

Resolving Knee Strain in Tai Chi Practice

By Hal Mosher

The most common problem with long term practitioners of Tai Chi is their knees. Several of my old tai Chi friends have had to stop practicing as a result of knee injury. Tai Chi uses deep stances which strengthen the legs but, when done improperly can harm the knees. The knees are one of the more fragile constructions in the body with the most use. We are bipedal upright creatures. This stance has caused our knees to become pivotal as we have evolved into our present position, and has thus resulted in undue strain on these fragile joints. However, it is not the knees that should take the brunt of our movement in Tai Chi. Instead it is the thighs and hips that should hold the spine upright because they are usually stronger than the knees. It is the proper alignment of the hips and spine that allow the thighs to do their job without over working the psoas muscle along the spine. In Tai Chi practice the bent leg positions in the form will exacerbate any knee problems unless proper steps are taken. In this article I will attempt to explain how the feet, psoas, hips, and thighs all need to work together in order to take stress off the knees.

The first place to start anything in Tai Chi is with the feet. The most important point being that the knee should be in line with the big toe. This is important for both feet and knees at all times when you practice your form. If, for example, your back knee collapses towards your groin as you shift back, this will put undue strain on the knee. Instead, you should make sure that the knee is in line with the foot. This will force you to engage your thigh and hip and not the knee. If you are in a 70/30 front-loaded stance, you're back leg should not collapse towards your groin, but the shin should be no more or less than 45 degrees to the ground. The knee should not collapse towards the ground. If it does, it will harm this joint by extending the tendon on the inside of the knee. Try to imagine you are embracing a large beach ball between your legs as you shift from one leg to another. At the same time, the feet should be activated in order to strengthen the tendons under the kneecap. This can be done by lifting up the instep of the foot as it fills up with weight. Simultaneously, the outside of the foot should feel like its pressing into the ground. The hard part here is to not grip the ground with your toes in the process, because that will hamper your movement and cause tension in the body. The feet should be resting like you're on tofu without squishing it between your toes.

The same lifting as described above regarding the inside arch of the foot is happening in the legs as well. So as the instep lifts, one should feel that lifting activate the inside of the leg as you shift into it (this activation is associated with yang energy in Tai Chi). Similarly, the outside of the leg is stabilizing by dropping into the ground (this stabilizing and dropping movement is associated with yin energy in Tai Chi). These two actions are simultaneous and codependent and have the effect of activating and stabilizing the tendons around the knee. The exact opposite is happening as you shift out of the other leg, where the inside of the leg is going into the ground while the outside is lifting up. This is important because it forces you to engage the hips. The legs also need to be in line with the hips. This means that if all your weight is on one leg and it is bent, then the thigh should be vertical. In order to attain this verticality, the hip needs to line up with the foot. If the thigh is at an angle towards your hip, and the hip and foot are out of alignment, you will be putting too much stress on your knee. Correspondingly, when you're in a 70/30

posture your back thigh must be vertical. These two alignments of the thighs are coupled with moving your tailbone in a vertical position from one vertical leg to another.

The next important step is making sure the hips are moving more than the knees. In Tai Chi we are always told to move from the waist, but never told how. What happens is that most people start moving their knees from side to side without moving their hips. The problem with this is that the knees are not meant to move horizontally away from the toe and the hip. The psoas controls hip movement and if it is tight it doesn't allow the hips to move. In the beginning one might try just moving the hips a little bit without moving the knees and slowly the hips will open. It is also important to try to keep the hips open and not collapsed towards the groin. The hips collapsing inward will cause your knees to collapse inward as well. Instead, imagine the hips and lower back opening out away from the spine. If you move your knees side to side without moving your hips, you could develop knee problems. Better to go slow and imagine the foot, knee, leg, and hip are all connected like a bow, all three on one straight line. Holding a single weighted posture like "play guitar" is good for developing that alignment. As you stand there, imagine the lifting on the inside of the leg and dropping on the outside of the leg. These two actions should be very active and full of potential energy which then is put into the rest of your body. All of my advice here for the knees can then be applied to the arms and back as well in order to strengthen your whole body from the inside out.

The last thing that can help the knees is to heed the classics of Tai Chi by remaining upright, balanced, and even. By remaining upright you won't lean over your knee with your weight putting undue strain on the knees. By being balanced, whatever you do on one side you will do on the other, which means one knee won't strain more than another. By remaining even, you won't over extend your knee past your toe in a 70/30 position.

It is most important to be very mindful of this advice as you begin your practice so that you don't create any bad habits that are hard to change later. The knees are very fragile, do your best to protect them and insure your stability in your Tai Chi practice for years to come.