

## Ommm Guard

### The Ergonomics of Pilates, Yoga, Qi Gong, and Tai Chi

By Tamara Mitchell



In this article we will be discussing several approaches to developing balance, strength, body awareness and flexibility. Integrating any of these practices into your daily life is a good way to improve your general health. They have all proven to benefit young and old alike, and are useful in rehabilitation from injury, specifically repetitive strain injuries. Many physical therapists are incorporating these practices into their rehabilitation programs. As “mellow” as all of these practices seem, there are some aspects that may be harmful to injured or fragile body parts, so it is necessary to work with a qualified teacher who is familiar with your condition to avoid further injury.

It is critical that you take responsibility for your own health and do not participate in exercises and poses that stress your injury. All of these methods are designed to promote health and healing, and they all offer alternatives for people who have limitations. They are not “one size fits all” programs, so you should never participate without questioning whether a position is right for you. Before a class or session, make the instructor aware of your limitations so he/she can help you avoid further injury.

Many people in the West believe Yoga, Qi Gong, Tai Chi, and Pilates are similar practices. They all involve non-aerobic, slow body movements and poses. However, there are very major differences in philosophy and goals. Pilates is a Western method of strengthening core musculature and increasing body awareness through concentration on movement and muscle activity. Yoga, Qi Gong, and Tai Chi are ancient methods of creating psychological, physical and spiritual balance that focus on the body, mind, and spirit. Recent fusion classes of one or more practice are generally not as effective as mastering each one separately. They each have something very unique and beneficial to offer.<sup>1</sup>

Many Westerners are wary of delving into the spiritual aspects of Yoga, Qi Gong, and Tai Chi. But even if you choose to simply “go through the motions” every day, you will benefit. Your body will become stronger, more flexible and coordinated, and you will feel more calm and peaceful after your session. Of course, if you open your mind to the Eastern philosophies behind these practices, you will increase your understanding of them and probably increase the benefits you will receive spiritually and physically. If you bring a competitive attitude to the session, you will benefit less and be more prone to injury.

## **Pilates**

Joseph and Clara Pilates developed Pilates in the first part of this century. Joseph was a German boxer and performer living in England. Joseph's father was a prize-winning gymnast in Greece and his mother was a naturopath.<sup>2</sup> As a child he was sickly, but as a child he became devoted to improving his physical health and strength through yoga, kung fu, and gymnastics.<sup>2,3</sup> He was forced into internment during WWI. During that time, he worked as a nurse/caretaker and developed the equipment and exercises to rehabilitate internees struck with wartime disease and physical injury. His matwork exercises and the regimen called Contrology were first developed and later, he devised the equipment used to help rehabilitate bedridden patients.<sup>1</sup> The Pilates equipment both challenges and supports the body as it improves. The exercises performed with equipment complement the matwork exercises and can provide needed support for people who cannot perform the mat exercises without assistance. Joseph's wife, Clara, was also a nurse who incorporated his concepts and exercises in ways that benefited the more seriously ill or injured. Probably because of her work, Pilates is recognized as a form of exercise that can be tailored to any level of fitness or health.<sup>1</sup> Injured dancers and athletes have historically been among the followers of this method of training and rehabilitation.

Pilates are specific exercises using five major pieces of equipment with the goal of developing body core strength, integrating the mind and body, and providing safe, effective conditioning and rehabilitation of injuries.<sup>1,3</sup> Instead of performing many repetitions of each exercise, fewer movements requiring precise control and form are used. Because your mind is required to engage with your body to perform the movements correctly, you experience a new awareness of muscle function and control.<sup>3</sup> All of the exercises involve the abdominal muscles in some way. Joseph Pilates believed that muscles don't move alone and shouldn't be isolated during exercise (as they are in weight training). He promoted the concept of proper body alignment and believed in using the body correctly in everything you do, from sports, to walking down the street, to sitting at your desk.<sup>2</sup> For best results, Pilates should be practiced 2-3 times per week in one-hour-long sessions with proper instruction and quality equipment.

Teacher certification for the equipment is much more extensive than mat teacher certification. There are many mat teacher programs that offer quick certification and don't even require that the instructor has any Pilates experience before taking the course.<sup>1,4,5</sup> Pilates certification is becoming more sophisticated and is often divided into several levels.<sup>4</sup> Being certified from a particular training course is not generally as rigorous as certification by the Pilates Method Alliance, though it must also be remembered that there are many really fine Pilates instructors who are not certified at all.<sup>4</sup> Some instructors have been teaching since before certification was the norm and some have philosophical objections to the certification process.<sup>4</sup>

In fact, the whole practice of Pilates is evolving and is adapted by each person who trained with Joseph Pilates and has subsequently learned the method from others.<sup>6</sup> Joseph Pilates practiced and taught for 45 years, and students of his learned his techniques during different times of his own development of the technique.<sup>6</sup> There is really no static right or wrong Pilates method. The most important thing is to attend a class and judge for yourself. If the instructor is able to work with you on modifying the exercises to your needs, seems knowledgeable about your condition and about the many exercises, and if you feel better after the session, you probably have found a

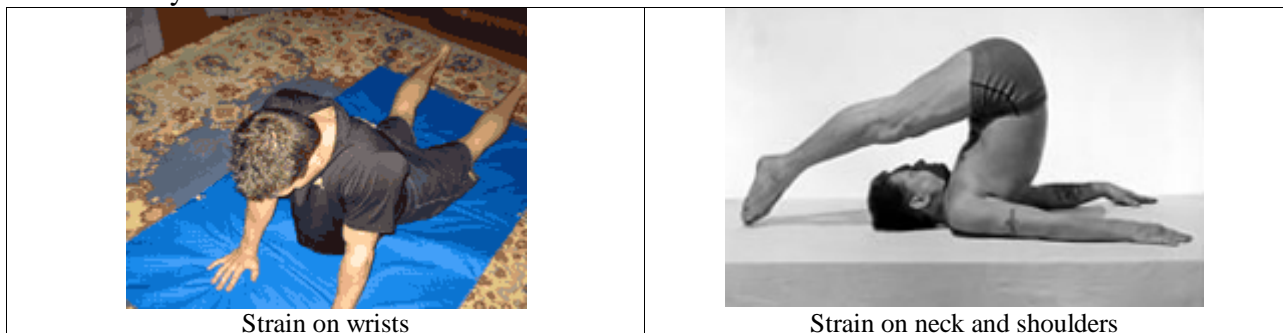
good teacher. If the teacher is lacking in any of these areas, do not continue with that teacher because you may develop injuries that are severe and lifelong as a result.

To check for industry-certified instructors, consult the Pilates Method Alliance website: [www.pilatesmethodalliance.org](http://www.pilatesmethodalliance.org)

The five basic pieces of equipment are the Reformer, the Cadillac, the Chair, the Barrel, and the Mat with accessories, such as the Circle. The mat exercises are the most common.



Pilates is not only very physically demanding, but it can put loads on parts of the body that are often injured from repetitive strain, whether you do them on a mat or use the equipment. If you have wrist or neck problems, you should avoid postures that stress your injured body parts. And if you have osteoporosis, you should avoid the forward rolling mat exercises as well as the ones that require twisting of the spine or front and side bending.<sup>7</sup> These movements actually increase the risk of vertebral fractures and resulting dowager's hump.<sup>7</sup> If you are older, try to find a class specifically geared toward seniors and/or people with osteoporosis and make sure the instructor is aware of your condition.





## Yoga

Yoga is a physical and mental practice that involves the body, mind, and spirit. Stone carvings in India dated over 5,000 years old depict yoga positions, so we know that it is a very ancient practice and it can be traced to Stone Age Shamanism.<sup>8</sup> There are many different types of yoga and each has something different to offer. Some build physical strength while others focus the mind. It's best to find a type of yoga that feels best to you and that can help you develop the qualities that are important to you.<sup>9</sup>

*Hatha yoga.* The most common type of yoga practiced in the U.S. is Hatha Yoga. It combines a series of "Asanas" (i.e., postures) with breathing exercises.<sup>10</sup> Hatha Yoga is generally practiced without reference to spiritual content, though the breathwork and sense of inner and outer balance that is achieved is often spiritual in itself. Practice usually starts in a contemplative mood, first sitting quietly and allowing the mind to calm down before beginning the asanas.<sup>10</sup>

### *Benefits of Hatha Yoga:*<sup>10</sup>

- Eases muscle tension.
- Helps align vertebrae.
- Tones internal organs and stimulates the cardiovascular, digestive, epidermal, nervous, and endocrine systems.
- Increases flexibility and coordination.
- Promotes deep relaxation and reduction of stress, benefiting the nervous system and cardiovascular systems.
- Promotes mental clarity, emotional stability, and a sense of well-being.
- Requires very little equipment other than loose, comfortable clothing and a small area of floor space.
- Can be tailored to specific physical limitations and needs. It is extremely gentle and can be practiced by anyone, including children and seniors

*Bikram yoga* or Hot Yoga is a form of Hatha yoga which is practiced in a very hot room enabling much greater flexibility and elimination of body toxins through sweating.<sup>11</sup> 26 classic postures are performed in a specific sequence in a room heated to 95-105 degrees with 60 percent humidity. If you try Bikram yoga, make sure you drink plenty of water throughout each class to remain hydrated and remain conscious of how you feel during the class. If you become faint, lightheaded, or find the pace or poses too strenuous, stop and rest.<sup>11</sup> Bikram yoga can lead to overstretching and resulting ligament or tendon damage.<sup>12</sup> This type of yoga is controversial

because the founder, Bikram Choudhury, copyrighted a number of traditional Hatha yoga postures.<sup>11</sup>

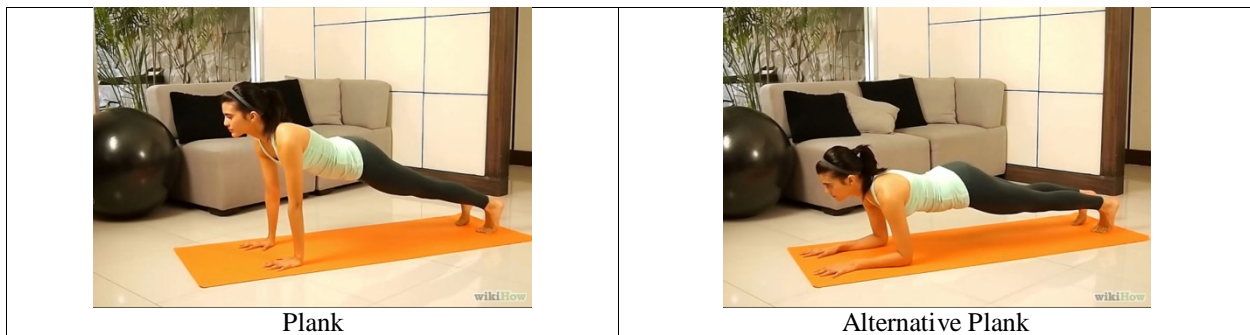
Another popular form of Hatha yoga is called “*Power yoga*”. It’s actually an ancient type of yoga called *Ashtanga* yoga. All major muscle groups are exercised in a complete range of motion through a series of flowing, challenging postures synchronized with breathing techniques. Ashtanga yoga focuses on building strength, flexibility, and stamina and is generally suited to people who are already quite fit, who enjoy a hard workout, and who want a minimum of meditation, chanting, and engagement of the mind.<sup>13, 14</sup>

*Iyengar* yoga is another form of Hatha yoga which focuses on balance and alignment of the body.<sup>11</sup> Various asanas or postures are held for a long time, often with the assistance of straps, bolsters, blocks, or blankets to bring the body back into balance. It is great for people of all ages and ability levels, and it can be helpful for anyone with imbalances or disabilities.<sup>11</sup>

There are many other types of yoga. We suggest that you read through the description of them on the Yogaweb.com website and decide which type you might like to try.<sup>11</sup>

### *Injury Prevention during Yoga*

It is possible, perhaps fairly common, to injure yourself while doing yoga regardless of your age.<sup>12,15</sup> It is important to do poses correctly and not too vigorously or with a competitive attitude.<sup>12</sup> Head stands can cause neck injury and should not be attempted by people who have prior neck injuries. Any inverted pose can cause increased pressure in the head and eyes, so people with high blood pressure, eye injuries or glaucoma, etc. should use extreme caution with these poses.<sup>12</sup> People with wrist issues or carpal tunnel syndrome should avoid poses where your weight is placed on your wrists.



Photos courtesy of: [www.wikihow.com/perform-the-plank-exercise](http://www.wikihow.com/perform-the-plank-exercise)

There are several excellent websites that provide alternative poses to traditional poses for various different issues whether it’s stiffness and lack of flexibility, chronic pain, injury, or weaknesses. As described in the excellent blog YogaGypsy ( <http://yogagypsy.blogspot.com/> ) it is important to understand what the asana is supposed to accomplish, then it’s not too hard to modify a pose so that it works for your body and still accomplishes the goal, whether it’s opening the hips, releasing the back, etc.<sup>16</sup> A pose is only correct if it’s correct for you.

To achieve the benefits of yoga, you must integrate it into your daily life. Going to a class once a week is not enough. Because it makes us slow down, breathe, and stretch our muscles where we hold tension, it can prevent RSI and help us heal. We tend to live in our heads and ignore



what is happening from the neck down. Yoga improves our body awareness which is necessary in injury prevention and healing. If you are gentle and listen to your body, you will not hurt yourself.

It is important to make sure that a yoga instructor is qualified and is both willing and able to tailor the poses to your specific restrictions. Take responsibility for yourself and do not participate in poses that strain body parts that you have injured. Sit out those poses and ask the instructor to help you with an alternate pose during or after the class. Many classes are specifically tailored to people with arthritis, multiple sclerosis, fibromyalgia, or other conditions such as pregnancy or aging. High blood pressure, glaucoma, a history of retinal detachment, or heart disease will also limit the poses you should participate in.

For general online home yoga instruction:

- Erin Motz – 30-day Yoga Challenge (free) <http://www.doyouyoga.com/course/the-30-day-yoga-challenge/> and other yoga classes available for a fee.

For online RSI-prevention yoga exercises you can do at your desk, please refer to:

- Ellen Serber - [http://will-harris.com/yoga/everyday\\_yoga.html](http://will-harris.com/yoga/everyday_yoga.html)

Yoga specifically for RSI issues:

- Gail Dubinsky - <http://www.rxyoga.com/video.html>
- Ellen Serber - <http://will-harris.com/yoga/rsi.html>

For discussion and demonstration of alternative poses:

- Yoga Gypsy - <http://yogagypsy.blogspot.com/>

DVDs, CDs, MP3 with a focus on healing, relaxation, and integrative medicine:

- Carol Krucoff - <http://healingmoves.com/products/>
- Susan Winter Ward - <http://www.yogaheart.com/index.html>

DVD designed to do during gardening to prevent injury:

- Gail Dubinsky - [http://www.rxyoga.com/yoga\\_for\\_gardeners.html](http://www.rxyoga.com/yoga_for_gardeners.html)

To find a certified yoga instructor:

- International Association of Yoga Therapists - <http://www.iayt.org/>

### **Qi Gong (Chi Kung) and Tai Chi**

Qi Gong and one of its forms, Tai Chi, are the softest of the martial arts. It is unknown when Qi Gong began or what its origins are, but it is at least 2,500 years old.<sup>17,18</sup> Chi or Qi is the essential energy of life. Gong means a skill that is achieved through steady practice.<sup>17,18</sup> The goal of Qi Gong is to move chi (qi), the body's vital energy. Movement can involve increasing energy, circulating it, or emitting it.<sup>19</sup> Kung Fu is a type of Qi Gong, with a very vigorous, external direction of energy.<sup>19</sup> Qi Gong can be practiced at any time of day, but it is best to do it when you can feel at peace and can focus your mind on the practice without distractions.<sup>20</sup> There are specific times of day associated with the meridians of the body, so if you have a very flexible schedule and have a particular area of the body that you want to improve, you can work with the

active times of day for that meridian.<sup>20</sup> Meditation is an important part of Qi Gong because it is necessary to learn to train the mind to direct and control the flow of energy in the body.<sup>18</sup> Many public classes and scientific applications of Qi Gong are offered today and they differ from traditional Qi Gong practices because they often do not incorporate the mind-directed flow of energy and are more intellectually based.<sup>18</sup> Tai Chi utilizes the concept of opposing forces of the universe, yin and yang. These forces are cyclical, moving, evolving and constantly changing, opposing, but united.<sup>21</sup> Chi flow and chi balance are the most important concepts in Traditional Chinese Medicine. Interruption of chi flow and chi imbalances are at the root of all ailments and illnesses, and regular practice of Tai Chi helps to facilitate unblocking of chi through all the acupuncture meridians of the body and to bring chi into balance.<sup>21</sup>

Even if you do not learn to focus your energy, Tai Chi can still be a useful form of gentle exercise that will develop strength, balance, and flexibility.<sup>22</sup> Tai Chi is extremely gentle and it is highly unlikely that any injury will result from its practice. Benefits include:<sup>21,22</sup>

- Oxygenation of the muscles and cells and improved circulation.
- Relieves stiffness of osteoarthritis.
- Builds core strength and improve the strength of the legs.
- Improves balance, posture, flexibility and mobility.
- Helps to develop concentration.
- Helps to develop coordination and reduces risk from falls in older people.
- Promotes a calm and relaxed state and helps reduce associated health problems of hypertension, muscle tension, tension headaches, and insomnia.
- Beneficial for fibromyalgia.
- Assists digestion and helps massage the internal organs of the body.

There are Tai Chi classes available in almost every community through colleges, community centers, private clubs, and adult education classes. Home videos are also available.

- Five Treasures QiGong, <http://nqa.org/2008/11/five-treasures/>, provides an introduction to some of the basic moves with a DVD that can be ordered for \$10.00.<sup>19</sup>
- “Tai Chi for Health” by Terence Dunn. Excellent and easy to follow, [http://taichimania.com/taichi\\_catalog.html](http://taichimania.com/taichi_catalog.html)
- There are several videos available through the qi-healing website: [http://www.qi-healing.com/Qigong\\_Self-Healing\\_Video\\_Clas/qigong\\_self-healing\\_video\\_clas.html](http://www.qi-healing.com/Qigong_Self-Healing_Video_Clas/qigong_self-healing_video_clas.html)

### *Tai Chi and RSI*

Yon Lee with the Department of Athletics at Harvard University has been studying the effectiveness of Tai Chi movements in treating Repetitive Strain Injury.<sup>23</sup> After watching people type and use the keyboard, he concluded that the hand, fingers, and wrist don't move much at all. He believes that after hours of such restricted, repetitious movement, grooves are developed. Once the wrist and fingers get accustomed to this limited use and narrow range of movements, attempts to leave or deviate from this range will not only cause pain, but will become difficult.

Through Lee's work, he recommends three methods of intervention for RSI. First, he recommends a selected group of Tai Chi movements. The combination of these movements exercises the entire hand, every joint and every combination of joints. Second, he recommends a

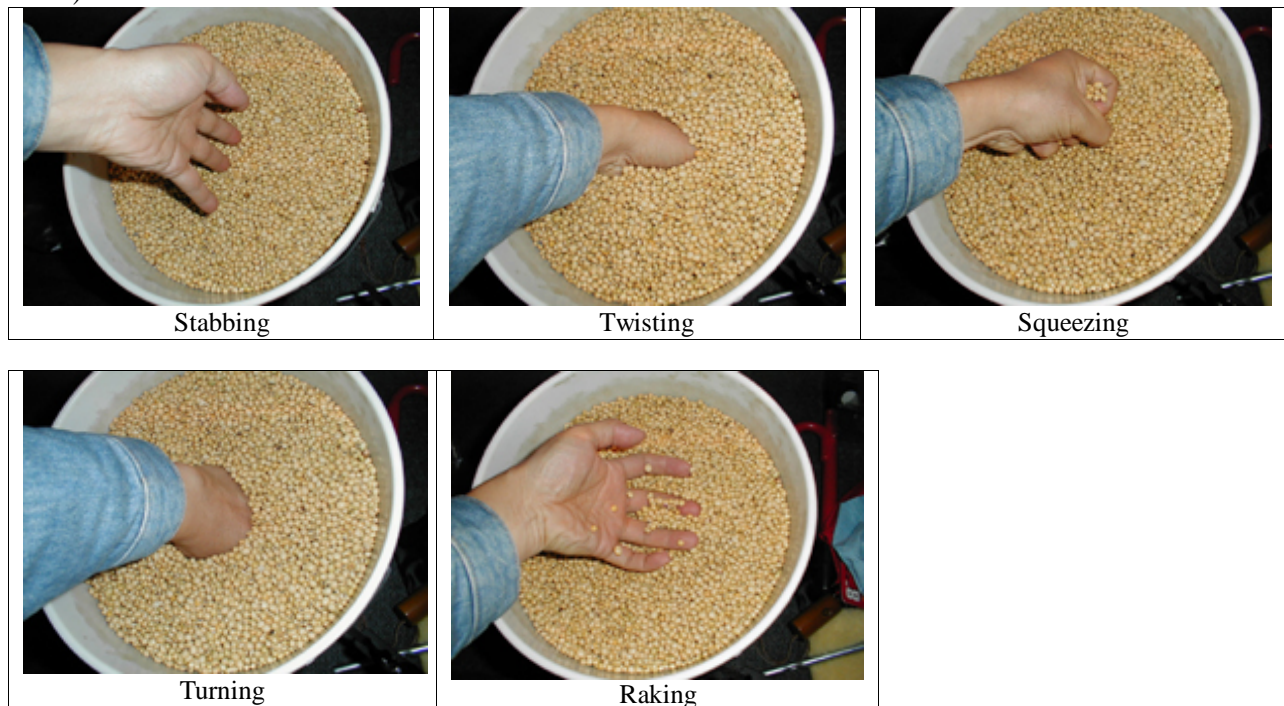
routine using beans in a box. And third, he recommends employing the use of a herbal compound and manipulation of the injured area using Qi Gong techniques.

1) *Tai Chi movements for RSI:*



The second set of exercises is a routine using beans derived from the training of Iron Palm. Iron Palm is the conditioning of the hand to strike and break a brick or cinder block with an open palm. The method is to simply run your hand through the beans using five movements: stabbing, twisting, squeezing, turning, and raking. The theory is that if this method can condition a person's hand to withstand intense pressure within a very short time, then your hand can be trained to handle the pressure of repetitive strain. Note that this methodology has not been tested with controlled studies, but has been used by Lee in his treatment of RSI.

2) *Iron Palm bean routines:*



3) *Herbal Compress.* The third part of Lee's treatment involves using a warm herbal compress on the affected area. This method works on hands/wrists, back, and knees. Apply the compress to the area and let it sit, moving it around to avoid burning the skin,



until all of the heat is gone. Then manipulate the “chi” by massage, which, unfortunately, Lee does not describe. Do this two more times, re-heating the compress.

*Recipe for compress:*

1 part fresh Ginger root, crushed  
1 part green scallion, white part only  
Rice wine (15%), enough to cover ginger and scallions

Bring to a boil. Squeeze out the fluid through cheesecloth. Apply solids to injured area.

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This article and all of our articles are intended for your information and education. We are not experts in the diagnosis and treatment of specific medical or mental problems. When dealing with a severe problem, please consult with a healthcare or mental health professional and research the alternatives available for your particular diagnosis prior to embarking on a treatment plan. You are ultimately responsible for your own health and treatment!

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