

Low stance, hill above Getaria, overlooking Bay of Biscay and Donostia-San Sebastian, Spain.

## **Greetings!**

The warmer weather has given us the opportunity to practice tai chi outdoors. Not only is there more space for completing a form without step adjustments, there is the benefit of fresh air, improving your skill by moving on uneven ground, as well as the spiritual feeling of being one with nature. However, with recent extreme heat conditions in many locations, please adjust accordingly. Practicing early in the

morning or later in the afternoon, when temperatures are lower, can reduce the strain on the body. Staying hydrated and finding shady spots to practice are also helpful.

## Insight Sharing - Dan Tien and Its Various Roles

If you have practiced tai chi for some time, you will have inevitably come across the term "dan tien" (technically the lower dan tien – there are three such points on the body) and have heard many references to it, within various different contexts, potentially causing confusion about what it is and how to go about using it. In this edition, I will provide some explanations and present my recommendations on how to approach the use of the dan tien in your tai chi practice. I will also explain how it relates to figure skating.

First of all, the lower dan tien is the name of an anatomical point on the body, typically described as two finger widths or approximately 2 inches below the navel and a short distance into the body. It is one of many acupuncture points on the body and is considered one of the energy centers in qigong, a discipline within traditional Chinese medicine. Qigong seeks to improve and maintain health and wellness through a combination of physical and meditative exercises that generate and accumulate internal energy in the body. Some elements from qigong have been incorporated into tai chi and many other Chinese martial arts.

The dan tien has many roles within tai chi. It is involved in breathing, directing movement, generating power, and maintaining balance. Below are a few explanations.

- Use of the dan tien for breathing. We practice abdominal breathing in tai chi. Use of the abdominal muscles during exhalation coincides with the exertion of force during a tai chi move. Abdominal breathing is important in other disciplines as well, such as in singing, where using the diaphragm to breathe produces a much more pleasant sound than breathing from the chest. Drawing qi into the dan tien can be considered as a way to encourage and facilitate abdominal breathing. When practicing tai chi sitting meditation or standing pile meditation, we utilize breathing techniques from gigong, where we lead the qi to the dan tien (typically on the in-breath) and drive it out and around the body following certain pathways. These exercises help to develop awareness of the dan tien as a central point of the body, as well as to prepare the practitioner to activate muscles sequentially along some of the qi paths. Click here for a link to Dr. Paul Lam's instructions for dan tien breathing. Similarly to gigong and tai chi imagery, figure skating coach Eve Chalom uses imagery of our torso being like a liquid thermometer with the liquid level rising and falling as we inhale and exhale during stroking, corresponding to the rise and fall of the body.
- Use of the dan tien for directing movement. In tai chi, there is the concept of moving from the center. Most tai chi movements involve a weight shift and hip rotation during the "closing" phase, i.e., when energy is exerted upon the opponent. Translation and rotation of the hips drive the torso, which drives the shoulders, which in turn drives the arms and hands. Thinking of the dan tien, which is the center of the body, as the driver of this whole linkage of body parts allows one to direct the forces generated by this hip movement. In kinesiology,

- the central control zone (mainly encompassing the glutes, abs) connects the upper body to the lower body. Forces generated by the legs must go through the central control zone in order to be propagated to the shoulders, elbows and hands, where forces are expressed in the typical martial arts applications. In skating, I have heard coaches talk about leading with the belly button and skating from the center. These are similar concepts in the use of the central control zone to coordinate the body parts for a skating element.
- Use of the dan tien for generating power. In figure skating, we lower the hips to generate a downward force (and a resultant ground/ice reaction force) just prior to stroking with the skating foot. This creates a much more powerful stroke than just pushing straight back. In tai chi, we also seek to generate a large ground reaction force which is then reflected up and then directed by the dan tien to various parts of the body to engage with the opponent. However, as tai chi is originally a martial art, the movements avoid such an overtly visible downward shift which would signal intention to the opponent. Instead, the downward force is generated internally. This force originates at the dan tien, utilizing central control zone muscles, involving a posterior pelvic tilt which subtly pushes the top of the femur forward, and creates the desired downward force into the ground.
- Use of the dan tien for maintaining balance. Whether figure skating or practicing tai chi, we seek to maintain balance. In figure skating, we keep our center of mass over the skate contact point (and along the dynamic plumb line when skating on a curve). In tai chi, we aim to place our center of mass such that the pressure distribution over each foot is centered over the middle of each foot (or contact area if only the heel or the ball of the foot is touching ground). Awareness of the dan tien location and where it is relative to the skate blade/foot bottom is essential to maintaining balance. A more resilient form of balance control is rooting, where we use the imagery of sinking the qi into the dan tien (and thereby sinking our weight into the ground), involving reduction of muscle tension in the legs and stabilization of upper body structures through pandiculation. In figure skating, a similar downward force from the body center, along with pandiculation of the spine and arms, allows greater control of the skating movement and is reflected in the crunching sound of the blade over the ice.

To conclude, the dan tien can be thought of as the body center. While it plays many important roles, one need not fret over its exact location or seek some special sensation there. The mental focus on that body part allows one to accomplish many important functions in movement, whether it be for tai chi, for figure skating, or other forms of movement.

With Warmest Regards,

Vincent Chun, PhD

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