Use it or Lose it: Gaining Balance, Flexibility and Strength

Tai Chi for Health Exercises

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Dr. Suzanne Droleskey

Dr. Suzanne Droleskey's interest in Tai Chi began in 2003 when she saw a presentation of Tai Chi sword performed by the Chinese Student and Scholar Association at Texas A&M University. When she asked if anyone taught Tai Chi, the students told Droleskey that she could simply join them in their daily practice sessions. Just as with Tai Chi practiced all over the world, these informal gatherings took place outside, in a park. Droleskey joined the group and has been practicing Tai Chi ever since. Through lessons with various Chinese practitioners as well as several visiting Tai Chi masters, Droleskey has learned a number of Tai Chi forms and styles. Among these are the Yang and Chen styles and Tai Chi performed with a sword, a fan, and the sword with long tassel.

When asked now why she enjoys Tai Chi, Droleskey says, "Originally, I was attracted by the dance-like quality of it, but I never expected something so slow to be both mentally and physically challenging with the overall experience resulting in relaxation. From the practice of Tai Chi, not only am I physically stronger and more flexible, I have better balance, I lost weight, and I am better toned."

Droleskey began teaching Tai Chi in summer 2010 at the request of the Director of the Confucius Institute at Texas A&M University. At that time, she was the only Tai Chi instructor teaching this martial art through a Confucius Institute. For several years, she also taught at the Brazos Healing Center, a joint program with the Confucius Institute. Later she began teaching for the Department of Kinesiology at Texas A&M University, and has had sufficient demand to teach a class twice a year. When the Confucius Institute closed in 2018, Droleskey continued to teach Tai Chi on campus through Public Partnership and Outreach because of the ongoing demand. She has taught specialized courses both for those visually impaired as well as those with Parkinson's disease.

About her teaching, Droleskey states, "I love teaching adult learners. It is fun to help them think through how to make the different moves and to adjust what I teach to their different learning styles and capability levels." Droleskey indicated that some people are afraid to try Tai Chi because they think they do not have the 'athletic ability' or 'grace' to manage it. "They don't realize that Tai Chi was designed as a health management exercise and that the majority of practitioners world-wide are over age 50. Like anything, it takes practice to gain proficiency, but my students consistently tell me that after only a few weeks of doing Tai Chi, they can see gains towards their personal goals of improving, for example, strength, flexibility, or balance."

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Photo Credit: Ms. Gracie Lara took the photos of Dr. Droleskey used throughout this manual

What is Tai Chi?

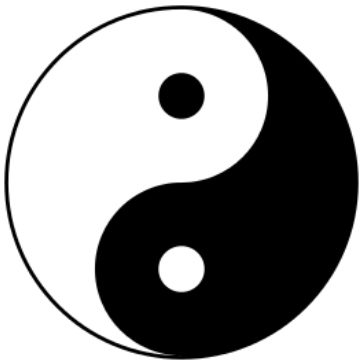
Internal Martial Art

Tai Chi focuses on internal movement, balance, harmony of movement. Intentionally internalizes focus vs. relying on strength and speed with an external opponent like external martial arts (judo, karate, etc.). Most often practiced for health purposes as a lifelong learning activity because there are no barriers to participation, no equipment needed, and progress occurs at an individual pace.

Ancient Practice with Origins in China

Philosophically, scholars of the I-Ching (written 5,000 years ago) can trace concepts underpinning Tai Chi back to this book.

For example, the Taijitu symbol associated with Tai Chi is part of this philosophic history – a visual representation of the balance and harmony in nature essential to create the whole that is our universe. Often misunderstood as "opposites", Yin and Yang are essential forces that balance and shift but could not exist without each other. The modern styles of Tai Chi we practice today evolved from martial arts practices on the battlefield as survival skills between 600 and 1,000 years ago.



Tai Chi Basics

- "Tai Chi" is a Romanization (a translation, based on the phonetic pronunciation, from the Chinese alphabet into the Roman alphabet used in English). This is important to know because *Tai Chi* is the spelling most often used in the U.S. *Taiji* is a more common spelling, and one officially endorsed by the Chinese government. Both are okay to use. This is also the reason that Tai Chi movements sometimes have different names and/or spelling because translations from Chinese to English.
- There are five families of Taiji styles. All can trace their development from Chen style Taiji. Movements and techniques differ across these styles. So, if you look for an instructor, be sure you know what style they are teaching. All were passed down through families or from master to student. They are listed below in the order they were created:
    - Chen - the most "martial" of the five, shifts between slow and fast, high and low movements; it is the oldest of the five styles, a very athletic style.

What is Tai Chi? continued

  - Yang – most popular worldwide, expansive, large movements focused on constant flow and gentle speed, first one taught to those outside the Yang family, the most popular one in the world.
  - Wu – smaller movements, mostly played high, has stops and starts, integrates some Qigong, the second most popular style.
  - Wu Hao (name in US) – rarest form of Taiji, deep integration of Qigong and Taiji, has stops and starts
  - Sun – most modern of the styles, played high, distinctive "open close hands" movement, has starts and stops.
- Tai Chi translates as something like the "supreme ultimate". Generally, there is another word with this phrase to identify the type of Tai Chi. For example, Quan/Chuan = Fist, Jai = Sword, Shan = Fan. Beginners focus on the "fist" or empty hand style. Using swords or fans is an advanced skill learned after mastering Quan/Chuan forms.
- A Tai Chi class generally covers movements in the Tai Chi style being studied. For example, Yang style Tai Chi has 108 postures/movements. Those movements are arranged in Services/Forms generally named by the number of movements in the Form. For example, Form 16 has 16 of the 108 movements in it. These 16 fit together with transitions that make the entire Form look like a seamless flow of movements.
- Many teachers offering Tai Chi are actually teaching principles of Tai Chi, sometimes adapted, with basic movements vs. true Tai Chi as taught by the 5 grandmasters of the aforementioned styles. Such classes are "Tai Chi for health" classes. To find a qualified instructor, you may ask them for their credentials or search the American Association of Tai Chi & Qigong's website.
- Tai Chi practice involves the cultivation of "Qi", which is translated as many things, including breath and energy. While important as a foundation skill, this is not generally taught to beginners, who first must learn to master their bodies and focus their minds. The study of chi is called Qigong, and is an exercise practice of its own

Lifelong Learning

Tai Chi is a practice that can be learned by anyone of any age and any ability level. It requires no equipment and no opponent that one has to compete against. Tai Chi may be practiced seated in a wheelchair or by those who are blind. Participants work at their own level and everyone, even Tai Chi masters; have a teacher who is guiding them to improve. The pace of learning is as fast or slow as an individual desires. It can take years to master all the Forms within a style, so people can advance to Forms using weapons like swords, fans, etc.

Basic Teaching Guidelines

What will you need in the Classroom

- Sufficient space so everyone can sit and stretch out their legs/arms without hitting each other
- A stable, armless chair for each person (if not available at your location, ask people to bring a sturdy folding chair)
- Ideally, a floor length mirror where people may see themselves to ensure correct body placement in movements. This way, people can see themselves vs. you touching them to make corrective movements.
- A safe, slip-free floor

How Participants Should Dress

- Loose, comfortable clothing that they can move around in
- Good walking shoes or athletic shoes – something that securely fits and stays on their foot – no flip flops or sandals; no one barefoot

General Activity Class Guidelines

- Have people sign a waiver for participation accepting the risks of being in the class and noting that they need to manage their own limitations and do nothing beyond their ability level or physician's advice.
- Remind your class to breathe deeply throughout the exercises – in and out through the nose. Keep the mouth closed. Participants should not hold their breath. They need to get oxygen to the muscles, and that means taking deep, long breaths. This will help energize people. Many inactive people use a small portion of their lungs and do not get enough oxygen, making them feel listless. You could do 4 – 5 minutes of just breathing deeply at the start of class with the warm up exercises.
- Always warm up first and cool down at the end. This prevents strain and eases into and out of the exercises. People who refuse to cool down typically experience soreness.
- To prevent cramping, remind your participants to drink plenty of liquids. One of the byproducts of muscle use is lactic acid. This is a major cause of muscle cramps at night. Drinking liquids before and after class helps the body remove lactic acid from the muscles.
- Another cramping issue is lack of appropriate minerals in one's diet. Tell participants to speak to their doctor if they are not sure, but for many people, low potassium levels can be a culprit. Foods high in potassium include bananas, potatoes, apricots, and many others.
- ALWAYS tell participants to follow their physician's advice in any activity they undertake. Never perform a move that goes against medical advice or causes pain.

Be Watchful

- Participants often try to do more than they really can, especially at first. Take breaks; even stopping to explain something can provide a moment of relief or a "micro-break". These exercises appear very gentle and people are deceived into thinking they have not done much exercise.
- Ask participants if they experience problems; some won't speak up if you don't ask.
- Notice when someone is not maintaining good alignment. Not doing this could injure them.
- Make it okay to do something to a lesser degree by modelling such adjustments like not reaching so high, for example.
- Remind people that they are all at a different ability level and should only move to the degree to which they can. They know their bodies and abilities; if they are not sure, they should consult their physicians.

Do not Surpass your Ability Level as an Instructor

- Instructors should only do what they feel comfortable teaching. If you are not sure how to make a movement, teach instead one that you understand.
- If someone asks for an adjustment for a particular ailment, do not make one up if you do not understand how it may affect the participant. Tell them to adjust it so they are comfortable and point them back to their physician for additional advice.
- Never be afraid to say, "I don't know".
- Continue to learn more yourself, both from your participants as well as from experts.

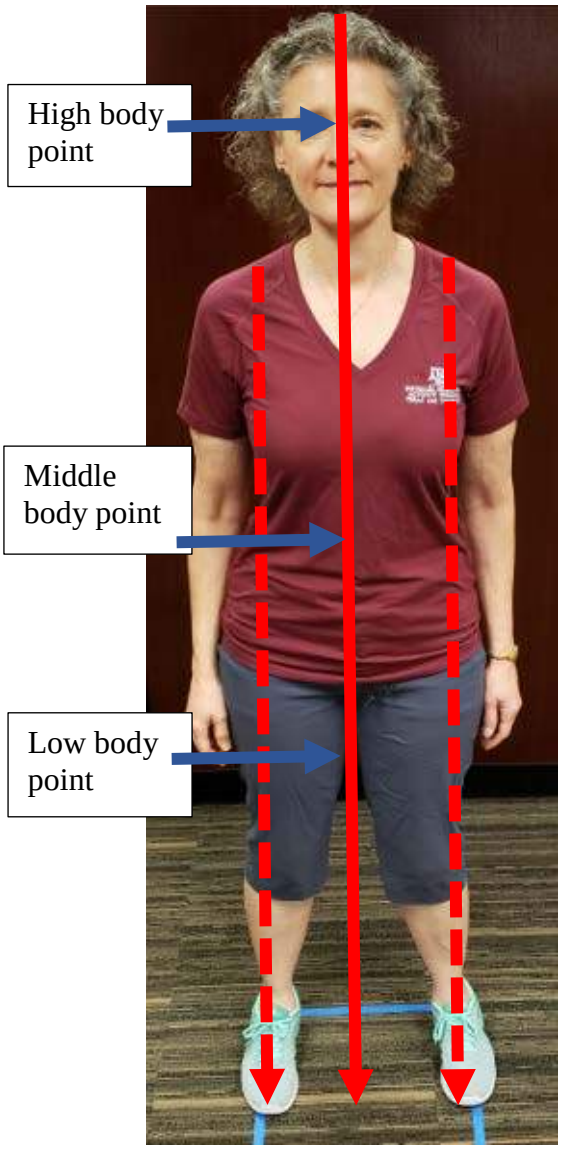
General Lesson Plans

- There are many online resources available to augment the exercises in this booklet. We have supplied several for each section: balance, flexibility, and strength. However, there are many others.
- You could spend an entire lesson on one or two elements in this booklet. The booklet is not designed as one full lesson. For example, you could spend one entire lesson on warms ups, cool downs and body alignment.

Questions about the material in this booklet

Please contact Dr. Droleskey if you have questions about this material at sdroleskey@tamu.edu or 979- 845 – 3099

Basic Teaching Guidelines, continued



Body References – Tai Chi instructions often use body reference points help participants place their hands correctly.

You have **three main body points**: high (between your eyes), middle (between the nipples of the breast), and low (about a palm's width below your belly button. In Tai Chi, arms/hands use these reference points (as well as your shoulder and over your head) to guide their position or height during a movement. Because everyone is a different size, these body points help guide each person appropriately.

Three parallel lines also guide movements:

1. The line formed when connecting the three body points is called the "**centerline**". It is marked in a red solid line on the photo.

2. A "**shoulder line**" is the line from your shoulder to the ankle on the front of the body. These are marked in red dotted lines on the photo.

Breathing – Unlike many exercises, people learning Tai Chi must learn to breathe in conjunction with their body movements. When doing any Tai Chi exercise, breathe deeply, through your nose only. This will help keep your mouth moist. In addition, the nose is your air filtration system, so it helps scrub the air you inhale.

If you sing or play an instrument, you will also know that you should breathe from your diaphragm, a large muscle in the body. If you are not sure what this means, watch someone breathe while they are sleeping. You will notice that their belly moves up and down to push air out and pull air in like a bellows. This is why breathing from the diaphragm is sometimes called "natural breathing". Adults often raise and lower their shoulders to breathe instead of using their diaphragms.

Breathing from your diaphragm will allow you to inhale more deeply and exhale more efficiently. This is important because the more oxygen you breathe in and the more carbon dioxide you exhale, the more energetic you will feel. To work properly, muscles require the nutrients you get from food, the water you consume, and the oxygen you breathe.

Adults, as they age, tend to breathe more shallowly, using less and less of their lung capacity. For many people, the lack of energy and endurance starts with the lack of proper breathing. So practicing deep breathing with no movement at all is an excellent exercise on its own.

Warm Ups

Before exercise, it is important to do gentle warmups. Instructors may use whatever warm ups they prefer. Here are several that may be useful and quick for those with low mobility.

Joint Circles – Most of these may be done seated. The idea is to warm up each major joint gently and to promote the production of synovial fluid. Do each one 3 - 5 times. You can also use this as a flexibility exercise by adding additional repetitions.

a. Hands -- Open your palm and flex the fingers. Then roll them downward starting with the little finger and ending with the thumb. You should end with a gentle fist. Open your hand and repeat. If someone has arthritis, they can just start with a fist, and opening and closing their hands.

b. Wrists – Circle your hands at the wrist. Go both directions.
c. Elbows – Circle your arms at the elbow. Isolate this movement and do not move the wrists or shoulders. Go both directions.
d. Shoulders -- Relax your arms and let them hang down at your sides. Then, lift your shoulders up as high as you can keeping your arms hanging free. Then, curling your back as though you are cold and want to hug your arms around your body, bring both shoulders towards each other, across your chest. Next, drop your shoulders as low as you can, as though they are being pulled downward because of holding heavy suitcases. Finally, curl your back the other direction, trying to move your shoulders toward each other across your back, stretching the muscles across your chest. Once you have done this twice, stretch your arms out and make big circles with your arms at your sides. Go both directions.
e. Toes – Lift the heel of one foot. Press into the toes and roll your weight across the toes from the big toe to the little toe. Go back the other direction and repeat several times. Change to the other foot and repeat.
f. Ankles – Sitting or standing, pick up one foot and circle the foot at the ankle. Go both directions.
g. Knees – Standing, circle the knees as in a flapper dance. Go both directions.
h. Hips – Standing, spread your feet out a little and point your toes out a little. Bend your knees slightly and circle your hips as in the action you would make if you were swinging a hula hoop around your hips. Go both directions.

Warm Ups

Spinal Stretch – Start in Horse Stance. Standing or sitting, raise shoulder and drop the other. Raise one hand over your head and the other down your side. Press upward with the high hand and downward with the low hand. Switch arms. Do this stretch at least twice.

Tips:

- For an extra stretch, look up at the hand above your head. When you switch arms, look down at your low hand.
- Keep your body straight, and your hands in line with the spine as the side view shows.
- Don't worry if your upper arm is not directly above your head. Do your best.

Seated Leg Stretches - These may be done sitting. Follow the instructions in the section with this name.

Balance

Balance is not a simple skill to master. All of us have seen children struggle to learn to walk, ride a bicycle, master a skateboard, or other complex balancing activities. It takes time and practice. Yet, as adults, we lose strength, flexibility, and connected motor controls so slowly that we often do not realize balance is a problem until a fall occurs. For most adults, this causes so much fear, that activity is further reduced, making the problem worse.

Mechanically, the primary balance tool in the body is the inner ear. The Mayo Clinic describes this as follows: "Loop-shaped canals in your inner ear contain fluid and fine, hair like sensors that help you keep your balance. At the base of the canals are the utricle and saccule, each containing a patch of sensory hair cells. Within these cells are tiny particles (otoconia) that help monitor the position of your head in relation to gravity and linear motion, such as going up and down in an elevator or moving forward and backward in a car."

However, unless someone has an inner ear problem, balance is a consciously learned skill that relies on body strength and knowing where your weight is concentrated and how you want to move it. The parts of the body outside the inner ear that are essential to balance include core muscles (in the back, across the stomach, and in the chest), and the feet, ankles, knees and hips.

- **Core Strength**: There are many core strength exercises available. Refer to the handout on seated core strength exercises.
- **Ankle and foot strength**: There are a number of foot strengthening exercises described on a separate handout (e.g. calf raises, foot scrunches).
- **Knee and hip strength**: There are a number of exercises mentioned in a different handout to help with this (e.g., leg raises and leg kicks).

In addition, here are several resources that will provide additional balance exercises:

https://www.mayoclinic.org/healthy-lifestyle/fitness/multimedia/balance-exercises/sls-20076853
This website provides five balance exercises with photos that rely on already having strength in the above-described areas. Therefore, you may need to build up a little strength before trying them.

https://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/balance-training-to-boost-health/art-20270119
This resource provides written descriptions of other ways to challenge your balance.

https://wellness.unl.edu/pdf/physicalactivity/Strength%20and%20Balance%20Exercises.pdf
This is a printable document showing some balance and strength exercises.

https://www.silversneakers.com/blog/fit-for-life-exercises-improve-balance/
This U-Tube video provides 12 exercises that improve balance and comes from the Silver Sneakers editors. Silver Sneakers is a health and fitness program designed for adults 65 and older that is included with many Medicare plans.

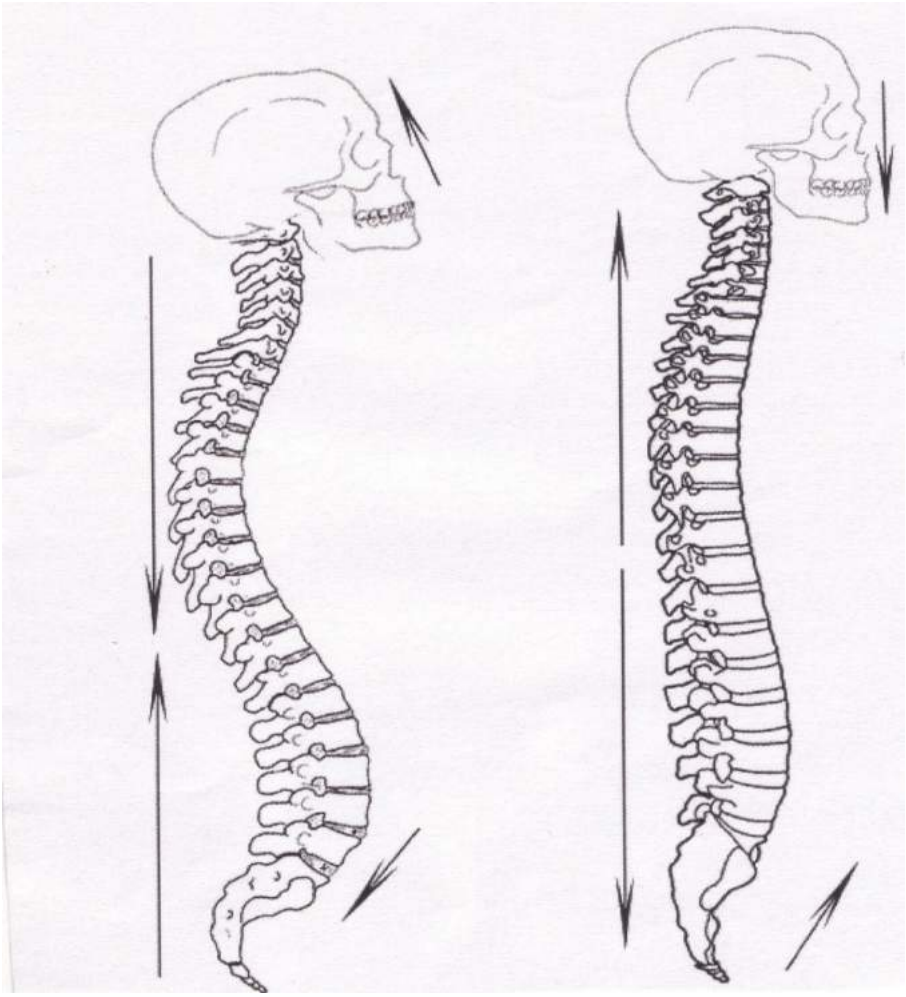
Balance: How to Stand - Body Alignment

Having a correct stance is one of the principle keys to improving balance and the foundation to all other movements in Tai Chi.

Become conscious of checking yourself and making the adjustment into proper alignment any time you can. You may be surprised at how often you let yourself slide out of alignment and at how much work it is to maintain it. If you have very poor alignment, you will be doing frequent adjustments and you may become fatigued. If you get too tired, just stop adjusting so much and build up your strength slowly. Remember, it took you years to develop your current stance – it is not going to correct itself overnight.

There are five body points important for correct alignment alignment: **head** (pull up toward the ceiling), **chin** (down), **shoulders** (placed so arms fall to the sides of your legs), **pelvis** (straight vs. angled forward or back) and **unlocked knees**. Stand with feet shoulder width apart. The diagram below provides a look at the changes in the spine if you are doing this correctly.

Incorrect Alignment **Correct Alignment**



Balance: How to Stand – Body Alignment

Practice the **body alignment** whenever you can. Remember these tips:

- Place your feet shoulder width apart (in Horse Stance).
- Do not bend your knees more than just a tiny bit that you need to "unlock" them.
- It is important to focus on the alignment of feet (at shoulder width) and parallel
- Is your pelvis lined up straight from top to bottom or is it angled forward or backward? The pelvis needs to be straight.
- To relieve pressure on your lower back, pull your stomach muscles in and be sure your knees are unlocked.
- Mind your head: do not angle your chin up or down as you lift your head, lengthening your spine.
- Relax your shoulders.

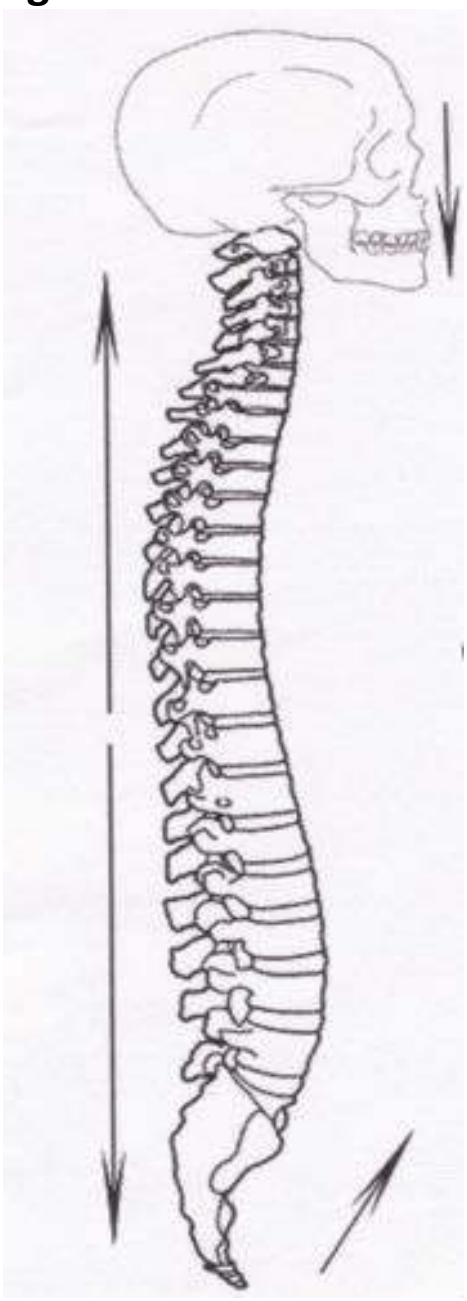
You can practice alignment as a separate exercise. For example, stand and hold the position for 1-2 minutes (watch a few commercials as you do it, to make it easy to fit into your routine) and breathe in and out deeply as you do so.

However, it is also good practice to check yourself throughout the day as you stand, walk or sit in your daily routine. Think about these ideas:

- How does your stance align as you walk from room to room in your home?
- Are you leaning forward or backward?
- Is your back flattened and are your shoulders aligned when you drive your car or sit at your dining table?
- If you use a computer, what is your stance like as you sit and type?

If you get tired, do cool downs and relax in between attempts.

Balance: How to Stand – Body Alignment



Notice above that from the side,

- there is generally a straight line from the shoulder, through the hip, the knee and to the ankle.
- the torso is not leaning forward or backwards.
- like the spinal diagram, the spine is curved, but the torso is generally straight.
- the chin is not angle upward.
- the knees are not locked – feet are shoulder width apart in Horse Stance.
- the shoulders are back so the arms hang naturally at the side.

Balance: Body Stances and Walking

Standing stances: While there are more than three Tai Chi stances, these three are particularly important for learning balance and stability. For those who cannot do these standing, it is possible to replicate each stance while seated, until standing is possible.

Horse Stance – This is the stance most people use to stand naturally. Feet are shoulder width apart and parallel. Knees are unlocked. Head is up, shoulders back and pelvis straight. Balance weight evenly across your feet.

Note: The box diagram on the floor in the photo is there to help you see the width spacing in all of the stances described in this section. You can create similar lines on your floor with painter's tape, which peels off easily from carpet and other floor surfaces.

Tips:

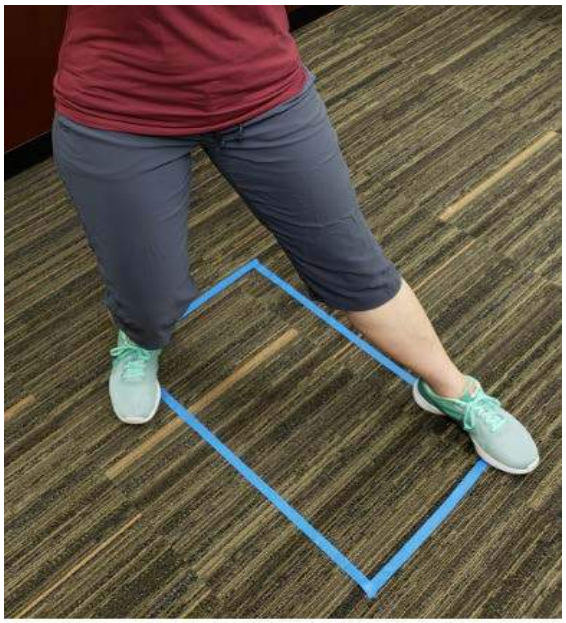
- Check your feet – are they parallel? If not, move them so they are. If your toes point outward, correct them. Standing and moving with your feet parallel will be more stable.
- Check your weight – is it evenly distributed (50 – 50) between your feet? Adults have a tendency to carry most of their weight on one leg, slightly pushing the weight-bearing hip out of alignment.
- Evenly weight each foot from toe to heel. Do not have more weight on the ball of the foot vs. the heel, for example.
- Check your knees – are they really unlocked? You may find yourself locking your knees unconsciously. Each time you realize they are locked, unlock them.
- Check your distance between your feet – shoulder width placement will allow you to draw a line from the outside of your shoulder (or from your armpit) to the outside of your corresponding foot.

Balance: Body Stances and Walking

Bow Stance – This is a forward stance. Start in Horse stance. Turn one foot outward at a 45-degree angle and move all your weight to that foot. Set the other foot straight ahead of where it is currently positioned (shoulder width apart) only as far as you can reach out and set your heel down without falling forward. Then, put your heel down and bend slightly the front knee. Do not put the front knee over your front toe. Weight is balanced 70% on the front foot, and 30% on the back foot. Think about standing straddling a rectangle that is the width of your shoulders. Keep both feet shoulder width apart even though one foot is in front of the other. You should feel stable in this stance. If you feel unbalanced, it is likely that you have your heels on a straight line instead of shoulder width apart. The distance from your back to front foot may be shorter than shoulder width, depending on your size, strength, and ability level.

Balance: Body Stances and Walking

Sit Back Stance – This is a backward stance. Start in Horse stance. Shift your weight to one foot. Reach behind and to the side with the other foot (to the side so your feet stay shoulder width apart). Touch your toe down. Roll down onto your back foot so that the back foot ends up at a 45-degree angle pointing outward, away from you. Then, sit back so your weight is primarily on that back foot. Leave the front foot flat on the floor. The weight is balanced about 90% on the back foot and 10% on the front foot. You may also start in a bow stance and simply "sit back".



Notice that in the photo, the box is still helping to guide where your feet are in relation to one another.

Walking Drills – To practice walking forward, with space between your feet, start in horse stance and keep the two long sides of your box on the floor in your mind – you can actually use painter's tape on the floor at shoulder width distance to create two long parallel lines as guides. The goal is to keep your feet shoulder width apart throughout this movement without looking down at your feet. If there is a feeling of "knee twisting", feet can be *slightly* angled outward so the twisted feeling disappears.

A. Balance on one foot – Start in Horse stance. Keeping your feet pointed straight forward, shift your weight onto one leg by rolling up onto the toe of the other foot. This is called "filling" one leg and "emptying" the other. Keep the weighted knee slightly bent.

B. Extend leg forward -- When you feel balanced and comfortable, extend the unweighted leg and reach it out in front of you, setting the heel of that foot down in front of you, on the line of the box around your feet so it is still shoulder width apart (like you were moving it forward into a bow stance). Keep your torso centered over the weighted foot. Do not fall forward or move your torso forward to set the heel down. You should be able to pick the foot up again without leaning or shifting your weight backwards.

Balance: Body Stances and Walking

C. Weight the front foot -- Slowly roll down from your heel to your flat foot so the weight is more on your front foot and bend the front knee slightly. The photo to the right shows the foot almost flat, but not quite. Keep going until the foot is flat on the ground and there is weight on it.
Notice: Once you finish this movement, because your back foot is straight forward, you are not really in a bow stance, but it is similar.

D. Step forward -- To continue moving forward, roll up onto the back toe; this will shift more weight forward in anticipation of moving the back leg forward. Move the back foot forward the same way that you moved the first foot forward in step A.

Notice: You are not moving straight forward; you are weaving across the floor from side to side. Rolling up and down on your foot from "heel to toe" and "toe to heel" will help prevent falling based on "stubbing your toe."

Balance: Sample Exercise

Remember that balance is a complex activity requiring some strength in core muscles, your hips, knees, ankles, and toes. Therefore, when you try balance exercises, you may be frustrated that you cannot immediately maintain balance for a long period. If that happens, add more strengthening exercises into your routine. Most people begin to see additional balance benefits within 2 – 3 weeks of starting a strengthening program.

Once you feel more comfortable with your balance, and do not feel as though you will fall when trying balance exercises, there are many that provide additional strengthening for your legs and feet. Below is one such exercise that works all of these muscle groups simultaneously, and specifically targets improved balance.

Standing Balance Exercise

1. **Stand in Horse Stance.** Imagine the rectangle around your feet just as we normally do to think about moving from Horse Stance to a Bow Stance. Usually, your feet are at one end of the box. But, this time, put your feet in the middle of the box.

Tips:

- For safety, either stand next to a wall or put a chair next to one side of your body, closest to the foot that will be weight bearing once the exercise starts. That way, if you need to grab something for balance, you are able to do it.
- Keep your touch light; you want your feet, ankles, knees and hips doing the

Balance: Sample Exercise

2. **Reach in Front with the Foot and Behind with the Arms at the Same Time** – Notice that the front foot reaches toward the front corner of the box, not directly in front of your weight bearing foot. If you align your feet so your heels are on the same line, you will be unbalanced. Keep shoulder width space between your feet. Touch your heel down on the floor; do not shift any weight to this foot.

Tips:

- If you feel unbalanced, work only with your feet and do not use your arms at all – add them when you feel comfortable later.
- Your torso does not move. Your weight stays balanced over your weight-bearing foot – no lunging backwards with extra weight on the back foot. All the weight stays on the weight bearing foot.
- If you feel unbalanced reaching backwards, just bring your arms and foot half way through the cycle and pause with your feet on the same plane and your arms are at your sides. Then, finish.
- Let your weight bearing foot, ankle, and knee move freely to support the movement in the leg that is moving forward and back. Keep the knee supporting your weight slightly bent/"unlocked"
- You may use a chair to help you balance. If you do this, keep your weight bearing leg closest to the chair and do not move the arm closest to the chair.
- Do not look down – that throws you off balance.

Balance: Sample Exercise

3. **Reverse positions of your arms and leg –** If you followed the photograph above, one foot is out in front and one is holding your weight. Your arms are behind you. Do two things simultaneously: take your front foot to the rear and your arms forward.

4. **Repeat the movements.** Do them slowly and controlled to gain the maximum benefit from the exercise. Start with 5 to 10 and build up to doing more.

5. **Switch Feet.** You may change feet at any time you feel tired. Repeat the steps above.

It will take time to learn how to balance your weight on one leg. Do not rush it. Do this exercise at least one time every day. If anyone feels that his or her ankles are getting tired during this exercise, switch feet.

Flexibility

Flexibility is a reference to how "moveable" certain body components are. These include joints, muscles, tendons, ligaments and fascia – essentially the soft tissues of the body. Consider a stiff rubber band. After you stretch it a few times, it becomes more flexible. The same is true of these body parts.

Any sort of stretching and movement will facilitate gaining or maintaining flexibility. However, once you start on a program of stretching, be aware that it will need to become part of your normal routine in order for you to maintain the benefits that it provides. Also, remember that it is easy to overstretch, so work gently.

Resources

There are many exercises that facilitate development of flexibility. You can find many on your own, but here are a few links that may be helpful.

https://www.ramfitness.com/stretching.html --
These are free printable stretching guides for different parts of the body. They even have job specific stretching and large posters are available for those who want to post something on a wall.

http://www.stretching-exercises-guide.com/exercises-for-seniors.html
This is an online stretching guide for seniors, with a variety of types as well an explanation about the science of stretching (how to do it, how long to do it, and muscle physiology).

http://www.printablee.com/post_printable-seated-exercises-for-seniors_178652/
This website has images that are printable to show seniors how to stretch while seated. There are seated yoga stretches available; yoga is an ancient stretching exercise.

https://www.belmarrahealth.com/best-stretching-exercises-for-seniors/
This is an article describing some stretching exercises. Unfortunately, there are no photos of each exercise.

https://www.nhs.uk/Tools/Documents/NHS_ExercisesForOlderPeople.pdf
This is a printable document from the National Health Services of the United Kingdom. It describes seated exercises. It has photos and targets specific areas of the body, so people can choose what area needs more work.

https://www.youtube.com/watch?v=4Uzk6f2GnO8
This is a 10 minute video showing a chair workout for seniors.

https://www.webmd.com/fitness-exercise/features/fitness-beginners-guide#1
This website provides a "beginner's guide to exercise", which covers stretching as well as weight reduction and even targeted exercise for lower back pain.

Flexibility: Gentle Tai Chi Classes

Joint Circles

You can use these warmups as a separate flexibility exercise. Refer to that section in this booklet.

Hands Down, Up and to Face

This exercise combines breathing and movement with arm movements. Breathing is continuous throughout, with each movement being either an "inhale" or "exhale". You will inhale twice and exhale twice while doing this exercise.

A. **Start in Horse Stance** – Bend your arms at the elbow and open your hands near your shoulders. Point your palms away from your face. ***Inhale deeply through your nose.***

Tips:

- Relax. Do not tense up any muscles.
- Your hands should be near your shoulders. You are close enough if you can reach back and touch your shoulders with your thumbs.
- Be sure your elbows are pointed down instead of out.

B. **Press down and look down --** Bending at the elbows, push your palms toward the floor until your arms are near your sides, with the palms facing behind you. At the same time, drop your head so you can watch your hands. You will end with your chin on or close to your chest. ***Exhale slowly as you do this.***

Flexibility: Gentle Tai Chi Exercises

Note: This simple step will also stretch and flex the neck and shoulder muscles. As you pull your neck to the chest, you should feel a stretch across the upper shoulders on your back.

C. Raise Arms, raise head -- Raise your arms to shoulder height, keeping your arms about shoulder width apart. At the same time, raise your head, as though you are looking at your hands. ***Inhale slowly as you raise your arms.***

D. Rotate your palms – Slowly turn your palms upward so they face the ceiling. ***Inhale deeply as you do this.***

Tips:

- Do not lock your elbows – keep them relaxed.
- Do not spread your arms out wider than your shoulder width.
- Do not tilt your head backwards.
- Time your breathing to end with the end of the movement.

Flexibility: Gentle Tai Chi Exercises

E. **Press hands toward face and push head back** – Bending at the elbows, push your palms toward your face, pulling your head backwards as though you are avoiding touching your face with your hands. Rotate your palms so they face away from you and you are now in the start position (except that your neck is pulled back). ***Exhale slowly as you do this.***

F. **Repeat the exercise.** The goal is never to hold your breath at any point in the exercise. If it is too difficult to breathe aligned with the movements, just breathe deeply.

Spinning the Prayer Wheel

This is a traditional warm up exercise for Tai Chi and excellent for gaining flexibility, practicing balance, and gaining strength. This moving exercise shifts your weight between a bow stance and a sit back stance. The hands simulate reaching out in front of you, hugging something to your chest, and then dropping it. Therefore, some people like to think of this exercise as "picking up the laundry."

A. **Sit Back:** Start in a sit back stance with your elbows behind your back, palms up.

Flexibility: Gentle Tai Chi Exercises

B. Bow Stance: Next, scoop forward with your arms, and at the same time, shift your weight forward into a bow stance. Notice that the arms are not locked at the elbows. Keep them relaxed and slightly bent.

As you move forward into your bow stance, remember to keep your back foot firmly planted on the ground. Resist the natural inclination to pick up your heel.

Tips:

- If you have trouble remembering this movement, think about scooping up a pile of laundry as you move forward into the bow stance.
- Keep your hands relaxed and palms pointed up toward the ceiling. Keep your elbows in, close to your torso.
- Breathe deeply in and out with the rhythm of the movements. Never hold your breath. You are always inhaling or exhaling.
- Do not allow your front knee to move over the tip of your toe.
- Do not lean forward as you shift 70% of your weight to the front foot.

Flexibility: Gentle Tai Chi Exercises

C. **Sit Back Again --** Bring your hands back toward your chest as you sit back. When you bring your hands back (having scooped up the laundry), keep them the width of your shoulders apart (think of coming back as though you will touch your shoulders with your fingertips).

D. **Return Arms to Start:** The final movement (see below) is to stay in the sit back stance and move only your arms, pushing the elbows behind you, until they are back in the starting position (dropping the laundry on the floor).

Tips:

- Breathe in as you go forward in the bow stance, and exhale as you sit back. Take slow deep breaths and time your movements with your breathing. You should never hold your breath: always either be exhaling or inhaling. Work to slow down your inhalation and exhalation. Slow and relaxed is the key to mastering this exercise.

- You may repeat this exercise 10 – 15 times on one leg and then switch and place the other foot in front. If 10 – 15 times is too long, reduce the number. You may also switch back and forth between legs whenever you feel tired.

- For additional leg and ankle strengthening, when you sit back, roll up onto your heel on the front foot. This shifts more weight onto the back leg and works the front calf/ankle more for flexibility and the back leg muscles more because of the extra weight.

Flexibility: Seated Leg Stretches

Be cautious in doing deep stretching. Remember that ligaments and tendons, once "pulled" can hurt for a lot longer than a muscle pull. Therefore, this needs to be done very gentle. The tricks are . . .

- RELAX the joint and let gravity work for you. If there is tension in the joint, the ligaments and tendons are engaged. They cannot stretch if they are not relaxed.
- Do the stretch for a set time, and keep it relatively short at first (10 seconds is fine to start with). You can always add more time.
- Do the stretch at least twice with a 1-minute relaxation period in between. You will be able to stretch further the second time because you have already "pre-stretched" everything.
- Do the stretches at least once a day. If you do this, you will see progress within a few weeks. You can do them twice a day if you like (morning and evening, for example).
- Do not bounce the joint when you do these stretches or put a weight on the leg heavier than your hand. You can push gently with your hand if you want a deeper stretch, but no more.
- Increase gradually. There is no magic number that works for everyone. Listen to your body.

There are five stretches below, and the above rules are true of all of them. All five stretches can be done seated; the first two can also be done standing. Hold each one from 10 – 30 seconds.

1. Knee to Chest - Draw a knee to the chest holding the knee with both hands separate, not with fingers clasped. This forces you to use your arms/shoulders to work during this exercise.

Flexibility: Seated Leg Stretches

2. **Hamstring Stretch** - Take ahold of one foot with the hand on the same side as the leg and pull the foot behind you. Point the knee toward the floor (if you can), and try to bring your foot to your buttocks, as close as you can. You can also hold onto the seat of the chair with the other hand. Be sure your front foot anchors your weight. You do not want to fall over.

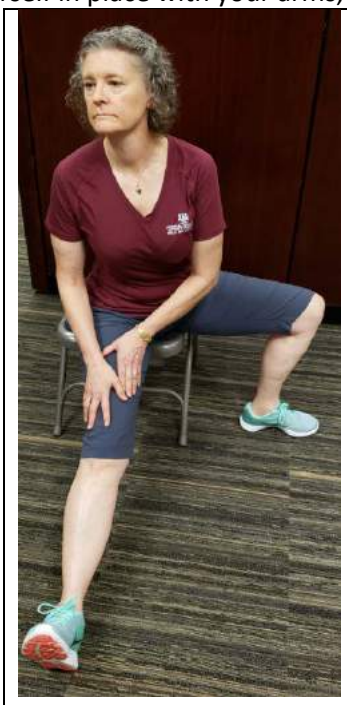
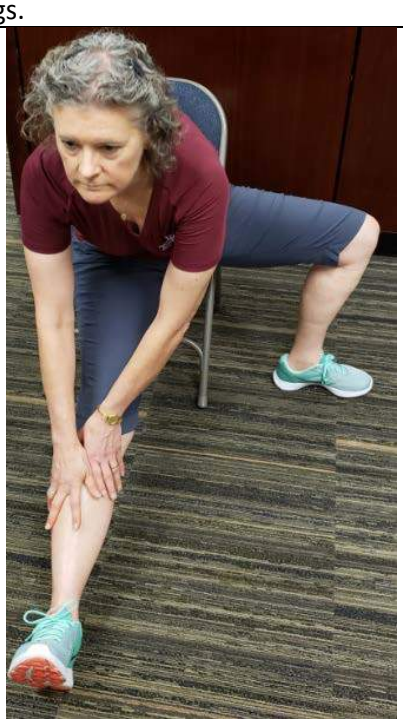
3. Hip Flexor Stretch - Cross your legs, with one ankle resting on the opposite leg. If your knee is up high when you cross your ankle over your leg, you may need to put a pillow under the raised leg to help keep the stretch from being too deep. Use whatever props work for you to "prop up" that leg so you can relax the joint and let the tendons and ligaments gently stretch.

   Never put a weight on the knee to stretch further. If you want a little more stretch, just rest your hands on your knee, as shown in the photo to the right. There is no need to press on it – just rest one or two hands there. That will sufficiently stretch it.

Flexibility: Seated Leg Stretches

4. **Side Stretch** -- Sit in a chair with your legs open 90 degrees, with both feet on the floor. Point your hips toward the foot in front. Stretch out the leg that is to the side, and flex your foot, so the weight is resting on the heel. Keeping your hips pointed toward your front, slide your hand down your outstretched leg.

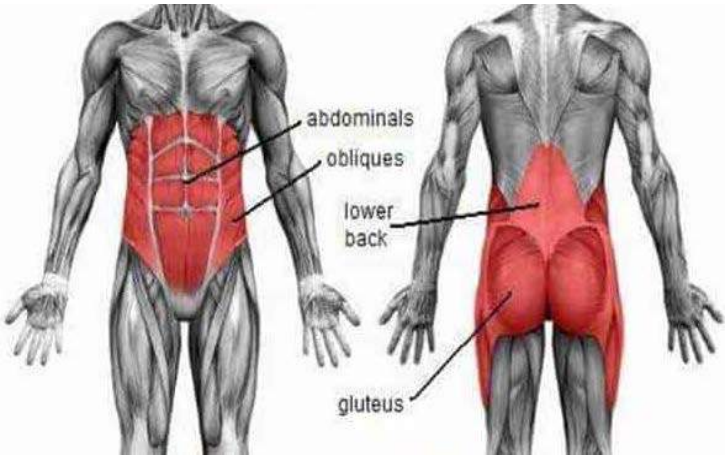

5. **Front Stretch** -- Sit in a chair with your legs open 90 degrees, with both feet on the floor. Point your hips toward the foot in front. Stretch out the leg that is to the front, and flex your foot, so the weight is resting on the heel. Keeping your hips pointed toward your front, slide your hands down your outstretched leg. Relax your muscles, and hold yourself in place with your arms, not legs.


Strength

As you have likely already realized, strength, flexibility and balance link to one another. It is difficult to have one without the others and difficult to find exercises that do not use at least two of the three. However, without strength, balance is nearly impossible. The foundation for practicing Tai Chi is to have sufficient strength and flexibility to control one's balance.

It is common when speaking of strength to hear the need for strengthening the **"core" muscles.** Exactly what does that mean? According to Wikipedia, "the core of the body is broadly considered to be the torso. Functional movements are highly dependent on this part of the body, and lack of core muscular development can result in a predisposition to injury. **The major muscles of the core reside in the area of the belly and the mid and lower back (not the shoulders), and peripherally include the hips, the shoulders and the neck."**



There are many ways to exercise the body's core muscles and all other muscles used in balance and walking. Here are a few resources that may be helpful.

https://www.mayoclinic.org/healthy-lifestyle/fitness/multimedia/core-strength/sls-20076330?s=2
Here are illustrations from the Mayo Clinic for some core exercises with a fitness ball. Click on each exercise name to see more photos showing that exercise.

https://eldergym.com/exercises-for-the-elderly/
ElderGym has a variety of fitness exercises that may be helpful for weight training.

https://www.parentgiving.com/elder-care/building-core-muscles-key-to-longevity-and-independence/
This article describes some core exercises.

https://aparadiseforparents.com/9-easy-senior-resistance-band-exercises/
Using resistance bands is an excellent strength building exercise. This resource has videos, too.

https://www.sparkpeople.com/resource/exercises-printable.asp
This website has printable exercises for a variety of different uses.

https://www.acefitness.org/about-ace/aarp-fitness-wellness-program
For AARP members, there are varieties of resources available online. This is one of them.

https://dailycaring.com/video-15-minute-senior-exercise-program-for-balance-and-strength/
This is a 15-minute video showing both balance and strength exercises.

Strength: Foot, Ankle, and Leg Exercises

Your feet and ankles are important balancing equipment. So, working to increase foot strength is important to maintaining balance. Below are some general foot, ankle, and leg strengthening exercises.

Be sure to keep your body erect whether standing or sitting as you do these. You can put your back against a chair if it is too much of a strain to sit unsupported, but if you do that, be sure you are against a straight back (vs. curved) and not pressing back against it with all your might. Start with five to ten of each exercise. If you exercise regularly and feel that this is not enough to challenge you, increase the number of repetitions and/or add some weight. Start small with weights if you decide to do this – for example, put on a pair of heavy shoes or stuffing something into your socks.

Foot Scrunches – This is a strengthening exercise for your feet and ankles. It will also help strengthen your calf muscles to a lesser extent.

Essentially, you are pulling a lightweight piece of fabric closer to you using your toes. Position your foot over a dishtowel or t-shirt. Spread your toes wide and let them grip the cloth.

Curl your toes under to drag the cloth under your foot.

Unclench your foot and repeat until you have scrunched up the cloth under your foot.

Calf Raises – These are exercises for your calves, ankles, and feet. They strengthen all three and help stretch ligaments and tendons around your knees. To do this, sit in a chair with your feet relaxed and in front of you, flat on the floor. Then, lift your heels. There are three versions of this, each one uses your muscles, ligaments and tendons differently.

You may also do this exercise standing. For balance, brace against a wall or chair.

Strength: Foot, Ankle, and Leg Exercises

There are three ways to do Calf Raises: pointing your toes in different directions each time. First, straight forward (feet parallel). Second, point the toes outward, away from each other. Third, point the toes inward, toward each other. Each one uses the muscles a little differently.

Feet Parallel:

Toes pointed outward:

Toes pointed toward each other:

Notice that each time you point your feet different directions, that will impact the direction that the knees point. They mimic the direction of the toes: forward, inward, or outward. Also notice that the arms are best placed behind the back so that your back remains straight during this exercise. This also helps by stretching the shoulder muscles, tendons, and ligaments and works as a strengthening exercise for your spine. If you will pull in in your stomach muscles while you are doing these, you will also ease pressure on your lower back while strengthening your core.

Calf raises may be done standing for more strength and balance exercise. If you decide to do these exercises standing, brace yourself by touching your fingers to a wall, or holding onto the back of a chair.

Strength: Foot, Ankle, and Leg Exercises

Leg Raises – Leg raises are strengthening exercises for your legs, stomach, back, and hips. Essentially, you sit in the chair and lift your leg up, off the chair, without leaning back in the chair. For some people, it is easier to sit on the edge of a chair to do this or the edge of a bed, so you are not tempted to lean back and brace yourself on the back of the chair.

Relax your arms. They can be braced behind your back, but that tempts most people to press back against them. Therefore, the best option is to let them hang loosely at your sides. To protect your lower back, pull in your stomach and hold it in.

Now, lift one leg up, off the chair by elevating your knee. Hold it for 2 – 3 seconds and then set the foot back onto the floor. You do not have go high: just enough to raise the leg up and feel the leg working. You can repeat on that side 5 – 10 times or until you tire. Then, switch legs.

A **modification to this exercise** is to lift the leg and then kick out with the foot, holding the foot out for 1 – 2 seconds, and then retract it back to the lift position before setting it down on the floor. This will take more strength to accomplish. It will also take effort to ensure you are not leaning back in the chair.

If this feels too easy, add weight to your foot. For example, you can use heavier shoes. While you can purchase leg weights, it is also possible to use items you already have around the house. For example, you can put a can of tomato paste in a long sock and tie that around your ankle.

For additional exercise, keep your leg extended and simply raise and lower the entire leg.

Strength: Exercises from Qigong

There are many core-strengthening exercises. The core muscles of the body are those in the torso: the glutes, chest, stomach, back, and some shoulder muscles. You can strengthen and flex many of these muscles in a seated position by doing the following Qigong exercises. Qigong is the study of energy/breath and an important exercise program on its own as well as fundamental to Tai Chi practice. These four exercises are Qigong movements created by Master Li, the founder of Sheng Zhen Meditation. For more information about Master Li and his trained instructors, visit http://www.shengzhenaustin.org/

A. Expand arms outward –

A. Sit near the edge of the chair. Sit up straight and keep your torso aligned as though it is standing. Hold your fingers close together, with palms facing you, hands at shoulder height, as if you have your arms around a very large ball.
B. Rock Back. There are three different things happening simultaneously:
   a. Bend only at the hinge where the hips meet the top of the leg bones, sitting back as though you are rocking in a rocking chair.
   b. Pull your hands outward and away from each other – you should feel the stretch along your chest and shoulders.
   c. Breathe in deeply through your nose as you do this.
C. Rock Forward. Again, bending only at the hip joint, rock forward, pulling your hands back together. Use your feet to brace yourself. Exhale as you come forward.
D. Repeat the exercise. Inhale as you go back; exhale as you go forward.



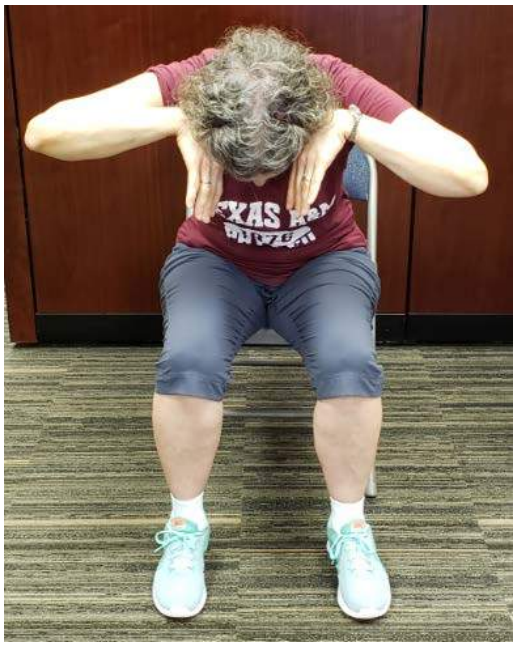
Tips:

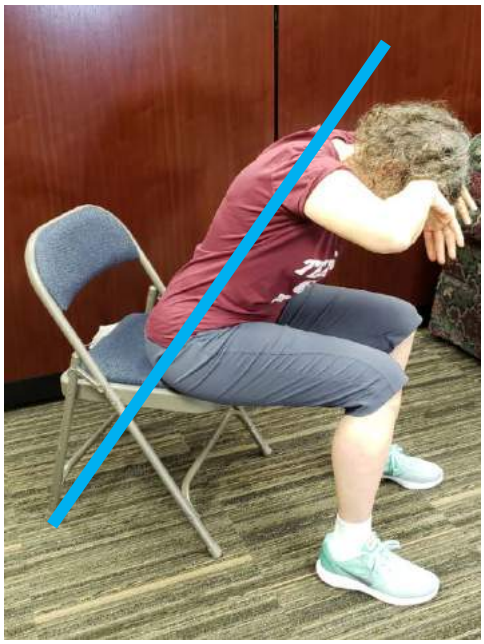
- Sit near the edge of the chair so you have room to lean back.
- Do not rest against the back of the chair. Use your core muscles to support your body.
- Keep your feet planted on the floor in a Horse Stance position.
- Holding the position for a few moments will work your muscles more. Build up to this.

Strength: Exercises from Qigong

Push Arms Away –

A. Sit near the edge of the chair. Lean forward at the hinge where your hips meet the top of your leg bones. Look down and put the back of your wrists at the sides of your forehead. Keep your torso straight from the hip to your shoulders. Hold your elbows at shoulder height.





B. Rock backwards -- There are three different things happening simultaneously:

a. Bending only at the hinge where the hips meet the top of the leg, sit back as though you are rocking in a rocking chair.
b. Push your hands outward, slightly apart, and away from you – you should feel the stretch along your back and shoulders.
c. Breathe in deeply through your nose as you do this.

C. Return to the start position, exhaling as you move.

D. Repeat this several times.

Tips:
Hold your position in the rock back position for a few seconds to increase your workout.

Strength: Exercises from Qigong

B. Prayer Hands Up/Down –

A. Sit near the edge of the chair. With your feet shoulder width apart on the ground, keep your torso straight from the hip to your shoulders. Hold your elbows at shoulder height. Keep your palms pressed together from fingertips to the heels of your hand throughout this exercise.

Tips:

- A straight torso does not mean no curve to your back. Keep your shoulders over your hips.
- Use Stance Alignment techniques already discussed.

B. Push your palms to the ceiling. Keeping your torso straight and palms pressed together raise your arms as high as you can. Inhale as your palms go up.

C. Return to the start position, exhaling as you move.

D. Repeat this several times.

Tips:

- Don't worry if you can't get your arms over your head.
- Hold your arms up for a short time to increase the difficulty of the workout.
- It is more important to have your palms together than to have your hands over your head.
- Do not interlace your fingers. Hold your hands up using your muscles.
- Keep your torso upright.
- Relax between moves by shaking your arms.

Strength: Exercises from Qigong

E. Slump down – Relax your back completely. Slump over and curl your back as much as possible. Slightly lean forward. Notice that your palms still press firmly together. Exhale as you move into this position. You should feel the stretch all across your spine as you slump over.

F. Prayer Hands Side to Side –

A. Sit near the edge of the chair. With your feet shoulder width apart on the ground, keep your torso straight from the hip to your shoulders. Hold your elbows at shoulder height. Keep your palms pressed together from fingertips to the heels of your hand throughout this exercise.

Tips:

- A straight torso does not mean no curve to your back. Keep your shoulders over your hips.
- Use Stance Alignment techniques already discussed.

Strength: Exercises from Qigong

B. Curl your spine to the side. Keeping your torso pointed forward and palms pressed together, point one elbow upward. Your hands remain in the start position. Exhale as you bend to the side.

Tips:

- This time, the torso is not straight – it is curved from the hips to the neck.
- It is okay if you cannot get your elbow to point to the ceiling. Just do what you can.
- If you cannot keep your hands positioned, you can touch your fingertips to your chin to help you.
- Keep the palms firmly pressed together.
- If you want additional exercise for your glutes and legs, press the most weighted foot into the floor as you do this. For example, in the photo, the foot under the shoulders is the one to press into the floor.
- Do not lean on your leg if your elbow touches it. Hold yourself up with your body.

C. Return to the starting position, inhale deely through the nose, and turn to the other side.

D. Repeat several times. Relax when you finish, by shaking your body and relaxing all muscles.

Cool Downs

Cool Downs relax muscles, tendons, and ligaments so stiffness and soreness is reduced after exercise. Do not skip cool downs, even if you have only 2 – 5 minutes left of class to do them.

All warmups already described may also be used as cool downs. Here are several additional ones that may be useful for those with low mobility.

Walk – The simplest cool down is to walk slowly in circles while breathing deeply in and out. Allow your arms to swing naturally at your sides, holding nothing in them.

Alternate option for those who cannot walk: Seated deep breathing can substitute. If seated, relax the legs, stretch them out a little, shoulder width apart, and and gently move your knees together and apart, shaking the muscles as you do this. Let your arms hang to your sides and shake them gently. Stay relaxed and loose as you do this.



Twist Body Side to Side – Another cool down allows for gentle joint relaxation. This can be done either seated or standing.

A. Start in horse stance and allow your arms to hang loosely at your sides. Bend your knees slightly.

Seated version: If done seated, you will need to sit up straight and not rest your back against the back of the chair. Ideally, the chair should have no arms to bump against as you turn your body from side to side.

Cool Downs



B. Turn your torso gently to point your belly button 45 degrees off your centerline. Then turn to the opposite direction, again, 45 degrees off your centerline.

C. Continue this movement from side to side slowly gaining speed. If your arms are correctly hanging loosely from your shoulders, they will start to swing as you pick up speed.

D. Once you have gained a good speed and the arms are swinging quickly, start to slow down again until your arms stop moving on their own. If you are seated, you can now rest your back against the chair as you finish.

E. Breathe deeply throughout this exercise. Do not consciously direct the movement of your arms. Just let them move with your turning torso.

Arms Up and Press Down – Relax throughout this activity. Breathe in and out and never hold your breath. Move your arms so they end or start with the intake or exhaling of breath.

A. Start in horse stance and allow your arms to hang loosely at your sides. Bend your knees slightly.

If done seated, you will need to sit up straight and not rest your back against the back of the chair.

Do this exercise three times. You may close your eyes as you do it.


B. Breathing in, raise your arms to the sides, palms down.

Cool Downs

C. Exhaling, rotate your palms and raise your arms over your head.

D. Inhaling, bring your palms together in a triangle shape and press down to shoulder height

E. Exhaling, keep pressing until your hands are again at your sides.

Sample Bibliography Showing Health Benefits of Tai Chi/Taiji

Tai Chi Effective in Managing Risk Factors for High Blood Pressure (August 2015). American Journal of Cardiology published a study that showed improvement in older adults in managing risk factors associated with hypertension.

A Systematic Review of the Health Benefits of Tai Chi for Students in Higher Education (Preventive Medicine Reports, June 2015). A systematic review of the health benefits of Tai Chi for students in higher education found 81 health outcomes, of a combined sample of 9263 participants. These were assigned scores based on evidence hierarchy of which 4 primary and 8 secondary outcomes were found. Primary outcomes reveal that Tai Chi benefits participants by increasing flexibility, reducing symptoms of depression, decreasing anxiety, and improving interpersonal sensitivity. Improved lung capacity, balance, 800/1000 run time, quality of sleep, symptoms of compulsion, somatization and phobia, and decreased hostility.

Canadian Family Physician (CFP – Canada November 2016, 62 (11) 881-890). **"**During the past 45 years more than 500 trials and 120 systematic reviews have been published on the health benefits of tai chi. Systematic reviews of tai chi for specific conditions indicate excellent evidence of benefit for preventing falls, osteoarthritis, Parkinson disease, rehabilitation for chronic obstructive pulmonary disease, and improving cognitive capacity in older adults. There is good evidence of benefit for depression, cardiac and stroke rehabilitation, and dementia." In addition, good evidence for increased strength in lower limbs.

COPD Benefits of Tai Chi - Mind-body modalities like Tai Chi that combine aerobic activity, coordinated breathing, and cognitive techniques to alleviate physical inactivity, dyspnea, anxiety and depression, hallmarks of COPD, have been recognized as promising strategies for COPD.

Effect of Tai Chi (TC) on Muscle Strength of the Lower Extremities in the Elderly (Chinese Journal of Integrative Medicine, May 2015).

Cross sectional study of 205 long term TC practitioners and controls (age and gender matched) was conducted to investigate the long term effects of TC exercise on muscle strength of lower extremities. Researchers found that the muscle strength of TC group was independent of age. In addition, the strength of various muscles (iliopsoas, quadriceps femoris, tibialis anterior and hamstrings) in TC group was higher than that in the NTC group ($P<0.05$).

Tai Chi Chuan (TCC) for the Primary Prevention of Stroke in Middle –Aged and Elderly Adults: A Systematic Review (Evidence-Based Complementary and Alternative Medicine, 2015). Practice of TCC exercise aids to prevent stroke among the middle-aged and elderly. Pooled analysis of 36 eligible studies, totaling up to 2393 participants indicates that TCC was associated with lower body weight, BMI, FBG level, and decreasing SBP, DBP, plasma TC and LDL-C level irrespective of the intervention period and significantly raised HDL-C level in comparison to nonintervention.

Benefits of Tai Chi in Centrally Obese Adults with Depression Symptoms, 2015. Researchers found that that participants who had diabetes or pre-diabetes experienced drops in blood pressure between 9 – 12%, loss in waist circumference of 3%, lower depression, and better blood sugar levels. Evidence-Based Complementary and Alternative Medicine reported this.

Beneficial effects of Tai Chi for those with Multiple Sclerosis, August 2014. BioMed Central reported that in a study with MS patients, one group receiving tai chi instruction showed significant, consistent improvements in balance, coordination, and depression as relative to the group that did not receive this intervention. Tai Chi holds therapeutic potential for MS patients.

Health Benefits of Qigong or Tai Chi for Cancer Patients: A Systematic Review and Meta-Analyses (Complementary Therapies in Medicine, 2014). This study assesses health–related outcomes of cancer patients practicing Tai Chi. 13 RCTs (Randomized Controlled Trails) comprising 592 subjects were reviewed. Pooled estimates of the effect size of health-related outcomes were taken from 9 RCTs with 499 subjects. The pooled weighted mean difference for changes in the quality of life (QOL) for cancer patients was 7.99 whereas the standardized mean differences for changes in depression and anxiety was -0.69. There is a positive effect of Tai Chi on cancer specific QOL, fatigue, immune function and cortisol level of cancer patients.

Fall Prevention in Community Settings: Results from Implementing Tai Chi: Moving for Better Balance in Three States, April 2014. Participants averaging 75 years of age, who participated in a 3 month tai chi program, reported improvements in walking, stooping, couching, kneeling, getting out of chairs and climbing one flight of stairs.

Fall Prevention The Center for Disease Control- Bureau of Injury Prevention has endorsed Tai Chi as a modality "that effectively reduces falls in older adults." Tai Chi was recognized as both an "exercise-based intervention" and an "effective, community-based fall prevention program."

Journal of Rheumatology, September 2003. Randomized studies showed a decrease in pain by 30%, increase in physical function by 30%, increase in balance by 30%, an increase in sense of well-being, and it is safe.

Tai Chi Helps Ease Parkinson's disease Symptoms, February 2012. The New England Journal of Medicine reported patients with Parkinson's disease performed better than those attempting resistance-training and stretching in excursion and directional control. There was also evidence of improvement in gait and strength.

Medical News Today, August 2018. A non-competitive martial art, Tai Chi combines gentle physical movement and stretching techniques with mindfulness. "The martial art is an ancient Chinese tradition that has evolved over centuries. To its advocates, it has become a means of alleviating stress and anxiety, a form of "meditation in motion." Its supporters claim that it promotes serenity and inner peace."

Parkinsonism and Related Disorders This article systematically evaluates and quantifies the effects or impact of Tai Chi and Qigong mind-body exercises on motor (UPDRS III, Balance, Falls, Timed Up and Go, and 6-Minute Walk) and non-motor (depression & cognition) function and quality of life in Parkinson's disease: A systematic review and meta-analysis.

The effect of Tai Chi on health-related quality of life in people with elevated blood glucose or diabetes: a randomized controlled trial, (Springer Science + Business Media, November 2012. The aim was to assess the effects of a Tai Chi–based program on health-related quality of life (HRQOL) in 41 people with elevated blood glucose or diabetes who were not on medication for glucose control, placed in either a Tai Chi intervention group (N = 20) or a usual medical care control group (N = 21). Findings suggest that this Tai Chi exercise may improve indicators of HR-QOL including physical functioning, role physical, bodily pain and vitality for people with elevated blood glucose or diabetes who are not on diabetes medication.

Tai Chi Eases Fibromyalgia Symptoms Better than Aerobic Exercise – brainandlife.org May 29, 2019.
"A tai chi mind-body program is as good as or better than aerobic exercise for relieving symptoms of fibromyalgia, according to a study published online in the journal BMJ on March 21."

Tai Chi Improves scores on Neuropsychological Measures, July 2012. The Journal of Alzheimer's Disease (val. 30, number 4, 2012) showed that elderly people practicing Tai Chi increased brain volume and several neuropsychological measures, as compared to control groups using walking and social interaction as interventions.

Tai Chi Relieves Arthritis Pain, Improves Reach, Balance, Well-Being, November 2010. In the largest study to date of the Arthritis Foundation's Tai Chi program, participants showed improvement in pain, fatigue, stiffness and sense of well-being.

Tai Chi on psychological well-being: systematic review and meta-analysis (Complementary and Alternative Medicine, 2010). Forty studies totaling 3817 subjects and 29 psychological measurements from these were assessed. Twenty-one of 33 randomized and nonrandomized trials reported that 1 hour to 1 year of regular Tai Chi significantly increased psychological well-being including reduction of stress (effect size [ES], 0.66; 95% confidence interval [CI], 0.23 to 1.09), anxiety (ES, 0.66; 95% CI, 0.29 to 1.03), and depression (ES, 0.56; 95% CI, 0.31 to 0.80), and enhanced mood (ES, 0.45; 95% CI, 0.20 to 0.69) in community-dwelling healthy participants and in patients with chronic conditions. Seven observational studies with relatively large sample sizes reinforced the beneficial association between Tai Chi practice and psychological health.

11 Ways Tai Chi Can Benefit Your Health. "In 2018, one study compared the effects of tai chi on stress-related anxiety to traditional exercise. The study included 50 participants. The researchers found that tai chi provided the same benefits for managing stress-related anxiety as exercise. Because tai chi also includes meditation and focused breathing, the researchers noted that tai chi may be superior to other forms of exercise for reducing stress and anxiety. However, a larger-scale study is needed." Article information found at: https://www.healthline.com/health/tai-chi-benefits