

Evidence indicates that T'ai Chi and/or Qigong may provide highly effective adjunct therapy for:

ADD (Attention Deficit Disorder)
AIDS
Allergies and asthma
Angina
Anorexia/bulimia
Anxiety, chronic
Arthritis
Balance Disorders
Bronchitis/emphysema
Pain, chronic
Cardiac Rehab. and prevention
Cancer
**Circulation and
nervous system disorders**
Chronic Pain
Compulsive / obsessive disorders
Constipation
**Depression and
mood disturbance**

Diabetes
Digestion, improving
**Drug / alcohol / cigarette
addiction**
Hemorrhoids
High Blood Pressure
Infections
Insomnia
Migraine
Multiple Sclerosis
Muscle wasting
**Parkinson's Disease / improving
motor skill control**
Posture problems
Sexual performance
Stroke Recovery
Ulcers
Weight loss

Note: Individuals should always consult their physician before adding to or altering any ongoing therapy. Discussing with their physician whether Qigong or T'ai Chi might be helpful to their condition.

Below find T'ai Chi focused studies, followed by general Qigong focused research:

PHYSIOLOGICAL BENEFITS: Relative to measurement beforehand, practice of T'ai Chi raised heart rate, increased nonadrenaline excretion in urine, and decreased salivary cortisol concentration. Relative to baseline levels, [Test Subjects] reported less tension, depression, anger, fatigue, confusion and state-anxiety; they felt more vigorous, and in general they had less total mood disturbance.

(American Psychological Association) Journal of Psychosomatic Research, 1989 Vol 33 (2) 197-206

MENTAL HOMEOSTASIS: Psychological homeostasis refers to emotional control or tranquility. It has been stated that the biological function of human emotion and repression is primarily homeostatic. Evidence suggests that a feedback relationship exists between forms of homeostasis, and the body-mind type of therapies (including

acupuncture and T'ai Chi) thus have a combined physiological, physical, and psychological effect. (*American Psychological Association American Journal of Chinese Medicine, 1981 Spr Vol 9 (1) 1-14*)

GENERAL BENEFITS: [T'ai Chi] teaches inner strength while toning muscles, increasing flexibility, and boosting immune power. It is also said to reduce stress, store up energy, increase body awareness, and improve balance and coordination. T'ai Chi was the closely held secret of a few Chinese families for nearly 1,000 years... *Men's Health Magazine. 8 Mar/Apr '93 p. 66-69*

IMMUNE SYSTEM: A study conducted in China indicates that T'ai Chi may increase the number of T lymphocytes in the body. Also known as T-Cells, these lymphocytes help the immune system destroy bacteria and possibly even tumor cells *Prevention Magazine V. 42, May 90, p.14-15*

BREATHING, ACHES, BLOODPRESSURE: ...participants observed a "big increase in breathing capacity", a disappearance of backaches and neckaches, those with high blood pressure claimed a drop of 10 to 15 mm Hg systolic at rest, and all participants claimed to have more energy in their daily work. *Hawaii Medical Journal - Vol 51 No. 8 August 92* **BALANCE:** A ten year study on aging through Harvard, Yale and Emory University determined not only that T'ai Chi was superior to more technological balance therapies, but that T'ai Chi reduced the risk of injury by falling by 48%. Complications from these injuries are the sixth leading cause of death in older Americans, and account for about \$10 billion loss per year to the economy. *USA Today, May 1996*

MENTAL & PHYSICAL STRESS: Mind & body exercises, such as ... T'ai Chi ... are increasingly replacing high-impact aerobics, long distance running and other body punishing exercises of the 1980's ... Mind/body workouts are kinder to the joints and muscles . . . reduce the tension that often contributes to the development of disease, which makes them especially appropriate for high powered, stressed out baby boomers. Unlike most conventional exercises, these forms are intended to stretch, tone, and relax the whole body instead of isolating parts ... based on a series of progressive choreographed movements coordinated with deep breathing. *Working Woman Magazine V 20 Feb. 95 p. 60-62+*

POSTURAL CONTROL: T'ai Chi, a traditional Chinese exercise, is a series of individual dance like movements linked together in a continuous, smooth-flowing sequence ... An analysis of variance (ANOVA) demonstrated that in 3 of 5 tests, the T'ai Chi practitioners had significantly better postural control than the sedentary non practitioners. *American Journal of Occupational Therapy, 1992 Apr Vol 46 (4) 295-300*

BEYOND TRADITIONAL CARE: Health practitioners encountering clients who are faced with problems that do not seem to respond to traditional health care ... may employ some of the health traditions of other cultures and to view the body and mind as a

balanced whole. Massage, acupuncture and T'ai Chi ... focus on the mind/body connection to facilitate healing through relaxation, pressure points, and movement. *AAOHN Journal, 1993 July, 41 (7) 349-351*

CURES/PREVENTIONS: Proponents claim that T'ai Chi can also (1) cure illnesses such as hypertension, asthma, and insomnia; (2) prevent arteriosclerosis and spinal deformity, and (3) shorten recovery phase from long-term illness. Results from a study by Chen Munyi (1963) with elderly T'ai Chi practitioners show that this group had RTs, strength, and flexibility superior to nonpractitioners. (*American Psychological Association) American Journal of Chinese Medicine, 1981 Spr Vol 9(1) 15-22*

BALANCE: Institute of Chicago indicates that people with moderate balance problems can be helped by practicing T'ai Chi. Participants...of the 2 month course ...experienced about a 10 percent improvement in balance. An Emory University study supports Hain's findings. *Prevention Magazine V. 46 Dec. 94 p. 71-72*

RHEUMATOID ARTHRITIS: No significant exacerbation of joint symptoms using this weight bearing system of exercises (Tai Chi) was observed. T'ai Chi exercises appear to be safe for RA patients...weight bearing exercises have the potential advantages of stimulating bone growth and strengthening connective tissue, ... *American Journal of Physical Medicine and Rehabilitation, June 1991, 70 (3) p. 136-141*

SUPPORT GROUPS RECOMMENDING T'AI CHI: MULTIPLE SCLEROSIS FIBROMYALGIA PARKINSON'S DISEASE LUPUS MIGRAINES CHRONIC PAIN AIDS: Proper exercise [for AIDS sufferers] is typified by T'ai Chi. Dr. Laurence E. Badgley, M.D. **PSYCHOLOGY:** "T'ai Chi is a natural and safe vehicle for both clients and staff to learn and experience the benefits of being able to channel, concentrate and co-ordinate their bodies and minds: to learn to relax and to "neutralize" rather than resist the stress in their personal lives. This is an ability which we greatly need to nurture in our modern fast-paced society. Dr. John Beaulieu, N.D., M.T.R.S. Bellevue Psychiatric Hospital, N.Y.C. [*Refer to the T'ai Chi book "The Supreme Ultimate" for full text*]

TAI CHI & GESTALT THERAPY: Discussion of T'ai Chi, a Chinese system of integrated exercises, as an effective adjunct to Gestalt Therapy. (*American Psychological Association) Journal of Contemporary Psychotherapy, 1978 Fall Vol 10 (1) 25-31*

PSYCHOSOMATIC ILLNESS: A holistic paradigm, T'ai Chi, is proposed as a theoretical basis for treating psychosomatic illness. (*American Psychological Assn.) Journal of Black Psychology, 1980 Aug. Vol 7(1) 27-43*

TAI CHI HELPS UNDERSTAND CHANGE: Suggests the imagery of the T'ai Chi figure ... can serve as a model for understanding the processes of change within psychotherapy. The T'ai Chi figure expresses the themes of unity and completeness, the dynamic of interplay and balance of opposite forces, and the cyclical nature of

therapeutic change. (*American Psychological Assn.*) *Psychologia, An International Journal of Psychology in the Orient*, 1991 Mar Vol 34 (1) 18-27

ELDERLY: According to T'ai Chi enthusiasts, the discipline can prevent many ailments, including high blood pressure, tuberculosis, and diabetes, and US scientists agree that T'ai Chi can offer some important fitness benefits, particularly for older adults. *Modern Maturity*, V. 35 June/July 92 p. 60-62

CARDIORESPIRATORY EFFECTS: Conclusion: The data substantiate that practicing T'ai Chi regularly may delay the decline of cardiorespiratory function in older individuals. In addition, TC may be prescribed as a suitable aerobics exercise for older adults. *Journal of American Geriatric Society*, Nov. 1995, 43 (11) p 1222-1227 ISSN 0002-8614 Journal Code: H6V

SPORTS HEALTH: [Former] Boston Celtic's star Robert Parish, who, at age 39, is the oldest player in the NBA, credits the ancient martial art of T'ai Chi with his durability. Parish remains dominant in his 17th season in the league, and he has no plans to retire. He started all 79 games that he played last year for the Celtics, averaging 14.1 points, shooting 54 percent from the field and 77 percent from the free throw line, and racking up a season total of 705 rebounds and 97 blocked shots. Inspired by his success, fellow Celtics players Reggie Lewis and Rick Fox have signed on with Li (Parish's T'ai Chi instructor). *Gentlemen's Quarterly* V. 62 Dec. 92, p 256-60 March 13, 1999

LANCET (Vol 353) Reporting research results on t'ai chi. *Journal of the American Geriatric Society*, 1999; 47:277-84. It reports a randomized study and gives blood pressure numbers.

QIGONG RESEARCH:

[Note: In foreign language study's English translations, grammatical errors are left uncorrected to avoid any misstatement of the original author's meaning.]

AGING:

Xu, Hefen; Xue, Huining; Bian, Meiguang; Zhang, Chengming, and Zhou, Shuying. Jiangsu Provincial Institute of TCM, Nanjing, China [1]

Clinical study of the anti-aging effect of qigong. 1993: 137Eb.

Although aging is known as a natural phenomenon, it is proved that those who take qigong exercise have got good effects on treating their disorders, strengthening their health, and promoting their longevity. And in our clinical practice, we have also got certain satisfactory results by applying qigong exercise (non-medical therapy) to treat the disorders of the retired workers. Now, we give the primary report as follows

1. Subjects observed.

There were 200 retired workers, 100 males and 100 females; their age ranged from 52 to 76, averaging 65.7 for males and 63.5 for females. They were divided into 2 groups the qigong exercise group and the control group, each group consisting of 50 males and 50 females.

2. Kind of qigong exercise and the time needed

The main qigong exercise used was Emei Nei Gong (one kind of qigong exercises of the Emei School), including Anmo Gong (a kind of breathing exercise with massage), Fangsong Gong (a kind of relaxation breathing exercise), and Liubu Yangshang Gong (one kind of breathing exercise for preserving one's health by walking a set of 6 steps). This qigong exercise was taken at least half an hour by the group.

3. Methods and results

Besides the clinical observation, superoxide dismutase (SOD) was determined and it, as we know, is a multimolecular biological enzyme, which is not easy to be oxidized and which can promote the function of cells and prevent them from intoxication [oxidation?] by relieving its free radical group, thus promoting human immunological function and preserving health. The active SOD in erythrocytes was determined by using a fast microquantitative analysis, and the result showed that the level of SOD of the female qigong group was 2718.15~593.6 m/g Hb while that of the female control group was 1704.3~572.84 m/g Hb; by comparison, the mean value of SOD of the qigong group is significantly higher than that of the control group ($p < 0.001$). The mean value of SOD of the men in the control group was 1678.18~484.14 m/g Hb while that in the qigong group was 2740.85~602.16 m/g Hb; by comparison, the difference was significant ($p < 0.001$). The result showed that the qigong exercise was able to make our body produce an extraordinary proteinaceous substance superoxide dismutase, which could remove the other harmful superoxides by dismutation, thus having the effect to keep our body in good health.

In short, taking the qigong exercise can stimulate the physical metabolism, promote the circulation of meridians and regulate the flowing of qi and blood, thus preventing and treating our disorders and promoting our longevity. In the meanwhile, medical therapy, as we know, can only treat limited kinds of diseases and it may also produce a lot of side-effects; and in our institute, after the qigong exercise was applied and SOD level was determined by the double blind method, the result we got was rather satisfactory. This result suggests that taking the qigong exercise may keep old man in good health, make them energetic and promote their longevity. Therefore, we suggest that the qigong exercise should be seriously considered as a subject which is worth further studying.

AGING & DISEASES AFFECTED BY QIGONG

Cai, Shangda 1; Zeng, Guangyuan 1; Lou, Shenhong 2; Zhang, Jinmei 3; Chen, Yienfeng 4, and He, Jinhong 4.

Electron spin resonance (ESR) measurements of the effect of waiqi (emitted qi) on the free radical concentration in rat tissue. 1990: 55E.

Dept Biology, Sun Yat-Sen University of Medical Sciences, Guangzhou, China [1] //Dept Chemistry, South China Technical University, Guangzhou, China [2] //Dept Physiology, Sun Yat-Sen University of Medical Sciences, Guangzhou, China [3] //Qigong Society of Guangdong Province, China [4]

The effect of waiqi of qigong on the contents of free radical in various rat tissues was quantitatively studied with electron spin resonance technique. The purpose of it was to examine the biological effects and explore their mechanism of qigong. Rats were exposed in the field of waiqi for 5 min., 10 min., 20 min., 40 min., and 60 min. respectively, compared with their respective control groups. The result of the contents of free radical in hearts in the 40-min. and 60-min. groups were significantly lower, and the free radical significantly decreased for livers in the 20-min., 40-min., and 60-min. groups, whereas the contents of free radical in brain tissues is significantly higher in its 40-min. and 60-min. groups. There were no effects on the contents of free radical in kidneys and lungs.

The results showed that the content of free radical was affected by waiqi which indicated waiqi is a kind of human energy. This is an important passage to study the effects of qigong in aging process and diseases.

Different effects occurred in different tissues, its particular mechanism remains unknown.

AGRICULTURAL QI EXPERIMENT:

Seiki, Nakasato and Machi, Yoshio.

Activation of seed germination and growth with emitted qi. 1993: 112E.

Japanese Qigong Institute, Tokyo Denki University, Tokyo, Japan [1]

The basic experiments of activation of seed germination and growth were conducted by three Japanese qigong masters (all of the chief instructors of the Japanese Qigong Association). In addition, an analogous installment of the emitted qi was applied to this purpose. The message of the emitted qi had been recorded on the data recorder and the qi was emitted by Japanese qigong masters who cured chronic diseases with it.

The invited qigong masters emitted their qi towards a certain volume of running water, turning it into the "qi water". Five kinds of seeds were irrigated by the "qi water", running water to observe their germination and growth. Another kind of "qi water" was prepared through the analogous installment of the emitted qi, named the "analogous qi water". The analogous installment of the emitted qi worked directly on the seeds too.

The qigong masters emitted their qi to the seeds of cabbage, etc. Except one, all seeds showed good result in budding and growth in comparison with the control group. The budding and growth increased by 15% compared with the control group (irrigated by the running water radiated by infrared ray).

Up to now, qigong has contributed a lot to keeping fit and treating diseases. However, our experiments indicate qi is a source of life and it is closely related to the non-random of life process. Further more, qi as a life message activates the life process of creatures (human being, animal, plant and microorganism).

ALLERGIES, FOOD:

Chu, Chow.

Use of emitted qi in qigong and acupuncture in the treatment of food allergies. 1988: 157E.

Modern technological progress unfortunately has been accompanied by a number of new illnesses that did not exist before. Among them is the problem of food allergies. This is becoming a common problem difficult to cure. Western medicine does not yet have a cure and traditional Chinese medicine also finds this problem difficult to treat.

Many food allergy patients become progressively limited in the kinds of food they can eat. Often they are limited to two or three kinds of food for sustaining life. They lose weight, become severely depressed and become progressively weaker and weaker. Typically, these patients have a hungry and depressed physical appearance. Although there are no harmful side-effects from the use of Chinese herbal medicine in the treatment of this condition, improvement is minimal with herbs alone. Because of this, the writer decided to eliminate herbal medicine and use a combination of qigong and acupuncture for treatment. 52 food allergy patients were treated by the writer using these techniques. All but two showed some improvement in their condition. The details of the treatment procedures are as follows

Procedures

Of the 52 cases treated 10 were males and 42 were females. Their age ranged from 9 to 45 years. All had medical diagnosis of food allergy problems with a duration from 1 year to 25 years. All had been previously treated by Western medical techniques without success.

Treatment methods

The major treatment consisted of qigong projection. This was supported by acupuncture techniques. Acupuncture was used mainly in the early stages of treatment and qigong was used in the later stages.

Acupuncture Points Used

1. Ganshu (UB 18), Pishu (UB 20)
Weishu (UB 21), Dachangshu (UB 25)
Feishu (UB 13), Fengchi (GB 20)
2. Yang ling quan (GB 34), Zusanli (St 36)
Shangjuxu (St 37), Lieque (Lu 7)
Hegu (LI 4)

Qigong Method

During the early stages of qigong projection the patient was given relaxation instructions in a supine position with the eyes closed. The writer then emitted his qi from his palm to the above mentioned acupuncture points. When the patient's health improved his position was changed from a supine to a sitting position in a chair.

Treatment effects

The following 4 categories were used to rate patients' progress

- 1) Completely cured The patient can eat any kind of food with no limitations.
 - 2) Partially cured The patient's allergic reactions are present but are much less severe.
 - 3) Minimally cured The patient's allergic reactions are present but they have improved slightly.
 - 4) No improvement There is no change in the patient's condition.
- 17 out of the 52 patients (32.69%) were in Category 1, showing partial recovery [ED complete cure?]. 25 patients (48.08%) were in Category 2, showing partial recovery. 8 patients (15.38%) were in Category 3 with minimal recovery and 2 patients (3.85%) were in Category 4 with no improvement.

ANEMIA, APLASTIC:

Yao, B. S.

[A preliminary study on the changes of T-cell subsets in patients with aplastic anemia treated with qigong].

Chung Hsi I Chieh Ho Tsa Chih (CHINA). 1989 Jun; 9(6):341-2,324; ISSN: 0254-9034.

It has been well known that Qigong keeping one in a self-controlling condition is a traditional method for promoting human health, prolong life and treating several kinds of diseases refractory to other remedies. As aplastic anemia (AA) is one of the disease poor responded to conventional therapy. Qigong was applied to a number of AA patients. Five principle methods of Qigong were practiced as fellows (1) Regulating respiration consciously to tonify Qi; (2) ameliorating the digestive function on tiptoe; (3) holding one's head for tranquilizing; (4) massaging the loins to nourish the essence; (5) at one's ease to regulate the circulation of Qi and blood. Besides according to the various conditions of different patients, some other Qigong methods such as for anti-inflammation and analgesia, diuretic, massage to viscerals etc. were also applied for symptomatic treatment. In authors' previous work by ABC immune enzymic assay, the authors have shown in most AA patients, their suppressor T cell (Ts) were significantly increased, the helper T cell (Th) dropped resulting in a decreased ratio of Th/Ts. The changes of T-cells subsets were investigated in 10 cases treated by Qigong. For the patients in Qigong therapy, their Th and the ratio of Th/Ts were greatly elevated than those without Qigong treatment (P less than 0.02). In addition, Ts went down but not significantly in Qigong treating patients. Because the change of T cell subsets play an important role in the pathogenesis of AA, the reversion of the change by treating with Qigong may be a promising way for recovery of the AA patients.

ANESTHESIA, QIGONG AS:

Inosuke, Yoshimi.

International Qigong Research Center, Japan [1]

Fundamentals of qigong anesthesia and examples. 1993: 117Ea.

Anesthesia is indispensable in major operations. Sometimes minor operations are performed without anesthesia and some major operations are performed without anesthesia for some reasons. Absence of pain is the purpose of anesthesia. The quicker disappearance of the action of narcotics the better after the suture of the wound.

Qigong anesthesia means the patient loses his consciousness when the qigong master emits his qi to him. But after cessation of emission of qi the patient comes to. This brings about favorable prognosis and is taken as an ideal anesthetic way.

When a person is injured, endorphin is produced within the body, which kills pain. Then a qigong master is able to use qigong anesthesia.

Man and animal experiments proved that the health condition and qi emission are closely related.

Ten min. later after qi emission, the effect is nearly the same to drug anesthesia. 96% of the pain nerves are anesthetized, which verifies the action of qigong anesthesia. Ten min. later after cessation of qigong anesthesia, 24.47% of anesthesia disappears, 72.53% pain remains. It shows the quick loss of anesthesia.

Facts prove that qigong anesthesia is an ideal anesthetic way. At the same time, it shows the anesthetic action is closely related to the health condition of the qigong masters.

ARTERIOSCLEROSIS, GERONTAL DISEASES:

Liu, Yuanliang 1; He, Shihai 2, and Xie, Shanling 3.

Zhejiang College of Traditional Chinese Medicine, China [1] //Zhejiang Medical Qigong Hospital, Hangzhou, China [2] //Shaanxi Qigong Study Institute, Xian, China [3]

Clinical observation of the treatment of 158 cases of cerebral arteriosclerosis by qigong. 1993: 125Eb.

This report expounds the results of 158 cases of cerebral arteriosclerosis after 38 to 180 days treatment (with an average of 82 days) by conducting and respiration qigong. 91. 83% of the patients' symptoms have been relieved, and 82.82% of the syndromes have been alleviated. The unstable EEG cases have declined to 36.36% (48/132) comparing with 52.37% (69/132) before the training practice ($P<0.01$). The conducting and respiration qigong also had an effect on the wave amplitude of rheoencephalogram by recovering ($P<0.01$) or lowering ($P<0.01-0.05$) the cerebral blood flow to the normal level. The number of the sufferers whose total serum cholesterol and serum triglyceride determination were higher than normal had decreased to 72 (54.96%) from 113 (86.07%) and 75 (57.73%) from 118 (90.07%), separately after dirigation ($P<0.01$). Obvious differences before and after the training practice were seen. This has proved that qigong is effective in preventing and curing gerontal diseases - cerebral arteriosclerosis, so it is worth popularizing widely. In addition, qigong can balance yin and yang, adjust qi and blood, dredge the meridians and thus enable the body to go into its normal state of yin and yang.

ARTERIOSCLEROTIC OBSTRUCTION:

Dept. of Surgery, Kidney Center, Tokyo Women's Medical College, Tokyo, Japan

Therapeutic efficacy of the external qigong, one of the prevailing popular medicine in the Asian countries including Japan, is evaluated by means of the modern western medical technologies which are supposed to present an objective guide-line for judgement. Furthermore, a mechanism for its efficacy is tried to be explained by the modern western medical order. A total of 30 external qigong therapies was applied in 20 patients with arteriosclerotic obstruction. A therapeutic effectiveness rate was 83.3% for subjective symptoms such as cold leg, leg pain at walking or leg pain at rest, 90.0% for a rise in the leg temperature measured by a thermography, 72.4% for Improvement in a plethysmography and 64.7% for improvement in peripheral blood flow by an ultrasonic Doppler flow metry, respectively. These were more favorable than anticipated. However, the mechanism for inducing therapeutic efficacy is absolutely unundersdandable within the modern western medical paradigm.

ASTHMA:

Chu, Joe Hing Kwok.

TREATING ASTHMA WITH WAI QI (EMITTED QI) AND QIGONG TRAINING BY AFFECTING ADRENOCORTICAL HORMONE, CAMP AND CGMP. 1996: 142.

Subjects Selected for study

Twenty-one patients, who had been suffering from asthma for at least five years, participated in the study. They were carefully interviewed on eating habits, living and working environment, family background, emotional issues etc. They were then advised to avoid factors that could trigger asthma.

After three weeks of qigong training and wai qi therapy, all of them relieved.

Methods of Therapy

They were divided into three categories according to diagnostic methods used in qigong and TCM

- (1) kidney yang deficient group,
- (2) kidney yin deficient group, and
- (3) kidney yin & yang deficient groups.

According to different body types, different qigong programs were prescribed and appropriate wai qi methods were applied.

Tests were done before and after the therapy on adrenocortical hormone through 17-KS/24 hours urine samples. Ranges of 17-KS of kidney yang deficient patients became normal.

Those of Kidney yin deficient patients showed little change. Some of those of kidney yin & yang both deficient patients showed improvement.

Conclusion

CAMP and CGMP are second messengers and together they assist the functioning of norepinephrine, epinephrine and the production of adrenocortical hormone. These hormones play an important role in the blood circulation which in turn affects the distribution of oxygen in the body. Incorrect levels of CAMP and CGMP of kidney deficient sufferers affects the activities of norepinephrine, epinephrine, and adrenocortical hormone.

Adrenocortical hormone insufficiency causes poor capillary circulation and lowers the ability of the body to combat inflammation.

Anaerobic metabolism elevates the levels of the histamine production. High levels of histamine cause the bronchi to constrict and cause local blood vessels to dilate. The over dilation of the blood vessels causes excessive seepage of fluid from the blood vessels which leads to inflammation of the bronchi and mucus area. When this happens, the airflow into the lungs becomes restricted, thus inducing the body to produce more histamine. This can become a vicious cycle and produce severe symptoms of asthma. Qigong training and wai qi application can help to achieve yin-yang equilibrium, regulate the balance of hormones, and enhance circulation, thus improving the oxygen distribution and relaxing the bronchi, thus solving the problem of asthma.

BEHCET'S DISEASE:

Feng, Fushou.

Qigong cures Behcet's disease. 1989: 170Eb.

Neijiang Central Hospital of Management, Heilongjiang, China [1]

Behcet's Disease is a kind of chronic recurrent disease. The pathology i mainly changes the vasculitis symptoms. The clinical manifestation is oral mucosal ulcer, perineum and reproductive organs ulcer, soit is also called Beheet's triple syndrome.

When the disease attacks, the patient is suffered from it, the patient may lose his sight by injured to the eyes, when the pathologic change attacks the patients heart, liver, kidney and other important viscera can endanger his life.

The cause of this disease has not been clarified yet. Much of curing methods, but the curative effect is not satisfied, and still not be protected against recurrent.

We cured this disease for five patients with Qigong, observing them for more than one year, and have received the effects of either remitting the symptom or protecting it against recurrent. It is easy painless and has provided a effective measure for curing Behcets Disease.

The manner which we choose are relaxing gong, tortoise rest gong, Shao Lin gong of internal exercise to standing upside down with a finger.

We have inquired to the mechanism of Behcets Disease cured by Qigong Qigong can build up immunologic function, increase the blood flow volume of the concentration of minds improve nutriture, and promote the union of the oral mucosal ulcer with swallowing great amount of saliva and breathing much oxygen.

BRAIN WAVES:

Zhang, J. Z.; Zhao, J., and He, Q. N.

Computer Laboratory, Beijing Hospital of Traditional Chinese Medicine, China.

EEG findings during special psychological state (Qi Gong state) by means of compressed spectral array and topographic mapping. *Comput Biol Med (UNITED STATES)*. 1988; 18(6):455-63; ISSN: 0010-4825.

Wallace first reported the changes in EEG during transcendental meditation [6]. Banquet [1] observed, on the basis of spectral analysis of the EEG, that the meditation state was a unique state of consciousness, and separate from wakefulness, drowsiness or sleep. The Qi Gong of China is not the same as either transcendental meditation or the Yoga Gong. The EEG during Qi Gong state is clearly different from those recorded during the resting state. The changes in the EEG during the Qi Gong have not been reported previously. The EEG alpha activity during the Qi Gong state occurs predominantly in the anterior regions. The peak frequency of EEG alpha rhythm is slower than the resting state. The change of EEG during Qi Gong between anterior and posterior half is negative correlation. These changes are statistically significant.

BRAIN WAVES:

Zhang, J. Z.; Li, J. Z., and He, Q. N.

Computer Laboratory, Beijing Hospital of Traditional Chinese Medicine, China.

Statistical brain topographic mapping analysis for EEGs recorded during Qi Gong state. *Int J Neurosci (ENGLAND)*. 1988 Feb; 38(3-4):415-25; ISSN: 0020-7454.

Spontaneous EEGs recorded with 12 channels (International 10-20 system)

on the scalp were analyzed by statistical brain topographic mapping (t-test and correlation coefficient topographic mappings) to reveal changes of the electrical activity in the brain during Qi Gong state. The control subjects and two groups of masters and beginners in accordance with the time and the skilled degree practising Qi Gong were compared. The changes of EEGs of the Qi Gong masters during the Qi Gong state were clearly different

from those recorded during the resting state with closed eyes. The EEG alpha activity occurred predominantly in the anterior half, and occurred silently in the posterior half of the brain during Qi Gong state. The peak frequency of EEG alpha rhythm during Qi Gong state was slower than resting state without practicing Qi Gong. The results of the t-test and correlation coefficient topographic mappings showed this finding quantitatively and statistically significant. The changes in EEG between resting and Qi Gong state for Qi Gong masters appear to be opposite. This findings indicates that Qi Gong state is a special and unusual state and this state is not an inherent state existing in each person. The occurrence of this phenomenon of EEG depends on the duration and the skilled degree of the practising Qi Gong.

BRAIN WAVES:

Kawano, Kimiko and Wang, Fengfong (Nippon Medical School).

Differences between the EEG of Zen priests and internal qigong masters. Japanese Mind-Body Sciences. 1994; 3(1):99-104; ISSN: 0918-2489.

Electroencephalograms (EEGs) of Japanese Zen priests and Chinese qigong masters were measured and the differences studied. During almost all types of qigong training, the frequency of the alpha waves became faster (+0.5 ~1.0 Hz). During deep Zen meditation, however, it became very slower (-1.0~1.5 Hz), and sometimes theta waves were also found.

As we have previously reported, the alpha waves of qigong masters spread to their frontal area while they are practicing qigong. These frontal alpha waves synchronized remarkably well with the occipital alpha waves. This means the phase difference between the occipital and the frontal alpha waves became shorter. We used an indicator tau m to represent this phase difference. During deep Zen meditation, this tau m became longer, although many alpha waves appeared on the frontal area. It has been found in other experiments that concentrating on some tasks, such as calculations, made the tau m shorter. Internal qigong may be considered to be a meditation in which the meditator concentrates to internal "qi" or some consciousness. On the other hand, Zen meditation may release the meditator's self from all external concerns.

BURNS, IMMUNE FUNCTION SUPPORT

Feng, Lida; Chen, Shuying; Liu, Chu; Zhu, Lina, and Chen, Shuqin.

Navy General Hospital, Beijing 100037, China

EFFECTS OF EMITTED QI ON THE FUNCTION OF RBC-C3B RECEPTOR. 1996: 102.

A large amount of evidence shows that the immune function of RBC is badly damaged after severe burn. Qigong therapy may strengthen the body resistance to eliminate pathogenic factors, so we carefully observed the effects of emitted qi on the function of RBC-C3b receptor.

Materials and methods

1. Male Wistar rats were randomly divided into a burnt control group and a burnt treating group.
2. Model of burn Rats' depilatory parts were immersed 15 minutes into boiling water, burn injury was 25% TBSA, full skin thickness.
3. The treating group received emitted qi from a qigong master for 30 minutes once a day for 14 days postburn.
4. Observing index RcR rosette tests were determined on day 1,3,7,14 and 21 postburn.

Results

The effects of emitted qi on the function of RBC-C3b receptor were summarized in Table I. The results showed that RcR of rats declined sharply after thermal injury, RcR of the group treated with emitted qi returned to preburn level 14 day's postburn ($p > 0.05$), and was significantly higher than the control ($p < 0.05$), while RcR of the control was significantly lower than that of the preburns during the observation ($p < 0.01$).

Table I Effects of emitted qi on the function of RBC-C3b receptor

group	preburn	postburn(day)				
		1	3	7	14	21
control group (n=12)	7.69~2.39	2.42*	3.46*	4.03*	4.17*	5.88*
		~0.89	~1.21	~1.11	~1.54	~1.08
treating group (n=12)	7.45~3.14	3.21*	3.88*	4.58*	5.63@	6.21@
		~1.10	~1.03	~1.26	~1.65	~1.34

* $p < 0.01$ (compared with preburn)

@ $0.01 < p < 0.05$ (compared with control group)

CANCER:

Cao, Qiyuan 1; Li, Yongqiong 1; Cheng, Chenqing 2, and Liang, Jianxiong 2.

Inhibition of human nasopharyngeal carcinoma cells in vitro by emitted qi and gamma ray. 1993: 103Ea.

Cancer Institute, Sun Yat-Sen University of Medical Sciences, Guangzhou 510060, China [1]
//Dept Radiotherapy, Tumor Hospital, Guangzhou 510060, China [2]

Using human nasopharyngeal carcinoma cell line (CNE-2) as the target cell, the cells were planted into 96 well plastic microcultured plates, 50 cells per well, one plate as a group. There were 4 groups the control (c), irradiated by 2Gy Y-ray (R), treated by the emitted qi (Q), and treated by both of them (R+Q). After two days culture, the cell clone ($>> 8$ cells) under an inverted microscope was observed and counted. The mean value of cell clone ($\bar{X} \sim S. D.$) in the R+Q group was 9.2~2.5, markedly lower than the R group (15.8~2.4). There was a marked statistical difference ($P < 0.001$). The kinetic study showed that the Q group at 48 h, the level of mean value of cell clone (16.5~2.2) approached to the R group. Afterwards it went up again apparently. However, the R group continuously decreased through 48 96 h. The emitted qi alone was able to kill or damage the CNE-2 cell in vitro, but this action seemed to be higher reversible than arising by irradiation of Y-ray.

CANCER:

Wang, Shouhang; Wang, Benrong; Shao, Mengyang, and Li, Zhenqing.

Henan Tumor Hospital-Institute, Zhangzhou 450003, China [1]

Clinical study of the routine treatment of cancer coordinated by qigong. 1993: 129E.

China Ever since 1985, we have advised our cancer patients to persist in long-term qigong exercises with encouraging results, side by side with giving them routine treatments such as chemotherapy, radiotherapy and surgery. 62 cases of cytologically and pathologically confirmed intermediate and advanced cancer patients who had missed the opportunities of surgery and radiotherapy were at random divided into 2 groups. The treating group composed of 32 patients who were under chemotherapy but were coordinated by qigong (Group I), and the control group comprising the remaining 30 patients who didn't do qigong exercises but underwent chemotherapy only (Group II).

Results showed that Group I had no deterioration in the grading of patients' health. Rather, part of the 32 patients had better health than previously, with most of them having a stable WBC [white blood count] or an unapparent and slight WBC decline; a few patients in this group had a poor appetite, nausea, vomiting, etc., and mild reactions happening in the alimentary tract. Of these 32 patients, 29 (92%) were effective cases that didn't have their chemotherapy suspended, while failure was found in the remaining 3 cases (8%).

In contrast, in Group II, deterioration in patients' health grading was invariably seen. Of the 30 cases in this group, 18 cases (61%) persisted in chemotherapy without interruption. The remaining 12 cases had grown much worse in their health grading, or WBC decline with the total count less than 4×10^9 m/L, or reactions seen in the digestive tract so severe as to cause chemotherapy to be stopped. Statistically, the difference seen between the 2 groups was significant ($p < 0.05$).

Besides, this concerted qigong-chemotherapy in the management of cancer has the advantage of raising the curative rate, extending the tumour-free survival of the patients, and bettering the quality of their survival.

So far there have been many confirmed substantial instances showing these good effects. For example, an advanced case of nearly totally obstructive esophagus was admitted on June 26, 1985. On admission, he complained of dysphasia for a 3-month duration associated with

belching, mucus-spitting and pain in the front chest and in the back. An apparent stricture was found at the middle-third of the esophagus through barium meal fluoroscopy and roentgenography, with the top esophagus at the site of stricture expanded into a "cupping" shape. Left anterior oblique view revealed an apparent shadow of the soft tissues (X-ray film No. 5238). His endoscopic biopsy reported squamous cells (pathonumber 85-431). His symptoms and foci totally disappeared through the concerted method of the qigong and chemotherapy. He has been able to have general diet and no cancer cells have been found through endoscopic biopsy. For 8 years he has been living, tumour-free and has been to this hospital each year for reexamination with no abnormality found so far.

As to the curative effect of the routine therapies in conjunction with qigong on cancer, systematic studies are being made.

CANCER:

Wang, Ying.

No. 2 People's Hospital, Taiyuan 030002, China [1]

Clinical observation on 30 cases of cancer treated by qigong therapy. 1993: 131Ea.

We have observed 30 cancer cases treated by qigong for a long period.

The 30 cases were divided into the following groups

(1) 10 cases were examined by exploratory operation (among them 4 cases were undergone radical operation, 6 were not). All were treated by qigong therapy.

(2) 10 cases had been treated by radioactive, chemical therapy or supplementary treatment by Chinese herbal medicine and qigong treatment at the same time.

(3) 10 cases were not indicated for operation, radioactive and chemical therapy. They were treated by qigong only.

Method (1) The emitted qi was used (including message water, message prescriptions and long distance qigong treatment). (2) Patients did qigong exercises by themselves.

The result Surviving over 5 years 13 cases; tumor smaller in size 21 cases; pain relief or disappearance 25 cases.

Case example Luo Lin, a female deputy doctor in charge, was examined and diagnosed to contract lung cancer. Then she was performed by a radical operation on August 15, 1980. Three months later, she began to do Luo Lin's qigong exercise. From then on metastasis was not seen.

CANCER, ADVANCED GASTRIC:

Fu, Jingzhi.

First Affiliated Hospital, Henan Medical University, Zhenzhou, China [1]

Treatment of advanced gastric cancer in the aged by the combination of qigong and medicinal herbs. 1993: 132E.

The purpose of this paper is to study the short-term curative effect of the therapy on advanced cancer, the survival quality and the effect produced by immunobiochemistry

through the analysis of the curative effect of advanced gastric cancer of the old people treated by qigong together with medicinal herbs.

Clinical information

1. Selection of cases

40 patients in this group were all examined by gastroscopy, X-ray and ultrasonic examination of B-scope and the diagnosis was confirmed with pathological and cytological examinations.

Sex and age Male 32; female 8; the ratio of male and female was 4:1. The age ranged from 60 to 80.

Positions of pathological changes

Cardiac cancer 26 cases; cancer in the gastrobody 6 cases; cancer of gastric antrum 8 cases.

Pathological types

Adenocarcinoma 18 cases; poor differentiated adenocarcinoma 12 cases; mucous adenocarcinoma 6 cases; signet-ring cell carcinoma 4 cases.

Subjects for research

32 were patients with gastric carcinoma who lost the chance for operation because of their old age and weakness or because the disease that they suffered from belonged to the advanced stage. 4 were patients who had recurrence after radical operation. 2 had no effect of chemotherapy. 2 were patients who had undergone chemotherapy and could not persistently accept the treatment because of serious side effect.

2. Method of treatment

The treating group was treated by qigong combined with herbs, developed and prepared as an anticancer drug known as "Weiliuping". The control group was only treated by "Weiliuping".

Results

1. The relief of main symptoms

There was significant difference between the two groups. ($P < 0.05$). 2. The influence of the immune functions

In the control group, the index of immunity slightly increased after the treatment. However, the difference was not significant ($P > 0.05$). In the treating group, the index of immunity obviously improved and the difference was significant ($P < 0.01$).

Discussion

The short-term effect of the treatment of advanced gastric cancer by qigong together with herbs "Weiliuping" was satisfactory (the effective rate was 22.7%). The effect was better than that of "Tianxian pill" which was widely used to treat digestive tract cancer at home in recent years (the effective rate is only 1.2%).

CANCER, ESOPHAGEAL (MEDIUM/LATE STAGED):

Cong, Jing; Zhang, Qiang; Chen, Jun, and Yang, Aiyang.

CLINICAL STUDY ON THE TREATMENT OF MEDIUM-LATE STAGED ESOPHAGEAL CANCER BY CHINESE-WESTERN MEDICINE AND QIGONG THERAPY. 1996: 132.

A comprehensive therapy of Chinese-Western medicine and qigong has been adopted in our hospital since May, 1991-Dec. 1995. Chinese medicine compound Tianxian capsule; Western medicine radiotherapy and (or) chemotherapy according to patients' pathology type and specific conditions; qigong Guolin New Qigong natural movement, express movement relaxation static qigong, sound qigong, one two three steps walking and fast walking. It combines traditional Chinese medicine with modern medicine and integrates biology-society-psychomedicine together. Modern test means, such as image and laboratory test etc. were employed to observe 120 cases suffering from medium-late staged esophageal cancer before and after self-treatment. After statistical management, the result was as follows.

1. There is a very significant difference in the curative effect before and after the comprehensive treatment ($p < 0.01$).
2. There exists a very significant difference in side effect before and after the treatment ($p < 0.01$).
3. The physical state (living quality) after the comprehensive treatment is as follow increase > stability > decrease. There exists a very significant difference between the two groups ($p < 0.01$).
4. Final results the survival rate 5 years 37.45%; medium survival period 2-3 years; longer obviously compared with other therapies reported so far. (survival rate 16-20% for 5 years; medium survival period 17 months)

The study shows that the comprehensive therapy of Chinese-Western medicine and qigong has the function of improving the curative effect, relieving side effect and improving physical state and prolonging the survival period. Therefore it is the best therapy in the treatment of medium-late staged esophageal cancer so far.

CARCINOMA (NPC):

Chen, Xiaojun 1; Gao, Qiyuan 1; Jao, Xianrong 1; Zhang, Jinmei 2; Huang, Canxin 3, and Fan, Xiuque 3.

Effects of emitted qi on inhibition of human NPC cell line and DNA synthesis. 1990: 79Ea.

The Nasopharyngeal Carcinoma (NPC) is very common in China and about 80% of the NPC cases in the world were found in China. Especially Guangdong province is the area of the highest NPC mobility. In order to search a new way to treat NPC with Chinese traditional medicine the present study was designed to obtain information about the effects of emitted qi on human NPC cell line (CNE-2) observing the cell growth inhibition and H^3 -TdR incorporation inhibition of emitted qi and the changes in the cell structure by microscope and electromicroscope. The growth inhibition rates of 4 experimental groups were 43% ($P < 0.05$), 33% ($P < 0.05$), 60% ($P < 0.01$), AND 36% ($P < 0.05$) respectively; the H^3 -TdR incorporation inhibition rates of 6 times of experiment were 30% ($P < 0.01$), 22% ($P < 0.01$), 35% ($P < 0.001$), 30% ($P < 0.001$), 53% ($P < 0.001$), and 39% ($P < 0.01$) respectively. The cellular and

subcellular structure of the experimental group was not significantly different from the control group. These data suggested that emitted qi can inhibit the cell growth and DNA synthesis of the CNE-2 cells, and provide information that qigong waiqi might be used to treat NPC patients in the future.

CARCINOMA:

Chen, Xiaojun 1; Yi, Qing 1; Li, Yongqiang 1; He, Weimin 1; Zhang, Jinmei 2, and Chen, Yuesheng 3.

OBSERVATIONS ON THE EFFECT OF THE EMITTED QI ON THE REVERSION OF NASOPHARYNGEAL CARCINOMA CELL LINE. 1996: 108.

To explore a new way of treatment of nasopharyngeal carcinoma by traditional Chinese medicine, we have investigated the possibility of reversing the malignancy of human poorly-differentiated squamous nasopharyngeal carcinoma cell line (CNE-2) by the emitted qi by means of double-blinded. The experiment was carried out in a way of dividing the cases into three groups control group, treatment group and imitation group. With indices including trypan-bluestaining resistance, ³H-Thymidine infiltration, culturing in soft -agar and agglutination by PHA techniques, we elucidated the influences of the emitted qi upon the growth rate, DNA synthesis, anchorage-independent growth, and agglutination of cells. The experiment was done twice. Results show that the emitted qi can inhibit the cell proliferation. The inhibitory rates in the treatment group and imitation group were 46.0% and 9.0% in the first experiment and 48.1% and 7.6% in the second experiment respectively. The emitted qi also checked the cellular DNA synthesis, with inhibitory rates in both the above-mentioned groups being 43.0% and 7.1% in the first experiment and 45.5% and 8.2% in the second. The difference between the treatment and control groups was significant whereas that between the imitation and control group was not. In soft-agar culturing, cells treated by the emitted qi couldn't form colony and gradually became dead while cells in other two groups did form colonies. In the presence of PHA, treated cells had no obvious agglutination. But in other two groups, cells could agglutinate apparently. All evidence illustrates the fact that the emitted qi has the reversing effect on the malignancies and DNA synthesis has inhibition of the nasopharyngeal carcinoma cells. The mechanism of such an effect needs further investigation.

CARCINOMA (HEPATOCAARCINOMA):

Chen, Yuanfeng.

Analysis of effect of emitted qi on human hepatocarcinoma cell (BEL-7402) by using flow cytometry. 1993: 102Ea.

Based on our previous studies of the cellular effect of the emitted qi on human hepatocarcinoma cell (BEL-7402) in this experiment, the state-of-the-art technique of flow cytometry (FCM) was employed to analyze the influence of it on BEL-7402 from the angles of cell division, kinetics and genetics.

Repeated results indicated that the emitted qi treatment inhibited the higher rate of DNA synthesis in BEL-7402 and decreased the concentration of DNA. Meanwhile, the cell cycle of BEL-7402 was correspondingly altered. G₀, G₁, G₂ phases became more obvious by repeated treatments, but S phase appeared to be smaller. After the emitted qi treatment, chromosome karyotype changed too. These results demonstrated that the BEL-7402 cell could be restored to the normal to some extent by qigong action. For the further confirmation, naked mice were inoculated with BEL-7402 and the treated cell, respectively, and it was surprisingly observed that the tumor was only induced in the naked mice inoculated with BEL-7402, whereas naked mice with qigong treated BEL-7402 grew well. This result was further evidenced by the FCM analysis of cells isolated from in situ tissue.

CARDIAC RESEARCH:

Bao, Guojin and Feng, Shaoxiang. Preliminary study on the cardiac functional potential evoked by qigong exercise. 1988: 69E.

In order to probe into the effect of the qigong exercise in excitation of the cardiac functional potentials, and in prevention and treatment of cardiovascular diseases we have observed the physiological effect of the heart function influenced by the qigong exercise 30 days before and after practice and measured the physiological loading intensity and the thermal effect of acupoints during the exercise with a PWC_[sub 170] function test. The subjects were divided into two groups. The qigong group included 60 healthy people by an average age of 40.5 years, the control group consisted of 20 healthy people who were undergoing craniotherapy. Their average age was 36.4. The experimental results are as follows

1. PWC_[sub 170] function test We measured the PWC_[sub 170] value of the qigong group who exercised Shaolin Neijin Yizichan qigong 30 days before and after practice. The exercise done twice a day, 54 minutes for each. The control group's PWC value was measured 30 days before and after the craniotherapy. The subjects were given two different loading, 3 minutes for each with an interval of 3 minutes. At 2.5 minutes the measure of the heart rate was done for half minute. Then the PWC_[sub 170] value and VO_[sub 2] max. was calculated. The result indicated the finished power of the qigong group was raised by 574.94 kg.m/min. after the qigong exercise while the control group only increased by 83.75 kg m/min. (P<0.05). The qigong group's VO_[sub 2] max. increased by 0.97L/ min. after the exercise, whereas the control group's by 0.14L/min. (P<0.05). It shows that the qigong exercise has a marked effect on excitation of the cardiac functional potential.

2. The physiological loading intensity We measured the resting state heart rate before the qigong exercise and the recovery heart rate 10 minutes after the exercise with a PV-701 WRIST-WANTCH-STYLE PULSE MONITOR. The heart rate during the exercise (lasting for 54 minutes) was measured every two minutes. The resting state heart rate was 73.4 per minute before the exercise, the average rate was 94.3 per min. and the highest rate was 124.4/per min. During the exercise the recovery rate was 82.7/per min. after the exercise. These results tell us that the qigong exercise is a kind of light endurable loading exercise, its physiological loading intensity does not exceed 50% of the maximum intaking oxygen. It is a small amount of exercise suitable for the patients of heart trouble.

3. The thermal effect of acupoints We measured the change of the skin temperature of the middle fingertip, Laogong (P 8), Yintang (Extra), Baihui (Du 20) and Sanginjiao (Sp 6) before and after the exercise with a semiconductor point thermometer. Here is the result. There was a very significant change of temperature at Laogong (P 8) before and after the exercise ($P < 0.01$), the average temperature increasing by 1.3°C ; temperature on Baihui (Du 20) increased by 1°C ; temperature on the middle fingertip and Yintang (Extra 1) increased by 0.7°C and 0.8°C respectively; temperature on Sanginjiao (Sp 6) decreased by 0.1°C . The increase of skin temperature of acupoints shows that the qigong exercise can promote blood circulation and expand the capillary.

According to the above tests we can conclude

1. The qigong exercise can excite the cardiac functional potential, PWG₁₇₀ function test is a measurement for the quantitative exercise tolerance test of the heart function. PWG₁₇₀ value is depended on the heart volume, and people who have a larger volume gained higher power, which increased by 148% after the exercise than before. It shows that the qigong exercise can bring cardiac reserve into full play, increasing the cardiac systole and diastole volume, and enhancing the heart muscle contractive power.

2. When those who did the exercise bore a smaller physiological loading intensity, their heart rate is 128% of that in the resting state, helpful to lighten the burden of the heart and decrease the myocardial oxygen consumption. This exercise is advisable for the weak old people and for those having chronic diseases, especially heart trouble.

3. The acupoint thermal effect was markedly seen during the exercise. The increase of acupoint skin temperature is helpful to increase the excitability of the muscle and nervous system and to heighten metabolism and cardiovascular function.

CARDIORESPIRATORY EFFECTS:

Lim, Y. A.; Boone, T.; Flarity, J. R., and Thompson, W. R. (Life College, Sports Health Science, Marietta, GA 30060.).

Effects of qigong on cardiorespiratory changes: a preliminary study.

Am J Chin Med (UNITED STATES). 1993; 21(1):1-6; ISSN: 0192-415X.

Qigong, a special form of breathing exercise, was investigated to examine its effect on cardiorespiratory changes. Ten volunteers (five males and five females) participated in a 20-minute group instructional session for 10 consecutive days before testing of its treatment effects. The testing protocol followed a C1-T-C2 design, where C1, T, and C2 represented

the first, treatment, and second control period, respectively. Each period consisted of a 5-minute interval, and thus each testing session consisted of 15 minutes. The results indicated there were no statistically significant differences ($p > 0.05$) in heart rate or tidal volume for the three 5-minute periods. There was a significant decrease ($p < 0.05$) in respiratory exchange ratio between T and C2. A significant increase in ventilatory efficiency for carbon dioxide production was found between C1 and T. Statistically significant differences ($p < 0.05$) were found in the volume of oxygen consumed and carbon dioxide produced, frequency of breath, expired ventilation, and ventilatory efficiency for oxygen produced between the T and the two control periods. This preliminary study of Qigong demonstrates that the subjects were able to learn the technique in a short period of time. The data also suggest that, with an improvement of nearly 20% in ventilatory efficiency for oxygen uptake and carbon dioxide production, this technique may have useful therapeutic value.

CHILDREN'S ABILITY TO CREATE QIGONG STATES:

Omura, Y.; Lin, T. L.; Debreceni, L.; Losco, B. M.; Freed, S.; Muteki, T., and Lin, C. H. (Heart Disease Research Foundation, New York, NY.).

Heart Disease Research Foundation, New York, NY.

Unique changes found on the Qi Gong (Chi Gong) Master's and patient's body during Qi Gong treatment; their relationships to certain meridians & acupuncture points and the recreation of therapeutic Qi Gong states by children & adults. *Acupunct Electrotherapeutics Res, Intl J.* (New York). 1989; 14 (1):61-89; ISSN: 0360-1293.

Changes taking place in both Qi Gong Masters and their patients during Qi

Gong treatment were evaluated using the Bi-Digital O-Ring Test. During the Qi Gong state, on the Qi-Gong Master's body, as well as the body of the patient being treated, acupuncture points CV5 (Shi Men) and CV6 (Qi Hai)-- located below the umbilicus-- show changes from +4 in the pre-Qi Gong state to between -3 and -4 during the Qi Gong state. Before and after the Qi Gong, there is a normal +4 response to the Bi-Digital O-Ring Test at these Acupuncture points. Similar changes were also observed on acupuncture points CV17 (Shan Zhong), CV 22 (Tian Tu), Yin Tang (at an area just between the eyebrows the pituitary gland representation area, colloquially known as the "third eye") and GV20(Bai

Hui), the entire pericardium meridian & triple burner meridian, their acupuncture points, the adrenal glands, testes, ovaries and perineum, as well as along the entire spinal vertebrae, particularly on and above the 12th thoracic vertebra, medulla oblongata, pons, and the intestinal representation areas of the brain located just above and behind the upper ear. Using these findings as criteria for evaluating the effectiveness of reaching the Qi Gong state, we were able to reproduce during the experimental trials similar changes in ourselves and the patient being treated with therapeutic effects comparable to those of the Qi Gong Master. Beneficial effects of external Qi Gong treatment given by a Qi Gong practitioner 1 to 3 times for 10-20 seconds each (although most Qi Gong masters take 3-20 minutes per treatment) often resulted in improvement of circulation and lowering of high blood pressure, as well as relaxation of spastic muscles, relief of pain, and enhanced general well-being, all of which resemble acupuncture effects. In order to reproduce the same procedure with others, we selected 4 children ranging between 8 and 11 years of age who had no knowledge of Qi Gong or Oriental medicine. One of these four children, the 8 year old, was able to consistently reach the same Qi Gong state after less than a half day and another child, 11, after less than 2 days. Within a week, the other two were sometimes able to reproduce the Qi Gong state but not always. Using the Qi Gong state thus obtained, it was found that this type of Qi Gong energy is directed to specific directions from the hand and can even penetrate wooden or metal doors.(ABSTRACT TRUNCATED AT 400 WORDS) (63 Refs.)

CIRCULATORY DISEASES:

Bao, Guojing; Wei, Shaoxing; Zhang, Shenru, and Li, Shugang.
Study of qigong harmonizing of the human circulating system. 1993: 82E.

Qigong is effective in stimulation of human body's potential power, which functions well in prevention and cure of diseases. In order to study qigong action on blood circulation and prevention and cure of cardiovascular and cerebrovascular diseases, we have observed the value of PWC 170 and measured the change of brain tachogram and limbs' volume pulse chart

30 days pre- and post-qigong exercises through the load test of the heart function. 100 subjects were divided into two groups the qigong group (80 persons) and the control group (20 persons). The results show as follows.

1. Load test of the heart function The value of PWC 170 of the qigong group and the control group having mineral spring bath was measured 30 days pre- and post-their practice with a BCM-III type heart function machine. The subjects were given two different loads during the test, each lasting for 3 min with an interval of 3 min. The heart rate was recorded for half min. starting from 2.5 min, and then the value of PWC 170 and V02 max was calculated. The results showed that in the qigong group increased by an average of 48.8% after the exercise and the control group increased by an average of 7.5%, a significant difference between the two groups ($P < 0.05$). The qigong group's V02 max increased by 29.9% after the exercise and the control group's increased by 4.4%, a significant difference between the two groups ($P < 0.05$). It indicates that qigong is an effective method to strengthen the heart and lung function.

2. Brain techogram The left amplitude of wave increased by an average of 80.4% ($P<0.01$) after the exercise for 30 days, the right increased by 37.8% ($P<0.01$); the left resistance index decreased by 6.3 times than the period of pre-exercise ($P<0.01$), the right decreased by 8.1% ($P<0.05$); the left ascending time decreased by 21.2% ($P<0.01$), but the right increased a bit. It shows that qigong exercise can increase blood volume of the brain and decrease cerebralvascular resistance.

3. Limbs volume pulse chart Amplitude of wave of both sides increased remarkably after the exercise ($P<0.01$);the resistance index of both sides decreased($P<0.05$);the left inflow volume speed increased by 16.7% after the exercise($P<0.01$);the right increased by 17.8% ($P<0.05$). It shows that blood volume of the lower limbs increases and blood resistance decreases after the exercise. To sum up, qigong may harmonize the blood circulation remarkably, playing a very important role in preventing and cure of cardiovascular and cerebrovascular diseases and lower limb disease. Qigong is a kind of exercise to harmonize the mind, breathing and bodily posture, a rehabilitative method for many chronic diseases. The result has provided a preliminary experimental basis for preventing and curing the circulatory system diseases.

CIRCULATION:

BLOOD PERFUSION RATE INCREASED BY QIGONG

Chai, Zhaoji and Wang, Binai.

Influence of qigong state on blood perfusion rate of human microcirculation. 1990: 116E.

In order to study the mechanism underlying the effects of qigong preventing a disease, building a body, benefiting intelligence and anti-senility, we made a series of experiments to observe the change of blood perfusion rate in qigong state. This experiment is one of them. We suppose that qigong can increase the blood perfusion rate, improve microcirculation function, therefore, the whole internal environment of human body was improved. The results of the experiment have proved that our hypothesis is correct.

Amount the 27 persons selected randomly, 22 were trained with W-E Qigong method, the other 5 persons forming a control group did not practice qigong. They sat quietly when tested, we used LDF-2 laser microcirculation Blood Flow Meter to test each case's blood perfusion rate of finger tip separately in ordinary state and in qigong state. Furthermore, we compared the control group with the training group.

The experiment result and analysis

1. The 22 cases had an average value of change in blood perfusion rate in qigong state, $\Delta x = 7.27$. After statistics analyzed and compared with ordinary state ($P<0.001$), the training group has a very significant change. The control group, $\Delta x = 0.2$, $P>0.1$, without significant change. It was shown that the blood perfusion rate would increase remarkably when human body was in a qigong state.

2. The increment of blood perfusion rate relates to the degree of qigong state. The deeper the qigong state is, the bigger the increment will be. 10 cases took part in qigong training 5 times and had an average change value of blood perfusion rate, $\Delta x = 14.8$, higher than the whole average change value.

3. Ten persons who were only trained 2 or 3 times had an average change value of blood perfusion rate, $\Delta x = 2.8$, ($P < 0.01$). The W-E Qigong training method is very successful. This experiment set a record of making ordinary person into qigong state in only 3 hours and brought about a good physiological effect of increasing blood perfusion rate.

This scientific training method has a positive impact in qigong research and clinical treatment.

CIRCULATION, CEREBRAL BLOOD FLOW & MICROCIRCULATION:

Chu, Weizhong and others.

Changes of cerebral blood flow and microcirculation under the qigong state. 1988: 89E.

In this paper the effect of a quiet mind (or mood stillness) and breath holding on cerebral blood flow and microcirculation is reported and the qigong mechanism is discussed on the basis of the relation between qi and blood.

1. Material

115 patients suffering from different chronic diseases participated in this test. Among them there were 55 men and 60 women, aged from 27--29. They learnt the qigong exercise and became well cooperated during the examination. In addition, the microcirculation of 5 guinea pigs and 2 mice were also examined.

2. Method

(1) State of relaxation and stillness.

We observed A. Cerebral blood flow with an instrument of impedance electrogram (bridge type) and amplitude of differentiation of electrical impedance. B. Registered fingertip's pulsation with a physiological recorder. C. The microcirculation of the nail's capillary with a 80 X anatomical microscope under a reflected cold light source.

(2) State of breath holding.

A. When the patients were entering the deep and slow breathing state, we again examined the cerebral blood flow. B. we examined the microcirculation of the meninx in laboratory animals during breath holding in the simulated qigong state.

3. Results

(1) State of relaxation and stillness.

A. Cerebral blood flow 12 cases were examined with the bridge type and 15 were examined with differentiation, the amplitude obviously decreased in all patients, from $0.143 \sim 0.05W$ to $0.123 \sim 0.056W$ ($P < 0.05$) and from 9.75mm to 8.63mm ($P < 0.001$) respectively. 16 cases of the control group had very slight change from $0.160 + 0.05W$ to $0.150 \sim 0.05W$ ($P < 0.05$).

B. Fingertip pulsation 34 cases were examined 6.8 -- 11 minutes after the qigong state, the pulsation increased from $9.86 + 4.28\text{mm}$ to $15.75 \sim 7.3\text{mm}$ ($P < 0.001$), and then gradually

returned to the level before the qigong state. C. Nail's microcirculation Total 26 cases were examined, in which 7 cases' capillary loops of the nail became more clear, the number of capillary loops in 2 cases increased, the length of loops increased in 8 cases and the speed of blood flow increased in 12 cases, from 315.6 ~220.0m/sec. to 512.5~254.6m/sec. (P<0.001).

(2) Breath holding state.

A. Cerebral blood flow In 49 cases with breath holding for 30 seconds, the impedance amplitude increased from 0.154 ~0.06W to 0.170~0.07W (P<0.05); in 20 cases with deep breathing, the amplitude decreased form 0.187~0.05W to 0.165~0.05W (P<O.05) .

B. Microcirculation of meninges in laboratory animals in simulated breath holding for 30 sec. showed vasodilatation and increased blood flow. But the breath holding lasted for more than 30 sec., the blood flow gradually decreased from 300m/sec. to 100m/sec. and blood stream became sluggish and finally stopped

4. Discussion

(1) When patients entering the relaxation and stillness state, the cerebral blood flow was decreased and the peripheral circulation was improved.

(2) When patients were in the state of breath holding for 30 sec., the cerebral blood flow was decreased (same to that of the laboratory animal). The optional time for breath holding was 15-20 sec.

(3) The above is due to the changes of qi and blood in the qigong state. The mechanism is to be explored.

CERVICAL SPONDYLOPATHY:

Li, Xingguang.

Beijing College of Traditional Chinese Medicine, Beijing 100029, China [1]

Clinical analysis of cervical spondylopathy and its rehabilitation by Tuina qigong in 267 cases. 1993: 136E.

This paper reports the treatment of the cervical spondylopathy in 267 cases with rehabilitation by tuina qigong since 1989. Among them, 86 were males and 181 females. Most of the cases were females aged from 30-60 years. Course of disease was one day to 30 years. The common problems were cervical spondylopathy of the nerve root, the vertebral artery and the mixed type.

Traditional technique of Chinese tuina must be taken with coordination of qigong and digital pressure to acupoints. The results show In the 267 cases, 248 cases (92.9%) were markedly improved,18 cases (6.7%) were effective, and one case (0.37%) failed. The average treatments were 15 times. .

Diagnosis is based on palpation.symptoms and signs.

Pathogenesis The cervical spondylopathy happens to be due to the change of anatomical position caused by direct or indirect injury and retrograde affection.

Treatment The "tract on rotation-reduction" manipulation was used with other measures to relax the muscles of the cervical part and relax the pressure of cervical vertebrae on the

normal axis and put right the deranged cervical vertebrae and relax irritation of the nerve root, the vertebral artery, the sympathetic nerve and the spinal cord, making it return to the normal position. This method is a good way to treat the cervical spondylopathy at present.

CONSTIPATION, OBSTINATE:

Chen, Jing.

Qigong and acupuncture treatment for 57 cases of obstinate constipation. 1990: 69E.

The author has used qigong combined with acupuncture to treat obstinate constipation and found the result to be quite effective. The following are 57 cases of patients with obstinate constipation treated by the combination of qigong and acupuncture. Among the patients; 31 were male, 26 were female, age range from 22 to 76 years. The shortest history of symptom was half year, the longest was more than 30 years.

Treatment Main points zhigou (SJ.6), shangjuxu (St.37)

According to the differentiation of Chinese Medical Science, obstinate constipation can be classified into 4 types and treated by different points and methods. But before treatment, both doctor and patient need to use qigong method.

- a) Shi type Secondary point hegu (LI.4), quchi (LI.22) (with resolution method)
- b) Xu type Secondary points zusanli (St.36), qihai (Ren.6) (with invigoration method)
- c) Qizhi type Secondary points zhong wan (Ren.12), xing jian (Liv.2) (normal reinforcement and normal reduction)
- d) Yin han type Secondary points shenque (Ren.8), qihai (Ren.6)) (with moxibustion invigoration method)

Results of the treatment

Among the 56 cases, 54 patients were cured effectively, that is 95%; 3 patients were not cured, that is 5%. In the effective cure cases, patients could open bowel after insertion of needles in 20 minutes (the shortest time), the longest time was 8 hours. Many patients are able to open bowel in 1 hour. While the ineffective cases, one of the patients was hemiplegia para, the other two were cerebravascular accident patients, their history of symptom was over ten years. That means combination of acupuncture and qigong to treat obstinate constipation is very effective.

DEAFNESS:

Zhang, Zhixiang; Geng, Sumo; Xu, Xinju; Jiang, Xuefen, and Wu, Junling.

Ezhou Yuanji Qigong Institute, China [1]

Seven tests of the Yuan Ji Gong for treating deaf-mutes. 1993: 141Ea.

Since November 1990, 7 training classes of Yuan Ji Gong for the deaf-mute people have been completed in Beijing and Tianjin. 286 deaf-mute patients took part in the classes. Among the students, the youngest was only two and a half years old, the oldest was seventy five years old. Their problem was caused by various reasons. After 30 hours training and treatment, more than 40 percent of them showed signs of recovery, and 11 to 14 percent recovered remarkably. The fact shows that Yan Ji Gong is a gospel for the deaf-mute people.

DIABETES MELLITUS:

Feng, Lida; Peng, Liaomin; Qian, Juqing, and Cheng, Shuying.

Chinese Immunology Research Center, Beijing 100037, China

Effect of qigong information energy on diabetes mellitus. 1995: 17-19.

Diabetes mellitus is a heterogeneous primary disorder of carbohydrate metabolism with multiple etiologic factors that generally involve absolute or relative insulin deficiency or insulin resistance or both. All causes of diabetes ultimately lead to hyperglycemia, polyuria, polydipsia, polyphagia and weight loss, which are the hallmark of this disease clinical presentation.

The prevalence of diabetes is very great in the world. In the United States, for example, the prevalence of diabetes is probably between 2 and 4 percent, with IDDM comprising only 7 to 10 percent of all cases, the other is NIDDM.

Therapeutic methods including dietary treatment, oral hypoglycemic agents and insulin treatment are sometimes effective, but do not respond satisfactorily to all patients.

Traditional Chinese Medicine (TCM) which has been developed for about thousands of years is one of the important parts in the world medical science. While Chinese Qi Gong Medicine, as a branch of TCM, has those effects of recovery from illness, health, and prevention from disease, therefore there are more and more people liked it in recent years. Some studies have

proved that Qi Gong is effective in anti-infection and anti-tumor. Why not it has the effect to treat diabetes? To answer this question, we have done this experiment and gotten some useful results. Now report as follows.

Material and Method

1. Rats, provided by Pharmaceutical Research Institute, Chinese Medical Sciences Academy, were all male, with weight about 150 \pm 10g.

2. Alloxan (C₄H₂N₂O₄), No. 910525.

3. Preparation of Rat Diabetes Model.

Forty male rats were divided randomly into five groups, that was control group (A group), control of rat diabetes model group (B group), qigong treating group (C group), qigong information material treating group (D group) and qigong and qigong information material cooperatively treating group (group E).

At the beginning of the experiment, 2.5% alloxan was injected into intraperitoneal of rats of B, C, D and E groups for two days (1 time per day), according to the dose of 12mg/100g, 5 days later, we can get those rat diabetes models with hyperglycemia syndrome.

4. Qigong Information Treatment

Since the sixth day after injection of alloxan, the rats of C group were treated by the emitted qi given out through the hands of qigong master for two weeks (30 minutes per day). The rats of D group were not given any treatment except qigong information water to drink for 14 days. While the E group was given both the emitted qi to treat and qigong information water to drink as C and D group as above.

5. Noted the change of weight and blood sugar levels of each rat.

6. At the end of the experiment, the rats of A, B and C group were killed and the change of submicroscopic structure of pancreatic B cells was observed.

Result and Discussion

Recently, there were some explanations about the effect of qigong on diabetes.

First, qigong has its base on the regulation of body, the regulation of breathing and the regulation of mind. One attains the self-control of physical functions through the regulation of body and breathing, then attains the self-control of mental conditions through the regulation of mind. These lead to the realization of the goal of the TMC, that is, "the integration of body and mind" and "Fu Zheng" (strengthening the body resistance), which may eventually make the blood sugar levels of diabetes drop.

Second, qigong information can adjust the elevated glucose levels directly.

Some evidence have shown that the biological effect decrease or/and the absolutely need increase of insulin may cause the elevation of insulin levels in some adult or old patients. Thus by means of increasing cells' sensitivity to insulin or/and biological effect, qigong information may regulate blood sugar of living body.

Third, besides of increasing the using of glucose by target cells, qigong information can rise the insulin levels directly, either absolutely or relatively. As studies have proved that after qigong information treatment, the insulin secretion increased absolutely at any time in oral glucose tolerance tests.

In our experiment, the following results were found

1. Qigong information is effective in making the diabetes rats gain weight.

Figure 1 showed that after qigong treatment (included the emitted qi, the qigong information material and both of them), the rats C, D, E groups recovered from "weight loss" rapidly in about two weeks, and six weeks later, their weights were as normal as that of A group (control group), which were significantly higher than the B Group ($P < 0.01$). Indicated that qigong information can increase the secretion of insulin relatively, and made the best of using of nourishment in blood.

2. Qigong information is also effective in the regulation of glucose levels.

From Figure 2, we can see that after two weeks qigong treatment, the glucose level of C, D, E groups dropped sharply to less than 140 mg/dl, and in the next four weeks, it was normal completely, which was obviously lower than the B group ($P < 0.01$).

According to both Figure 1 and Figure 2, we can say that there was some relationship between "weight loss" and abnormal of sugar levels, but all of those were "results," while the absolute or relative insulin deficiency was "cause." The better the change of the "cause," the better the "result," which may be the explanation to the effect of qigong information energy.

3. The different of submicroscopic structure of pancreatic B cells between before and after qigong information treatment indicated that qigong was effect on elevating the secretion of insulin.

Figure 3 showed the normal pancreatic B cells of control group. The nucleus was round, with no "cut" can be seen on its membrane. The cytoplasm plenty, there were many of endoplasmic reticulums and secretory vesicles, and in the secretory ball the granular region was spherical, while the outside was its membrane.

Figure 4 showed the abnormal pancreatic B cells of diabetes model group. The nucleus shrunk. There were great deal of endoplasmic reticulums and ribosomes, but the endoplasmic reticulum enlarged, therefore its function lost. There was almost no secretory vesicle, or it may be a ball with no secretory material. Figure 5 indicated the pancreatic B

cells of qigong treatment group. The nucleus was round with no "cut". The organelles were normal and the endoplasmic reticulum were plenty. The secretory vesicles were big and round.

All of these results indicated that qigong information treatment can make the organelles (i.e. nucleus, endoplasmic reticulums, ribosomes, secretory vesicles etc.) of pancreatic B cells recovered from injure, and thus increased the secretion of insulin directly.

DIABETES MELLITUS:

Sun, Chenglin; Sun, Liping; Liu, Chumei; Li, Xuejun and others.

Beijing University of TCM Medical Qigong Institute, Beijing, China

Treatment of diabetes by qigong exercise. 1996: 78.

Diabetes mellitus is a chronic endocrinopathic metabolic disorder which has a genetic predisposition. It is a syndrome of affecting polysystems and poly-zang-organs, characterized by rising blood sugar and glucose in urine.

It has been listed as one of the three most severe diseases which threaten human health. Modern medical therapy can control effectively acute metabolic disorders, but patients must take medicine for a long time. It is well known that qigong has effects of eliminating diseases and protecting health.

This experiment observed 24 cases of diabetics who did qigong exercises for 2 hours each day over a three week period, collectively and did morning and evening exercises for half an hour respectively. At the same time they were treated with massage and pressing the acupoints using fingers twice a week. Blood sugar before meal and 2 hours after meal, and glycosylation plasma proteins were tested before and after doing qigong.

The results show that treating effect is obvious and patients' conscious symptoms improve to a certain degree.

Among them obvious effect, 5 cases (20.8 %); effective, 12 cases (50%); no effect, 7 cases (29.2 %); total effective rate (70.8 %). It follows that qigong exercise can strengthen the treating by drugs. Especially it has better effect of controlling blood sugar for patients by limiting diets. Doing qigong is helpful for patients' recovery. So, doing qigong exercises is a simple, economical and effective therapy for chronic diabetics.

DIABETES:

Jing, Yuzhong; Liu, Xiude; Wang, Zhemin; Wang, Qinglan, and Yao, Airong.

Shandong Institute of TCM, Shandong Province, Jian 250014, China [1]

Effect of Hichugong on 31 cases of diabetes. 1993: 135Ea.

Laboratory researches and clinical observations of 197 middle-aged and aged cases were studied. They practiced Huichungong exercises, aiming at prolonging life from 1986 to 1990. Here is the summary of the 31 cases of diabetes.

1. Body weight 24 cases had favorable weight before the exercise. There was no change after the exercise.
2. FBS After exercise blood sugar reduced from 10.19 ~3.29 mmol/L to 6.93~1.98 mmol/L (P<0.001).
3. Blood fat Cholesterol reduced from 6.75~1.32 mmol/L to 5.51~1.16 mmol/L (P<0.001). Triglyceride From 2.80~1.01 mmol/L to 1.34~0.71 mmol/L (P<0.001).
4. Serum insulin test(IRI) It showed a two direction adjustment after exercise. The average value reduced from 16.604~6.005 MIU/L to 12.62~14.85 MIU/L (P<0.05). It indicates the exercise may improve the biological effect of insulin.
5. Severe obstruction of nail-microcirculation has been relieved greatly.
6. Increasing the level of HDL-C (P<0.05).
7. Increasing the ratio of APOA-I/APOB (P<0.001), playing an important role in increasing the APOB amount in prevention of atherosclerosis.
8. Clinical manifestation Strengthening the body resistance, not easy to catch common cold, free food choice, normal life. The above shows one year's exercise has a good comprehensive result for diabetic patients, comparing individually it is much better than the simple drug treatment. It can prevent complicated cardiac, cerebral vascular diseases and peripheral vascular disease. It is a new method in the treatment of diabetes II without medication. This paper also emphasizes the mind concentration and good mental state during exercises may produce a good feedback action.

DNA CONFORMATION:

Zhang, Fengde; Zhao, Jing; Yue, Huiqin; Liu, Guiqin, and Zhao, Xiaomei.
Dept Biology, Nakai University, Tianji, Beijing Colege of Acupuncture, Moxibustion,
Traumatology, China [1]

Effect of emitted qi on the reaction of malate dehydrogenase. 1993: 116Eb.

Measurements of 260 nm absorbances for bovine thymus DNA and yeast RNA under the action of the emitted qi and will of qigong masters were conducted. The result showed as follows.

DNA samples which were treated by different qigong masters had different hyperchromic effects ($P < 0.01$) which could be further followed and observed in a refrigerator for 4 to 48 hours. There was no change for RNA. It appears to show that the emitted qi and the will of qigong masters may have effect on DNA conformation.

DRUG UPTAKE, AS AFFECTED BY QIGONG:

Omura, Y. (Heart Disease Research Foundation, New York, N.Y).

Heart Disease Research Foundation, New York, N.Y

Storing of qi gong energy in various materials and drugs (qi gongnization): its clinical application for treatment of pain, circulatory disturbance, bacterial or viral infections, heavy metal deposits, and related intractable medical problems by selectively enhancing circulation and drug uptake. *Acupunct Electrotherapeutics Res, Intl J.* (New York). 1990; 15(2):137-57; ISSN: 0360-1293.

In the process of evaluating the effects of external Qi Gong on inanimate substances by the Bi-Digital O-Ring Test, Qi Gong energy was shown to have a polarity which the author designated for convenience sake (+) or (-), where (+) increases the strength of muscles and (-) weakens them. Depending upon how external Qi Gong is applied and from which part of the body it emanates, the polarity changes. In general, it was found that, when (+) polarity is applied to the painful area or spastic muscles or arteries in vaso-constriction it often reduced or eliminated the pain, spastic muscles or circulatory disturbances. The author succeeded in storing part of the Qi Gong energy in inanimate materials, such as papers, metals (such as a sheet of aluminum foil), glass, stone, band-aids, clothes, drugs, etc. in bi-polar (one end of the same material becomes (+) polarity and the other end of the same material becomes (-) polarity) form in one material or uni-

polar, i.e., the entire material either has pure (+) polarity or (-) polarity. Water, EPA, vitamins, antibiotics and other drugs were also converted to (+) polarity. When the material has a bi-polar state, it becomes possible to eliminate one of the polarities by applying certain changing electrical fields. The effect of placing (+) polarity Qi Gong energy stored material was compared with direct application of the Qi Gong on pain, spastic muscle and spastic vertebral arteries. The therapeutic effects of these 2 methods were quite similar for the identical time duration but a more predictable effect was often obtained in the former. As our previous study indicates that acupuncture, electrical stimulation (1-3 pulses/sec.), as well as Qi Gong not only improved the microcirculatory disturbance and relaxed spastic muscles and vaso-constrictive arteries but also reduced or eliminated the pain and also selectively enhanced drug uptake to the area where drugs could not be delivered due to existing circulatory disturbances, by placing (+) Qi Gong stored material, such as a sheet of paper or aluminum foil, band-aid or clothes. Bi-Digital O-Ring Test evaluation indicated that not only did it produce all the beneficial effects of Qi Gong but also enhanced the drug uptake selectively in the area where it is necessary for the drug to be delivered for effective treatment, and reduced lead deposits in tissue.(ABSTRACT TRUNCATED AT 400 WORDS)

ELECTRICAL FIELDS AFFECTED BY QIGONG ON ACUPOINTS:

Bongart, Marcus 1; Szymanski, 2, and Garnuszewski, 3.

Relation between different stages of quiet qigong exercises and its influence on the electrical fields around acupoints. 1993: 117Eb.

France [1] //Sweden [2] //Poland [3]

Until quite recently, biologists did not know at all that plants, animals and human beings generate electric field. The physicists and electronic engineers were not particularly interested in the study of organism because they did not think that with their instruments nothing worthwhile could be found. However, the authors through experiments recorded the electric field generated by human and animal muscles, nerves and organs of the body. They selected 10 healthy volunteers to conduct experiments to see the quiet qigong exercises' influence on the potential of the electric field around the human body. 479 registrations of the changed value of the electric potential were obtained in acupoints--Yintang (Extra 1) and Laogong (P 8) and in four mind stages.

ELECTROCARDIOGRAPHIC AUTOPOWER SPECTRUM FUNCTION:

Jin, K. Q. (Shanghai Sixth People's Hospital.).

[Effect of qigong on electrocardiographic autopower spectrum function]

Chung Kuo Chung Hsi I Chieh Ho Tsa Chih (CHINA). Jul 1992 ; 12((7)):p 412-3; ISSN: 1003-5370.

The Changes of positive rate of 17 coronary heart disease cases with frequency domain-correlative cardiogram (FCG) ≥ 7 grades were evaluated with electrocardiographic autopower spectrum function before and after Qigong exercise. 17 Qigong-exerciser aged from 54 to 72 (mean 66 year old, male 5, female 12) underwent Qigong exercise in 65 to 103 days and were evaluated using FCG to compare with pre-Qigong exercise status. The results showed that the positive rate of abnormal electrocardiographic autopower spectrum function of lead V5 (Gxx 1/2) decreased from 59% (10/17) to 0% (0/17), the lead II (Gyy 1/2) from 82% (14/17) to 41% (7/17), $P < 0.01$ and 0.05 . This study suggested that Qigong exercise could significantly decrease the positive rate of abnormal electrocardiographic autopower spectrum function and improve perfusion of coronary artery or cardiac dysfunction produced by myocardial ischemia.

ENERGY MERIDIAN BALANCING:

Sancier, Kenneth M.

Qigong Institute, East West Academy of Healing Arts, Menlo Park, CA

Effect of qigong on therapeutic balancing measured by electroacupuncture according to Voll (EAV): a preliminary study. 1995: 32.

Electroacupuncture According to Voll (EAV) was used to monitor the effects of qigong practice on therapeutic balancing of subjects. In EAV the electrical conductance of the skin above individual acupuncture points is measured using low voltage and current. Diagnosis depends on measuring the relative electrical conductance and its time dependence. An important diagnostic criterion of degeneration of an organ is an indicator drop which occurs during the measurement when the conductance decreases from an apparent maximum value and then levels off. Two series of EAV measurements were made before and after healthy subjects practiced qigong. Measurements were made at 24 acupuncture points at the ends of the meridians of the fingers and toes of a subject and were made by the same operator and

equipment. The subjects were asked to perform a qigong exercise of their choosing. In the first series, four subjects were examined by EAV before and after qigong exercise. Qigong exercise decreased the average EAV measured values of the four subjects in the range of -19 to -31%. Qigong eliminated indicator drops for three subjects and reduced the indicator drop by 80% for the fourth subject. In the second series, each of seven subjects was examined by EAV three times in a blind protocol so that the operator did not know whether a subject had practiced qigong before the second or third examination. Qigong exercise changed the average EAV measured values in the range of -17 to -35% for four subjects and 4 to 15% for three subjects. Indicator drops appeared for three subjects, and they were eliminated for two subjects and reduced by 30% for the third subject. These preliminary studies indicate that EAV can monitor the effects of qigong on changes in the therapeutic balancing of the meridian-organ system. Suggestions are made of how EAV can provide basic information about qigong and its applications.

EXTERNAL QIGONG

Chen, Guoguang.

Material effect of mind and qi--research with the help of laser Raman spectrum analyzer. 1993: 113Eb.

In order to research the effect of qigong, I emitted my qi to water and tested it with an SPEX 1403 Laser Raman Spectrum Analyzer, to analyze the structure of water molecule and its vibration. To exclude the influence possibly resulted from distance difference, impurities in water and other elements, distilled water was chosen to be the sample. The background spectrum was obtained in every test. In addition to this, the following experiments were conducted. (1) Heating the sample water to 48°C. (2) Applying strong magnetics to the sample water for 20 minutes. (3) Analogous emission of qi. It was found that the result provided by the Raman Spectrum to the sample water remained unchanged. It can thus conclude that the human body temperature, the magnetic field generated by electronic appliances and the analogous emission of qi have no effect when it is analyzed by the Raman spectrum.

However, I emitted my qi at a distance of 20 cm, over 4m, 4 km (or kkm) to the sample water, changes on the Raman spectrum were seen. It proved that a kind of special energy is released when qigong was being exercised and that the energy existing in human bodies, besides, the peak of the spectrum varies in different qigong patterns, levels and distance. At the same distance, different results reflected by the spectrum showed that different amount of energy could be generated with different forms of qi emission. The energy produced from the acupoints on meridians is greater. Qi emitted by mind and at a long distance was known

as a specific qigong pattern. The change of intensity of the peak of the Raman was greater in comparison of the qigong state. It reveals that only 3-7% cerebral cells are used in normal condition, but under the specific state, the potentials are brought about. Hypothalamus is one of the key nerve centres of the body. The research of the nervous center of systema nervorum automaticum in cerebrum depends on the prolonging or shortening of the vestibule time value. The brain will be equipped with high energy derived from the retrograding effect produced by mind. The key of my emission of qi at a long distance or by mind, lies in the mastering of the knowledge of eight diagrams, integration of man and universe.

Water takes up 65% of the human body. Molecules of water take part in the physiological, biochemical activities. The variation on the Raman spectrum shows the water's response to qigong. Treating patients with the emitted qi and let them drink the "qi" water is to produce the radiating effect of the qigong master. Psychology is the feedback of mind. It will spiral up from physiology to R. Spreeg's psychology. The feedback energy can be used to direct further treatment of patients and be applied to agricultural production and scientific experiments.

GALLSTONE ELIMINATION:

Feng, Lida; Chen, Shuqing; Liu, Chu; Zhu, Lina, and Chen, Shuying.
Navy General Hospital, Beijing 100037, China

OBSERVATIONS OF EFFECT OF GALLSTONE ELIMINATION BY MEANS OF QIGONG THERAPY . 1996: 150.

1. General data

Among 30 cases of cholelithes, 6 were males and 24 females. The average age was 54. Accurate diagnosis was done by B ultrasonic examination. The course of disease varied from 3 months to more than 10 years.

2. The course of treatment and results

This therapy was to enforce inner qi and regulate endocrine for the purpose of eliminating stones by the emitting qi and suggestion. During this therapy patients became animated so that internal organs strengthened. One course of treatment lasted for 5-10 days. Treatment was given once per day and 30 minutes at one time. After one course of treatment, 28 patients began to discharge stones. The positive rate was 93.33%. Some patients discharged stones on the first day of treatment. Others discharged stones on the 4th day on average. Gallstones were in the form of sand or grains. Major diameter amounted to 1.0 cm. In treatment, some of the patients had a sensations of warmness, distension, soreness and numbness in the right upper abdomen. Very few patients had slight gallstone colic. For most of the patients, symptoms and signs such as abdominal distension, dislike of greasy food, hiccup and pain somewhat relieved or disappeared.

3. Gallstone analysis

Gallstones from 21 patients are analyzed and results are shown in the following table.

number of cases	bilirubin (umol/L)	cholesterol (mmol/L)	calcium (mmol/L)
21	4.04~2.27	0.74~0.52	1.05~0.84

Discussion

Cholelithes is a common disease of the biliary duct system. The reason for the formation of gallstone is so far unknown. It may result from cholestasia, metabolic disturbance in the biliary duct infection or parasites. The three kinds of gallstones are cholochrome stone, cholesterol stone and mixed stone. Cholochrome stone is common in China.

The mechanism of eliminating stones by qigong; The emitted qi massages the liver directly and getting rid of blood stasis so that the circulation of blood in the liver and bile is promoted, and it may cause gallbladder to contract and make the biliary duct dilate. As a result, bile washes and pushes the stones to the biliary duct then to duodenum.

GASTRITIS, CHRONIC ATROPHIC:

Feng, Y. Z.

[Short-term curative effects of daoyin-tuna qigong therapy in 103 cases of chronic atrophic gastritis].

Chung Hsi I Chieh Ho Tsa Chih (CHINA). 1989 Dec; 9(12):728-30, 709; ISSN: 0254-9034.

Daoyin-Tuna Qigong therapy was applied to 103 cases with chronic atrophic gastritis (CAG). The average duration of disease was 7.8 years. Daoyin-Tuna Qigong exercises were done 4 times a day, 1 hour each time. 79 days made a course and no drug was given. 31 cases were checked with gastroscopy and biopsy, 30 cases with electrogastrogram and 34 cases with immunity detection before and after treatment course. Results In clinical symptoms, the therapy appeared markedly effective in 72 cases (69.9%). The effective cases were 28 (27.2%). The total effective rate was 97.1%. The body weight of 95 cases (92.2%) increased by 2.4 +/- 1.3 kg on the average at the end of the treatment course, and the capacity for eating was increased by 110 +/- 70 g a day in 99 cases (96.1%). In gastroscopy and pathology examination, the rates of marked effectiveness were 35.5% and 48.4%, the effective 29.0% and 38.7%, the total effective 64.5% and 87.1% respectively. Electro-gastrogram check the frequency and amplitude of the electro-gastrogram increased markedly (P less than 0.05) in comparison with the pre-therapy. Immunology examination E-rosette was 51.3 +/- 8.4% before treatment and 55.3 +/- 7.7% after treatment (P less than 0.05). It is suggested that Daoyin-Tuna Qigong therapy would be a better and new treatment for CAG.

GENERAL HEALTH

Cao, Zhenhua; Zhao, Luming, and Zhang, Liancai.

Functional changes during the process of entering qigong quiescence. 1989: 39E.

The subjects who had done exercises in qigong for over three years were in qigong group, while those who had not, in non-qigong group. Elixir field skin temperature Vessel volume chart of the lobulus auricularae, electrocardiogram and electromyogram before and after entering qigong quiescence and stopping it, were recorded. The result showed that in qigong group, after entering qigong quiescence and stopping it, the increase of the vessel volume of the lobulees acericulae had a negative phase relation with hypopalpitation, in the non-qigong group the phenomenon did not happen; elixir field skin temperature rose after entering qigong quiescence, this was markedly different from that before entering qigong quiescence, but in the non-qigong group there was no such differentiation; the electromyogram presented single electric potentials before entering qigong quiescence and after stopping quiescence, but after entering qigong quiescence it might present electric static state; single electric potentials were presented all the time in the non-qigong group. The paper suggests that entering qigong quiescence the brain is in specific qigong functional state, which may make sympathetic excitability rise. Unpersons with qigong the muscoli skillet are easy to relax, and the relaxing extent increase. Their vegetative nervous and body motor functions are regulated, thereby strengthening visceral and body functions, and promoting health and treating diseases.

GENERAL HEALTH:

Bessho, Naoko 1; Miura, Yasushi 1 2; Xu, Ming 1. 2; Nakajima, Etsuko 1, and Ishikawa, Eiko

1. The effect of qigong program for health promotion; (2) Using the "General Health Questionnaire (GHQ)". 1996: 113. Notes: Also in Japanese Objective

The purpose of this study was to see the change of the General Health Questionnaire (GHQ), before and after undergoing qigong training.

Subject and Method

The population of the study was composed of 16 individuals (8 male and 8 female) in the ages of 32 to 73 (mean 54.8 (+ or -)13.0. They are all the members of NC MENTIS (a prototype of alternative therapies facility in health promotion).

Those 16 individuals filled in the GHQ before they began the practice of Hui Chur Gong, called "Kai Syun Koun in Japan. They continued the training for about three months and then they did the same questionnaire.

Result

(1) The following results were obtained; there were significant changes in the total score of GHQ after qigong training on all of the 16 healthy subjects from 10.13 (+ or -) 10.71 to 5.13 (+ or -) 5.00, $t=2.21$, $p<0.05$). When we saw the subscales, the somatic symptom score was significantly decreased on all of the subjects from 1.94 (+ or -) 1.88 to 0.56 (+ or -) 0.63, $t=3.15$, $p<0.01$). Although the subjects demonstrated the improvement in the other subscales, they were not so outstanding.

(2) There were no significant changes among the male group in the total score and the subscale scores.

(3) The somatic symptom scores were significantly improved in the female group. The score was decreased after qigong training from 2.13 (+ or -) 2.10 to 0.50 (+ or -) 0.53, $t=2.49$, $p<0.05$), but there were no significant changes in the other subscales.

Conclusion

After the training of the qigong program, the general health condition, especially somatic symptoms, had a tendency of improvement in GHQ scores. So it is concluded that qigong program can be useful for enhancement of general health condition.

GROWTH STIMULATION:

Feng, Lida; Chen, Shuying; Zhu, Lina; Zhao, Xiuzhen, and Cui, Siqu.

Effect of emitted qi on the growth of mice. 1993: 110E.

Chinese Immunology Research Center, Beijing, China [1]

In this experiment, we have observed the effect of the emitted qi on the growth of mice. As a comprehensive factor of physical, chemical and biological function, the emitted qi can both cure diseases and strengthen health, but can it promote the growth of creatures? In order to find out the answer to the question, we are among the first people who do research on this subject.

We have observed the growth of over 60 mice and got satisfactory results. The body length of the test mice is on the average 10.26 cm, while that of the control mice is 9.86. The difference is 0.4 cm. The length of the test mice's hind legs is 3.33 cm, while that of the control mice is 3.23 cm. The two results are statistically significant ($p<0.05$). Meanwhile, we have determined the amount of growth hormone in mice's serum with the isotope method. In the four experiments, the amounts of the test mice were all higher than those of the control ones by 0.81, 2.3, 1.55 and 1.43 ng/ml, respectively. The difference between these two groups was very distinct ($p<0.01$). The result shows that the emitted qi can promote the growth of mice's bodies and hind legs and help increase the amount of growth hormone in mice's serum, which implies that the emitted qi can promote and help the growth of creatures

and that offers biological proof to the actual existence of the emitted qi and provides important information and methods for application and research.

HEADACHE:

Jiang, Hansu.

Nanfang Hospital, Guangzhou 510516, China [1]

Therapeutic evaluation of 60 headache cases due to stagnancy of qi and blood treated by qigong. 1993: 139Eb.

This paper shows that it has got better effect in treating 60 headache cases due to stagnation of qi and blood treated by qigong exercises. Among them, 42 cases were healed (70%); 19 got obvious effect (17%); 8 were better than before. The total effectiveness was 100%. The patients were treated 5-30 times, with an average of 19. Compared with the treatment at the same time in 30 cases via Western medical therapy, it shows very outstanding differences in statistics. 42 of the 60 cases have been followed up and interviewed for one year, and there was no recurrence. It suggests that this therapy is safe, effective, without side-effect, and worth popularizing.

HEPATITIS B, CHRONIC:

Shen, Fudao.

Hubei College of Traditional Chinese Medicine, Wuhan, China [1]

Clinical report of 75 cases of chronic hepatitis B treated with qigong. 1993: 134E.

Since 1989, we have worked out a qigong set to nourish the liver according to the TCM principle "psychosomatic treatment." Meanwhile, we selected 139 cases of chronic hepatitis B which were divided into two groups at random according to the revised diagnostic and classified criterion at the National Academic Conference on Virus Hepatitis held in Shanghai in 1990. 75 cases were chosen to the experimental group which were treated by herbs and qigong. The other 64 cases treated only by herbs belonged to the control group. 116 in patients of the two groups were treated for more than 3 months; 23 inpatients for 2-3 months and inpatients with less than two months was not selected to be observed. Each observation index was checked once each month until they left. The experimental group practiced qigong 30 minutes each morning and evening.

The result shows as follows HBsAg negative rate of the experimental group was 52.6%, that of the control group was 28.8% ($P < 0.01$); HBeAg negative rate of the experimental rate was 73.3%; that of the control group was 49.2% ($P < 0.01$); GPT. A/G recovery rate of experimental group and the recovery condition of the main symptoms were better than those of the control group. It can be deduced that the effect of herbs with qigong to the hepatitis B patients is better than herbal treatment.

At the appraisal meeting held by the Educational Authority, 28th April, 1992, all the experts present held identical views that our research had reached the national advanced standard.

HIGH BLOOD PRESSURE - HYPERTENSION

Bornoroni, Corrado; Genitoni, Valerio; Gori, Gilberto; Gatti, Giovanni, and Dorigo, Antonio.

Treatment of 30 cases of primary hypertension by qigong techniques. 1993: 126Ea.

Istituto Superiore di Medicina Olistica e di Ecologia-University of Urbino, Urbino, Italy [1]

Thirty cases of primary hypertension have been treated by qigong techniques as the first medical choice. Population is composed of 20 males and 10 females aging from 30 to 50 years. Measurement of electrical imbalance has been performed by a Decoder 2000, a sophisticated apparatus based on a pulse generation of 10 Hz with low intensity of current. This instrument is able to investigate the colloidal state of tissues in order to obtain a valuation of the reaction of body organs concerning oxygen uptake of peripheral tissues. Qigong exercise has been performed to obtain a direct control of vascular resistance, monitoring blood pressure values two times a week at the same hour. First data are suggestive of a good response in terms of blood pressure control.

HYPERTENSION:

Bornoroni, Corrado; Genitoni, Valerio; Gori, Gilberto; Gatti, Giovanni, and Dorigo, Antonio. Istituto Superiore di Medicina Olistica e di Ecologia-University of Urbino, Urbino, Italy [1] Treatment of 30 cases of primary hypertension by qigong techniques. 1993: 126Ea. Thirty cases of primary hypertension have been treated by qigong techniques as the first medical choice. Population is composed of 20 males and 10 females aging from 30 to 50 years. Measurement of electrical imbalance has been performed by a Decoder 2000, a sophisticated apparatus based on a pulse generation of 10 Hz with low intensity of current. This instrument is able to investigate the colloidal state of tissues in order to obtain a valuation of the reaction of body organs concerning oxygen uptake of peripheral tissues. Qigong exercise has been performed to obtain a direct control of vascular resistance, monitoring blood pressure values two times a week at the same hour. First data are suggestive of a good response in terms of blood pressure control.

HYPERTENSIVE TARGET IMPAIRMENT:

Xu, Dinghai and Wang, Chongxing. Shanghai Institute of Hypertension, Shanghai 200025, China [1] Recuperative function of qigong on hypertensive target impairment. 1993: 124E. Hypertension is a commonly-seen disease of the middle aged and elderly, and a series of target impairment is caused while the disease proceeds and blood pressure rises, so far except for lowering blood pressure by drugs, non-medicament traditional Chinese therapy attracts man's attention especially. This study discovers that the function of the heart, brain and kidney in the aged hypertensive patients are worse than those of the same age without hypertension. It suggests that long term hypertension actually impairs the functions of the heart, brain and kidney. A comprehensive treatment in which qigong plays the main role was adopted at the same time. By a contrast analysis before and after qigong training (one year), and by adopting modern objective indices, we discovered the abnormal rate of isoelectric statistical mapping analysis of EEG reflecting the function of the brain improved remarkably. The total abnormal rate of isoelectric statistical mapping analysis of EEG decreased from 63.3% to 26.7%. The difference is significant. Ejection Fraction (EF) and Mean Velocity of circumferential fibre shortening (MCVF) reflecting cardiac function increased remarkably. Cardiac output increased too, and the total external resistance decreased. Urinary IgM was from 0.268~0.100 to 0.062~0.092. The difference was significant. It suggests qigong training

not only stabilizes blood pressure but also retards the degeneration of the heart, brain, and kidney. The study elucidates that qigong is a simple and useful method for recuperation.

HYPERTENSION, REDUCTION OF HYPOTENSOR:

Wu, Renzhao and Liu, Zhewei.

Zhejiang Academy of Traditional Chinese Medicine, Hangzhou, China [1]

Study of qigong on hypertension and reduction of hypotensor. 1993: 125Ea.

Notes: An English translation of a full article was provided by the author and is included after the abstract. The article was not edited.

ABSTRACT

We studied the effect of qigong on blood pressure in 31 II-stage hypertensive cases and blood pressure rose after withdrawal or reduction of hypotensors, The results showed that qigong was more effective than hypotensors. It suggests that qigong may replace or partially replace drugs to lower pressure.

1. Clinical data

The patients we observed had hypertension for more than two years and were diagnosed II period hypertension. Although they took depressors permanently, the blood pressure (Bp) could not be decreased to the point of normal. Of the 31 cases in qigong practice, 20 were males and 11 females. Average age was 55 years old. they had hypertension for 2-30 years, 12 years on the average. Before Qigong practice, the average Bp was 21.96/13.52 kpa, the highest was 28.00/15.33 kpa.

2. Method of treatment

When they were observed, they took the depressor as usual. Meanwhile, they began to practice qigong -- "The method of relaxation and supposition." After the Bp decreased, the depressor was withdrawn gradually, and they continued to practice qigong to stabilize the blood pressure.

(a) The introduction of qigong "The method of relaxation and supposition" is created on the basis of traditional qigong by our laboratory. It consists of mild idea relaxation, supposition and slight exercise to conduct movement. Mild idea relaxation means the idea is mild and slight, the state of mind is calm and the psychology and body relaxed. It is different from "the method of three line relaxation" --- (introduced by China Changhang Hypertension Institute) which is strong mild and not easy to relax.

(b) The method of withdrawing the depressor When the patients began to practice qigong, they took the depressor as usual. After their Bp decreased to normal and stabilized for two weeks (meaning their diastolic pressure was 12.67 kpa (95 mmHg), they were asked to withdraw the depressor step by step.

3. The method of observation

(a) The measurement of Bp In the first month, we measured the Bp Twice a week in the morning, then once a week. Until twice a month when the Bp stabilized at the normal range.

(b) The method of observation

i. To compare the Bp before and after qigong practice.

ii. To calculate the number of cases which withdrew or stopped the depressor.

iii. To observe the effect after the patients withdrew or stopped the depressor in one year.

4. The standard of effect

(a) The qigong practice appraisal in three months referred to the national criteria, including marked effects, effective, and ineffective.

(b) The standard of withdrawal and depressor cut after qigong practice in three months If the depressor withdrawn more than third and the Bp kept below the point of normal, it belonged to depressor withdrawal in statistics. If the depressor ceased completely and the Bp kept below the point of normal, it belonged to depressor cut in statistics. If it had not have the standard above, it belonged to the original depressor dose in statistics.

(c) The appraisal method of effect in one year We revised the appraisal method referring to the national standard. It was divided into excellent, good, general and bad. A. Excellent almost ceased the depressor and the Bp kept below 22.00/12.67 kpa or less dosage could control the Bp below 22.00/12.67 kpa during the change of the weather or emotion. B. Good the original depressor dose decreased and the Bp kept up below 22.00/12.67 kpa more than 3/4 of a year. C. General beyond above standard, the Bp kept up below 22.00/12.67 kpa more than half a year.

Results of observations

1. Change of Bp in three months

(a) The average Bp before and after qigong practice is shown in Table 1.

Table 1. The Bp changes before and after qigong ($X \pm kpa$)

n	Systolic pressure	Diastolic pressure	
Before qigong practice	31	21.96±2.97	13.52±0.66
After qigong practice	31	18.04±1.92	11.19±0.87
p-value		<0.01	<0.01

There is a significant difference between the average Bp before and after qigong practice. It show that qigong practice can make the Bp significantly decrease in II period hypertensive patients who got unsatisfactory effects by taking depressors. The time for the Bp to decrease to normal was 3 to 25 days, 14 days on the average. In the meantime, microcirculation, blood lipids and function of cardiovascular measured in some cases showed improvement in different degrees.

(b) Effective rate of the treatment In the 31 cases, 27 cases were markedly effective, 3 effective, 1 ineffective, with a total effective rate of 97%.

Discussion

1. The method can partially replace depressors to lower high blood pressure to normal levels. Exercising this qigong will be able to control the Bp in II hypertension cases with long course of disease and poor effect of drugs. At present, it is generally believed that qigong exercise is only a subsidiary method for hypertension in II period. Our observation

indicates that practicing a suitable qigong can act as the main means for controlling hypertension. According to TCM, the disease is caused for the unbalanced rising and lowering of Qi with the over-rising of Qi and blood being the dominant factor. Therefore, the qigong for treating hypertension should emphasize relaxing and lowering [the Qi?]. In practice, the patients should pay attention to both the heart and the body, especially to the relaxation of the heart. The mind should be slight with lower and blurred minding eyes.

2. After the qigong practice induces Bp decrease, dosage of the depressor is reduced step by step. According to the Bp level, the doctor decides if depressor should be stopped.

3. Qigong exercise has the advantage of no side effects of drugs and improves the body condition of the patients.

4. The effects of qigong on hypertension relate to the time of qigong practice, patients' understanding of the qigong method, and their body character.

HYPOMETROPIA, CHILDREN'S EYESIGHT:

Huang, Wenguo.

Zhoushan Qigong Association, China [1]

Prevention and cure of younger hypometropia by qigong. 1993: 140Ea.

To counteract the tendency that the rate of younger hypometropia getting more and more, we've created a qigong set to prevent and cure youngsters' hypometropia based on the theory of traditional Chinese medicine. Attention is paid to the whole function and local function. The treatment consisted of the emitted qi therapy and self-practice of qigong exercise, so to succeed faster. The long-term effect is better than the short-term one. Two semesters later, it was found the complete cure rate was 48.75%, the total effective rate was 95%. Under this qigong treatment, the eyesight of patients improved by an average of 0.34. At the same time, the normal eyes remained normal and most cases improved by an average of 0.15. The exercise was done once a day for half an hour. This treatment is not only safe but also simple and easy to learn.

IMMUNE SYSTEM FUNCTION:

Higuchi, Yuzo; Kotani, Yasunori; Kitagawa, Jun, and Nakahara, Yoshibumi.

Department of Health Science, Tokyo Institute of Technology, Japan

Cortisol, catecholamines and beta-endorphin levels in plasma during and after qi mobilization in qigong. 1995: 3-4.

It is reported that natural killer cell activity increase and various hormones change during qigong, but there are few data for these changes. In the present study, we have tried to clarify the changes of cortisol, catecholamines and beta-endorphin levels in plasma during and after the mobilization of qi by qigong master.

Methods

Subjects were six healthy male volunteers for this study. Only one subject had been trained in qigong for seven years. Blood samples were extracted three times. The first samples were drawn after ten minutes sitting on the chair, and then qigong master emitted external qi during 20 minutes to the subjects with closed eyes. Second and third samples was extracted immediately and after an hour qi mobilization.

Results

After 20 minutes sitting with closed eyes, cortisol level decreased immediately about 20% to the control level, and decreased clearly 30% after an hour. Adrenaline decreased immediately about 20% and recovered to the control level after an hour. Noradrenaline, dopamine and, beta-endorphin levels showed no significant changes.

It showed the same tendency during qi mobilization by qigong master. However, dopamine and, beta-endorphin levels increased about 20% apparently on the one subject who have trained qigong for 7 years.

Discussion

There were no significant changes between qi mobilization by qigong master and on sitting position with closed eyes. It is suggested that the decrease of cortisol and adrenaline levels showed a relaxation from the stress and the decrease of the mental tension. Beta-endorphin is released in the state of deep meditation and pleasure, and then dopamine is released in the anterior lobe by A-10 fiber.

It is considered that one subject who have trained qigong for 7 years obtained the responsibility to the emitted qi of qigong master, and enhanced himself the internal qi.

It is necessary to study furthermore and use the high level qigong master.

IMMUNE & ENDOCRINE RESPONSES:

Higuchi, Yuzo 1; Kotani, Yasunori 1; Higuchi, Hironobu 2; Minegishi, Yukiko 3; Itami, Jinrou 4; Uh, Taigen 5, and Manda, Yasutake 6

Faculty of Engineering, Tokyo Institute of Technology, Tokyo, Japan [1]// College of Tohoku Medical Technology, Sendai, Japan [2]//University of Kokushikan, Tokyo, Japan [3]//Shibata Hospital, Kurashiki, Japan [4]//Beijin Guolin New Qigong Research Association. Beijin, China [5]//Guolin New Qigong Association in Japan, Tokyo, Japan [6].

Endocrine and Immune Response during Guolin New Qigong. J International Society of Life Information Science. 1997; 15(1):138; ISSN: 1341-9226.

Endocrine and immune responses were measured before and after Qigong was conducted for 40 minutes, using the Guoliln New Qigong techniques called Shizen-Koukou and Chukaikou. Plasma cortisol and adrenaline levels decreased while beta-endolphin, dopamine, noradrenaline, and CD4/CD8 showed a tendency of increase. It was concluded that practicing the Guolin New Qigong techniques alleviated stress and caused sympathetic nerve activity declines. Also, when the CD4/CD8 ratio increases,the suppressor T-cells also increased, and this improves the immunity function. The results of practicing Shizen-Koukou and Chukaikou were compared,but there were no significant differences.

KIDNEY DISEASE:

Lu, Guangjun and Tu, Renshun.

Qigong Dept, Xiyuan Hospital, China Academy of Traditional Chinese Medicine, China [1] Report on 21 cases of kidney diseases treated by qigong. 1993: 127E.

Such diseases as chronic primary glomerulonephritis, IgA nephrosis, chronic nephritis, nephrotic syndrome, and renal failure in modern medicine are generally categorized under

the heading of kidney diseases in TCM. The feature of the mechanism of such diseases is the excessiveness in the exterior with deficiency root cause, and neither modern medicine nor TCM has particular effective therapy and drugs for them. From October 1988 to August 1992, the ward of our department admitted and observed 21 cases of such diseases. All of them had been diagnosed through renal puncture biopsy before being hospitalized in our ward with accurate diagnosis. Modern medicine and TCM had been applied to them without any significant effect. Among them, the case history ranged from 9 months to 18 years, and the age of the patients was from 20 to 68. There were 11 men and 10 women. Diagnosis and evaluation of the qigong treatment applied to them has been done based upon the standards of diagnosis and curative effects of kidney diseases formulated respectively by the Committee of Internal Medicine, China Association of TCM and Practical , Internal Medicine, 8th edition. During the hospitalization, those who had long taken hormones were instructed to reduce the dose gradually. For some patients with exogenous pathogenic factors, qigong treatment was applied with the assistance of medicine. The patients practiced qigong by themselves lasting from 3 to 7 hours every day. The emitted qi treatment was made subsidiary, and it took 20 minutes every day. The course of treatment was from 6 to 12 months. After the patients were discharged from the hospital, investigation in the clinic into each of them was made every two months and it lasted from 6 months to 3 years.

Results According to the standards of classification of TCM, marked progress is shown in 52.4% of all the cases. 19% of the cases improved, and thus the effective rate is as high as 71.4%; according to the standards of modern medicine .these figures are 53.3%, 23.3% and 76.6%, respectively. Such conclusion is drawn from the above facts that qigong treatment has better effect over western medicine and TCM in dealing with kidney diseases.

Through clinic analysis, it is found that the average time it takes to get significant effect in all the indexes in observation is 112 days, and so it is better to take four months as one course of qigong treatment for kidney diseases. And in addition, qigong therapy, as a kind of comprehensive treatment, can both strengthen the patients' resistance and dispel the invading pathogenic factors, and it is most suitable for chronic patients with excessiveness in the exterior with deficiency root cause.

KIRLIAN PHOTOGRAPHY VISUALIZES HEALING EFFECTS:

Uchida, Seiya; Kuramoto, Itsuo, and Sugano, Hisanobu

Life Science Inst., MOA Health Science Foundation, Fukuoka, Japan.

Studies of Healing Effects using the Kirlian Photography. J International Society of Life Information Science. 1996; 14(2):153-157; ISSN: 1341-9226.

Changes in the corona discharge pattern (Kirlian photography) of leaves after undergoing healing was investigated. 70 experiments including control and healing were performed using 32 healers. Changes in the discharge patterns and weight of the leaves before and after healing were measured. In spite of decrease in the weight, an inhibition of decrease in corona discharge area size was observed only in leaves after healing. The difference between the control and healing was significant ($p=0.05$). This fact suggests that healer has some power to activate the leaves, and that Kirlian photography is a useful tool for evaluating healing energy.

Keywords Electrography, Corona Discharge, Kirlian Effect, Healing, Leaves

LUMBAGO & JOINT PAIN:

Huang, Xiaokuan and Cao, Qijian.

Health Care Dept, Beijing No. 301 Hospital, Beijing, China [1]

Qigong's curative effect on lumbago and joint pain. 1993: 137Ea.

They have used their expertise in this traditional Chinese breathing technique to treat acute and chronic lumbar muscle strains and lumbar vertebral disorders. They treated 106 patients with very good results.

They had 35 acute patients and 71 chronic patients. The patient's age ranged from 16-year old to 78-year old. Before treatment, some patients had endured pain for 28 years while others experienced pain for only two days.

In general, patients received an average of 10 treatments. However, some severe cases received 18 treatments, while milder cases received only three.

Qigong Method

According to the degree of pain experienced, they used qigong through digital pressure to acupoints, entire body massage, and concentration of mind on specific areas. Each patient received 2-3 treatments each week. Treatments varied from 15 to 30 minutes.

Results

Through qigong techniques, they have achieved a success rate of 90%. By using qigong, they can reduce muscle pain, and adjust muscle tension so that the dislocated joints and muscles can regenerate.

Qigong also is successful in the adjustment and balance of the spinal column so that the dislocated spinal column may return to a normal position.

MAMMARY GLANDS, HYPERPLASIA OF:

Lu, Lijiang. Zhejiang College of Traditional Chinese Medicine

Clinical observation on the treatment of hyperplasia of mammary glands by qigong combined with acupuncture therapy. 1996: 74.

71 cases of the paper were randomly divided into 3 groups one of the groups, the therapeutic group was treated with qigong combined with acupuncture, while the other two groups, the control group were treated with qigong and acupuncture, respectively.

Of the 22 cases in the therapeutic group, 18 cases are related to unilateral breast and 4 cases to bilateral breasts, with the youngest 21 years old, the oldest 52, averaging 38.6. Married women are 81.8%, range of the duration of the disease was 18 days to 5.4 years while one of the control groups (qigong groups), 16 cases are related to unilateral breast and 8 cases to bilateral breasts, with the youngest 23 years old, the oldest 49, averaging 43.1. Married women are 91.67%, The range the durations were three months to 8 years. Another control group (acupuncture group) were 11 unilateral breast cases and 14 bilateral breast cases, with the youngest 32 years old, the oldest 47, averaging 41.5. Married women are 96%. The range of the durations were 62 days to 3 years. The therapeutic group and control group are treated respectively with qigong and acupuncture (Ganshu B18, Tianzong S11, Jianjiang GB 21, Hegu LI4, and so on).

The clinical observations showed that the rates of the markedly effect, effect and general effect of the therapeutic group were 27.27%, 63.64% and 90.91%, respectively, while the qigong group were 4.17%, 70.83% and 75%, respectively, and the acupuncture group were 12%, 60% and 72%, respectively. Statistics show significant differences between the therapeutic group and the control group, proving that medical qigong can regulate emotional

activities smooth qi of liver and dredge the channel and collaterals, Clinical observations also show that patients will have ease of mind and the pain of breast is relieved while acupuncture kills pain much effectively combined together, they can prove to have comprehensive treatment effect.

MENTAL HEALTH:

Hayashi, Shigemi. Sino-Japanese Qigong Institute

Qigong and mental health: the positive effects of the state of rujing. 1995: 26-27.

This century is considered as the century of advanced industrialization both in material and machines. But contrary to the convenience of daily life, our earth is facing an existential crisis because of pollutants like industrial waste and trash, the traffic chaos and its rising death toll, conflicts among nations, wars fought with modernized weapons, refugees and starvation. There is a huge increase in patients who suffer from alcoholism, narcotism, and other psychological illness. More and more aged people and children commit suicide. It is essential to prevent mental disorders as we approach the coming century, which will be the century of the brain, the heart, the "qi" and spiritual civilization. Thus, for the coexistence of human beings and the earth, it is imperative to popularize qigong globally and make everyone broad-minded, strong-willed, healthy and happy.

Based on a survey of 226 Japanese in central Japan in 1992, the following mental effects of exercising qigong were described

- | | | | |
|--------------------------|----|-----------|--------|
| 1. Emotional stability | 54 | incidence | 20.30% |
| 2. Increased joy of life | 52 | | 19.54% |
| 3. Decreased selfishness | 40 | | 15.03% |
| 4. More open attitude | 40 | | 15.03% |
| 5. Increased interest | 35 | | 13.15% |
| 6. Increased willpower | 32 | | 12.03% |

7. Care about others 29 10.90%

Moreover, every qigong trainee of the Aosora Qigong School established thirteen years ago, became spiritually open, strong-willed, healthy and happy, based on a 30-minute exercise that starts at 6:30 am. every weekday morning. Volunteers teach people how to exercise and look after lonely and helpless aged persons. All of these activities can be explained as effects of qigong exercise.

Based on the clinical practice of qigong treatment for nearly ten years, the following measures are suggested for the combination of qigong exercise and mental health

1. As preparation for the treatment, the qigong tutor should introduce his patients to qigong and talk about the meaning of consciousness. Details related by the patients should be listened to carefully and problems clarified beforehand.
2. The tutor should explain to the patients that the Yin-Yang (Negative-Positive) is integral, interchangeable and inclusive and tell that a miserable feeling can be turned into a feeling of strength, and he should emphasize the importance of the exercise.
3. While the patients approach the "rujing" state, he should try to make the patients enter a realm void of lust, self-consciousness, thoughts and ideas, and make them feel the spirit of "tian ren he yi" ~Integration of man and environment) and "ru wo wo ru" (interchangability of man and environment), which will reform their outlook on life.
4. In order to help the patients keep a responsive subconsciousness until the end of the exercise, positive suggestions should be repeatedly given to them in forms of simple words, in a low voice and with clear meaning, e.g . "You are very healthy both physiologically and psychologically", "'You will be full of vitality after your qigong exercise", "'Your are definitely recovering from your disease!'l "Your ability to resist diseases is getting better and better".

With these measures, I was able to help a young man recover from his psychosomatic disease as he left his long-used wheel-chair, walked freely, went back to school, and later found a job.

Although there is much more to qigong, the "rujing" training and the positive suggestions help the trainee to advance more easily and double the effects of exercise.

5. Qigong treatment is suited for the treatment of neuropathy, mild depression, hysteria and neurosis. In the case of schizophrenia, great care must be taken in teaching qigong so that the patients will not miss the right realm during the exercise. Many treatments by experienced tutors were successful through appropriate induction. For those in an acute stage of the disease, it is better to choose the mild move mood of qigong exercise instead of the quiet mood. It is generally not advised to practice qigong in the case of active schizophrenia. But those in cataplexy may choose the move mood of natural qigong instead of practicing the move or quiet moods of conscious qigong.

The treatment of mental disorders requires cautious accumulation of experience. Through investigating differences, it is possible to learn how to apply qigong and to prevent mental disorders. The treatment of neuropathological cases is therefore strongly encouraged. It is highly possible to achieve recovery from schizophrenia with careful qigong treatment. The prevention of mental disorders based on the effects of qigong on mental health is an even more significant possibility. Let us continue our endeavors in popularizing qigong throughout the world.

MIGRAINE:

Zhang, Shengbing. Treatment of 126 cases of migraine with outgoing qi. 1996: 141-142.

Nangjing University of TCM, Nangjin, China

This paper presents a summary of treatment of 126 cases of migraine with the outgoing qi in qigong therapy conducted in our university clinic, compared with a control group of 32 cases treated with western medicine.

Among the 126 cases of migraine patients in the outgoing qi group, 102 were cured and 115 responded well to the treatment. The cure rate and markedly effective rate being 81% and 91.3% respectively. Among the 32 cases in the western medicine group, 15 were cured and 23 responded well to the treatment, the cure rate and markedly effective rate being 46.9% and 71.9% respectively.

Marked differences existed between the two groups both in the cure rate and markedly effective rate as revealed by t test (cure rate $t=3.59$, $p<0.01$; markedly effective rate $t=2.33$, $p<0.05$).

Results of one-year long-term therapeutic effect showed that in the outgoing qi group 3 out of 94 patients had a recurrence while in the western medicine group 6 out of 11 had a recurrence, the recurrence rates of the two groups being 3.20 % and 54.5 % respectively. Significant differences existed between the two groups as revealed by t test ($t=3.39$, $p<0.01$).

It follows that in treating this disease, outgoing qi treatment is superior to western medicine treatment, both in short-term and long-term effects, with great statistical differences.

This paper also explains the mechanism of analgesia by the outgoing qi based on theories of traditional Chinese medicine and modern science. The author believes that outgoing qi treatment has the advantages of good analgesic effect, no suffering, no side effects and easiness to be accepted, and therefore is worthy.

MIND CONTROL:

Du, Luoyi. China Medical Qigong Society, Beijing, China [1]

Effect of mind-control in qigong exercise investigated by an infrared thermovision imager. 1988: 183E.

"Mind control is the core of the qigong exercise. " "Mind can control the motion of qi
"Although most of the qigong exercisers have an intimate knowledge of these points, there still lacks of the scientific evidence. In this paper the effect of mind-control was investigated by an infrared thermovision image.

1. Experimental design and instrument

According to the phenomenon that qigong exercises can produce

the infrared effect, the subjects were divided into five groups.

Group A. The qigong exercisers emitted qi from the head and face through mind-control.

Group B. Non- qigong exercisers emitted qi from the head and face through mind control.

Group C. Hands of non-qigong exercisers in normal state were measured.

Group D. Qigong exercisers emitted qi from the hand through mind-control.

Group E. Non- qigong exercisers emitted qi from the hand by mind-control.

These five groups were measured in the same condition and by the same instrument. The purpose of the experiments is (1) Supply more evidence of the infrared effect produced during qi emission; (2) The qi adjustment by the qigong exercisers is stronger than by the non qigong exercisers; (3) To measure if the non-qigong exercisers can emit qi or not.

The Model AGA 780 Infrared Thermovision Imager which we used is an instrument with higher sensitivity, accuracy and resolution. When the room temperature is about 30° C the resolution of this infrared thermovision image is 0.1° C. When the temperature of the subjects changes 0.2° C, the colour of the screen will change to the adjacent colour in the colour criterion. The difference of temperature represented by the adjacent two colours can also be adjusted to 0.5° C

Discussion

1. Qi emission is no mystery. It is a general phenomenon in the qigong exercise.

2. The infrared effect in the process of qi emission can be modulated and self-controlled by the mind.

Number of Persons	Having Infrared Effect (deg C)	%	Maximum Change of Temperature (deg C)	Average Change of Temperature	
Group A	21	21	100%	4	0.709
Group B	14	0	0%	0	0
Group C	12	0	0%	0	0
Group D	20	20	100%	3	0.891
Group E	12	2	16.7%	0.2	0.03

3. Experienced qigong exercisers can control his qi emission from a definite part and time and diseases can be treated by the emitted qi .

4. Qi emission also has the effect of lowering temperature.

5. As concentrating their mind ,some non-qigong exercisers also can enter the elementary qigong state. From the above. we can "touch" the qi which is considered "invisible' on the screen and from the temperature change. Through the comparison of the colour pictures before and afterqi emission the temperature changes induced by the infrared effect ofqi emission can be

calculated. The results prove the effect of the mind-control of qi in the qigong exercises.

MONILIASIS (Imbalance of thallus in the body due to abuse of antibiotics):

Chou, Chu.

Moniliasis treated by emitted qi and acupuncture therapy. 1993: 141Eb.

Moniliasis is produced by imbalance of thallus in the body due to abuse of antibiotics. The disease may last over 25 years and it is estimated that 20% females contract it. The population is increasing and it is difficult to cure.

Moniliasis are marked by various symptoms. Traditional Chinese medicine holds that it is caused by lower body resistance, abundant pathogenic dampness. Then the treating principle aims at strengthening the spleen, removing dampness, soothing the liver and regulating qi. As a result, the body resistance is improved and pathogenic factors eliminated. Some patients are allergic to herbal medicine. So a comprehensive therapy including the emitted qi and acupuncture is employed to get good results. The report is as follows.

There were 56 female cases, aged from 18-65. The disease course was from 2-25 years. Before consultation, they had been treated by various therapies without satisfactory effect. In the first period, acupuncture was the main approach and qigong the second. In the later period, qigong was adopted as the chief therapy. The following two groups of acupoints were alternately selected with modification. 1. Zusanli (St 36) (reinforcing), Zhongwan (Ren 12) (reinforcing), Shangjuxu (St 37) (first reinforcing, then reducing), Qihai (Ren 6) (reinforcing), Fujie (Sp 16)(reducing), or Zhaohai (K 6)(reinforcing), Xinfeidian (reinforcing), Neiguan (P6) Zhongji (Ren 3)(first reducing, then reinforcing), Sanyinjiao (Pp 6)(first reducing and reinforcing), Shuifen (Ren 9) (reducing), Fengchi G20) (reducing), Yan glingquan (G34)(first reinforcing and reducing).

2. Pishu (B20) (reinforcing), Weishu (B21) (reinforcing), Dachangshu (B25) (first reducing then reinforcing), Feishu (B13)(reinforcing), Shenmen (H7), Shenshu (B23)(reinforcing), Ciliao (B32)(reducing), Jiannao (reinforcing, Ganshu (B18)(first reducing then reinforcing). The emitted qi therapy The patient was in a lying position, sitting or standing position. Eyes were closed and body relaxed. Qi was emitted to the above points. Criteria of the effect Care Disappearance of symptoms, no mold 32 cases (57.14%); Marked effect Symptom relieving

greatly 16 cases (28.57%); Better effect 5 cases (8.93%); Failure No change 3 cases (5.36%).

Because the regulating function is strengthened, the body resistance is improved and pathogenic factors eliminated. That is why the disease is cured or treated.

NEURAL MECHANISM RESEARCH:

Cui, Rogqing 1; Liu, Guolong 1, and Zhang, Huiwan 2.

Neural mechanisms of qigong state: an experimental study by the method of visual evoked potential flash and pattern. 1989: 24E.

Qigong exercises has three main link i.e. body regulation, breath regulation and mind regulation, with last regulation as the most primary link. Traditional Chinese Medicine holds that the heart dominates the mind. This implies the existence of some relationship between the "Shenming Zhi Xin" in traditional Chinese medicine and the higher central nervous system in modern medicine. Normally in a conscious state, 95% of the brain information was caught by the visual system in the men. During the qigong state, it become "look but see not, listen but hear not," this change certainly affected the activity of the visual cortex . For this reason, it is quite helpful for the approach of the mechanism of the mind regulation of the qigong to study the activity of the visual cortex during qigong state.

METHODS 26 subjects (22 male and 4 females), ages 19-26 years qigong exercise (Neiyang Qigong) 2-6 years. Visual evoked potential-False (VEP-P) were averaged using a evoked response recorder (model MEB-5100) and stimulated by a flash stimulator (model PM-173T). The subjects were seated comfortably in an electrically shielded room. VEP-F and VEP-P measurements were recorded before during and after qigong state.

RESULTS

(1) During qigong state, the amplitudes of the VEP-F were inhibited as compared with before Qigong i.e. the wave N1 decreased 36.47% ($p < 0.05$); P1 decreased 18.26% ($p > 0.05$); N2 decreased 41.4% ($p < 0.001$); P2 decreased 48.95% ($p < 0.01$); N3 decreased 66.56% ($p < 0.01$); P3 decreased 56.65% ($p < 0.01$); N4 decreased 37.35% ($p < 0.01$); P4 decreased 35.08% ($P < 0.05$); N5 decreased 11.08%; P5 decreased 9.15%. There were significant difference among the percent inhibition of most neighboring waves i.e. N1 and P1 $p < 0.05$; P1 and N2 $p < 0.0$; P2 and N3 $p < 0.05$; P3 and N4 $p < 0.05$; P4 and N5 $p < 0.001$.

(2) The amplitudes of the VEP-P were inhibited too, during qigong state i.e. the wave N60 decreased 54.65% ($p < 0.001$); P90 decreased 47.75% ($p < 0.001$); N140 decreased 37.14% ($p < 0.001$); P200 decreased 34.72% ($p < 0.01$); N230 decreased 24.16 ($p < 0.05$). Like-wise, there were significant difference between a part of the neighboring waves i.e. P90 and N140 $p < 0.01$; P200 and P [Here some characters were dropped - Editor] < 0.05 .

Discussion The visual evoked potential is often thought of as electrical activity that is generated by the visual cortex and pathway for the visual stimulus. It represents the activity

of the occipital cortex and the ability of the messages of transmission from the retinal to the cortex. The experimental results showed that the VEP-F and VEP-P not only were inhibited, but the percent inhibition were different among waves during qigong state. The results suggest that when the subjects enter qigong state, the activities of their visual cortex and pathways were decreased . Furthermore, the level of the inhibition was higher in the primary visual cortex than the secondary. The extrastriate area is higher than the circumstriate area, but the striate area is highest of all areas in the primary. Normally in a conscious state, numbers of the messages of the brain was sensed by the visual systems qigong restrain the activities of the sense organs which are the main gatekeepers of our body and mind. This can be achieved by minimizing the chances of having the sense organs stimulated by various external object. Result in (1) the catabolism is decreased and anabolism is increased in the brain; (2) it enables a person to prevent and cure various psychic and psychosomatic disorders; (3) it can also improve a person's resistance and ability to endure stressful situations more effectively; (4) it helps enter and keep the qigong state.

NEUTROPHILS:

Kataoka, Takuji 1; Sugiyama, Norikazu 1, and Matsumoto, Mippou 2

System Division, Hamamatsu Photonics KK, Shizuoka, Japan [1]//Jyoyuin Laboratories, Nara, Japan [2].

Effects of Qigong Vital Energy on Human Neutrophils. J International Society of Life Information Science. 1997; 15(1):129-134; ISSN: 1341-9226.

This study was undertaken to examine the effects of externally applied Qigong vital energy at the cellular level, using scientific methods. M. Matsumoto, who is the president of Jyoyuin Laboratories (a Traditional Chinese Medicine clinic located in Yamato Koriyama City, Nara Prefecture, Japan), has been applying his unique therapy using Qigong vital energy to treat various diseases and has obtained favorable results. Our experiment was designed to clarify the effects of Qigong vital energy on neutrophils isolated from human peripheral blood. The experiment demonstrated that Qigong vital energy affects the signal transduction system of neutrophils and enhances their phagocytic activity.

OXYGEN METABOLISM – AFFECTED BY QIGONG

Cao, Dongse 1; Xia, Yunjuan 1; Yang, Degen 1; Wang, Zongming 2; Zhou, Yahui 2, and Yang, Kelin 2.

A preliminary study of the effect of qigong on oxygen-metabolism of rowing team. 1989: 195E.

Physical Culture Dept, Jiang Han University, China [1] //Rowing Team of Physical Culture and Sports Commission, Wuhan, China [2]

This article analyses the results in tournament, the content of lactic acid in blood, the rhythm of respiration and change of pulse beating of the rowing players with 'qigong' coaching. It has been found out that the 'qigong' coaching combined with some specialized technique of sports can stabilize the function of respiratory system and circulatory system at a higher level. It can also achieve an equilibrium of the supply and demand of oxygen to enhance the ability of the oxygen-metabolism for the rowing players.

OZONE TOXICITY:

Lu, Y. C.

[Biological effect of qigong waiqi--a preliminary report of the anti-injurious effect of waiqi on ozone toxicity].

Chung Hsi I Chieh Ho Tsa Chih (CHINA). 1989 Dec; 9(12):734-6, 710; ISSN: 0254-9034.

This paper deals with the anti-injurious effect of Qigong Waiqi on ozone toxicity. NIH male mice were randomly divided into three groups, O₃ group, mice kept in 0.9 ppm O₃ in a special room 12 hours/day for 12 days; Qigong group received Waiqi from a Qigong master for 30 minutes every morning in addition to what O₃ group was treated; and a normal group for control. After 12 successive days, all the animals were decapitated and autopsy performed. Tissues taken from lung, liver, spleen and thymus were prepared for biochemical assay and microscopic examination. It was found that MDA content of lung and liver of O₃ group was much higher than those of the control group and Qigong group. On the contrary, GSH-Px activity was significantly (P less than 0.001) lower than those of the control and Qigong groups. Both the MDA content and GSH-Px activity between the latter two groups were not significantly different. Microscopic examination revealed severe interstitial pneumonia with marked edema of lung and prominent leucocytic infiltration in liver of O₃ group mice, but only slight changes were seen in Qigong group, so the differences were significant. The two immune organs of mice in O₃ group were reduced in size and weight. Microscopic examination of immune organs of O₃ group revealed thinner T lymphocyte population in cortex of thymus and periarterial sheath of spleen than those of Qigong group.

PARKINSON'S DISEASE:

Zhang, Jinsheng. Shanghai Qigong Institute, Shanghai, China

Discussion of qigong effect on PD patients in clinic and P33 which is an auditory event related potential. 1996: 134.

In this research of ERPs P300, we employed the method of short sound stimulation with two agitating and stimulating systems, two separate "time-analysis windows" and with attention to the probability of target and non -target stimulation.

We successfully recorded P300 of 24 normal controls and those of 30 Parkinson disease patients before and after practicing Qigong. We also recorded the webster's scale of 33 Parkinson disease patients practicing qigong for one year.

The primary results are as follows

- a. In comparison with the normal controls, P300 indexes of Parkinson Disease are perceived, among which the lengthening latency of target stimulating P3 of Parkinson Disease was the most distinctive one; and the amplitude of P3 was higher than those of the control group.
- b. Comparing with the records taken before the self- treatment by practicing qigong, the latency of target stimulating P3 of Parkinson Disease shortened significantly.
- c. The Webster's score indicated that Parkinson Disease patients conditions have improved in terms of the clinical symptom by practicing qigong and implies to us the positive treatment effect of qigong.

PARKINSON'S DISEASE:

Chen, Xinhua.

Exploration of using emitted qi of qigong for curing Parkinsonism. 1989: 163E.

Nowadays, using Qigong art to cure many diseases already receives better effect, but the fixed curative effect can not be obtained for Parkinson's disease until now. Through my exploration for more than two years, I cured hundreds Parkinson's patients with Qigong art and got the remarkable effect and obtained the break through progress.

Combining the theory of the Chinese traditional medicine and our clinical practice, we find that "For permanent cure, ought to get at the root of disease" is one of the basic principles for Qigong treatment.

From the clinical symptoms, some of the patients are marked by deficiency of vital energy and lowered body resistance and some of them are marked by running a high fever or suffering from such disorders as stasis of blood, constipation, etc. Thus, the first principle is to fix the diagnosis and treatment based on an overall analysis of the illness and the patient's condition, and the different treatment to be taken between " Reinforce the weakness" and "Weaken the sturdiness".

For instance, some patients belong to the deficiency on kidney and vital energy. The clinical manifestation is lowing in sound and difficulty in chewing, which influences the disorder in the respiration system and saliva secretion system. It will be considered as deficiency type of disease and be taken mainly some reinforcing method.

If some of patients reveal the liverish symptom, hot temper, emotional fluctuation and accompanies with hypertension and constipation, these patients belong to overflowing type, and a reducing method should be mainly used for them.

The second principle is the "Encourage healthy trends and check unhealthy ones." Some of the patients often have the less in vital energy and more in unhealthy trends. The clinical manifestation displays not only the deficiency on the liver, kidney, vital energy and blood, but also the liverish symptom, hot temper, excessive phlegm and blood extravasation. Then a method of encouraging healthy trends and checking unhealthy ones would be used by the Qigong master.

The third principle is the control of Yin and Yang. The patient trembles on one side of the body. At the time of Qi emitting, the Qigong master can get the information of disorder on Yin and Yang at the patient's head. Thus the Qigong master would control the Yin and Yang, vital energy and blood state to get the equilibrium of them, which leads to the trembling diminishing and disappearing.

The fourth principle is to suit measures to each person, time and local conditions. We find that the surrounding, emotion and conditioned reflex will give much influence to the patient, and enable every patient to receive less influence, to increase the confidence and to obtain better curative effect.

Regarding the skill of the three turns, which is the bicultivation skill for character and life of Taoist Qigong. That is say to turn to Qi from semen, to turn to spirit from Qi and to turn to void from spirit. On this base, combining with finger press manipulation, it will enforce the current circulation of vital energy, blood state and main and collateral channels.

Recently I took some statistical analysis on fifteen patients, who came for curing on time with persistence. After one course of treatment (60 times), 7 patients got the obvious effect

(46.67%), 5 patients got the better effect (33.33%) and 3 patients got the general effect (20%).

The standards for the obvious effect are

1. The diminishing frequency and amplitude of tremble.
2. The interval time between two attacks is obviously prolonged.
3. Time of attacking is obviously reduced.

The standards for the better effect are

1. The tremble is obviously weakened.
2. Dexterous and quick in walking.
3. Speaking in a loud voice, have basically the clear enunciation.

The standards for the general effect are

1. Tremble diminishes at time of treatment with emitted Qi.
2. The patient has the relapses on state of illness.

We take 20-60 times as a curative course. Up until the present moment, at least the general effect is obtained after treatment. We have not heard or seen certain by-effect about it.

PREGNANCY INDUCED HYPERTENSION:

Zhou, M. R. and Lian, M. R.

[Observation of qi-gong treatment in 60 cases of pregnancy-induced hypertension].

Chung Hsi I Chieh Ho Tsa Chih (CHINA). 1989 Jan; 9(1):16-8, 4-5; ISSN: 0254-9034.

Qi-gong relaxation exercise was used for treatment of pregnancy induced hypertension(PIH). Patients exercised 3 times a day until labor. In this study, there were two groups with 60 cases of PIH who had delivered in each group, they were treated by Qi-gong for one group and by medicine for another used as control. The clinical efficacy was evaluated according to PIH combined scores showed effective for 54 cases (90.0%) in Qi-gong group and 33 cases (55.0%) for the control group (P less than 0.01). Meconium stain in amniotic fluid was present in 12 cases (20.0%) in Qi-gong group and 29 cases (48.3%) in the control group (P less than 0.05). The incidence of abnormal hematocrit (greater than 35%) before treatment was 52.4% and decreased to 23.8% (P less than 0.05) in Qi-gong, while in the control group was 35.7% before treatment and 45.2% after treatment (P greater than 0.05). The mean value of blood E2 by RIA showed increased from 22.97 +/- 13.16 micrograms/ml to 33.74 +/- 34.01 micrograms/ml after Qi-gong treatment in 29 cases. The microscopical observation of finger nail capillaries showed various degrees of improvement of microcirculation after Qi-gong exercise for 17 cases and

after a course of Qi-gong treatment for 11 cases in Qi-gong group. While for the control group, there was no changes after sit-still for some time.(ABSTRACT TRUNCATED AT 250 WORDS)

PSYCHOSOMATIC DISEASE ,CURATIVE EFFECTS ON:

Du, Chusheng; Qin, Chao; Yang, Shengling; Wei, Baolin; Jiang, Sainan; Li, Li; Zhang, Jianhua, and Shi, Jianhua.

The correlation of individuality with types of disease and qigong-biofeedback curative effect. 1989: 186E.

Some research showed that the occurrence, favorable turn, recurrence and curative effect of the psychosomatic disease were obviously affected by individuality. But, what is a correlation between individuality and Qigong-Biofeedback curative effect has not been reported. We have initially investigated and analyzed the correlation of individuality with some psychosomatic diseases in this paper.

All 52 patients were out-ones. There were 36 males (69.2%) and 16 females (30.8%) whose ages ranged from 19 to 58, mean 35.3 years old. The diseases included 14 cases with various headache, 14 anxiety, 12 neurasthenia, 4 hysteria, 2 gastroenteroneuritis, 2 depression, 2 bronchial asthma and 2 epilepsy. Individuality determination we adopted Eysenck personality question naire (EPQ) revised by Chen Zhonggeng. EPQ include four tables which are P, E, N and L. P, E, N and L represents respectively psychoticism, extroversion-introversion, neuroticism and one's social tendency covered up by oneself. The patients quietly lay in bed when them were treated with model JD-I electromusclation biofeedback apparatus. After coordinating patient's breath and muscular relaxation training, making the manipulations of patients followed in the feet of the tape recording which is a standard Qigong relaxation training program guide. Two feedback way of voice and light were adopted. We recorded the electromusclation volume of pre-treatment and post. Each treatment time lasted 30 minutes. Each course consisted of 6 times. The most of patients lasted 2-4 courses in therapeutic time.

Result Curative effect was evaluated according to the method of the five scale score. Among the 52 cases, 10 cases in the main; 6 cases(11.5%) were on the mend; 10 cases(19.2%) were efficacious; 6 cases(11.5%) were of no avail. The total effective rate of the therapy was 88.5%. The total mean mark(SD) of each statistical table was counted by the EPQ score method. The mean mark of p table was 6.73±1.11 (mark); E 4.96±1.96; N. 16.19±4.93; L 13.88±3.97. The correlative coefficient (r) of P, E, N and L table value with the treatment effect was respectively -0.29, -0.47 (p< 0.02), -0.19 and 0.01. The patient's individuality compared with the different type of the diseases. E and N tables of the three psychosomatic diseases which are the vascular and tension headache, anxiety, and neurasthenia were analyzed by X² (chi squared) test between both groups. (1) the difference of E and N tables between the headache and anxiety group was not statistically significant (p>0.25, p<0.05). But, the proportion of the people's number with the several diseases was different. The number of the introvert people with headache was predominant. The number of the introvert people with anxiety was close to one of the extrovert. The more persons with headache were

instability of mood. All patients with anxiety were of instability mood. (2). In E and N tables, the difference between anxiety and neurasthenia was statistically not obvious significant too ($p>0.05$, $P>0.1$). The patients with the introversion and instability mood were more in the both groups. (3). In E table, the difference between headache and neurasthenia group was statistically very significant ($p<0.0253$). The difference about N table was not significant ($p>0.05$) in both groups, but, the X^2 value (3.23) was close to the threshold (3.84).

Using the Qigong-biofeedback therapy was better than the simple relaxation training or electromusculature biofeedback. This therapy has showed the better composite effect in the treatment of psychosomatic disease. There was a fixed correlation between the individuality and curative effect of patients. The correlative coefficient between each of the three (P, E and N) tables and the curative effect was all negative. z was the most notable. The results showed that the introvert patients who were quiet, introspective, conservative, steady and sure, and regular living could get the better curative affect. The results suggested that the determination of individuality is of certain clinic significance- in examining transformation and recovery of the psychosomatic disease and calculating curative effect of the psychosomatic therapy. The results still suggested that patients with no steady mood were easiest suffered from anxiety, headache taken second place. The noticeable difference between the headache and neurasthenia group indicated that the lower B mark is, the easier neurasthenia suffered from is. But, in N table, the lower N mark is, the easier neurasthenia suffered from is.

QI DETECTION, ELECTRICAL:

Nomura, Harehido (Electro-technical Laboratory).

Can't qi be monitored by electric systems? Japanese Mind-Body Science. 1992; 1(1):113-117; ISSN: 0918-2489.

Hitherto, outer qi have been received, in the bio-medical field, mainly by human bodies, but these have not yet been confirmed that the outer-qi could excite the electric measuring systems without touching any electrodes or such to the body of qi transmitter. We found that the qi irradiation induced significant changes in electric signals not only from the body who emitted qi but the person being emitted from a professional qi transmitter. These electric signal had been monitored by enlarging electric mutual impedance between the earth and the human body by 60 dB amplifications both pre and main amplifiers.

QI DETECTION, VARIOUS MEANS:

Machi, Yoshio (Faculty of Engineering, Tokyo Denki University).

Measurement of qi. Japanese Mind-Body Science. 1992; 1(1):19-28; ISSN: 0918-2489.

Qi is measured by several technological methods, such as thermography, far-infrared spectrum, heart rate, blood pressure, brain wave, detection of low frequency signals from far-infrared emission and sound signal, detection of magnetic flux by a fluxgate and a SQUID. Thermographic data show close correlation between sender and receiver of Qi. But Qi can not be explained only by far-infrared energy. So we tried to detect signals from Qi sender in far-infrared region and sound region. We caught specified low frequency signal in both experiments, around about 1 Hz.

Also we got nice brain wave datum at the same time between sender and receiver of Qi. In these data, both brain waves show good coincidence in the beta brain wave region under Qi condition. This denotes a resonance phenomenon in both brain waves. Also when starting or stopping Qi, both brain waves show relatively quick transient phenomena. These transient time coincide with time coming out low frequency signal from far-infrared ray. Also a magnetic flux was detected from the hand or head of Qi sender and a magnetic flux measurement from the head of Qi sender was performed by using SQUID. We got interesting datum from these experiments.

QI TRANSMISSION:

Kobayashi, Keisuke and Itagaki, Yoshiko (Psychosomatic Science Laboratory).

Double-blind test of qi transmission from qigong masters to untrained volunteers: (4) results of peripheral blood flow rate, skin electric potential, and meridian function measurements, during qi transmission. Japanese Mind-Body Science. 1993; 2(1):113-124; ISSN: 0918-2489.

A series of double blind polygraphic measurements were performed in electric shield by a project team of from the Japanese Society for Mind-Body Science on qi transmitter-receiver pairs to verify the external qi transmission phenomena. This article reports the results from the peripheral blood flow rate and meridian function measurements. The skin electric potential changes at CV 5 acupoints measured by a vibrating capacitance electrometer are also reported. The results on the mean blood flow rate, and Fourier spectrum of the blood flow rate clearly show synchronous changes between the transmitter-receiver pairs under conditions of qi transmission. The meridian functions also show distinguishable synchronous changes. In spite of the electric shield installed between the transmitter and the receiver. On the basis of the present double blind experiments, it is concluded that external qigong

performance is quite different from hypnosis in which suggestion and leading play dominant roles. It is also concluded that electric fields play no role in external qi transmission.

QI TRANSMISSION:

Kashiwasake, Masaki (Hamamatsu Photonics K. K. Tsukuba Research Laboratory).

Double-blind tests of qi transmission from qigong masters to untrained volunteers: (1) an outline of simultaneous polygraph measurements, biochemical blood tests, and psychological tests. *Japanese Mind-Body Science*. 1993; 2(1):81-87; ISSN: 0918-2489.

An outline of our collaborative research to investigate the existence of external Qi is described. Qi transmission from Chinese qigong masters to healthy Japanese volunteers (adult males) was investigated by simultaneous polygraph measurements (electroencephalograms, peripheral blood flow rate, meridian function, and electromagnetic emission), biochemical blood tests, and psychological tests double-blind test conditions. These were used to distinguish between the effects due to qigong on the volunteers and those due to self hypnotic suggestion by the volunteers. The results showed synchronization between the transmitters and receivers in their EEGs and AMIs, a remarkable increase in the electromagnetic emission from the receiver, and an increase in the number of white blood corpuscles of the transmitter. These results indicate the existence of external qi. On the other hand, psychological tests showed that the qigong masters had subconscious desires to influence other people and that their psychology had a strong affinity with the affect-drive impulse. These findings typified the psychological characteristics of the qigong masters.

QI TRANSMISSION:

Kawano, Kimiko; Wang, Fengfong, and Duan Liye

Information Processing Center of Medical Sciences, Nippon Medical School.

Double-blind tests of qi transmission from qigong masters to untrained volunteers: (2) changes in the brain waves of qi-receivers. Japanese Mind-Body Science. 1993; 2(1):89-93; ISSN: 0918-2489.

Electroencephalograms (EEGs) of three Chinese qigong masters and three healthy and sound Japanese men as their receivers were measured simultaneously for each pair. Two of these pairs were examined under double-blind test conditions, by which the qi-receivers, as well as all researchers, could not know the time when the qigong masters emitted qi. We have previously reported that the changes in the EEGs of qigong practitioners while emitting qi appeared as similar changes in the EEGs of their subjects. In this report no clear synchronized changes were found in the beta waves.

The alpha phase difference between the occipital and frontal regions (τ_m) of qigong masters becomes significantly shorter during qigong. Even under the double-blind test conditions, the τ_m of the receivers also became shorter during qigong than that during the resting state. During quiet qigong meditation by the practitioner, there was a small influence on his subject. The alpha peak-frequency of the three masters became faster during qigong, and this was reflected in the receivers. The power value of the alpha waves tended to decrease during qigong, as we have reported before. However, its changing rate was small. These results show that 'qi' is not merely a so-called placebo, but something that can be transmitted trans-personally.

RENAL FAILURE:

Suzuki, Masahiro and others (City University Los Angeles, U.S.A.).

Clinical effectiveness of the "qi" treatment on the chronic renal failure. Japanese Mind-Body Science. 1992; 1(1):71-77; ISSN: 0918-2489.

At the present time, there is no effective treatment on the chronic renal failure but the condition of the patients is, at best, made better by dialyses or renal transplantation at the

final stage. Here, the authors have tried to radiate the human spirit, qi, to the patients' affected parts, i. e., the kidney to cure the chronic renal failure.

This treatment is called "AST Chiro" method, being essentially different from the traditional Chinese qigong.

Although these patients have so far been suffered from the serious renal failure, the serum creatinine number of all these was decreased and subjective symptoms were also improved by the qi treatment. The patients whose serum creatinine number of over 15 mg/dl, are generally requires introduction of dialysis, however none of these patients didn't require such dialysis at any time during treatment periods by performing both AST Chiro and the internal clinical treatments.

SENILE CEREBRAL ARTERIOSCLEROSIS:

Cheng, Kezhong; Zhu, Ruifen; Zhu, Jiayan; Ma, Yumei; Tang, Zhanfu; Jing, Xinwen; Peng, Xiaoju, and Cheng, Xiushan.

Clinical study of qigong on the evoked cerebral potentials in patients with senile cerebral arteriosclerosis. 1988: 130E.

The method for keeping good health and longevity is one of the qigong advantages through the clinical practice over 2000 years. But experimental studies are lacking. The evoked cerebral potential is one of the new objective parameters in the study of the cerebral function. Thirty male patients (60-70 years old) of a qigong exercise group, who were diagnosed as having cerebral arteriosclerosis by specialists and 10 controls (60-72 years old) were involved in this study. The somatosensory evoked potentials (SEP) and visual evoked potentials (VEP) were detected. The results revealed that before doing the qigong exercise the incubation periods of the N₃ wave of SEP and N₁, P₂, and N₂ waves of VEP were longer than those of the controls ($P < 0.05$ and $P < 0.01$ respectively). This indicated that the cortical pathways of SEP and VEP were damaged by cerebral arteriosclerosis.

In the qigong exercise group, after practising for 6 months, the incubation periods of the P₃ wave of SEP and N₁, P₂ and N₂ waves of VEP markedly shortened than those before practice. The differences were statistically significant ($P < 0.01$). However, the amplitudes showed no marked difference ($P > 0.05$). The authors had randomly selected 15 patients from the 30 patients with cerebral arteriosclerosis of the qigong exercise group. Before and immediately after practice their SEP and VEP were detected. The amplitudes had physiological differences but the differences were not significant ($P > 0.05$). After entering the calm state, the incubation periods of all the waves of SEP and VEP had changes. The incubation periods of N₁, P₂ and N₂ waves showed marked difference before and after practice ($P < 0.001$) This indicated that the practice could improve

the degree of myelinization and functional state of the visual pathway. In the 30 patients the incubation periods of all the waves of the SEP, except N[sub 3] wave of the SEP which was longer than normal, showed no significant difference from those of the controls. This suggested that the changes of SEP pathway were less marked than those of VEP pathway.

During practice the influences on VEP by the calm state and the posturing state were immediately detected, revealing that the incubation periods of N[sub 1], P[sub 2] and N[sub 2] waves of VEP shortened and the differences were significant ($P < 0.01$). This indicated that the calm state could immediately improve the state of cortical VEP pathway. As for SEP, the incubation periods of P[sub 1], N[sub 1], P[sub 2] and N[sub 2] waves showed a move-up, delay and no change. Especially the N[sub 3] waves moved up significantly. This indicated that the calm state and the posturing state could promote the excitability of various cortical areas of the SEP pathway, revealing the shortening of the incubation periods or lower their excitability, revealing the delay or no change of the incubation period.

The experimental study indicates that the Taoist method for keeping good health and longevity can improve the cerebral visual pathway.

SEX HORMONES (WOMEN)

DIABETES

CORONARY HEART DISEASE

Kuang, A. K.; Chen, J. L., and Lu, Y. R.

[Changes of the sex hormones in female type II diabetics, coronary heart disease, essential hypertension and its relations with kidney deficiency, cardiovascular complications and efficacy of traditional Chinese medicine or qigong treatment].

Chung Hsi I Chieh Ho Tsa Chih (CHINA). 1989 Jun; 9(6):331-4, 323; ISSN: 0254-9034 .

In this study 31 normal child-bearing women, 62 postmenopausal women, 93 cases of female type II diabetes (18 child-bearing and 75 postmenopausal cases), 53 cases of coronary heart disease (11 child-bearing and 42 postmenopausal cases) and 38 cases of essential hypertension (8 child-bearing and 30 postmenopausal cases) were investigated. The average score of Kidney deficiency was 22.9-8.5 before treatment with the combination of TCM and WM. With the treatment of TCM in diabetes and coronary heart disease and of Qigong in essential hypertension, the score decreased to

11.5-4. 4 (P less than 0.001). Serum/saliva estradiol (E2), the ratio of E2 to testosterone (T, E2/T) and progesterone (P) decreased before treatment of TCM or Qigong. After treatment E2 and P value increased; the ovarian endocrine function was improved; the special symptoms of the diseases relieved, fasting blood glucose levels in diabetics, the frequency and severity of angina pectoris in coronary heart disease and the blood pressure in essential hypertension significantly decreased respectively (P less than 0.01). The study suggested that there are certain relations between ovarian endocrine dysfunction and Kidney deficiency. The more severe the "Kidney deficiency" was, the more significant the changes of sex hormone were.

SJOGREN'S SYNDROME:

Yue, Zhaosheng; Chen, Xinyi; Chang, Wnezheng; Huang, Yiyu, and Li, Jiayu.

Affiliated Dong Zhi Men Hospital, Beijing College of TCM, Beijing, China [1]

Preliminary observation of 9 cases of Sjogren's syndrome treated mainly by "Kong Jing Gong". 1993: 140Eb.

Sjogren' s syndrome is one of the autoimmune diseases. Its incidence inclines to increase in recent years. There is no specific treatment for it in Chinese and Western medicine at present. In order to explore the treating effects of qigong for this disease, the "Kong Jing Gong" Training Course was held from Sept. --Dec. 1992. 9 cases of Sjogren's syndrome were treated and a certain curative effect was obtained.

1. Observing subject 9 female cases had typical clinical manifestations and diagnosed by parotid contrast and labial glands biopsy. Of them, minimum age was 41 year-old, the maximum age was 67. The shortest course of disease was 2 years and the longest was 17 years. The Chinese herbal preparation SS-I for tonifying Qi and Nourishing Yin had been taken for 4--10 months before the qigong exercise was given. Because the curative effect of Chinese herbs was not satisfactory, Chinese herbs in combination with the qigong therapy were applied during the observation.

2. Treating methods "Kong Jing Gong" is mainly given combined with massage on several points. The patients did the exercise 1--2 times each day, 30 minutes for each time, a treating course lasted for 3 months.

3. Standard of curative effect

Marked effect Two of the main clinical manifestations (dry mouth, dry eyes, joint pain) significantly relieved or nearly disappearing.

Improvement Two of the main clinical manifestations relieving or one markedly relieving.

Failure No relief or aggravation of the main clinical manifestations.

4. Treating results The results showed that 3 cases were markedly effective. 6 cases were improved. Of them 2 cases were cured. The symptoms and signs of parotid swelling, dry nose, dry cough, shedding tongue coating and cracking tongue proper of some patients also abated or disappeared. 4 cases were followed up for 4--5 months, of which 2 cases remained steady. The symptom of dryness of mouth and eyes of the other 2 cases further relieved.

5. Discussion Sjogren's syndrome is one of refractory diseases. Although a certain achievements had been obtained in treating Sjogren's syndrome with Chinese medicine in recent years, the curative effect of some cases was not satisfactory. The results in this article showed that treating Sjogren's syndrome with the qigong therapy had certain specific curative effect, which provided a new way for exploring a new effective method to treat Sjogren's syndrome. "Kong Jing Qigong" has the characteristics of simplicity and convenience, safety and absence of side-effect.

SPACE SICKNESS:

Wang, Yuofu. Beijing University of Aeronautics and Astronautics, China, 100083

Exploit of man's exploration of Mars and the Contributions of Chinese Taijiquan. 1995: 9-12. This article elaborates space illnesses caused by weightlessness to astronauts, believing that physical exercise is an important way to overcome physiological and psychological illnesses,

and that Taijiquan is an effective exercise in outer space. And it also analyzes theoretically Taijiquan's effect on overcoming space illnesses.

Introduction

With the development of modern science and technology, especially the development of space technology, the mankind is speeding up the exploration of outer space. From the beginning of 90's, U.S.A., CIS, Japan, Europe and China have respectively made huge long-term plans for space expansion, which are being rapidly and steadily carried out. Today space exploration has entered a new phase which is characterized by not only high technology but manned space flight. This is a necessary stage on the way to the space expansion.

After the landing on the moon by manned vehicle years ago, the next aim of manned space flight is Mars. Scientists think that Mars, among the nine planets in solar system, is the planet which man has the easiest access to and which contributes the most to the scientific research. Its environment is similar to that of the Earth. But people still feel unsure if there exists life or there existed life. For further knowledge of geology, geomorphology, climate, biological condition and resources on Mars, it is quite necessary for man to land on the planet. Moreover, manned flight to Mars is very significant in various aspects of politics, economy, military science and technology.

Analysis

Trip to Mars and Health of Astronauts

Manned space flight to Mars is much more difficult than flight to the Moon. The journey to and from between Earth and Mars will spend two to three years. When separated from the Earth on which man depends for tens of thousands of years and entering a utterly different circumstance in outer space, human bodies will be subject to imbalances and illness of many kinds. In 1985, the "Salvo Seven" of the former Soviet Unions, returned to the Earth after its 237-day-flight in outer space. The astronaut, Astov, who had received scientific training for a

long time, was carried by a stretcher to attend a news conference. He looked haggard. He had lost much weight. His muscles became atrophied and his bones obviously lacked calcium. Consequently he couldn't walk or even support himself in an erect position after he returned to the Earth. On December 21, 1987, another astronaut of former Soviet Unions Jure Romaniako was immediately taken to the space medical treatment center near Moscow because of degeneration. He went back to the Earth after a stay in the space for three hundred and twenty-six days in "Peace" Spaceport. On June 5th 1991, American "Columbia" space shuttle carried seven astronauts to have medical experiments in out space. Nine days later, when they got back, they suffered from osteoporosis, amyotrophy, functional imbalance of cardiovascular system. These symptoms are called space illness. It is caused by being in the state of weightlessness for a long time. Human beings are born and grow under the gravitation. Once the gravitation disappears or becomes weak, the metabolic imbalance of calcium in bones will occur. The growth of bones will be inhibited and the exertion of the calcium will increase, which finally leads to osteoporosis. At the same time slight weightness or weightlessness will induce decrease of load on astronauts body so that their muscular fibers degenerate, muscular tension reduces and muscles atrophy occur. Therefore they will have difficulty in erecting and walking after they come back. Furthermore, imbalance of cardiovascular system, failure to immunity function and obstacles in nervous system will not only affect astronauts' health but also affect the accomplishment of flight tasks. As a new subject, space medicine is developing. Illness caused by weightlessness is an urgent problem to solve. This is a great subject confronting us in the process of exploring Mars.

Health of Astronauts and Chines Taiiiquan

An Indian astronaut took part in the flight of "Salvo Seven" Spaceship. When he entered the state of weightlessness, he immediately practiced Yoga. As a result he felt well and had no unhealthy reaction. Indian Yoga is very similar to Chinese Qi Gong, while Taijiqian is one member of Qi Gong family. Furthermore, a great number of emulated space tests on he Earth and space flight practices have proved that regular physical trainings are decisively important to overcome the physiological and psychological disorders caused by weightlessness. The effect of a more scientific physical training on the human body will be no way replaced by

any other medical approaches. It is the same on the Earth as in outer space. However, at present, various sports events such as ball games, athletics, aquatic sports and air sports all make use of the gravitation and movement inertia. But sports in space will inevitably be done in the circumstance of slight weightless or weightlessness. So it will be better if they are done with the least inertia possible. Chinese Taijiquan happens to satisfy this purpose. Because Taijiquan is slow and soft, seeking tranquillity in movement. It doesn't so depend on the gravitation as other sports. Moreover in the process of doing Taijiquan little inertia will be produced. Therefore, Taijiquan is the most suitable exercise for space astronauts. It makes astronauts feel a quasi-static equilibrium from very slow movement. Health of astronauts will be promoted through its relaxation, softness, tranquillity and slowness. Those sports which depend on gravitation and inertia have great acceleration, impact force, elastic force and reacting force. If they are practiced under the condition of weightlessness, such uncontrollable things will occur the astronauts rapidly float and fly, bumping into the capsule even flying away from the orbit.

When astronauts have a long travel in space, if they practice Taijiquan regularly and scientifically with a soft, steady, harmonious, continuous, smooth and natural posture, their bones and joints will move freely and blood circulation will be smooth so that the bones can get plenty nutrition and oxygen. It promotes the metabolism of skeletal muscles, improves the hemopoietic ability of red bone marrow and guarantees the nutrition of muscles, making muscles always under the aerobic condition. These provide a way to solve a deprivation of calcium, osteoporosis and amyotrophy in the state of weightlessness.

When astronauts enter the space, weightlessness causes the redistribution of their body fluid, consequently, their hearts and circulation of blood are off balance, and central blood dynamic and partial blood dynamic have changed. As a result, astronauts feel nervous and can't concentrate on their work. When such things occur, if astronauts can practice Taijiquan consciously, vagus nerve will enhance control of heart so as to increase contractile ability and reduce the frequency of palpitation. Thus the imbalance of cardiovascular system will be improved to some extent.

As astronaut are separated from society and families, loneliness and silence will bring agitation, tension and low spirit. This unhealthy psychology hinders the astronauts' work. In addition, hard work, long mental strain, confusion of day and night, and disorder of work an rest make astronauts more nervous and upset. So the secretion of adrenaline shows the sign of disorder, and the regulation of body fluid meets obstacles which results in the imbalance of cardiovascular system. Taijiquan stresses relaxation, stillness and naturalness. When astronauts practice Taijiquan in space, if they can concentrate on the spirit of Taijiquan, their central nerve system will be adjusted and their cerebral cortex will get protection and inhibition. Experiments have proved that Taijiquan practice may help reduce the frequency of brain waves and increase amplitude, indicating the function of brain has been improved. Then astronauts are high-spirited and more efficient. The experiments also show that ordinary people can improve the balance of sympathetic nerves and parasympathetic nerves by practicing Taijiquan. This improvement decreases external disturbance and stabilizes internal mood. All of these will promoted the function areas of astronauts' brains to coordinate one another and release nervousness, agitation and upsetness caused by mental strain, hard work, confusion of day and night, and disorder of work and rest.

In summary, practicing Taijiquan regularly and scientifically has great value in overcoming space illnesses. It also has greater significance in space medical study for man's landing on Mars.

The Contribution of Taiiiquan in the Exploration of Mars

Chinese Taijiquan can make contributions to the exploit of man's landing on Marcs which is not far away. U.S.A. and former Soviet Unions have already begun the preparation. In 1992 they have pulled open the prelude for thoroughly exploring Mars. U.S.A. has made a plan of three stages. To launch "Mars Observer" spacecraft in 1992 is the main plan for the first stage, which has been put into realization on September 24, 1992, with a cost of four hundred and fifty million dollars. The spacecraft will fly around Mars on an orbit synchronous with the sun to ascertain its topography, magnetic field, gravitational field, atmosphere structure, and minerals features and to make a chart of climate of it so as to help future manned

spacecraft choose a suitable landing spot. "Mars Observer" weighing 2487kg is a pioneer in the process of man's landing on Mars. In the second stage namely from the later 90's on, several "Mars traveler" will be launched successively. Their task is to guarantee the safety of man's landing on Mars. All these are necessary to make out Are there poisonous materials or hostile beings? Where is a safe spot for landing? Where contains rich resources? These Mars travelers will land on Mars from those spacecrafts flying around the Mars. Then they will travel on Mars with a speed of eight kilometers every day. They can drill, take samples and keep them to bring back to the Earth. Some of the "travelers will remain on Mars in order that astronauts who land on Mars can use them.. At the same time, scientist will study a way for astronauts who grasp the spirit of Taijiquan will be able to resist various space illnesses such as osteoporosis, amyotrophy, imbalance of cardiovascular system, decrease of immunity and vexation. The third state is to realize the exploration of Mars by man's landing. U.S.A. plans to send astronauts to Mars in 2004, 2007, 2011 and 2015, and set factories to produce propellant so as to prepare for man's continuous flying to Mars. It is a time for Chinese Taijiquan to yield brilliant results in outer space. If Taijiquan is accepted and used by astronauts as a major mean for physical training and health care it will evidently contribute to the puzzled space biomedical project and space medicine.

Discussions

For the recent decade space technology has been developing quite rapidly. Nowadays space exploration has entered a new phase - manned space flight. Therefore, the future development of space undertakings depend more on man's physical endurance in outer space, space biomedical project and space medicine than on space technology itself. With its unique exercises biomechanical character, Chinese Taijiquan will play an important role.

STRESS, NERVOUS & CARDIOVASCULAR AFFECTS:

Numata, Takehiro and others (Research Institute of Wisdom, Sony Corp.).

Active conditions of autonomic nervous system and cardiovascular system following a practice of qigong after stress. Japanese Mind-Body Science. 1993; 2(1):27-36; ISSN: 0918-2489.

Fourteen healthy male and female (mean age=44.1+-9.6) performed qigong practice. Active conditions of the autonomic nervous system and the cardiovascular system before and after qigong practice following the stress were observed. Conditions of the autonomic nervous system and the cardiovascular system were estimated by analyses of heart rate variability and pulse waves at the radial artery. As a qigong practice, subjects sat quietly with soft and natural breath and with concentration to a lower abdominal region.

As a result, qigong practice activated the condition of the vagal nerve. Qigong practice without any motion repressed the condition of the sympathetic nerve which controls temperature acting on peripheral circulation. Arteries tended to contract after stimuli of noise and dazzling lights. Meanwhile, after qigong practice, arteries tended to converge into the moderate contraction (compliance).

STROKE PREVENTION:

Wang, Chongxing; Xu, Dinghai; Qian, Yueshang, and Shi, Wen.

Shanghai Institute of Hypertension & Second Medical University, Shanghai 200025, China [1]

Effects of qigong on preventing stroke and alleviating the multiple cerebro-cardiovascular risk factors--a followup report on 242 hypertensive cases over 30 years. 1993: 123E.

Stroke is a commonly-seen disease. Hypertension, cardiac hypertrophy, abnormalities of coagulation fibrinolytic system and metabolism of apolipoprotein were an important risk factor in stroke. Since 1958, a study of prospective comparison was undertaken to evaluate the long-term effect of qigong in hypertensive patients.

1. 242 hypertensive patients were divided randomly into the qigong group (treated by qigong and small dosage of regular, antihypertensive drugs (n=122) and the control group (treated by the antihypertensive drugs only n= 120). 30 years follow-up showed that their blood pressure steady rate was 86.81% and 68.25%, respectively (p<0.01). The accumulated mortality rate during the follow-up period was 25.41% in the qigong group. 47.76% in the control group (P<0.001). Further analysis showed that the incidence of stroke and death due to stroke in the qigong group was 20.49% and 15.57%, respectively, compared with 40.83%

and 32.50% in the control group, both rates in the qigong group were significantly lower ($P < 0.01$).

2. Ultrasonic cardiogram was performed on 40 hypertensive patients.

(a) Before treatment, ejection fraction (EF) was 0.57~0.9, mitral valve diastolic closing velocity (EFV) was 0.92~0.30, and mean velocity of circumferential fiber shortening (MVCF) was 68.67~20.40. After practicing qigong for one year, they were 0.64~0.10, 1.10~0.26 and 76.64~17.41, respectively, ($P < 0.05-0.01$).

(b) Before treatment, interventricular septal thickness (IVST) was 12.96~1.64 (mm) and posterior wall thickness (PWT) was 11.38~1.64 (mm). After practicing qigong for one year, they were 11.24~1.81 (mm) and 9.98~1.32 (mm), respectively, ($P < 0.01$). The above results indicated that qigong had beneficial effects on improvement of the left ventricular function as well as diminution of cardiac hypertrophy.

3. Plasma coagulation fibrinolysis indices were performed on 40 hypertensive patients.

Before treatment, plasma PAI (plasminogen activator inhibitor) was 9.17~1.57 (Iu/ml), tPA (tissue-type plasminogen activator) was 1.52~0.24 (Im/ml), VIII:RAg was 130.40~41.11 (%) and AT-III was 27.99~3.48 (mg/dl). After one year of practicing qigong, plasma PAI (8.10~1.68 Iu/ml) and VIII:RAg (131.50~38.35%) levels decreased, while plasma tPA (2.66~0.73 Iu/ml) and AT-III (34.41~7.09 mg/dl) increased. The above results suggested that qigong could play a major role in improvement of the function of coagulation-the fibrinolytic system.

4. Serum apolipoprotein was performed on 40 hypertensive patients. Before treatment, levels of ApoA, ApoB, and the ApoA/ApoB ratio were 117.89~31.03 (g/l), 118.15~18.24 (g/l), and 1.00~0.61, respectively. After practicing qigong for one year, they were 133.58~28.16 (g/l), 102.21~19.17 (g/l) and 1.31~0.71, respectively, ($P < 0.05-0.001$). These findings suggested that qigong had beneficial effect on improvement of metabolism of apolipoprotein. According to both our past and present investigations, we believe that qigong plays a major role in improving the self-regulation and alleviating the multiple cerebro-cardiovascular risk factors. This might be one of mechanisms of which hypertension was controlled and stroke was prevented.

SYNDROME "X":

Wang, Changxing and others. Shanghai Institution of Hypertension, Shanghai, China

The effect of qigong on "Syndrome X". 1996: 63.

The clinical coincidence of essential hypertension, obesity and abnormalities of lipid and glucose has been termed as a Syndrome X", which is an increased risk of cardio-cerebro-vascular disease.

In management of hypertension, it is important not only to control the blood pressure to an optimal level but also to improve the abnormal metabolism of lipids and glucose.

Thirty hypertensive patients with a "Syndrome X" had been treated with qigong exercise for 6 months. The results were as follow

1. Mean blood pressure before and after qigong exercise 164.30 (+ or -) 14.60/91.10 (+ or -) 8.90 mm Hg vs. 151.20 (+ or -) 13.40/80.20 (+ or -) 8.40 mm Hg (P<0.01-0.001)

2. Body weight index & waist/hip ratio before and after exercise 27.58 (+ or -) 2.95 vs. 27.16 (+ or -) 3.18; 0.95 (+ or -) 0.06 vs. 0.91 (+ or -) 0.07 (P<0.05).

3. After qigong exercise, plasma triglyceride (TG) and total cholesterol (TC) were decreased 2.39 (+ or -) 0.58 mmol/L vs. 1.98 (+ or -) 0.63 mmol/L, 6.51 (+ or -) 0.84 mmol/L vs. 5.57 (+ or -) 0.68 mmol/L, respectively. Plasma HDL-C was increased from 1.21 (+ or -) 0.38 mmol/L to 1.43 (+ or -) 0.43 mmol/L.

4. Plasma glucose, insulin level and I/G ratio were decreased after exercise (7.53 (+ or -) 2.01 mmol/L vs. 6.55 (+ or -) 1.86 mmol/L; 21.80 (+ or -) 5.13 IU vs. 16.27 (+ or -) 2.46 IU; 2.88 (+ or -) 0.72 vs. 2.47 (+ or -) 0.64 respectively.

The results suggested that after a course of qigong practice the metabolic abnormalities of lipid and glucose and insulin resistance were improved as well as the blood pressure was lowered. Qigong is one of effective measures for preventing and treating "Syndrome X".

TECHNOLOGICAL USES OF QI:

Huo, Yuhua; Zhao, Jing; Zhan, Diankun; Zhao, Xiaomei, and Yang, Guisheng.

Effect of emitted qi on higher temperature superconductors. 1993: 115E.

Nankai University, Tianjin, Beijing College of Acupuncture, Moxibustion, Traumatology, Tianjin Society of Somatic Science, China [1]

Some experiments have showed that the emitted qi could produce biological and chemical effects, change the property of different kinds of solution. In HNMR experiments, we have showed that the emitted qi effect on the variation of biological molecular structure is due to the H-bonds. Can the emitted qi effect the solid materials with very steady structure? For this, we have conducted many experiments. In this experiment, a few qigong masters emitted qi to the Y-, Te- and Bi-system's polycrystal-superconductive materials. Then we measured Tc and Ic of these materials. We found that some qigong masters could make Tc and Ic

down, others could make them up, and the changes were quite steady. After changing from room-temperature to liquid-nitrogen temperature for many times, the "un-accepting" qi materials went bad in their property. When a qigong master emitted his qi to materials, the I_c and T_c of these materials could not only return to the original values, but be made to exceed their original values. That is, the emitted qi can return and improve the property of the higher-temperature-superconductive materials.

TECHNOLOGICAL USES OF QI:

Li, Luying; Xu, Hongwei; Li, Xiaohui; Wen, Qinfen; Li, Jiamei, and Li, Shenzhuang. Effects of emitted qi and will on hyperchromic and hypochromic absorption spectra of DNA. 1993: 116Ea.

Research Society of Human Body, Qigong Medical College, China [1]

In this experiment, it has also been found that when a qigong master formed a field, the T_c and I_c of the higher-temperature-materials being positioned in the field should change in two-directions. This is in agreement with our other experiments about other biological and chemical materials.

At present, we are researching the influence of the emitted qi on the property of higher-temperature-superconductive devices. In view of the devices having been put in use, it is expected that this research will have a fairly economical value.

The physical mechanism that the emitted qi can return or improve the property of superconductive materials (and devices) are being under investigation.

THROMBUS, PREVENTION OF:

Gang, Tiezheng and others. Study of qigong for preventing thrombus. 1996: 126.

The study had observed 232 cases that consisted of 47 health cases and 186 hyperlipidemia cases for three months. They were divided into two groups qigong group (152 cases) and the compared group (80 cases). Lab tests were GMP-140, TXA2 and PGI2 in RIA; CH, TG and HDL in EIA and RBC membrane mobility in fluorescent polarization.

The results showed that 6-K-PGF α did not change, GMP-140, TXB2 and CH TG and T/K were obviously lower, RBC membrane mobility enhanced clearly and HDL was higher in qigong group; the variations were not significant in the compared group. A statistical analysis was significant of difference ($P < 0.01-0.001$).

So the effects of practicing qigong were the improvement in RBC membrane mobility and lipidemia metabolism, the regulation in the function of vascular endotheliocyte function and the inhibition in the activation of platelet. They could prevent the thrombus.

TUMORS:

Zhao, Hongmei and Bian, Jingnan.

Hospital of the East Lake, Wuhan, China [1]

Curative effect of intelligence qigong on 122 tumor patients. 1993: 130E.

This article has summarized and analyzed the curative effect concerning 122 tumor patients, which had undergone the definite diagnosis in hospitals, treated by the Intelligence-Qigong (IQG). Among them, 71 patients contracted benign tumor, and 51 had malignant, 26 patients of which had gone through chemotherapy or radiotherapy. They asked help from IQG because of recurrence or uncontrolled conditions.

The course of treatment lasted for 22 days in the form of training class. In the course, the movements of the IQG were taught and practiced. At the same time, patients learned the theory. Every patient was treated by the emitted qi too.

We analyzed the curative effect in three respects, benign and malignant tumor, long-term and short-term in qigong treatment, as well, as multiple treatment and single qigong treatment. Then, we dealt with relevant data by statistics and concluded as follows

First of all, we consider there are curative effects to various extent for both the benign and malignant tumor, and further, for the cancer of different parts of the body. Secondly, in the process of treating cancer by IQG, the curative effect is in direct proportion to the treating duration, that is, the longer the patients have practiced, the better the curative effect has obtained. Thirdly, between the curative effect of the multiple treating group and that of the single IQG treatment group, there is no significant difference, based on $P > 0.05$ about Chi-square test. Finally, to investigate 33 cancer patients after treatment, 17 of them died. They all but one died without suffering. It shows that IQG plays its role in euthanasia for the cancer patients.

It is certain, as a result, that IQG is useful for treating tumor. The survivors live better, while the unsurvivors died without suffering.

TUMORS:

Yu, Yi; Zhang, Rongmin; Huang, Xiuqing; Guo, Yanru, and Cao, Wei.

Jinghua Tumor Hospital & China-Japan Friendship Hospital, Beijing, China [1]

Effect of self-controlling qigong therapy on the immune function of cancer patients. 1993: 128E.

The effect of the self-controlling qigong therapy on the cellular immunity in patients with various malignant tumors has been studied. The change of the immunological functions of neutrophils, lymphocytes, and red blood cells before and after the qigong therapy have been examined in 30 cases of malignancy by using five appropriate methods related to cellular immunity. The results are as follows, and A and P represent the value before and after the therapy, respectively.

1. Chemotaxis of neutrophils measured by agar plate method Chemotactic movement (distance) A=1.75~0.53 mm and P=2.35~0.77 mm ($P < 0.01$).

Chemotactic index $A=2.09\sim 0.55$ and $P=2.83\sim 0.95(P<0.01)$.

2. Phagocytosis of neutrophils measured by Indian ink phagocytic test - phagocytic rate
 $A=32.5\sim 9.22\%$ and $P=51.33\sim 12.24\%$ ($P<0.01$).

3. Bactericidal function of neutrophils measured by nbt reduction method - nbt positive rate
 $A=23.07\sim 6.96\%$ and $P=40.23\sim 10.80(P<0.001)$

4. Lymphocyte transformation rate
 $A=54.35\sim 14.94\%$ and $P=64.55\sim 10.31\%$ ($P<0.01$)

5. Yeast complement rosette test C3b rosette rate of RBC
 $A=8.40\sim 4.68\%$ and $P=12.41\sim 3.92\%$ ($P<0.001$), Rosette rate of immune complex
 $A=10.95\sim 4.86\%$ and $P=6.41\sim 2.78\%$ ($P<0.001$).

From these results we conclude that (a) the self-controlling therapy might enhance the defensive ability of organisms by stimulating the immunity of neutrophils; (b) the promoted immunity of RBC by the self-controlling therapy may result in accelerated removal of immune complex and hence the hazards from immune complex might be avoided; and (c) the self-controlling therapy can raise the rate of lymphocyte transformation and hence might elevate the antitumor power of lymphocytes. On the basis of this conclusion, we consider that the self-controlling qigong therapy is a good measure for keeping fit and treatment of diseases.

TUMOR METASTASES PREVENTION:

Cao, Xuetao; Ye, Tainxing, and Gao, Yetao.

Antitumor metastases activity of emitted qi in tumor bearing mice. 1988: 50E.

Dept Microbiology & Immunology, Changhai Hospital & Second Military Military Medical College, Shanghai, China [1]

The effect of the emitted qi preventing tumor metastases in vivo in tumor-bearing mice is reported in this paper. The experiment was conducted with the help of the famous qigong master Hu Jiefu who emitted his qi to C57BL/6 mice inoculated with 2×10^5 B16 melanoma tumor cells via the tail veins. On days 3, 5, 7, 9 after the tumor cell inoculation, the mice received the emitted qi for 30 min. each time. On day 13, the lungs were harvested and the number of metastatic tumor nodules on the lung surface were counted. The another group of mice were observed for length of survival. Some mice inoculated sc with 1×10^5 B16 tumor cells were treated with the emitted qi as above and the growth of tumor were determined by measuring the size in perpendicular diameters. The results showed that the emitted qi strongly prevents tumor metastases in vivo. It markedly decreased the number of B16 melanoma pulmonary metastases nodules in the experiment group (10.8 ~ 11.93) as compared with the control group (87.4~15.53), the difference being very significant ($P<0.01$). The survival period of the experiment mice (31.4 ~ 5.27 days) was much longer than that of the control group (21.4 ~ 2.70 days) ($P<0.01$). These results showed that the

emitted qi has the ability to prevent tumor metastases in vivo in experimental tumor-bearing mice. It can also inhibit intradermal tumor growth. Its mechanisms of enhancing the immune function against tumors will be reported in the next paper.

TUMORS – QIGONG'S ANTI-TUMOR FUNCTION

Cao, Xuetao; Ye, Tainxing, and Gao, Yetao.

Effect of emitted qi in enhancing the induction in vitro of lymphokines in relation to antitumor mechanisms. 1988: 51E.

The effect of the emitted qi in enhancing induction in vitro of lymphokines including Interleukin-2 (IL-2), Interferon-gamma (IFN-r) and Lymphotoxin (LT) from spleen cells of C57BL/6 mice have been studied in this experiment. The mice of the experimental group received qi emitted by the qigong master Ru Jiefu for 30 min. each time on days 1, 3, 5, 7. On day 10 the mice were killed and spleen cell suspensions were made (5×10^6 /ml) in several parallel portions for inducing lymphokines. The 1st portion of the cell suspensions was incubated with 10 mg/ml Con A in 37°C, 5% CO₂ for 24 hrs. and then the supernatants were taken for titration of IL-2 with IL-2-dependent cell line (CTLL-2) by the method of determination of [³H]-TdR incorporation. The 2nd portion of the cell suspensions were incubated with the same amount of Con A as above for 72 hrs. and the supernatants were taken for titration of IFN-r with the method of cytopathic effect inhibition assay. The 3rd portion of the cell suspensions, by adding 10m/ml PHA-P, were incubated as above for 48 hrs. and then the supernatants were taken and the LT activity was calculated through determining the OD_{570nm} of target cells L₉₂₉. The results showed that (1) The activity of IL-2 in the control group was 74.5 ~ 22.34m/ml, which was much lower than that of the experimental group (125.6~32.45m/ml). The difference between them is very significant (P<0.01). (2) The titer of IFN-r of the experimental group was 460.0 ~ 257.41m/ml, which was much higher than that of the control group (166.4 ~ 61.82m/ml). The difference is also very significant (P< 0.01). (3) The LT activity was also enhanced in the experimental group (74.19 ~ 16.80m/ml) as compared with that in the control group (61.07 <6.22m/ml). The difference is significant (P< 0.05). These results demonstrated that the emitted qi has the ability to enhance the induction of lymphokines with an anti-tumor function, including IL-2, IFN-r, and LT, which indicates that the emitted qi's action against tumors probably through the enhancement of an anti-tumor immune function. Further studies are under way.

VEGETATIVE NERVOUS BALANCE:

Wu, Renzhao. Zhejiang Institute of TCM

Clinical research on 50 cases of woman climacteric syndrome. 1996: 68.

The author divided at random 50 cases of woman climacteric syndrome into qigong group and contrast group. The qigong group was treated by with qigong exercise.

The contrast group was treated by western medicine. He observed the clinical curative effect of the two groups and the influence on vegetative nervous balance serum sex hormone and gonadotropin.

Result the clinical curative effect of the qigong group was better than that of the contrast group ($P < 0.01$), qigong has the function of biphasic beneficial regulation on vegetative nerve ($P < 0.05$), and also has some influence on serum FSH, LH, E2, P, T.

VISUAL PERCEPTION OF QI:

Fan, J. J.; Wang, F; Yan, H. C.; Yang, Z. K.; Li, S. B.; Li, J. S.; Mao, N. H.; Liu, W. T.; Hou, J. S., and He, Q. Y.

Fourth Military Medical College, Xi'an, Shanxi Province, China [1]

Investigations of electromagnetic radiations and luminous phenomena in a functional state of qi. 1988: 196E.

Electromagnetic radiation and luminous phenomena with five different wavebands have been investigated in a functional state of a qigong master, Mr. Li Shaobo, the founder of a form of qigong exercises, named "genuine qi in motion". When Li was in the qigong functional state, no radio signals with frequency 0.1 Mc-300 Mc (wavelength 3000m-1m) were received. However, some microwave signals with frequency 2 Gc (wavelength 15 cm) were detected near Baihui (Du 20). The intensity of microwave signals varied with changes of antenna direction.

The temperature increase of 1.5°-2° C in Baihui (Du 20) and Laogong (P 8) was recorded with a microwave radiometer.

Infrared thermovision (wavelength 8-14 km) demonstrated that when the qigong performance started, the temperature of the face gradually rose to a stable level. As soon as the qigong performance stopped, the temperature of it quickly returned to normal.

The visible light around Baihui (Du 20) was not observed by a luminometer (10 Lux.). With a low light level night vision instrument (wavelength 0.38-0.8 Electromagnetic radiation and luminous phenomena with five different wavebands have been investigated in a functional state of a qigong master, Mr. Li Shaobo, the founder of a form of qigong exercises, named "genuine qi in motion". When Li was in the qigong functional state, no radio signals with frequency 0.1 Mc-300 Mc (wavelength 3000m-1m) were received. However, some microwave signals with frequency 2 Gc (wavelength 15 cm) were detected near Baihui (Du 20). The intensity of microwave signals varied with changes of antenna direction.

The temperature increase of 1.5°-2° C in Baihui (Du 20) and Laogong (P 8) was recorded with a microwave radiometer.

Infrared thermovision (wavelength 8-14 μm) demonstrated that when the qigong performance started, the temperature of the face gradually rose to a stable level. As soon as the qigong performance stopped, the temperature of it quickly returned to normal. The visible light around Baihui (Du 20) was not observed by a luminometer (10 Lux.). With a low light level night vision instrument (wavelength 0.38-0.8 μm), a special luminous phenomenon, a halo around Li's head was seen once. At the same time the visible light was also found around Dantian. This luminous phenomenon lasted about eight minutes.

The results suggested that a human body in the qigong functional state radiates certain wavelength microwaves, infrared radiation and low visible light (μm), a special luminous phenomenon, a halo around Li's head was seen once. At the same time the visible light was also found around Dantian. This luminous phenomenon lasted about eight minutes.

The results suggested that a human body in the qigong functional state radiates certain wavelength microwaves, infrared radiation and low visible light.

In Summary:

The “internal” aspect of the science of T'ai Chi & Qigong is *an extremely important distinction* from our Western scientific models, and may save healthcare incredible sums of money when it is implemented in a big way. This is because our Western model focuses on looking at the body and health from the outside in, rather than encouraging patients to observe health, *or its disruption*, from the inside, as T'ai Chi & Qigong do. For Example, because our Western medical research model is geared towards observing the “results” of internal damage, and then dealing with that damage from the outside in, it is usually re-active rather than pro-active, and as a consequence can be very expensive. Why is that? Usually, Western medical research involves introducing some external pharmacology to damage, or a symptom, that has already become so grossly prevalent and advanced that it can be observed, *from the outside*, by a researcher. The researcher then injects a drug, followed by observation from outside of what effect the drug of choice has on that extensive damage. This discussion is not meant to demean the value of such Western medical research. It is extremely important to all of us, and I am not asserting that T'ai Chi & Qigong are going to end the need for it. But if “internal” health promotion tools are added to our medical care arsenal we can focus the power of the Western model even more powerfully in areas where we desperately need it. If the overwhelming majority of illness caused by internal unmanaged stress are alleviated through T'ai Chi practice, this frees up medical researchers

and research dollars to focus more on diabetes, AIDS, untreatable strains of Tuberculosis, etc.

Plus the *internal* focus of T'ai Chi & Qigong portends incredible cost savings, by being “pre-emptive”, bringing the focus within to the very root. By observing our “state of being” from within on a daily basis we begin to observe the “butterfly beating its wings”, as Chaos Mathematics puts it so eloquently. This observation in turn is combined with breath and visualization techniques that release any “distortion” that observation discovers, so that we can return to our state of natural homeostatic “elegance of being.” Another way to put this rather complex achievement is that T'ai Chi “*makes us feel good.*”

Additional Resources:

THE COMPLETE IDIOT'S GUIDE TO T'AI CHI & QIGONG (Macmillan NY 1999)

Qigong Research Abstracts, Courtesy of Kenneth Sancier, Ph.D. (Retired Senior Scientist), currently President of the Qigong Institute of Menlo Park, California. An expanded version of a Computerized Qigong Database, with 1,600 referenced studies on Qigong is available by contacting The Qigong Institute, 561 Berkeley Avenue, Menlo Park, CA 94025 (Phone: 650-323-1221
Email: qigonginstitute@healthy.net)

THE WAY OF QIGONG: THE ART & SCIENCE OF CHINESE ENERGY MEDICINE (Bantam Books)