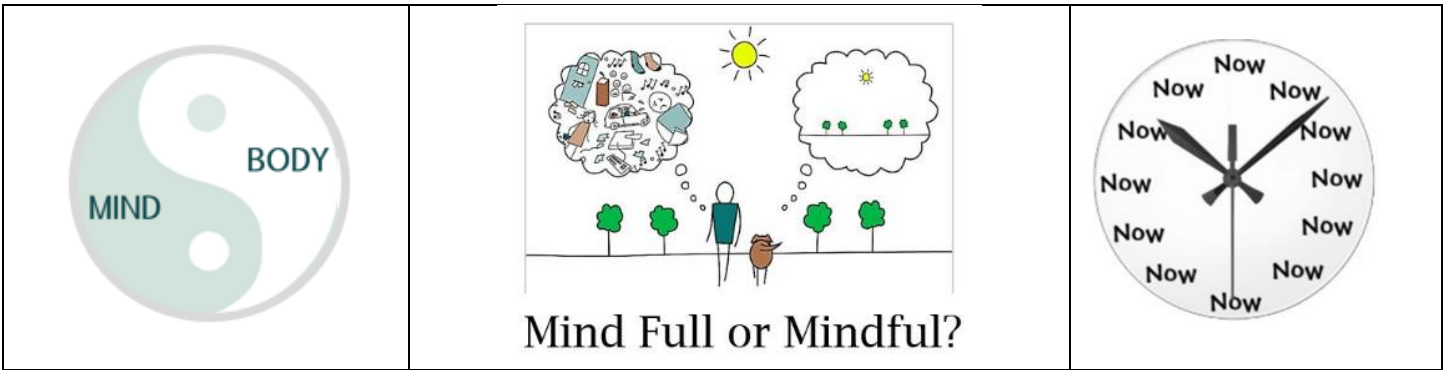


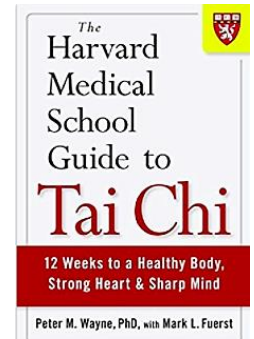
Conversations about Tai Chi



“**Tai chi and qi gong** are centuries-old, related **mind and body** practices. They involve certain **postures** and **gentle movements** with mental focus, breathing, and relaxation. ...The movements can be adapted or practiced while walking, **standing**, or sitting. In contrast to qi gong, tai chi movements, if practiced quickly, can be a form of combat or self-defense”
[\(https://nccih.nih.gov/health/taichi/\)](https://nccih.nih.gov/health/taichi/).



Tai chi is a **mind-body exercise** rooted in multiple **Asian** traditions, including martial arts, **traditional Chinese medicine**, and **philosophy**. Tai chi training integrates slow, intentional movements with breathing and cognitive skills (for example mindfulness and imagery). It aims to strengthen, relax, and integrate the physical body and mind, enhance the natural flow of Qi, and improve health, personal development, and self-defense” (Wayne, 2013, p. 14).



Qi can be thought of as restorative energy. It is pronounced the same as Chi, but is a different concept.

YANG		YIN
Light Active Hot Generation Wake Doing		Dark Passive Cold Growth Sleep Not Doing

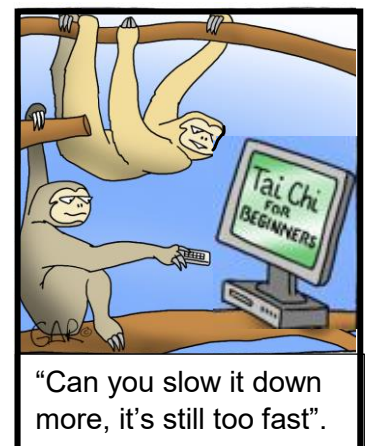
Sympathetic NS

Parasympathetic NS

Tai Chi is based on the concept of yin and yang, also known as the Tai Chi symbol. The symbol represents **complementary opposites** when taken together create a **balanced, dynamic, inter-dependent whole** (Wayne, 2013).

Movements are **SLOW**

- Requires more motor control
- Awareness of shape of body, proprioception, and internal movement.
- Focused attention (mindfulness) and slows down the brain.
- Mindfulness not an empty brain, but attending to sensations/experiences in the moment.
- Shifts CNS toward Parasympathetic
- Active relaxation
 - Keep muscles and tissues soft while moving
 - When tissues are soft, fluids and energy can move more easily.



Eight Active Ingredients of Tai Chi (Wayne, 2013)

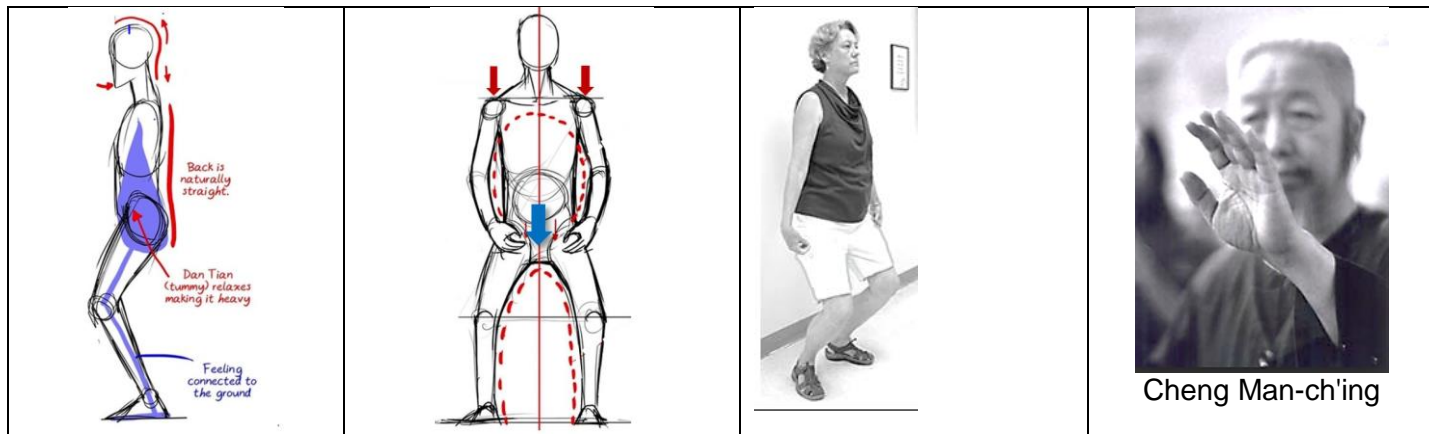
Conceptual framework to deliver the *active ingredients* of tai chi
(mechanisms of tai chi's influence on health).

1. Awareness	Mindfulness Focused attention	Free up possibilities Tune in
2. Intention	Expectation	Imagery
3. Structural Integration	Musculoskeletal	Physiological
4. Active Relaxation	Deeper levels of body and mind	
5. Strength & Flexibility	Balance Bone health	Stretching Moderate aerobic
6. Breathing	Regulation of emotion Movement of internal energy Belly or dan tien breathing	Parasympathetic vs sympathetic NS Quiets mind
7. Social Support	Interaction and peer support Community	
8. Embodied Spirituality	Taoist Body Mind Spirit Inner Awareness Connectedness – universe and other people	

Traditional Tai Chi routines can take months to memorize and learn well enough to experience the therapeutic benefits. Many people, especially those with chronic health conditions, may not stick with such a program. The *Eight Active Ingredients* approach to Tai Chi is based on **thoughtfully selected and adaptable movements based in Tai Chi and Qigong, rather than a rigid set of movements.** The program allows students to focus on self-awareness, alignment, breathing and relaxation, so that they can **experience the benefits of moving meditation after only a few sessions.** Therefore, students are more likely to experience success, the fellowship of group exercising, and sustain their practice.

Wayne, P. M. (2013). *The Harvard Medical School Guide to Tai Chi*. Boston: Shambhala.

Posture and Alignment



Images from <http://brisbanechentaichi.weebly.com/skill-knowledge.html> Used with permission.

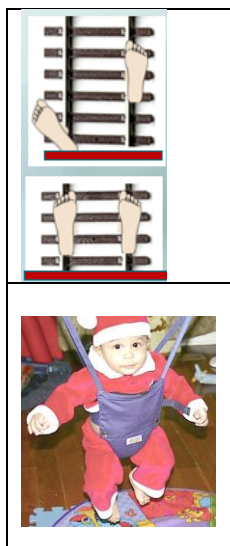
Movement is generated by the feet and legs, directed by the torso, and expressed with the hands.

Example: The Fountain

1. As you slowly **sink downward**, cross your arms with hands on opposite shoulders.
2. Flex neck slightly. Body shape is one of **closing**.
3. **Start to rise** and open, with the extension starting from the **ground up** (ankles, knees, hips and finally head).
4. As you rise, your **arms float up and separate**, going to about 80% of full shoulder flexion and elbow extension. **Palms face outward**. Body shape is **open**. Think of yourself stretching from the inside out.
5. Slowly bring **arms downward** and into adduction with **wrists extended**, like you're painting with your palms (lead with wrists). When you reach about 90° at the shoulders, start sinking again as your arms complete the circle.



Example: Withdraw and Push (flow)



1. Assume bow stance.
 - Knees should be over feet and not extend past toes.
 - Sinks slightly and feel a bit bouncy (like jolly jumper).
2. Slowly shift about 70% of your weight to the back leg. Keep facing forward.
3. When weight is on the back leg, bring hands toward midline with palms facing up. Sweep hands upward to heart level and pronate.
4. With forearms pronated, shift weight to front leg while slowly moving hands forward but not extending elbows all the way (elbows heavy). Wrists extend slightly but hands are soft. Keep torso vertical.
5. While you shift weight toward back leg, let arms float down to your sides.



Linda Gabriel, PhD, OTR/L

Activity Analysis of Tai Chi and Qigong

- Awareness of, and maintaining, center of mass (gravity) over base of support as body and/or arms move.
- Awareness of musculoskeletal alignment, proprioception, and vestibular input
- Increased flexibility and range of motion.
- Improved motor planning and motor control.
- Habitual posture with slightly lower center of gravity and soft knees.
- Strengthens bones and muscles, especially in lower extremities. Practice in grading muscle responses.
- Focused attention to follow the movements which provides a space for mindfulness.
- Increased confidence in moving.
- Feeling and listening to your body movements with acceptance.
- Slow movement coordinated with inhale and exhale. Active relaxation.
- Body shape changes from closed to open. Opening can release tension and holding patterns.

Evidence for Effectiveness of Tai Chi and Qigong as an Intervention



Health and Fitness

1. “From the perspective of **exercise prescription**, Tai Chi is a suitable **conditioning exercise** because the training characteristics fulfill the recommendations of the ACSM regarding exercise to develop and maintain
 - Cardiorespiratory function,
 - Muscular fitness,
 - Neuromotor agility, and
 - Flexibility” (Lan, Wolf, & Tsang, 2013, p. 2).
2. Janke, Larkey, Rogers, Etnier, & Lin (2010) completed a systematic and comprehensive review of **77 RTCs** investigating the efficacy of Tai Chi and Qigong. They concluded the evidence base is strong for:
 - Bone health
 - Cardiopulmonary fitness
 - Physical function as related to capacity daily living
 - Level of physical activity
 - Strength
 - Flexibility
 - Balance and fall prevention
 - Quality of Life in both healthy people and those with chronic illnesses
 - Self-Efficacy (confidence) which is associated with health behaviors
 - Patient-Reported Outcomes
 - Pain
 - Fatigue
 - Immune Function and Inflammation
 - Psychological (see below under Behavioral Health)
3. Flexibility, healthy muscles, and connective tissue
“**Connective tissue** adapts to the body’s biomechanical and biochemical forces. The collagen and elastic fibers that provide fasciae their tensile strength are constantly being produced and remodeled. ...there is good reason to believe that Tai Chi, with its emphasis on steady balance and dynamic, integrated movements, will substantially **influence the body’s network of connective tissue and modify its structure and function**” (Wayne, 2013, p. 135).

Health Impairments

1. Huston & Mcfarlane (2016) summarized the evidence from 120 systematic reviews and recent clinical trials. They reported **excellent evidence of benefit** of tai chi for
 - Preventing falls (14 systematic reviews)
 - Osteoarthritis (10 systematic reviews)
 - Parkinson disease (8 systematic reviews)
 - COPD Rehabilitation (6 systematic reviews)
 - Improving cognitive capacity (5 systematic reviews)

And **good evidence of benefit** for

- Depression (8 systematic reviews)
- Cardiac rehabilitation (6 systematic reviews)
- Stroke rehabilitation (5 systematic reviews)
- Cognitive impairment and dementia (2 systematic reviews)

2. Postural Stability and Balance

Postural sway (less stability), as measured by a force platform, was **significantly decreased** in adults ages 65 to 75 in the tai chi training group when compared to a group who engaged in brisk walking and a sedentary group (Pan, Liu, Zhang, & Li, 2016).

Tai chi exercise was **effective for both the low and high fall risk groups**, when practiced for up to 3 months (Song, et. al., 2015).

Tsang, et. al., 2004) found that **elderly adults** who practiced tai chi had significantly **less sway** than elderly adults who did not practice tai chi when there was **conflict between sensory conditions**. "...elderly Tai Chi practitioners attained the same level of balance control performance as did young, healthy subjects when standing under reduced or conflicting somatosensory, visual, and vestibular conditions" (p. 129).

Li, Hammer, & Fitzgerald (2016). Prospective study with 413 older adult participants. Over a 12-month period, the **fall rate** fell 49% from baseline to the end of the study.

Tai chi may be **one of the better exercises you can do** to maintain your ability to **react to challenges to balance** (Wayne, 2013).

3. Behavioral Health

Wang, et. al. (2013) performed a systematic review and found that "the slow, focused movements of tai chi may **counteract erratic movements and thoughts** by increasing awareness of and eventually **releasing muscle holding patterns** and their associated emotions caused by stress. The studies in this review demonstrated that mind–body interventions such as **tai chi** have beneficial effects for various populations on a range of psychological wellbeing measures, including depression, anxiety, general stress management, and exercise self-efficacy" (p. 615).

Stress contributes to most chronic medical conditions, including heart disease, stroke, diabetes, COPD, and autoimmune diseases, and mental health (Wayne, 2013).

- “Tai chi may enhance your **emotional resiliency** through its emphasis on physically and cognitively ‘letting go’ and paying attention to the present moment” (Wayne, 2013, p. 201).
- “Because of Tai Chi’s emphasis on form and posture, and its explicit link to certain psychological states, it might be a great way to help you **reshape your ‘attitude’**” (Wayne, 2013, p. 209).

Jahnke, et. al. (2010) reviewed 27 studies on psychological factors such as anxiety, depression, stress, mood, fear of falling and self-esteem. Psychological factors were secondary goals in most of the studies, so persons with appreciable psychological distress may not have been recruited.

- There were significant decreases in measures of **anxiety** compared to an active exercise group and to usual care controls.
- **Depression** improved but not significantly
- Reports of **self-esteem** improved significantly in comparison to usual care.

References

Huston, P. & McFarlane, B., (2016). Health benefits of tai chi: What is the evidence? *Canadian Family Physician*, 62, 881-890.

Janke, R., Larkey, L., Rogers, C., Etnier, J., & Lin, F. (2010). A comprehensive review of health benefits of Qigong and Tai Chi. *The American Journal of Health Promotion*, 24, e1-e25).

Lan, C. Wolf S. L., & Tsang, W. N. (2013). Editorial: Tai chi exercise in medicine and health promotion. *Evidence-Based Complementary and Alternative Medicine*, 2013, 103.

Li, H., Hamer, P., & Fitzgerald (2016). Implementing an evidence-based fall prevention intervention in community senior centers. *American Journal of Public Health*, 106, 2026-2031.

Pan, J., Liu, C., Zhang, S., & Li, L. (2016). Tai chi can improve postural stability as measured by resistance to perturbation related to upper limb movement among health older adults. *Evidence-Based Complimentary and Alternative Medicine*, 1-9.

Song, R., Ahn, S., So H., Lee, E., Chung, Y., & Park M. . (2015). Effects of tai chi on balance: A population-based meta-analysis. *The Journal of Alternative and complementary Medicine*, 21, 141-151.

Tsang, W., Wong, V., Fu, S., Hui-Chan, C. (2004). Tai chi improves standing balance control under reduced to conflicting sensory conditions. *Archives of Physical Medicine and Rehabilitation*, 85, 129-137.

Wayne, P. (2103). *The Harvard Medical School Guide to Tai Chi: 12 weeks to a Healthy Body, Strong Heart, and Sharp Mind*. Boston: Shambhala.

Wang, F. et. al. (2013). The effects of tai chi on depression, anxiety, and psychological well-being: A systematic review and meta-analysis. *International Journal of Behavioral Medicine*, 21, 605-617.

My Experience

- The Eight Active Ingredients of Tai Chi Teacher Training with Peter Wayne. <http://www.treeoflifetaichi.com/> Eligible for Teacher Certification upon completion of requirements.
- Moving for Better Balance <http://taichibalance.org/> Certified
- Tai Chi Fundamentals <http://taichihealth.com/> Completed Parts 1 & 2
- Tai Chi for Rehabilitation *Instructor Certification*. Tai Chi for Health Institute <https://taichiforhealthinstitute.org/> Dr. Paul Lam.
- Local classes
- Copious self-study
- Practice and teaching

My current class schedule 2018 (classes are 1 hour)

- Natural Therapy 1219 Leavenworth St., www.NaturalTherapy.net Tuesdays at 6:45 pm and Thursdays at noon. Payment is to Natural Therapy. Classes cost \$10 if purchased in a group of 10, or \$13 if single. Veterans are free.
- American Legion Post 1, 7811 Davenport St. Wednesdays 11:00. Payment to me. Cost \$3.00.

My future Classes:

Creighton University Wellness Council

Old cardiac center in conjunction with the Creighton Clinical Education and Simulation Center

Other Omaha Area Classes (not me):

- Lakeside Wellness Center
- Moving for Better Balance curriculum
 - VA Hospital
 - 77 listings (frequently churches, community centers, or retirement residences) <http://taichibalance.org/tai-chi-schedule/>
- Yoga Now (Benson)
- YMCA
- The Center in Council Bluffs <http://www.bluffscenter.org/>

My website with resources www.TailoredTaiChi.com

My Interests and Aspirations

1. **Educate** the public and health professionals about the benefits of Tai Chi.
2. **Increase availability** of classes based on my tai chi experience (maybe 2 additional classes per week)
3. Target **vulnerable populations**
 - Sedentary adults, especially those in underserved populations.
 - Older adults
 - Alzheimer's
 - Low income (may require grant funding)
4. **Learn** from other health professionals and the public about needs which could be addressed thru tai chi.
5. **Collaborate** with others who are interested in conducting research.
6. **Create a community** of interest in the midtown and downtown areas.

An occupational therapist from Fujian University of Traditional Chinese Medicine will be on an internship through CU Spring semester 2018. I will be her advisor. A portion of her internship may involve tai chi.

Linda Gabriel, PhD, OTR/L