in 2016 in *The Journal of Alternative and Complementary Medicine*. In the study, 30 residents were randomly assigned to do seated tai chi exercises three times a week; 30 others participated in the usual activities offered in the facility. After 26 weeks, the people in the tai chi group showed greater improvements on questionnaires designed to measure mood and self-efficacy.

While many of these studies on tai chi have been done in older adults or people with health problems, one study looked at college students. Researchers from Appalachian State University had students take a class in either tai chi or Pilates for one semester. At the end of the semester, both groups reported improvements in self-efficacy, supporting the case that tai chi has benefits to offer people of all ages.

## A stronger heart

Heart disease—a broad term that includes coronary artery disease, stroke, atherosclerosis (stiff arteries), and hypertension (high blood pressure)—is the leading killer of men and women in the United States, yet it is highly preventable. Even if you have risk factors for heart disease, maintaining a healthy diet and exercise routine—including tai chi—can help you reduce your chances of developing it.

Tai chi is a low- to moderate-intensity type of aerobic exercise, depending upon your current fitness level and how quickly you execute the moves. But tai chi may have some advantages over other types of aer-



Multiple studies show that tai chi helps reduce stress, anxiety, and depression. It also boosts self-efficacy, the belief that you can follow through on a task and get it done.

obic exercise, especially for people who are sedentary or very out of shape. In multiple studies that compared tai chi against other types of aerobic exercise, the tai chi group was more likely to stick with it during the studies and in some cases even afterward. And the more you practice, the more benefits you'll receive.

Tai chi's effect on the heart also seems to go beyond traditional aerobic conditioning. In a small study of heart failure patients, researchers assigned participants to either tai chi or low-impact aerobics. Although the tai chi was less aerobically intensive, over the course of 12 weeks of twice-weekly classes, people in the tai chi group increased their six-minute walk distance more than those in the

aerobics group, though the reasons why were not clear.

The effects aren't limited to the sick or deconditioned. In a larger study of 374 relatively healthy middle-aged adults, those who did tai chi had improvements in exercise capacity on a par with those who did brisk walking—even though the tai chi group's heart rates were 33% lower on average during exercise. While more research is needed to determine the mechanism for these effects, it appears that you can keep the intensity low and still get benefits. This is particularly desirable if you already have heart problems.

Scientists are still trying to tease apart the reasons why tai chi benefits the heart. Some are well documented. Others are not.

**Reducing high blood pressure (hypertension).** High blood pressure is a major risk factor for heart attacks and strokes, but many studies have found tai chi to be a powerful antidote. In a review of 26 studies, published in the journal *Preventive Cardiology*, 85% of the trials showed that tai chi lowered blood pressure. In people with hypertension, systolic blood pressure (the top number in a blood pressure reading) fell by

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seven to 32 points, while diastolic pressure (the bottom number) fell by two to 18 points. In people with normal blood pressure, the reductions were smaller, but still important: systolic blood pressure dropped four to 18 points, and diastolic blood pressure, two to eight points. Such favorable outcomes suggest that tai chi may be as effective as other lifestyle approaches such as a low-sodium diet, weight loss, and moderation of alcohol use.

**Lowering total cholesterol.** High cholesterol is another risk factor for heart disease that may improve with tai chi, although the research is limited. In one study, published in *The Journal of Alternative and Complementary Medicine*, people with high cholesterol who did tai chi for a year lowered their total cholesterol by 7% and their LDL (bad) cholesterol by 12%. However, this was not a randomized controlled trial. A meta-analysis of six randomized controlled trials, published in 2016, found total cholesterol reductions of around 8 mg/dL in the tai chi group.

**Reducing chronic inflammation.** When you get an injury, inflammation—the tender redness around the wound—is part of the healing process. But low-grade, chronic inflammation in the cardiovascular system has emerged as yet another risk factor for heart disease. Increased inflammation is associated with stiff, narrowing arteries and the formation of unwanted clots, which can lead to heart disease or stroke. Strate-

gies to reduce inflammation include dietary changes and exercise, including tai chi. Although the studies so far have been small, they have found that tai chi can reduce markers of inflammation known to be cardiac risk factors.

**Toning the sympathetic nervous system.** The sympathetic nervous system primes your body to fight or flee from danger by increasing blood pressure and heart rate (to pump more blood to muscles) and releasing sugar into the bloodstream (to fuel your muscles). This response was essential to survival for our ancestors when they faced predators. But today's stresses, which are rarely life-threatening, are more constant—and the continuously higher heart rate, blood pressure, and blood sugar can increase your risk for heart disease.

Tai chi can have a soothing effect on the sympathetic nervous system. In one study, 26 healthy men and women practiced tai chi for three months. Afterward, they performed a stressful task (public speaking while doing mental arithmetic), and researchers took various measurements of their stress response. All measurements were lower (showing less stress) than those of a similar group of 26 men and women who had not been doing tai chi. The tai chi group also perceived the task as less stressful and remained more calm. (For more on tai chi and stress reduction, see “Less stress,” page 12.) ♥

# Before you start: Safety first

Tai chi is a gentle form of exercise that is practiced not only by healthy people, but also by frail elderly individuals with problems like balance issues and serious heart ailments. It is generally considered safe for most people, but there has been little research done to objectively assess risk of injury. In a 2014 study by Harvard Medical School, researchers reviewed 158 randomized controlled trials on tai chi to determine the frequency and types of injuries that people experience. Their findings support the belief that tai chi has an excellent safety record. The most common injuries are minor musculoskeletal aches and pains, such as knee and back pain.

## Warning signs

If you experience any of these symptoms during or after tai chi, see a doctor immediately:

- chest pain, pressure, heaviness, or tightness
- faintness or loss of consciousness
- significant or persistent shortness of breath or dizziness.



Persistent or intense muscle pain that starts during a session or right afterward, or muscle soreness that persists more than one to two weeks, also merits a call to your doctor for advice. This is not the same as the normal delayed muscle soreness that starts 12 to 48 hours after a session and gradually abates.

You should also call your doctor if the routine you've been doing for a while without discomfort starts to cause you pain. And ask your doctor whether any other warning signs specific to your health history warrant a call.

However, tai chi is still considered an aerobic activity. It can be low to moderate in intensity depending upon the style you do, the length of your practice, the speed of your movements, and how deep you sink into postures. For this reason, it's wise to know your limits and to consult a doctor first if you have any of the medical conditions listed in this chapter.

## When to see a doctor

The most common risk factor for injuries in tai chi is having an existing medical condition. You should consult your doctor before trying tai chi if you have (or had) any of the following:

- a condition such as coronary artery disease, heart failure, high blood pressure, diabetes, or osteoporosis
- musculoskeletal problems such as back, knee, or shoulder problems, including a herniated disc
- balance problems
- recent surgery
- a stroke or neurological illness
- medication that can make you dizzy or lightheaded.

These may not preclude you from doing tai chi, but your doctor may suggest additional precautions.

The Get Active Questionnaire, a tool developed by the Canadian Society for Exercise Physiology, can help you determine whether you should talk to your doctor before embarking on, or ramping up, any fitness program. You can find it at [www.health.harvard.edu/GAQ](http://www.health.harvard.edu/GAQ). The form covers people of all ages. ♥

# Creating your tai chi practice

This report contains three tai chi routines:

**Standing Tai Chi Calisthenics** (pages 21–30). This is the perfect routine to get you started.

**Seated Tai Chi Calisthenics** (pages 31–36). The moves in this routine are similar to those in the first routine, but you execute them while sitting in a chair. Start with this routine if you have balance problems, are in a wheelchair, or have other health issues that make standing unsafe for you. You can also use this routine at work for a midday break.

**Tai Chi Elements** (pages 37–43). These moves look more like the traditional tai chi exercises you may have seen. This is a good next step in your tai chi practice once you are comfortable with the Standing Tai Chi Calisthenics.

## Getting set up

You can practice tai chi almost anywhere, indoors or out. Just follow a few simple rules:

- Wear comfortable, loose-fitting clothes that don't restrict you as you move. You can practice barefoot or wear comfortable, flexible shoes or slippers; it's a personal preference. You want to feel the ground, so avoid thick-soled shoes or sneakers, unless recommended by your doctor.
- Make sure that the area is free of obstacles and is not slippery. If you are doing some exercises at work, step away from your desk and move your chair out of the way. (Most desk chairs have wheels, so they should not be used for balance.) If you are practicing in your living room, move coffee tables or toys, so you have a clear area to move in.
- If you are practicing outside and it is warm, make sure you have water available. Do not practice outside if there is a heat advisory.
- Turn off your cellphone to minimize distractions.

Creating a ritual—such as putting on comfy clothes and retreating to a quiet place—can help you make tai chi a regular part of your routine.

## Tips for a better practice

One of the best ways to learn how to do tai chi is to observe it and follow along. That's why we created videos of both the Standing Tai Chi Calisthenics and the Tai Chi Elements. Reviewing the videos before trying the moves on the following pages will make learning tai chi easier. You can find these videos online at [www.health.harvard.edu/tai-chi-calisthenics](http://www.health.harvard.edu/tai-chi-calisthenics) and [www.health.harvard.edu/tai-chi-elements](http://www.health.harvard.edu/tai-chi-elements).

In addition, the tips below will help you to get more benefits out of your practice and reduce your risk of injury.

**Enjoy it.** Enjoy the movements and breathing. Don't worry about whether you are doing everything right. Don't think too much about doing it perfectly—just do. Enjoyment will deepen your practice and help your qi to flow more freely. Worrying or overthinking it disrupts the flow and pulls you out of the moment.



While good form is important—and essential in tai chi competitions—you shouldn't worry too much about getting everything just right when you first begin. Instead, relax and enjoy your practice.



### **Safety tip: Listen to your body**

**A**lways pay attention to your body as you practice tai chi. If you begin to feel tired, have a hard time staying focused, or feel any discomfort, it may be a good time to stop exercising and rest.

If you notice any discomfort when holding a position—for example, keeping your knee bent—you should come out of the position and stretch a little to ease any tension and then resume the position. It's okay to do this as often as needed. Never push through pain or discomfort. If you practice tai chi regularly, your body will become better conditioned and you will feel more comfortable in these positions.

**Get grounded.** Feel the ground with your feet. Release your weight into the ground and maintain good body alignment to promote stability and balance.

**Take it slow.** Moving slowly gives you time to sense your body's position, uncover hidden tensions, and make postural modifications so that different parts of your body move more harmoniously together.

**Obey the 70% rule.** A key principle of tai chi is moderation in effort, which may contribute to its low risk of injury. This principle is referred to as the 70% rule. Basically, it means to avoid extremes, in which injuries are more likely to occur. Instead, stay at about 70% of your effort, intensity, or range of motion. Never force a movement beyond about 70%. For example, keep a slight bend in your elbow when you extend your arm instead of fully extending it and locking your elbow. Similarly, when stretching your back, for example, stop well before you sense fear of straining muscles or causing a spasm. If you feel any pain or resistance to a move, back off from it.

**Be mindful.** As you move from side to side, do so in a mindful way. Can you feel the contact between your feet and the ground? Can you feel how your feet connect to the rest of your body? Can you feel your body slowly relaxing as you breathe? Can you do all that without clenching your neck and jaw? You may not be able to do any of the above well, but just being aware of these things is a critical first step. As soon as you start moving, the movement should serve as the “magnet” for your attention. Let it draw your awareness to the parts that are moving.

**Move from your center.** Imagine your head, torso, and pelvis as a single column aligned over your legs and feet. All upper and lower body movements are integrated with the movement of this “column,” which includes the body's center of gravity. Do not twist the spine. The tai chi classics say that good movements begin beneath your feet, are steered by the waist, and applied through the arms.

**Be aware of your “inner ocean.”** Your body is roughly 60% liquid. With this in mind, think of moving an inner ocean when you perform tai chi, rather than changing the shape or position of a solid object. Keep the movements smooth and flowing, as if you were in a pool—the kind of movements that would create gentle waves instead of splashes.

**Do some, not none.** As with learning to play an instrument, the more time you put into tai chi, the more you'll get out of it. Whether you have time for only a few 30-minute sessions a week, or 10 minutes a day, do it! You'll still get benefits. But if you want to overcome a serious health problem or develop a deeper spiritual practice, a more rigorous regimen, such as longer 30- to 60-minute daily sessions, will help you to achieve those goals.

**Pace yourself.** Just like a young tree thrives when it receives intermittent rain instead of a single down-pour, you'll see more benefits by doing a little tai chi more frequently than doing a lot in isolated sessions that are few and far between. This is especially important when you are beginning a practice. Start with just 10 or 15 minutes and then gradually increase. Even five minutes most days of the week is better than doing nothing at all.

**Be patient with your progress.** No matter what type of exercise you do, even high-intensity workouts, it takes time to see changes. And with lower-intensity forms of exercise like tai chi, it may take even longer to see physical changes like increased strength or flexibility. The results are worth the wait. However, you need to be on the lookout for them. For example, you may be able to reach into overhead cabinets more easily or bend down to pick up something off the floor without needing to hold on to something. Look for improvements in everyday activities as a way to track your progress. Celebrate these improvements.

## How does tai chi fit into your overall exercise plan?

The Physical Activity Guidelines for Americans from the U.S. Department of Health and Human Services recommend 150 minutes per week of moderate-intensity aerobic physical activity (the kind that gets your heart rate up). In addition, it recommends muscle-strengthening exercise twice a week. Balance exercises are recommended for older adults at risk of falling. And flexibility exercises may be helpful, too.

## What type of exercise is tai chi—aerobic, strengthening, or balance?

While tai chi is considered a low- to moderate-intensity aerobic activity, depending upon your fitness level and how you practice it, it is unlikely that you will reach a moderate intensity if you are just learning tai chi. So along with your tai chi practice, remember to get out and walk, bike, or take a cardio exercise class to ensure that you are getting enough aerobic exercise.

Under the Physical Activity Guidelines, tai chi is considered muscle strengthening for older adults. So

### Finding tai chi classes and instructors

The routines presented in this report form a good basic program for beginners. However, it can be hard to assess if you are doing the moves correctly, so working with a trained teacher or practitioner or taking a class may be helpful. Or, you may want to find a class so you can learn additional practices with greater diversity, depth, and challenge. Group classes and DVDs can provide new routines, and you will find a listing of some in the “Resources” section of this report (see page 44). Finding an appropriate class and instructor will take a little more effort and care. For help, follow this advice.

#### Where to find classes

Tai chi classes are often offered at martial arts studios, but you can also find them at community centers, hospitals, universities, health clubs, Y's, and senior centers. Most facilities list class descriptions on their website. If you can't find that information, call and ask. Describe your level of experience and ask which class would be best for you. Ask if you can try a class before committing to it, or if you can at least observe a class, to ensure that it is a place where you would feel comfortable. If it's enjoyable, you'll be more likely to keep doing it.

If possible, speak with other students. Ask them how long they've been going to a class. When a class has longtime students, that indicates a strong community. Ask them what they like about the class and the teacher. And ask them why they are there. If their responses resonate with you, it's more likely to be a good fit.

#### Choosing an instructor

It's the instructor who really sets the tone of the class, so finding the right teacher is important. Unfortunately, you'll have to do the legwork yourself since tai chi instructors don't have to be licensed, and the practice isn't regulated by the federal government or individual states. There's no national standard for tai chi certification. The best way to assess a teacher is to

take a trial class. In addition, try the following measures.

- **Get references.** Ask trusted sources, such as your health care provider or hospitals, to recommend a tai chi teacher or studio. Friends, family, and co-workers may be another source for recommendations, but ask people whose levels



of experience and fitness are similar to yours in order to get the best recommendation for you. A tai chi instructor who is right for your cousin who does karate may not be right for you if you're currently not exercising and have diabetes, for example.

- **Look for a welcoming environment.** A good instructor will make everyone feel safe and comfortable, allowing individuals to proceed at their own pace. Competitive environments can encourage people to push themselves too far, risking an injury.
- **Ask about experience.** This is key if you have any health or medical issues or limitations. Ideally, you should select an instructor who has experience working with your particular condition. If that's not possible, look for someone who will be attentive to your needs. When teaching, good instructors provide both verbal cues and demonstrations. They also spend time walking around the room to help students, not just performing in front of the class. Good instructors also tend to have long-term students.

## Take some mini tai chi breaks

While you won't get all of the benefits of an extended, regular practice, the following mini tai chi breaks can help you defuse stress, regain your focus, and feel energized.

- Practice "pouring" your weight back and forth from one leg to the other as you stand in line at the grocery store.
- Do some hand and wrist stretches while you are watching TV, or do foot and ankle stretches while you're checking Facebook.
- Take "breathing breaks" throughout the day to practice breathing (see "Basic tai chi breathing," page 7) or do "Renewing your body with breath" (page 36).

for some, the Standing Tai Chi Calisthenics and Traditional Tai Chi Elements routines (pages 21 and 37, respectively) would be reasonable to count toward the muscle-strengthening recommendations. If you are younger and stronger, this will not be sufficient, and you will want to supplement with activities like lifting weights or doing the weight circuit at your gym.

Tai chi definitely qualifies as an activity to meet the balance recommendation, and it helps with flexibility, too.

## How often should you do tai chi?

How often you need to practice depends upon the benefits you desire. If you are looking for health

improvements or managing health problems, aim for 30 to 60 minutes every day. If you are adding tai chi to a current exercise regimen with the goal of enhancing your current level of health, 30 to 45 minutes three to five times a week is a good goal.

If this much activity isn't possible for you, do as much as you can. Some activity is always better than none. Even short bursts of activity, such as five or 10 minutes of tai chi or walking several times a day, are a good first step toward meeting a larger goal (see "Take some mini tai chi breaks," at left). It's better to do a little bit every day versus a lot on days that are few and far between.

## Terminology used in the routines

As you'll see, our instructions include some specific terminology. Here's what it means:

**Repetitions (reps).** Each rep is a single, complete performance of the given movement or posture. If you cannot do all the reps at first, do as many as you can manage. Gradually increase the number of reps as you improve.

**Starting position.** This describes how to position your body before starting the movement.

**Movement.** This explains how to perform one complete repetition correctly.

**Tips and techniques.** We offer a few pointers to help you maintain good form and avoid injury. ♥

# Standing Tai Chi Calisthenics

This routine is a perfect starting point if you are new to tai chi. It can serve as a warm-up routine in preparation for practicing the formal Tai Chi Elements, or it can serve as a simple, yet effective, mind-body exercise routine on its own.

In this workout, you will find descriptions for each of the moves, along with photographs that illustrate the exercises. However, we have also recorded videos of each of the exercises that may be easier for you to follow, as you can listen to the narration rather than having to read as you go along. This will also help put you in a more meditative state of mind. You can find the videos at [www.health.harvard.edu/tai-chi-calisthenics](http://www.health.harvard.edu/tai-chi-calisthenics). You can do the entire routine, or if you are just starting out, try a few moves at a time and build up to doing the full routine. A daily practice, even if it's only a few moves some days, will yield the greatest benefits.

Before you begin, take a little time to become more fully present in the moment. Feel how your feet meet the ground. Feel how your head sits on top of your shoulders. Be aware of how you are breathing. Notice your whole body. Invite your body and mind to rest. Breathe deeply and naturally for all moves unless specified otherwise.

The editors would like to thank **Stanwood Chang** for serving as the model for the tai chi routines. Mr. Chang has studied tai chi for many years with Peter M. Wayne, the medical editor of this report. He also teaches his own tai chi classes and has served as instructor in multiple studies funded by the National Institutes of Health.

The narrator for the videos is **Dr. Peter M. Wayne**, who developed the series of tai chi exercises in this report as a protocol for clinical studies.



## Tai chi pouring, swinging, and drumming

**Reps:** 9–36 each for pouring and swinging; 4–8 for each part of drumming

**Purpose:** To gently loosen up the body and guide the mind's attention and healing intention deeply and fully into the body

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement for pouring:** Slowly bend your right ankle and knee and let your weight shift to your right leg. Imagine that you are pouring all of your weight into your right leg so the left one is empty. Hold for a few seconds. Then slightly bend your left ankle and knee and pour all of your weight into your left leg. Hold for a few seconds. Then repeat continuously without holding. As you rock back and forth, be aware of your "inner ocean" (see page 18) and feel it bathe the soles of your feet for a few rocking cycles. Then be aware of your inner ocean's waves from your feet to your ankles, calves, knees, hips, groin, abdomen, and eventually to your fingers and the crown of your head. Feel all the parts individually, but also be aware of their connections.

### Tips and techniques:

- Keep your upper body facing forward.
- Let the leg with no weight on it relax.



- Don't stick your hip out as you shift your weight from side to side.
- Trust your body to make intuitive adjustments to enhance the feeling of nourishing and integrating the whole body.

**Movement for swinging:** Once you are comfortable with pouring, you'll add swinging. As you shift your weight to your right leg, turn your upper body slightly to the right, allowing the heel of your left foot to come off the floor as the foot pivots and your left knee drops inward. Then come back to the center, shift your weight to your left leg, and turn slightly to the left, pivoting your right foot and letting your right knee drop inward. As you shift and turn from side to side, let your arms swing naturally, like a rag doll, wrapping around your body as you rotate with your hands and arms lightly striking your body at the end of each rotation. Feel the waves and sensations connect your entire body as you swing.

### Tips and techniques:

- Stand tall with your head sitting comfortably on top of your body.
- Keep your navel and eyes aligned and moving together as you rotate.
- Don't twist your neck or spine.
- Find a comfortable pace that allows you to feel and integrate as many body parts as possible.



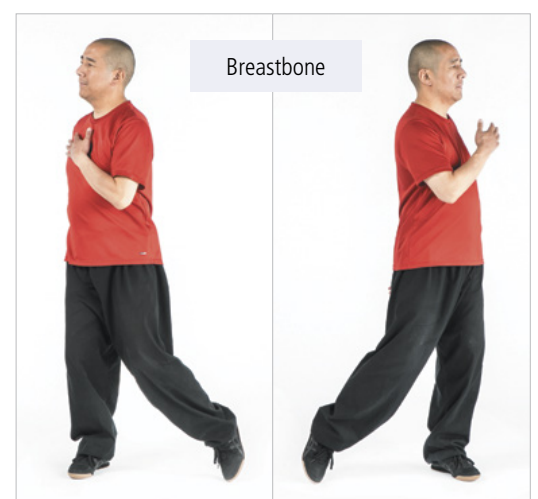
**Movement for drumming:** Continue pouring and swinging as your hands tap (or drum) different parts of your body, providing stimulation like a little vibrational self-massage to wake up the body. Repeat the swing-and-tap motion for each of the following regions of the body four to eight times before moving on to the next region.

**Shoulders.** Your left hand crosses your chest and taps your right shoulder as you swing to the right, then your right hand crosses your body and taps your left shoulder as you swing to the left.

**Ribs.** Tap the sides of your rib cage, below the breastbone.

**Abdomen.** Tap the sides of your waist.

**Breastbone.** Tap the center of your chest, each hand tapping the same spot.



**Solar plexus.** Tap the center of your upper abdomen, above your navel, with each hand.

**Navel.** Tap your navel with each hand.

**Lower abdomen.** Tap the center of your lower abdomen, beneath the navel, with each hand.

**Lower back and navel.** As you swing to the right, tap your left hand on your navel and your right hand on your lower back. Then as you swing to the left, tap your right hand on your navel and your left hand on your lower back.

**Tailbone and lower abdomen.** Tap below your navel and on your tailbone at the same time.

Then come to rest in the center for a few moments. Take a few deep breaths. Feel the sensations you've generated in your body. Allow any obvious tense areas to relax to let blood and qi fully circulate. You can close your eyes if you'd like.

#### Tips and techniques:

- The tap should feel lively, bouncing off after each contact as if you were playing a hand drum.
- Let the side of the body that is not bearing weight really relax, as in the pouring step.
- While drumming, continue to feel the flowing inner ocean waves connect your entire body.



## Swinging to integrate the whole body

**Reps:** 9–36

**Purpose:** To connect the upper and lower body

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement:** Slowly raise your arms up in front of you to a comfortable height without straining your neck or shoulders, then gently let them swing down, surrendering to the pull of gravity. As your arms release, your knees and ankles bend slightly. Repeat a few more times. Begin swinging your arms a little higher overhead and briefly pause at the top of each swing to feel a gentle stretch from the soles of your feet through your legs, hips, torso, neck, up to your fingertips. As you swing down, bend your knees again slightly, and let your torso tip slightly forward. Feel the gentle stretching and connection through both the front and back of your body and feel the opening and massaging of your lower back region. Stretch and release every joint in your body. Breathe comfortably, releasing any tension as you exhale. Slow the swings and come to rest at the center when you've completed all reps.



### Tips and techniques:

- Don't stretch beyond a comfortable range of motion (remember the 70% rule, page 18), and don't sit back more than 10% when you bend your knees.
- Don't bend your knees deeply or lean too far forward with your torso on the down swing.
- If it's comfortable, you can slightly raise your chin and look up as you reach up.
- Feel connected to the ground to help maintain your balance.

## Hip circles

**Reps:** 6–36 in each direction

**Purpose:** To awaken and loosen up the mid-region and integrate the upper and lower body

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Place your hands on your hips.



**Movement:** Keeping your feet still, make circles with your hips in a clockwise direction as if you are inscribing a circle. Imagine the circle as a clock face and notice how many of the five-minute points you can locate. Can you feel all 12? Invite your inner ocean to bathe and soften all the tighter parts of the circle. Feel how the movement helps you connect down through your legs and feet, and up through your torso, neck, and head. Once you complete the recommended number of reps, reverse direction, circling counterclockwise. As

you complete the reps, spiral to the center and become still.

### Tips and techniques:

- Don't force any big movements or go fast; focus more on feeling and relaxing into circular movements.
- Your head should be centered over your feet and not rotating; the neck stays relaxed.
- Your knees and ankles will rotate along with your hips.
- Maintain a gentle breathing pattern throughout.

## Spiraling the lower extremities (knees, ankles, hips)

**Reps:** 6–9 in each direction, for each leg

**Purpose:** To enhance flexibility, integration, and awareness throughout the lower body

**Starting position:** Stand with your feet closer than shoulder-width apart and shift your weight onto your left leg, slightly bending that knee. Raise your right heel off the floor so only your toes are touching. Relax your arms at your sides.

**Movement:** Move your right knee in a clockwise circle, like you did with your hips. As your knee bends and unbends, pay attention to the body parts that are moving. Imagine your inner ocean bathing your kneecap and the ligaments and tendons in your knee. You're also articulating your ankle joint, the joints in your feet, and the connections between your shin bones. Feel the connection all the way from your knee down to your foot. At the same time, the thighbone is moving in your hip socket and loosening up your hip. Feel the connections and the different body parts working together better. Appreciate the support of your slightly bent supporting leg. Complete the reps clockwise, reverse the direction, complete the reps counterclockwise, and then switch legs.



### Tips and techniques:

- You can hold on to the back of a chair, counter, or wall if needed for balance.
- Keep your knee horizontal to the floor as you rotate it.
- Don't lock the knee of your supporting leg.
- Maintain a gentle breathing pattern throughout.



## Spinal cord breathing

**Reps:** 6–9

**Purpose:** To increase flexibility in the spine and chest and free the breathing from any constrictions

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Raise your hands up to about chin level, slightly farther apart than your shoulders, with your elbows bent and palms forward.

**Movement:** Round your spine, bending it forward to form a C-shape, as you drop your chin toward your chest and bring your arms in front of your chest with your hands facing your body. Feel the spaces between the vertebrae gently expanding. Slowly return to the starting position and then gently arch your back, lifting your chin slightly and sticking your buttocks out. Reach your arms back a little more, gently squeezing your shoulder blades together and down. Feel a lengthening through the front of the body. That's one rep.

Continue rounding forward and then arching back, opening and closing, stretching and relaxing the front and back of your body, especially your spine. Go at a pace that is comfortable for you, making the movements larger or smaller depending upon how you feel. You should not feel any strain. Always stay connected to the ground, feeling your feet on the floor. When you've completed all reps, come back to the center and relax your arms at your sides.



### Tips and techniques:

- Inhale as you arch, and exhale as you round. (If this is uncomfortable, breathe naturally.)
- Do not stretch too far or strain your back, going to only about 50% of your maximum stretch. Limit the range of motion further if you have had back or neck issues.
- You may do this exercise seated in a chair (see “Seated spinal cord breathing,” page 31) if that is more comfortable.

## Stretching the hands and arms

**Reps:** 6–9 in each direction, for each move

**Purpose:** To loosen up and enhance range of motion and circulation in the wrists and fingers

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Bend your elbows so your hands are in front of you at about waist height. Make gentle fists with your hands.

**Movement:** Rotate your fists to make circles. Use the movement to draw your attention into these parts of the body. Feel all of the little bones in your wrists, hands, and arms, and invite your inner ocean to bathe all of the tissues. When you've completed the recommended number of reps, pause and reverse the direction. Stretch and relax.

Next, open your hands with your palms up and stretch each of

your fingers gently, extending all of the knuckles, ligaments, and tendons just enough to bring your attention into your palm, and then deeply relax.

Then curl your fingers in and rotate your hands so your palms are facing the floor, and stretch your fingers. Feel the webbing open and find new places in your hand and wrist to awaken and to reintegrate with the rest of your hand. Rest briefly between stretches and sense your inner ocean bathing recently stretched tissues. When you've completed all reps, let your arms come to rest at your sides.

### Tips and techniques:

- Stand tall with your head sitting comfortably on top of your body.
- Feel connected to the ground throughout to help maintain your balance.
- Think of this as yin and yang—stretching, then resting, stretching, then resting.



## Sung relaxation breathing

**Reps:** 9–36

**Purpose:** To help relax the upper body (“sung” means sinking, releasing tension, dropping your center of gravity)

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement:** As you inhale, raise your shoulders up toward your ears, gently tightening the muscles of your shoulders and upper torso. Imagine you are breathing into your shoulders. As you exhale, slowly lower your shoulders, relaxing your jaw, torso, arms, and hands, but remain standing tall. Imagine the sensation of melting and releasing tension all the way down to your legs, as if you have roots like a tree. As you release tension, sense an increased lightness and openness in the neck, chest, and lower body. Once you’ve completed all reps, rest with your shoulders down and breathe.

**Tips and techniques:**

- Try not to let everything go as you relax. Stand tall with your head sitting comfortably on top of your body.



- Take time in each cycle to release from the top of the body all the way down to your roots. Feel connected to the ground throughout to help maintain your balance.
- You don’t have to force a rhythm with your breath. Do what is comfortable for you.

## The dragon wags its tail

**Reps:** 9–36

**Purpose:** To awaken, stretch, and integrate the two sides of the body

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Bring your palms together in front of you at navel height with your fingers slightly extended.

**Movement:** Lengthening your spine, gently bend or arch from your waist to the right, with your head and neck arching to the right as well. Your thumbs and arms also rotate to the right. Feel a stretch on the left side of your torso and ribs; down the side of your thigh, knee, and ankle; and up to your ear and out to your fingertips. Pause for a moment, and then return to the center. Gently arch to the left, feeling a stretch on your right side. Return to the center. That’s one rep. Alternate sides continuously at a comfortable pace, and don’t push yourself to stretch to your maximum. When you’ve completed all reps, come back to the center and relax, your arms at your sides.



**Tips and techniques:**

- Focus more on feeling the entire side than reaching farther or doing faster reps.
- Don’t round your shoulders as you bend.
- Stay lifted, so you don’t collapse and compress your waist.
- Don’t shift your weight or stick your hip out.

## The fountain

**Reps:** 6–9

**Purpose:** To awaken, stretch, and mindfully integrate the entire musculoskeletal system

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement:** Bend your ankles and knees slightly as you cross your wrists in front of your body. Then, lift up your arms as you straighten your ankles, knees, and hips. Feel a gentle stretch from the soles of the feet all the way up through the legs, torso,

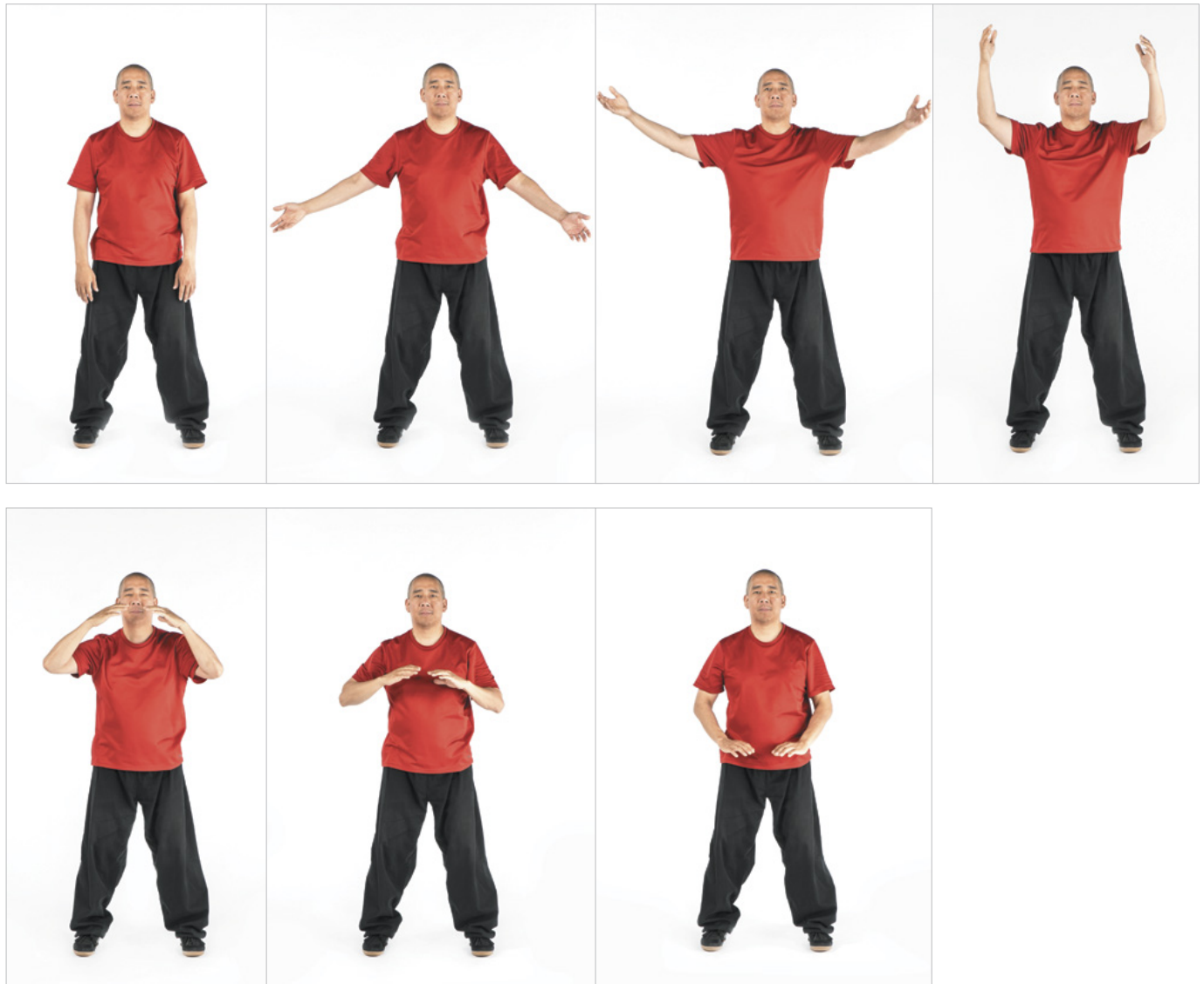
neck, and arms to the fingertips. Allow your arms to open as they come overhead, turning your palms outward, and gently allow them to float down to your sides, releasing the stretch and relaxing your legs. Slowly repeat this whole-body stretch. Feel both the front and back of your body being stretched. Be aware of all of the core tissues in your body gently being expanded, stretched, connected, and released. Rest in the starting position and be aware of the sensations throughout your body.

### Tips and techniques:

- Inhale as you reach upward, and exhale as you lower your arms. (If this is uncomfortable, breathe naturally.)
- Keep your body upright and your spine extended throughout the movement.
- Open, let go, and relax your whole body as if it were yawning.







## Washing yourself with healing energy from nature

**Reps:** 3–9

**Purpose:** To gather in healing, rejuvenating energy from nature and guide it through every cell of the body, starting at the crown of your head and extending down through your legs and into your imaginary roots in the earth

**Starting position:** Stand with your feet shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement:** Float your arms out to the sides and upward, palms up as they rise. Imagine that you are reaching up to clouds filled with healing mist. Then bend your elbows and lower your hands, palms facing the floor, down in front of you like a waterfall. As they descend, you draw the healing essence of these clouds over

the outside of your body and invite it to penetrate every cell of your body, including your imaginary roots in the ground. Continue circling your hands out and up, imagining you are gathering something from nature like sunshine, healing, or peaceful energy. As you lower your arms, you are guiding that positive energy to wash over and through you, and you are guiding negative energy out of your body.

### Tips and techniques:

- Stand tall with your head sitting comfortably on top of your body.
- Keep your shoulders down and relaxed. Don't let them rise up toward your ears.
- Feel your feet on the ground throughout.
- Modify the images you use based on how you feel. For instance, if you are feeling stressed or anxious, invite a calming energy to fill you. Or if you are tired, imagine a more vibrant energy flowing through you. ♥

# Seated Tai Chi Calisthenics

If you have balance problems, are in a wheelchair, or have other health issues that make standing for extended periods of time difficult, use this seated routine instead of the standing one. Any sturdy chair will do, but an armless one with a straight back is preferable. For safety, use one that doesn't roll.

You can do the entire routine, or if you are just starting out, try a few moves at a time and build up to doing the full routine. A daily practice, even if it's only a few moves some days, will yield the greatest benefits. (Because these moves are so similar to those in the standing calisthenics routine at [www.health.harvard.edu/tai-chi-calisthenics](http://www.health.harvard.edu/tai-chi-calisthenics), we have not included video for the seated versions.)

It's not just people with balance issues or health problems who should do this routine. It's also a great

option for doing a little tai chi when you're stuck at a desk during a hectic workday. It can help to release tension and renew your focus. Some of the moves, such as "Spiraling and flexing the feet and ankles" (page 32) and "Spiraling the wrists and hands" (page 33), can be done without drawing much attention from your co-workers. But don't let a lack of privacy stop you from doing more. Watching you do tai chi may inspire them to join you.

Before you begin, take a little time to become more fully present in the moment. Feel how your feet meet the ground. Feel how your head sits on top of your shoulders. Be aware of how you are breathing. Notice your whole body. Invite your body and mind to rest. Breathe deeply and naturally for all moves unless specified otherwise.

## Seated spinal cord breathing

**Reps:** 6–9

**Purpose:** To gently awaken the spine and stretch and integrate the spine and trunk

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor and shoulder-width apart, toes pointing forward. Open and raise your hands up to about chin level, slightly farther apart than your shoulders, with your elbows bent and palms forward. Your chest should be open, and your chin slightly lifted.

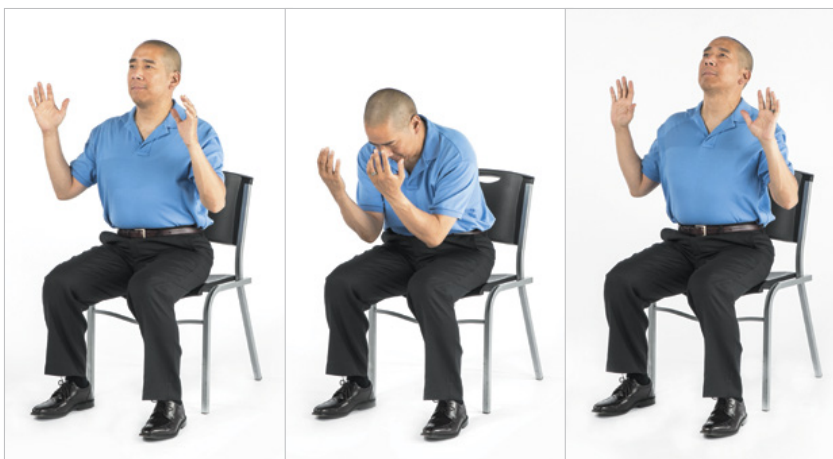
**Movement:** Round your spine, bending it forward to form a C-shape, as you drop your chin toward your chest and bring your arms in front of your chest with your hands facing your body. Feel the spaces between the vertebrae gently expanding. Slowly return to the starting position and then gently arch your back, lifting your chin slightly and sticking your buttocks out. Reach your arms back a little more, gently squeezing your shoulder blades together and down. Feel a lengthening through the front of the body. That's one rep.

Continue rounding forward and then arching back, opening and closing, stretching and

relaxing the front and back of your body, especially your spine. Imagine the healing qualities of your inner ocean seeping more deeply into—and nourishing, rehydrating, and lubricating—the spine and its supporting tissues.

### Tips and techniques:

- Inhale as you arch, and exhale as you round. (If this is uncomfortable, breathe naturally.)
- Do not stretch too far or strain your back. The neck should feel relaxed and safe throughout. Limit the range of motion if you have had back or neck issues.
- Keep your feet and sitting bones grounded.



## Spiraling and flexing the feet and ankles

**Reps:** 6–9 in each direction, for each leg

**Purpose:** To enhance flexibility, integration, and awareness throughout the lower legs

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor. Rest your hands on your thighs.

**Movement:** Slightly raise your right foot off the floor and begin moving your toes and foot in a clockwise circle, using the movement to feel all parts of your foot, ankle, and lower leg. Complete all reps, then do the circles counterclockwise. Next, point your foot and hold, with an intention of melting

tension from your toes through the top of your foot to your knee. Finally, flex your foot, pulling your toe toward you, and hold and melt from your heel and up the back of your whole leg. Repeat with your left leg. (You can also do both feet at the same time, as shown here.)

### Tips and techniques:

- Don't slouch in the chair. Sit up tall, keeping your neck relaxed.
- Spread your toes as you point and flex.
- Practice mindful breathing throughout.



## Spiraling the wrists and hands

**Reps:** 6–9 in each direction, for each move

**Purpose:** To loosen up and enhance range of motion and circulation in the wrists and fingers

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor and shoulder-width apart, toes pointing forward. Bend your elbows so your hands are in front of you above your thighs. Make gentle fists with your hands.

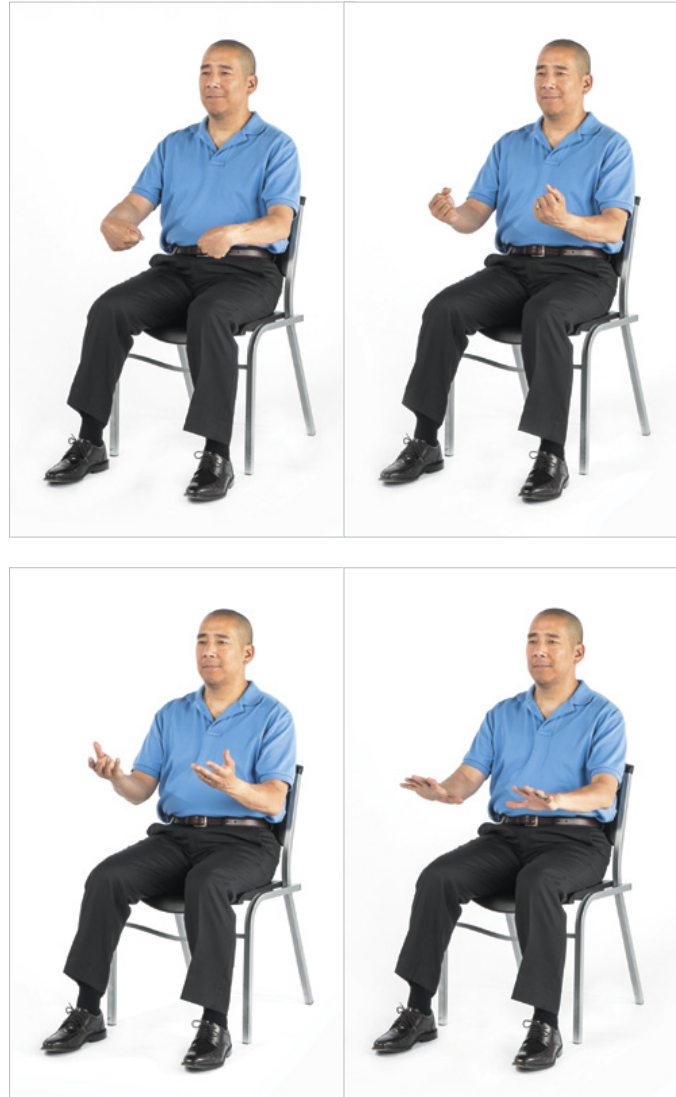
**Movement:** Rotate your fists to make circles. Use the movement to draw your attention into these parts of the body. Feel all of the little bones in your wrists, hands, and arms, and invite your inner ocean to bathe all of the tissues. When you've completed the recommended number of reps, pause and reverse the direction. Stretch and relax.

Next, open your hands with your palms up and stretch each of your fingers gently, extending all of the knuckles, ligaments, and tendons just enough to bring your attention into your palm, and then deeply relax.

Then curl your fingers in and rotate your hands so your palms are facing the floor, and stretch your fingers. Feel the webbing open and find new places in your hands and wrist to awaken and to reintegrate with the rest of your hand. When you've completed all reps, let your arms come to rest at your sides.

### Tips and techniques:

- Don't slouch in the chair. Sit up tall.
- For the wrist circles, feel your wrists and their connection to your hands and forearms.
- For the hand stretching, imagine that you are a cat stretching its paws.







## Shoulder and neck movement

**Reps:** 3–9 for each move and on each side when applicable

**Purpose:** To help relax the upper body

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor and shoulder-width apart, toes pointing forward. Relax your arms at your sides.

**Movement:** As you inhale, raise your shoulders up toward your ears, gently tightening the muscles of your shoulders and upper torso. Imagine you are breathing into your shoulders. As you exhale, slowly lower your shoulders, relaxing your jaw, torso, arms, and hands, but remain erect. Feel a release, as if the tension is starting to melt and flow down through your belly and legs and into the ground. As you release tension, sense an increased lightness and openness in the neck, chest, and lower body. Continue raising and lowering your shoulders for the recommended number of reps.

Next, turn your head to your left shoulder. Hold for a few seconds, and then turn your head to your right shoulder. Continue turning your head from side to side for the recommended number of reps.

Next, lower and lift your head, dropping your chin to your chest, and then looking up to the ceiling. Continue for the recommended number of reps.

Finally, lower your right ear toward your right shoulder. Return to the center, and then repeat to the left. Continue for the recommended number of reps.

### Tips and techniques:

- Work within a comfortable range of motion. Don't strain to stretch farther.
- Keep your feet on the ground and anchor your sitting bones into the chair.
- Practice mindful breathing throughout.

## Seated washing yourself with healing energy from nature

**Reps:** 3–9

**Purpose:** To gather in healing, rejuvenating energy from nature and guide it through every cell of the body, starting at the crown of your head and extending down through your legs and into your imaginary roots in the earth

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor and shoulder-width apart, toes pointing forward. Relax your arms at your sides.

**Movement:** Float your arms out to the sides and upward, palms up as they rise. Imagine that you are reaching up to clouds filled with healing mist. Then bend your elbows and lower your hands, palms facing your lap, down in front of you like a waterfall. As

they descend, you draw the healing essence of these clouds over the outside of your body and invite it to penetrate every cell of your body, including your imaginary roots in the ground. Continue circling your hands out and up, imagining you are gathering something from nature like sunshine, healing, or peaceful energy. As you lower your arms, you are guiding that positive energy to wash over and through you, and you are guiding negative energy out of your body.

### Tips and techniques:

- Sit tall with your head sitting comfortably on top of your body.
- Keep your shoulders down and relaxed. Don't pull them toward your ears.
- Modify the images you use based on how you feel. For instance, if you are feeling stressed or anxious, invite a calming energy to fill you. Or if you are tired, imagine a more vibrant energy flowing through you.



## Renewing your body with breath

**Time:** 3–5 minutes

**Purpose:** Deep relaxation

**Starting position:** Sit comfortably in a sturdy chair with your feet flat on the floor and shoulder-width apart, toes pointing forward. Rest your hands on your thighs.

**Movement:** Close your eyes and be aware of your breathing. As you exhale, feel relaxation and a deep release ripple through your entire body. Over the next several exhalations, invite the muscles of your feet, legs, belly, spine, arms, and neck to release and rest deeply. After relaxing the whole body, begin to feel each inhalation filling your body with the same energy used in “Seated washing yourself with healing energy from nature” (page 35). Imagine every single cell in your body being recharged with this nourishing positive energy. Practice this breathing exercise for at least a few minutes.

**Tips and techniques:**

- Without forcing any particular breathing rhythm, feel your body becoming renewed by your breath.
- Focus more on relaxing than breathing.
- You can also do this lying in bed or on the floor. ♥



# Traditional Tai Chi Elements

If you've ever watched tai chi, you may recognize some of the moves in this workout. Called tai chi elements, they serve as building blocks for traditional choreographed routines—unlike the calisthenics, which apply tai chi principles to simple movements, but are not formally built into routines.

Once you've mastered the Standing Tai Chi Calisthenics, try adding the Tai Chi Elements to your routine. The calisthenics are a perfect warm-up to the elements. You can begin with just one or two of the elements and progress from there. The elements are also a complement to more conventional workouts, or you can simply do this routine on its own.

Before trying each of the elements, you should read through its description first for helpful information, such as tips and techniques, the purpose of each

exercise, and descriptions of how to assume certain positions, such as the bow stance (see “Withdraw and push,” page 40). But you should also try performing the elements with the video, which you'll find at [www.health.harvard.edu/tai-chi-elements](http://www.health.harvard.edu/tai-chi-elements). It will give you narration that will not only guide you through the movements, but also help put you in a more meditative mood.

If you are doing this routine solo, take a little time to become more fully present in the moment before you begin. Feel how your feet meet the ground. Feel how your head sits on top of your shoulders. Be aware of how you are breathing. Notice your whole body. Invite your body and mind to rest. Breathe deeply and naturally for all moves unless specified otherwise.

## Raising the power

**Reps:** 6–9

**Purpose:** To integrate the upper and lower body and strengthen and improve the flexibility of the ankles, knees, hips, and back

**Starting position:** Stand with your feet shoulder-width apart,

toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.

**Movement:** Slowly bend your ankles and knees as your arms float up in front of you, with very soft hands and wrists so your fingertips are trailing behind. As your hands come to about shoulder height, turn your palms outward and bend your elbows. As you lower your arms with your fingers trailing,





straighten your legs, returning to the starting position. Slowly bend again and raise your arms, repeating the movement.

During this sequence, think of your hands as paintbrushes, with the backs of your hands and fingers painting on an invisible canvas as they float up. As the hands reach shoulder height, it's as though the palms roll over an invisible oval shape. Then the palms of your hands and fingers paint on the way down, gently stretching. Breathe deeply at a comfortable pace and feel rooted

to the ground. When you've completed all reps, let your arms come to rest at your sides.

### Tips and techniques:

- When your hands are at the highest point, your tailbone should be at the lowest. You don't have to lower very far.
- Don't lock your joints as you extend.
- Imagine growing a little taller each time you straighten up.

## Wave hands like clouds

**Reps:** 9–36 with lower body only, 9–36 with lower body and each hand, 9–36 with lower body and both hands at the same time

**Purpose:** To improve the flow of blood and qi to the extremi-

ties and pelvic region and balance the right and left sides of the body

**Starting position:** Stand with your feet slightly wider than shoulder-width apart, toes pointing forward and weight evenly distributed. Your ankles and knees should be slightly bent. Relax your arms at your sides.



**Movement:** Begin as if you would for pouring (see “Tai chi pouring, swinging, and drumming,” page 21), slowly shifting your weight from one leg to another to get into the flow. Then, as you pour your weight into your right leg, pause there with your right knee over your right foot. Keeping your right leg stationary, turn your upper body about 30° to the right. Without turning back, shift your weight to your left leg. Once your left knee is over your left foot, rotate your torso to the left. Maintain that position as you shift your weight to your right leg and then turn to the right. Continue shifting from side to side as you create this gentle massage deep in the hips and groin. Feel your inner ocean flowing from side to side and bathing all of your joints.

When you’ve completed the recommended number of reps, you can add the left arm. With your weight on your left leg, raise your left arm out to the side at navel height with your elbow bent. As you pour your weight to the right, drag your hand from left to right in front of you, palm first, as if it were a paintbrush painting a wall. With your weight on your right leg, let your hand float up to chest height. Then pour your weight into your left leg as the *back* of your hand paints the wall from right to left. Let your hand float back down to navel height and again paint with the palm of your hand as you pour your weight to your right leg. Continue with your hand painting an oval shape as you pour from side to side with gentle turns of the torso. Continue for the recommended number of reps, then stop at the center with your weight evenly distributed and your hand at about shoulder

height, palm down. Gently let your hand float down like a parachute to the starting position.

Repeat with your right hand, coordinating the weight shift, the turn, and the painting. Be aware of how the circles get smoother as you relax your shoulders and chest, and the movement massages the soles of your feet.

When you’ve completed all recommended reps, do the movement with both hands. As you pour to the right, the back of your right hand paints across at chest height, as the palm of your left hand paints across at navel height. As you turn, your hands pass each other and then reverse direction as you pour and paint to the left. Continue pouring, turning, and painting from side to side. Your hands make wispy movements as if they are floating in the clouds, but throughout you are still grounded. When you’ve finished all reps, stop at the center with your weight evenly distributed and your hands at about shoulder height with your palms facing down. Gently let your hands float down like parachutes to the starting position and rest.

#### Tips and techniques:

- Keep your head oriented in the same direction as your torso so your spine does not twist as you shift your weight.
- Keep your spine erect and your shoulders down and relaxed.
- As you paint, keep your shoulders, elbows, and wrist joints soft; let the imaginary qi you are painting with flow through every pore of your hand.

## Withdraw and push

**Reps:** 6–9 on each side

**Purpose:** To develop dynamic balance and leg strength and coordinate the upper and lower body

**Starting position:** You want to assume the bow stance (also called the 70-30 weight distribution stance). Here's how to get into that position: With your feet about shoulder-width apart and your toes pointing forward, shift all of your weight into your right leg. When you've transferred your weight, turn your left toes out about 30° to 45°. Shift your weight back into your left leg, keeping your toes pointing out. Then step forward with your right foot, keeping your toes pointing straight ahead and maintaining the shoulder-width distance between the heels. Place about 60% to 70% of your weight on your right leg, with your

knee over your foot. You should feel stable, but not bearing too much load in your knee. Your hips should be soft, like you're sitting in a baby's "jolly jumper." Let your spine hang like a necklace of pearls. Bring your arms up to about chest height with your hands in a pushing gesture, not too far forward or back, with your palms away from you and your fingers open.

**Movement:** Shift your weight back onto your left leg, bending your left knee slightly. As you shift your weight back, allow your arms to gently float down in front of you, palms down. Then, as you shift your weight forward, bring your hands in toward your body, turning the palms up, and draw them up along your body to chest height, turning your hands outward again into the push gesture before all of your weight has shifted forward. Imagine you are gently pushing something away from you, and then withdrawing, lowering your hands and shifting your weight back. Your hands flow in a circular pattern. As you push, feel the stretching



in your hands, and as you withdraw, feel the relaxation. Be aware of how your head sits on top of your body. Feel the ocean flowing through your body. Be aware of the massage on the soles of your feet. Feel the link from the soles of your feet all the way up your body and through to your palms. When you've completed the recommended number of reps, come back to the center and rest. Then switch feet and repeat on the opposite side.

#### Tips and techniques:

- Keep your navel and shoulders facing forward at all times.
- Don't let your knee extend past your toes as you shift forward, in order to avoid overloading the knee joint. Keep your knee aligned with your foot's center axis (imagine an ice skate's blade) to minimize sideways strain on the knee joint.
- Gently spread your fingers and palms wide as you push forward.

## Grasp the sparrow's tail

**Reps:** 9–36 on each side

**Purpose:** To develop flexibility in the hips and lower spine and integrate the extremities with the torso

**Starting position:** Begin in the bow stance, standing with your feet shoulder-width apart and your right foot about a step-length forward. Your left foot should be turned out about 30° to 45° and your right foot pointing straight ahead. You should have about 60% to 70% of your weight on your right leg, with your knee over your foot. Relax your arms at your sides.

**Movement:** As you shift your weight to your front (right) leg, turn your torso slightly to the right (a similar motion to "Wave hands like clouds," page 38). Maintaining the right-facing orientation of your torso, shift your weight back onto your left leg. Without shifting weight, turn your torso to the left. Then shift your weight sideways into your front leg again and realign your right knee over the foot.

Once you are comfortable with this back-and-forth turning movement, add the arms. As you shift your weight forward onto your right leg, extend your right arm forward at chest height with your palm toward you, and bring up your left hand behind the right hand, palms facing each other. It's as if you are grasping a little bird with your right hand on its breastbone and the left hand stroking its back. As you turn to the right, maintain your hand position. As you shift your weight back, let both arms fall, slowly sweeping down and across your body. Let your left arm swing out to the side and up to shoulder height with your palm facing you, as you bend your right arm and bring your right hand back up to chest height. As you finish turning, fold your left arm in to bring your



left hand within the right one, returning to the bird-holding gesture. Continue for the recommended number of reps, then switch legs and repeat on the opposite side.

#### Tips and techniques:

- Always keep your head and shoulders pointing in the same direction as your navel.
- Don't twist your knee or let it extend past your toes as you shift forward. Keep your knee over your foot.
- In the back position, your front arm will be stationary for a moment as your back arm folds in to meet it.



## Brush knee, twist, step, push

**Reps:** 9–36 on each side

**Purpose:** To challenge balance and coordination and integrate the upper and lower body

**Starting position:** Begin in the bow stance, standing with your feet shoulder-width apart and your right foot about a step-length forward. Your left foot should be turned out about 30° to 45°, and your right foot pointing straight ahead. You should have about 60% to 70% of your weight on your right leg, with your knee over your foot. Relax your arms at your sides.

**Movement:** Perform the movements to a count of 7. On count 1, shift your weight completely into your front (right) leg and bring your left toes forward to your right foot. (You can keep your toes on the floor as you drag your foot, if needed for balance.) Balance as best you can, keeping your left toes on the floor if needed.

On count 2, place your left foot back where it was.

On count 3, shift your weight back onto your left leg without turning your torso.

On count 4, as you turn to the left, draw your right foot in to your left foot.

On count 5, put your right foot back to where it was.

On count 6, shift your weight onto your right leg without turning. Align your right knee over your right foot.

On count 7, turn to square the hips forward.

Practice this a few times until you are comfortable. Then add the arm movements, starting with your left arm. (Leave your right arm relaxed at your side for now.) Bend your left arm so your palm is in front of your shoulder and facing forward, and your elbow is pointing down toward

the floor. Hold that position as you shift your weight to your front (right) leg and draw your left foot forward to your right one (count 1) and as you place your left foot back where it was (count 2). Then, on count 3, as you shift your weight back onto your left leg, let your arm fall and swing like a pendulum down across your body and, on count 4, back up to about shoulder height as your right foot meets your left one. On 5, relax your wrist and bend your elbow, so your palm turns toward the floor, as your right foot steps back to where it was. On 6, slide your elbow forward as you shift your weight onto your right leg. Then on 7, as you turn, push your hand forward into the starting position.

When you are comfortable with that movement, add the right arm. Extend your right arm down and slightly out to the side so your right hand is a similar distance from your body as your left one. Hold your right arm position for counts 1 to 3. On 4, let your right arm swing across your body, bending your elbow to bring your right hand up to chest height, palm facing the floor. As you step forward on count 5, lower your right hand, and then on count 6, let it swing back across your lower body, almost brushing your knee as you shift your weight forward to return to the starting position on count 7. Do the recom-



mended number of reps, then switch legs and repeat. Then rest and observe the sensations in your body.

#### Tips and techniques:

- Don't twist your knee or let it extend past your toes as you shift forward. Keep your knee centered over the axis of your foot.
- Keep your shoulders down and relaxed.
- Breathe comfortably throughout.
- As your balance improves, you can lift your toes off the floor as you step instead of dragging them.

## Golden rooster stands on one leg

**Reps:** 9–36 on each side

**Purpose:** To improve leg strength and agility and enhance balance

#### Starting position:

Begin in the bow stance, standing with your feet shoulder-width apart and your right foot about a step-length forward. Your left foot should be turned out about 30° to 45°, and your right foot pointing straight ahead. You should have about 60% to 70% of your weight on your right leg, with your knee over your foot. Relax your arms at your sides.

**Movement:** Shift your weight completely onto your front (right) leg, and bring your left foot forward to your right foot and balance on your right leg for a moment. Place your left foot back where it was, and then shift your weight back onto your left leg. Repeat this pattern, keeping your torso facing forward as you pour your weight forward and back. Get used to being relaxed as you stand on one leg.

Once you are comfortable with this movement, add arm movements and a knee lift, as follows: As you come forward, raise your left knee and your left arm so your elbow and knee are in line, and balance on your right leg. As you shift back, let your left arm swing down, and raise your right knee and your right arm, so your elbow and knee are in line and you balance on your left



leg. Continue shifting forward and back as your arms rise and fall. Do the recommended number of reps, then switch legs and repeat. When you are done, come back to the center and rest.

#### Tips and techniques:

- Remain tall as you lift your knees. Don't round your shoulders or hunch forward.
- If lifting your knee is too challenging, keep your toes on the floor or just off the floor.
- Keep your chest and neck relaxed. When you tense your upper body, it raises your center of gravity, making it more difficult to balance. Keep your center of gravity low. Breathe naturally throughout. ♥

# Resources

## Organizations

### American Tai Chi and Qigong Association

2465 J-17 Centreville Road, #150  
Herndon, VA 20171  
[www.americantaichi.org](http://www.americantaichi.org)

A directory of instructors and classes is available on the website and can help you find teachers in your area.

### National Center for Complementary and Integrative Health (NCCIH)

National Institutes of Health  
9000 Rockville Pike  
Bethesda, MD 20892  
888-644-6226 (toll-free)  
<https://nccih.nih.gov/health/taichi>

This branch of the National Institutes of Health sponsors research on complementary health products and practices, including tai chi. The website includes information for physicians and consumers.

## Websites

### Center for Taiji Studies

[www.chentaiji.com](http://www.chentaiji.com)

Yang Yang seeks to clarify and demystify what are often obscure points of theory and practice, and to bring the full benefits of tai chi to the widest possible audience. He offers certification and instruction, books, and DVDs, and is a leader in the field of tai chi research.

### Tai Chi for Health Institute

<https://taichiforhealthinstitute.org>

Dr. Paul Lam, a family physician and tai chi master in Australia, took up tai chi in 1974 to help manage his arthritis and ultimately developed the Tai Chi for Health programs. In addition to articles and research on tai chi, the website offers books and DVDs, including downloadable formats.

### Tai Chi Health

[www.taichihealth.com](http://www.taichihealth.com)

Tai chi master Tricia Yu has over 40 years of experience helping thousands of people become more alive to the present, aware of their bodies, and tuned to their surroundings. She offers programs, classes, training, DVDs, and books.

### Tree of Life Tai Chi Center

[www.treeoflifetaichi.com](http://www.treeoflifetaichi.com)

The Tree of Life Tai Chi Center was founded in 1985 by Dr. Peter M. Wayne, the medical editor of this report, as a way to bridge Eastern and Western approaches to health, well-being, and personal development. In addition to providing information about his classes in Somerville, Mass., the center's website lists information on tai chi research.

## Books

### The Harvard Medical School Guide to Tai Chi

Peter M. Wayne, Ph.D., and Mark L. Fuerst  
(Shambhala Publications, 2013)

The medical editor of this Special Health Report summarizes the scientific evidence for the healing potential of tai chi and how it can enhance work productivity, creativity, and sports performance. Along with the science, you get personal experiences and practical advice.

### Seated Taiji and Qigong

Cynthia W. Quarta  
(Singing Dragon, 2012)

The routines in this book are done while sitting down. Designed for physical and occupational therapists, nurses, and anyone working with older or disabled populations, it includes exercises to stimulate every part of the body.

### Tai Chi for Diabetes

Dr. Paul Lam and Dr. Pat Phillips  
(Rockpool Publishing, 2010)

This book presents practical information on managing diabetes along with a tai chi program designed for people with diabetes. Photos and instructions make the routine easy to follow.

### Tai Chi: Health for Life

Bruce Frantzis  
(Blue Snake Books, 2006)

Instead of exercise descriptions, this book provides a foundation for tai chi, including an in-depth look at tai chi's history, philosophy, styles of practice, and benefits. It also addresses questions such as how tai chi differs from yoga, and it provides practical information on topics such as how to find a good teacher.

### Tai Chi Mind and Body

Tricia Yu  
(DK Publishing, 2003)

This illustrated reference book provides an introduction to tai chi, its mind-body principles, and guidelines for practice. It includes over 350 color photographs, featuring step-by-step instructions from Tricia Yu's Tai Chi Fundamentals Program. The book is out of print, but available from the author's website, [www.taichihealth.com](http://www.taichihealth.com). (Look under Tai Chi Fundamentals Complete Program Set.)

### Taijiquan: The Art of Nurturing, The Science of Power

Yang Yang with Scott A. Grubisich  
(Zhenwu Publications, 2008)

This book explores the mental, physical, and spiritual foundations of tai chi and includes guidance on meditation, tai chi movements, and tai chi research. The book is out of print, but available from the author's website, [www.chentaiji.com/books](http://www.chentaiji.com/books).

### DVDs

#### **Dr. Yang Yang's Evidence-Based Taiji (EBT) and Qigong Program**

Yang Yang teaches the EBT protocol borne out of his experience in tai chi research. This DVD, along with others, are available through his website at [www.chentaiji.com/books/videos.html](http://www.chentaiji.com/books/videos.html).

#### **Tai Chi for Arthritis**

This Arthritis Foundation DVD was created by Dr. Paul Lam for all levels. You can find it at <http://us.taichiproductions.com/dvds/arthritis>.

#### **Tai Chi for Energy**

Dr. Paul Lam combines Chen and Sun style moves to relax, refresh, and revitalize you. Other DVDs for all levels, including beginners, are available through his website at [www.taichiproductions.com](http://www.taichiproductions.com).

#### **Tai Chi Fundamentals: Mastering Tai Chi Basics**

Tricia Yu demonstrates and teaches the Fundamentals Form. Other DVDs for all levels including beginners are available through her website at [www.taichihealth.com](http://www.taichihealth.com).

#### **Yang Tai Chi for Beginners**

Jwing-Ming Yang gives detailed, step-by-step demonstrations of each move in the Yang-style form. The video was shot from both the front and the back, making it easy to follow along.





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COPD	Knees & Hips	Stretching
Core Workout	Life After Cancer	Stroke
Depression	Living Longer	Thyroid Disease
Diabetes	Memory	Vitamins & Minerals
Diabetes & Diet	Men's Health	Walking for Health
Energy/Fatigue	Neck Pain	Weight Loss
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**Periodicals** Monthly newsletters and annual publications, including:

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Harvard Women's Health Watch	Harvard Men's Health Watch	