

## **Qigong and Tai Chi: Traditional Chinese Health Promotion Practices – Qigong and Tai Chi -- in the Prevention and Treatment of Chronic Disease**

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### **Abstract:**

The fact that human body has a self-repair or self-healing mechanism, while always an aspect of the medical knowledge base of the Western cultures, has not yet been comprehensively applied in health promotion and wellness. In the traditional Asian cultures, especially in China and India, wellness and health promotion have existed since before the recording of history in the form of Qigong (and more recently Tai Chi) and Yoga. There is suddenly, in the early 21<sup>st</sup> century, a powerful movement in the West toward the implementation of wellness and health promotion strategies. The amazing medical advances of the 20<sup>th</sup> century did not provide the hoped for final solution to disease prevention. Negative drug interactions and medical accidents were found to cause a startling number of deaths. The motivation to resolve these problems and the unresolved challenge of chronic disease has triggered a major shift in the direction of health care and wellness is becoming very common in health systems, schools, universities, corporations and social service agencies.

The self-healing and health enhancement methods of China -- Qigong and Tai Chi (also Chi Kung and Taiji) -- are experiencing a kind of renaissance in the Western societies. Research on the wellness practices of China currently separates Qigong and Tai Chi into separate categories. The basic health enhancement concept in both Qigong and Tai Chi, however, is shared – purposefully manage posture/movement, breath and mind focus. It is proposed that when the research base on both is combined the magnitude of the impact on health policy and planning is increased significantly. This can leverage more robust implementation of Qigong and Tai Chi programs society wide.

### **Research on Qigong and Tai Chi**

In China and the rest of Asia research on the benefits of Qigong and Tai Chi is common. However, it is not readily accessible. Except for some excellent cases the Asian literature is not particularly rigorous to Western research standards. Since 1980 in the US and Europe there has been a landslide of research on Tai Chi and Qigong reported in the peer reviewed literature. The findings of numerous clinical trials reflect that Qigong and Tai Chi are beneficial in a wide array of diagnostic areas, including the prevention and integrative treatment of cardiovascular disease, asthma/COPD, falls prevention, reducing the negative effects of stress, pain management, cancer and more. In addition, it is clear that much can be done to improve research methodologies and more directly target studies to enhance findings on clinical outcomes and the mechanisms of action.

It is becoming obvious, that the dynamic or moving meditations – including Tai Chi and Qigong -- are beneficial in a broad spectrum of health improvement contexts from wellness and risk pool management to healing a wide range of diagnoses and even in peri-surgical programming. The need for a clear and widely agreed upon research framework has now become more necessary. Due to the compromise of physiological function in most populations that are experiencing disease or are at risk for disease, the forms of Qigong and Tai Chi documented in research are usually simplified, modified, and adapted. Forms common in traditional Chinese practice, whether martial, sports related or from esoteric roots, are generally not prevalent in the medical, therapeutic or health promotion context particularly outside of Asia.

Given this, therapeutic or medical Tai Chi is almost always adapted or modified. Therapeutic or medical Qigong practices are typically developed with the limitations posed by many health challenges in mind. Therefore, except for rare cases, a study naming Tai Chi is almost never the traditional 108 movement Tai Chi, and almost always is an adaptive form, which is frequently more a kind of Qigong. Such practices may be called Tai Chi, but they are probably more what the Chinese typically call Tai Chi Qigong (also Taiji Qigong) -- movements from Tai Chi adapted in a simple therapeutic Qigong type format. Typically, Qigong for health promotion and therapeutic contexts is extremely easy to practice and can be significantly modified for use by patients in wheel chairs, hospital beds, etc.

It is therefore reasonable to think of both Qigong and Tai Chi as a single body of like or similar practice in the medical, therapeutic and functional enhancement context. In this context Tai Chi is a kind of Qigong. However, in much of the literature they have been separated, as if they are completely different methods. For the purposes of this exploration and review it was determined to first review Tai Chi and Qigong studies separately, as a general review of clinical trials (CT). This review revealed a number of interesting things, including the fact that both Qigong and Tai Chi were found to be particularly useful in several similar areas, especially the cardiovascular field. In searching literature reviews (LR) seven were found that explore Qigong and Tai Chi in integrative medical treatment as well as preventive health care. In a more rigorous review of randomized controlled trials (RCTs), the search was narrowed to include just the cardiac context. There were three that specifically explored Qigong and Tai Chi and cardiovascular disease.

In medical and therapeutic terms Qigong and Tai Chi trigger the same inner mechanisms of physiological, energetic and emotional self-repair and self-regulation, suggesting that they be considered as slightly dissimilar aspects on one area of research. Eventually, a lexicon of terms will emerge to more efficiently define a framework for research in this field. For now, both Tai Chi and Qigong are best defined as personally applied practices that focus simultaneously on posture enhancement, gentle movement, breath regulation and meditative or relaxation methods and are modified for use in specific therapeutic settings.

### **The Asian Research Literature**

There is a very broad and diverse body of Qigong and Tai Chi research in Asia, almost completely in Chinese, Japanese, and Korean. There are currently several challenges inherent to the Asian research:

1. Language and translation
2. Rigor
3. Conceptual framework

Much of the research is out of reach due to the language barrier. Much of the research does not include significant numbers of participants, controls or conventionally recognized research methodologies. Much of the Asian research reflects a scientific worldview that is unfamiliar in the West. However, this is changing. In the cardiac area for example, heart Qi deficiency is not well known in the Western clinical model and is only in part associated with the physiological heart. It is actually conceived of as “*Xin*” (HeartMind), which includes many of the functions that we associate with the brain, nervous system and psyche. Give recent findings on the heart as a psychic or energy center and even a focal point of overall physiological function and control, the Asian literature is a rich mine of information for possibilities and insights in new research.

The Qigong Institute, <http://www.QigongInstitute.org>, has developed a database of several thousand citations from the Asian literature, which includes any presentation on Qigong (and some Tai Chi) from a wide array of conferences in the US and China. It is a gold mine of possible insights to direct new research. The primary criterion for inclusion is that an abstract has been made available in English. Unfortunately, many of the citations are either based on less than 5-10 participants or are philosophical reflections. There are, however, many studies that investigate important questions with robust numbers (n), reasonable controls, and parameters that are equivalent to the Western model. The Qigong Institute consistently updates it’s database and has now included citations along for Yoga, meditation, prayer, energy medicine, etc in addition to Qigong and Tai chi.

Hopefully a significant amount of research will be done in the West to explore the Chinese "paradigm". This would complement research that explores the conventional Western, physiological, and diagnostic aspects of mind-body wellness and will help to create a true integration in health care and medicine. A paradigm centric bias to the Western research model (or any model) could constitute a tragic loss of very important and highly refined knowledge and wisdom from other cultures.

### **Criterion for Review of the Literature**

The following four part analysis of the literature progressively narrows the parameters of the investigation from a general review of Qigong and Tai Chi clinical trials to a specific review of randomized Clinical trials for the cardiology area only. The criterion for inclusion was that a particular study must have been an investigation, since 1980, of the effects of practicing moving meditation particularly the Chinese forms—Qigong and Tai Chi. For each of the four parts the additional criterion required that studies be:

Part One: a clinical trial (CT) for inclusion in the general review of the literature since 1980, Qigong and Tai Chi were reviewed separately to demonstrate the wide variety of areas of research on both methods and to reveal that they target similar diagnoses (this article was written in 2006),

Part Two: in this section includes clinical trials (CT) on Qigong and Tai Chi. The research is combined to demonstrate the power of conceiving Qigong and Tai Chi as aspects of one practice discipline based in posture and movement, breath practice and mind focus,

Part Three: a literature review (LR) with citations for Qigong and Tai Chi viewed as a single practice discipline, not limited to any particular clinical context, to gain a general overview of the research,

Part Four: Includes randomized controlled trials (RCT) only, for the final and most narrow review of the Qigong and Tai Chi literature specifically targeting trials that address cardiovascular health/medicine.

Popular articles, concept papers, opinions, letters to the editor, and responses were not included. The reviews utilized the PubMed database which includes over 140 of the more respected journals in the life sciences -- <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed>. It was a requirement that studies included in the review provide an abstract in English.

Many additional areas qualify as meeting the general definition of therapeutic or medical Qigong and Tai Chi practice noted above - postural correction, gentle movement, breath practice, mind focus. These were not included in this review (except as noted below) unless they were specifically designated as Qigong or Tai Chi studies.

Due to the fact that a search for the keyword Qigong automatically retrieves citations for “breathing exercises”, studies that were deemed eligible to be counted in this review included a few that do not have Qigong in the title but that definitely include breath practice with either postural correction, intentful relaxation or gentle exercise. These are essentially Qigong methods even if they are not called that. In addition, the Qigong search retrieved numerous “breathing exercise” studies with the use of breathing assistance devices. These were not included.

Both inspiratory and expiratory muscle training studies were also retrieved. A few of these were included in this review as they demonstrated very positive results in a wide range of areas including the application of self-care in chronic illness, especially COPD and asthma. Among a number of suggested reasons why these “breathing exercise” studies were particularly worthy of inclusion was the concept that increased focus on breathing, particularly in sedentary, and compromised participants, enhanced oxygen diffusion and accelerated metabolic function generally. As this is a paper exploring the benefits of Qigong and Tai Chi in the medical/therapeutic context, studies revealing the benefits of respiratory training on athletic performance were excluded.

Several citations addressed a completely different aspect of Qigong, called Qigong healing or Qi emission healing, Qi transmission healing, or clinical Qigong. While this aspect of traditional Chinese medicine is compelling and worthy of intense investigation these studies were not included in this review of methods for wellness, self-practice and self-initiated healing.

Note for future research:

The development of a more comprehensive framework for research on Qigong, Tai Chi and other dynamic or moving meditations is now becoming necessary. To develop a comprehensive literature of these mind-body practices it will be critical to investigate at least these additional areas: breath training, Pranayama, Yoga, mindfulness, moving meditation, dynamic meditation, relaxed exercise, mild exercise, gentle exercise, moderate exercise, therapeutic exercise, gentle fitness practice, adaptive physical training, mind-body exercise, mind-body fitness and medical fitness.

## Part One - Qigong and Tai Chi Research – a General Overview

A PubMed search from 1980-2004 yielded 47 Qigong citations for clinical trials (table 1). The search for Tai Chi yielded 28 citations for clinical trials (table 2). In a few cases, two diagnostic or disease risk areas were explored in the research findings and in those cases both areas were counted: Ex- “Balance control, flexibility, and cardiorespiratory fitness among older Tai Chi practitioners”, was counted as both a balance/fall prevention study and a cardiovascular study.

The most interesting finding in reviewing the literature for clinical trials was that cardiovascular studies ranked at #1 for Qigong (15 citations, roughly 30% of all CTs) and #2 for Tai Chi (4 citations, almost 1/2 of the number done on balance and fall prevention). This suggests that both Qigong and Tai Chi are relevant as interventions for the prevention of heart disease and the management of populations at risk for heart disease (including stroke and hypertension).

### Qigong Clinical Trials (CT) Since 1980 (Table 1)

Cardiovascular./Circulatory/Blood Pressure	15
COPD, Asthma	14
Nervous System Modulation, Mood-Panic, Stress, Anxiety, Depression	7
Peri-Surgical	5
Functionality	3
Endocrine Function	3
Cancer	2
Immune Function	2
Pain Management, fibromyalgia, arthritis, other	2
Prevention/Wellness	1
Substance Abuse	1

MS = multiple sclerosis, MG =myasthenia gravis,

### Tai Chi Clinical Trials (CT) Since 1980 (Table 2)

Fall and Frailty Prevention, Balance	11
Cardiovascular./Circulatory/Blood Pressure	4
Pain Management, fibromyalgia, arthritis, other	5
Nervous System Modulation, Mood-Panic, Stress, Anxiety, Depression	4
Functionality	3
General Aspects of Aging	1

As noted above, the primary areas of focus for Qigong were cardiovascular (15 citations), and COPD/asthma (14 citations), which included several of the “breathing exercises” citations. Mood - stress, etc (7 citations), peri-surgical (5 citations) and functionality (3 citations).

The primary focus of research on Tai Chi was stability, balance enhancement and fall prevention (11 citations). The second largest pool of studies (4 citations) is in the cardiovascular area-- prevention, rehabilitation, heart function, circulatory efficiency, oxygen consumption, hypertension and lipid profile. Pain management (5 citations), mood – stress, etc (4 citations), and functionality (3 citations).

### **Part Two - Medical and Therapeutic Qigong and Tai Chi Considered as a Single, Comprehensive Field**

Given Tai Chi is a kind of Qigong (particularly in the medical /therapeutic context), given they both are forms of moving meditation and given they trigger the activity of identical physiological mechanisms, it is reasonable to consider these two bodies of research as one, single, comprehensive practice discipline or field of study. It is reasonable to view Qigong and Tai Chi in this way because they are both based on the same practical set of components, the three intentful corrections: body regulation (posture and movement), breath regulation and regulation of the attention and consciousness -- for short -- body-breath-mind..

#### **Comprehensive research framework combining Qigong and Tai Chi (table #)**

Cardiovascular./Circulatory/Blood Pressure	19
COPD, Asthma	14
Nervous System Modulation, Mood-Panic, Stress, Anxiety, Depression	11
Fall and Frailty Prevention, Balance	11
Pain Management	7
Functionality	6

When taken as a single body of research the strength of the Qigong and Tai Chi literature instantly expands in magnitude and relevance. In addition, the implications for cardiovascular health care become even more obvious. Looking at Qigong and Tai Chi in this way significantly increases the impact of the research that has been done.

### **Part Three - Literature Reviews**

In searching the PubMed database for articles that are literature reviews (groups of studies) on Qigong and Tai Chi, 2 things became apparent: 1) there were very few, 2) most were on cardiology generally (table 3). Two of the reviews only mentioned Tai Chi or Qigong in the context of complementary therapies or Mind-Body Therapies. The reviews that actually looked at Qigong and Tai Chi studies found that the practices (particularly those naming Tai Chi) promised benefit in a wide range of diagnostic areas including all mentioned in the previous section: Cardiovascular, circulatory, blood pressure; COPD, asthma; nervous system modulation, mood, panic, stress, anxiety, depression; fall and frailty prevention, balance; pain management; functionality; peri-surgical; endocrine function; cancer immune function; substance abuse; prevention/wellness. This is likely due to the fact that Qigong is relatively unknown in the West.

As the research continues to develop, especially if it pursues a course wherein Qigong and Tai Chi are part of one discipline of practice, the isolated focus on Tai Chi will likely disappear.

### Literature Reviews (table 3)

Lead Author	Year	Journal	Topic	Comment
Chenchen Wang (1)	04	Arch Intern Med.	Tai Chi and Chronic Disease	High quality, specific diseases
Wayne, PM (2)	04	Arch Phys Med Rehabil	Tai Chi and Vestibular disease	Several studies, General benefits
Taylor-Piliea, R (3)	03	J Cardiopulm Rehabil.	Tai Chi and Cardiac Rehabilitation	Cost effective, Behavioral mod
Chen, K (4)	02	Integr Cancer Ther	Qigong and Cancer	Chinese Literature
Kreitzer MJ (5)	02	Prog Cardiovasc Nurs.	Complementary Therapies, Cardiac	Mentions Tai Chi
<u>Mayer M. (6)</u>	99	J Altern Complement Med.	Qigong and Hypertension	Critique of research methods
<u>Luskin FM (7)</u>	98	Altern Ther Health Med.	Mind-Body , Cardiovascular	Mentions Tai Chi

There has not been a general review of the full array of benefits of either Qigong or Tai Chi. Either could be done with great benefit. However, the greater benefit will be gained from a comprehensive review of both bodies of literature within the context described in this article wherein Qigong and Tai Chi are viewed as one practice discipline. While the literature is fairly robust, there are many new studies in the pipeline upon which to do such a comprehensive review.

### Part Four - Randomized Controlled Trials Cardiovascular Disease Only

The search was narrowed to randomized controlled trials (RCT) that were directly targeted at some cardiovascular parameter with Qigong or Tai Chi. There were three. This immediately demonstrates that while there is a fairly broad body of literature available, it has not been particularly rigorous to the level of RTCs.

Lead Author	Year	Journal	Topic	Comment
Lee MS (8)	03	Int J Neurosci	Qigong and Hypertension	Qigong effective lower BP
Lee MS (9)	03	Am J Chin Med	Qigong and Hypertension	Qigong stabilize sympathetic
Channer KS (10)	96	Postgrad Med J.	Tai Chi and Myocardial Infarction	Tai Chi effective post infarction

The randomized controlled trials revealed a number of important findings for both the cardiovascular area and chronic disease in general. It appears that Qigong and Tai Chi lower blood pressure, stabilize the sympathetic nervous system and reduce the presence of stress neuro-hormones. It is also immediately clear that the exercise of reviewing the combined Qigong and

Tai Chi literature in this same way for numerous other chronic diseases would be timely. Given that the cardiac area is the richest for both Qigong and Tai Chi research, such futures reviews may be fairly limited until the research on Qigong and Tai Chi have developed further.

### **Implications for research and programmatic implementation**

It is clear that the moving meditations, Qigong and Tai Chi, leverage marked benefit in the prevention and treatment of cardiovascular and other chronic diseases. Additional research with larger samples would serve to emphasize the potential benefits of wider application of Qigong and Tai Chi. Given cardiac disease is our number one killer it is appropriate that the bulk of studies are in the cardiovascular area for now. Qigong and Tai Chi, it appears are likely to become as visible, in the US as they are in China. Given the large and various number of known physiological mechanisms that are triggered by the dynamic meditation practices and the preliminary findings in a number of diagnostic areas, the next wave of research will be targeted at further randomized controlled trials of not only cardiovascular disease, but other chronic disorders and general health maintenance as well.

There is a dynamic debate focusing on the extent to which the requiring of RCTs to make true medical progress is correct. New approaches to research are developing. In any case, further research on the combined Qigong-Tai Chi discipline promises to be immensely relevant.

### **Simplicity – Big Results for Little Effort**

It is becoming apparent that moving meditation can be adapted to any population of any age with any level of disability. Some forms of Qigong and simplified Tai Chi are so simple that new learners can utilize the practices in just a few moments of explanation.

Moving meditation practices have been found to be easy, interesting (linked to intriguing medical theories and lifestyle philosophies of the ancient Chinese), social and fun. They can be taught by a wide range of practice facilitators/instructors: physical therapists, activities coordinators, rehabilitation therapists, occupational therapists, social service professionals, case managers, nurses, even citizens.

Because the classes or practice sessions are group based the economics of implementation are compelling. Large numbers of customers/patients can be served, with a wide range of health challenges. The potential reach of Qigong and Tai Chi programming is wide, while the barriers are few.

### **Conclusion**

An investigation into the utilization for Qigong and Tai Chi for the prevention and treatment of chronic disease, especially cardiovascular disease, opens an awareness to an inexpensive and easy to implement intervention for wellness and health enhancement programming. It immediately becomes obvious that these dynamic meditation practices have nearly unlimited applications – to a wide spectrum of diagnosed and disease risk populations as well as for the general public for wellness, health promotion and disease prevention.



### Concluding Note:

Dr. Jahnke and Dr. Linda Larkey from Arizona State University are currently producing two breakthrough articles on this aspect of the Qigong and Tai Chi discipline.

- **Larkey, L.K.**, Jahnke, R., Etnier, J. Gonzalez A. Meditative Movement as a category of exercise: Implications for research. *Journal of Physical Activity and Health* (accepted for publication, Mar 2008).
- **Jahnke, R.**, Larkey, L.K., Etnier, J. Gonzalez A. Comprehensive Review of Health Benefits of Qigong and Tai Chi. This is a more comprehensive version of the article above. It has been submitted for publication and is currently under review. The research review table for this can be found at [http://IIQTC.org/pdfs/TableOne\\_100608.pdf](http://IIQTC.org/pdfs/TableOne_100608.pdf)

Watch for both of these articles as they promise to enhance the Qigong and Tai Chi field significantly. You can sign on to the email newsletter at the sites below.

### Biography

Dr. Roger Jahnke, OMD is the Director of the Institute of Integral Qigong and Tai Chi (IIQTC), president of Health Action Synergies, Chair of the Healer Within Foundation and co-founder of the National Qigong Association (NQA). He is a doctor of Acupuncture and Oriental Medicine in clinical practice for nearly 30 years and has traveled to China on 8 research visits to the hospitals, parks, mountain temples and sacred sights to investigate Qigong and Tai Chi. Dr. Jahnke acted as co-investigator for the National Expert Meeting on Qigong and Tai Chi and co-authored the Consensus Report which has helped to leverage the accessibility of Qigong and Tai Chi in policy and social service programming. His first Tai Chi and Qigong class was in 1967. Roger is the author of *The Healer Within* (Harper-Collins) and *The Healing Promise of Qi* (McGraw-Hill).

For reference please see:

<http://IIQTC.org>

<http://TaiChiEasy.org>

<http://FeelTheQi.com>

<http://HealerWithin.com>

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10. Channer KS, Barrow D, Barrow R, Osborne M, Ives G. Changes in haemodynamic parameters following Tai Chi Chuan and aerobic exercise in patients recovering from acute myocardial infarction. *Postgrad Med J.* 1996 Jun;72(848):349-51.