

# Traditional Theory

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## 1. Introduction

Traditional Chinese medicine, including herbal medicine and acupuncture, as one of the most important parts in complementary and alternative medicine (CAM).

Recent research showed that complementary and alternative medicine could contribute to primary health care. Traditional Chinese medicine (TCM) has evolved a system that aims to cure illness by penetrating the skin at specific points. This system is called acupuncture, derived from the Latin words "acus" and "punctura" meaning "needle" and "pricked", respectively.

TCM can be characterized as holistic with emphasis on the integrity of the human body and the close relationship between human and its social and natural environment. Therefore, it studies, through synthesis and analysis, the interaction between the dynamic activities of various parts of the human body and their relationship to the external environment. So understanding the fundamental theory is necessary for learning about the various branches of traditional Chinese medicine.

## 2. Fundamental theories

### 2.1 Theory of Yin-Yang and five elements

The theory of Yin-Yang holds that the world is material and that this material world evolves constantly as the result of the mutual action of two opposing material forces.

What is Yin-Yang? At its origin, the terms were used to designate the two slopes of a mountain. The sunny side was Yang and the shady side was Yin. Later, their meaning broadened to include all opposites. All natural events and states of being are rooted in Yin and Yang all aspects of the natural world could be seen as having a dual aspect, for example, day and night, brightness and darkness, movement and stillness, heat and cold, etc. within the field of medicine different parts of the body are classified as either Yin or Yang. For example, the upper and exterior parts of the body belong to Yang and the lower and interior parts to Yin; the hands belong to Yang; while the feet to Yin; the five Zang organs pertain to Yin; the six Fu organs to Yang.

The Yin-Yang nature of a phenomenon is not absolute but relative. This relativity is reflected in two ways. On one hand, under certain conditions Yin may change into Yang and vice versa, and on the other, any phenomenon may be infinitely divided into its Yin and Yang aspects, reflecting its own inner Yin-Yang relationship. Day, for example, is Yang, while night is Yin. However, each can be further classified as follows: morning is Yang within Yang, afternoon is Yin within Yang, the first half of the night Yin within Yin, and the

second half of the night Yang with Yin. This differentiation of the natural world into its opposite parts can be carried out infinitely.

Therefore it can be seen that Yin and Yang are at the same time opposite in nature and yet interdependent. They both oppose and complement each other, and exist within all natural phenomena. Traditional Chinese medicine applies the Yin-Yang principles of interconnection and continuous transformation to the human body to explain its physiology and pathology and to guide clinical diagnosis and treatment.

## 2.2 The theory of the five elements

The five elements refer to five categories in the natural world, namely wood, fire, earth, metal and water. According to the theory wood, fire, earth, metal and water are the basic substances that constitute the material world. These substances are not only of the relations with generation and restriction but set in a state of constant motion and change for example wood promotes fire, fire promotes earth, earth promotes metal, metal promotes water, and water, in turn, promotes wood. (Fig.1)

As far as the relationship of generation of each of the five elements is concerned, it is composed of two aspects--promoting and being promoted. The element that promotes is called the mother, while the element that is promoted is called the child. Hence, the relation of promoting and being promoted among the five elements is also known as that of mother and child. Take fire for example, since fire produces earth, it is called the mother of earth; on the other hand it is produced by wood, so it is called the child of wood. Restriction connotes bringing under control or restraint.

The Chinese people recognized that wood, fire, earth, metal and water were the indispensable in their daily lives as well as having different natures. In light of the theory of

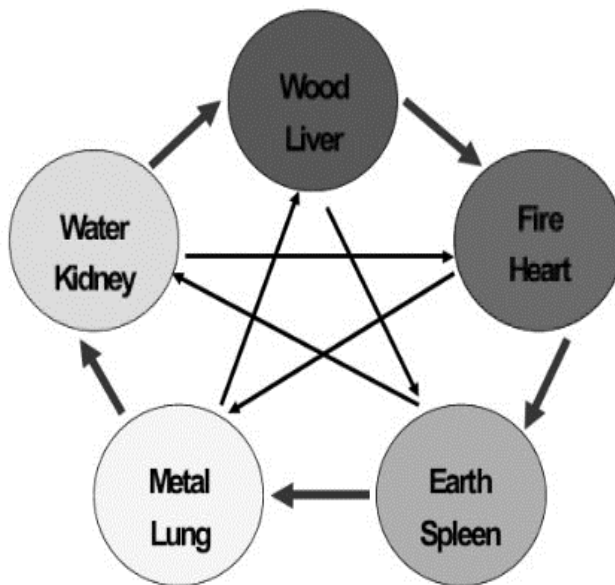


Fig. 1. The five elements

five elements, traditional Chinese medicine has made a comprehensive comparison and study of all kinds of things and phenomena in nature as well as in the Zang-Fu organs, tissues, physiology and pathology of the human body, classified them respectively to one of the five elements, i.e., wood, fire, earth, metal and water, in accordance with their different properties, functions and forms, thus expounding the physiology, pathology of the human body and the correlation between man and his natural surroundings. The following is a table showing the classification of things according to the theory of the five elements.

### **2.3 The theory of Zang-Fu system**

In traditional Chinese medicine (TCM), the internal organs of the human body are divided into two groups: "Five Zang organs", "Six Fu organs". The five Zang organs include the heart, the liver, the spleen, the lung and the kidney. Preserving vital substances is their characteristic common. The six Fu-organs consist of the gallbladder, the stomach, the large intestine, the small intestine, the bladder and the triple energizer (San Jiao) of which the characteristic in common is transmitting and digesting water and food.

#### **2.3.1 Five zang organs**

##### **2.3.1.1. Heart**

The heart is situated in the thorax and the main physiological functions of heart are: dominating the blood and vessels, opening into the tongue and, supporting the mind. The blood circulation relies on the cooperation between the heart and the vessels, dominating the blood and vessels means that the heart is the motive force for blood circulation, whilst the vessels are the physical structures which contain and circulate the blood. With the heart being of primary importance. Supporting the mind means thinking is related to the physiological functions of the heart. The tongue is connected to the Heart Meridian internally, and via this connection the heart dominates the sense of taste and the speech. So disorders of the heart will reflect on the tongue.

##### **2.3.1.2. Lung**

The lung, situated in the thorax and main physiological functions are: controlling respiration, dominating Qi dispersing and descending, supporting skin and hair, communicates with the throat and opens into the nose. Its meridian connects with the large intestine.

Controlling respiration means that the lung is a respiratory organ through which the clean Qi (the air) from the exterior and the Qi from the interior can be mingled.

Whereas dominating the Qi of the whole body means that the function of lung in respiration greatly influences the functional activities of the whole body and is closely related to the formation of pectoral Qi. Dysfunction of the lung in descending may lead to the upward reversal of lung Qi bringing on the symptoms such as cough and shortness of breath.

The skin and hair are warmed and nourished by defensive Qi and body fluid distributed by the lung. The nose is the pathway for respiration. The respiratory and olfactory functions of the nose depend on lung Qi. When lung Qi is normal, the respiration will be free, and if lung Qi is abnormal will lead to shortness of breath and vibration of the ala nasi. Since the throat is also a gateway of respiration, when the lung is diseased, it could cause pathological changes in the throat, such as hoarse voice and aphonia.

### 2.3.1.3. Spleen

The spleen is situated in the Middle Energizer. Its main physiological functions of spleen involves: the transportation and transformation of water and food on one hand, and of dampness on the other, controlling all the blood of the body and keeping it circulating normally within the vessels, transports and transforms the essence of food and drink to nourish the muscles and the four limbs. The mouth is the aperture of the spleen, for this reason, the lips reflect the condition of the spleen's function of transporting and transforming water and food. When the spleen is healthy, there will be ample Qi and blood and the lips will be red and lustrous.

### 2.3.1.4. Liver

The liver is situated in the right hypochondriac region and main physiological functions are storing and regulating blood, supporting the free flow of Qi, controlling the tendons and opening into the eyes. The liver has the function of storing blood and regulating its amount in circulation, normal adult's liver can provide, at least, 1000-2000 milliliters of blood so as to keep enough blood for the heart to pump out. The liver is responsible for supporting the free flow of Qi, through this harmonious functional activity of all the Zang-Fu organs including itself.

Dysfunction of the liver, therefore, is often accompanied by emotional changes such as mental depression or over-excitement, because in addition to the heart, emotional activity is closely related to the liver Qi. The liver also nourish the tendons of the whole body to maintain their normal activities of tendon that is the joints and muscles and so the movement of the limbs. The liver has control on the digestion through secretion and excretion of bile. The liver is opening into the eyes, means that whether the eyes' visual sense functions well or not is mainly dependent on the nourishment by the blood stored in the liver.

### 2.3.1.5. Kidney

The kidneys are located at both sides of the lumbus, which is therefore described as "the home of the kidney, its main functions are: to store congenital and acquired essence and control human reproduction, dominate water metabolism in other words kidney regulates the distribution of water and helps maintain fluid balance in the body and the reception of Qi which means that the kidney assists the lung in its function of receiving and descending the Qi. In other words, respiration depends not only on the descending function of the lung, but also on the kidney's function of reception and control, kidney produce marrow to fill up the brain, opening into the ears which means the hearing function of ears relies on the nourishment by the essential Qi of the kidney. The ears therefore pertain to the kidney and kidney also control anterior and posterior orifices. Anterior orifice" refers to the urethra and genitalia which have the function of urination and reproduction. "Posterior orifice" refers to the anus which has the function of excreting the feces. Decline or deficiency of kidney Qi, therefore, may give rise to frequency of micturition, enuresis, oliguria and anuria, seminal emission, impotence, premature ejaculation and infertility in reproduction, and prolonged diarrhea with prolapse of rectum or constipation.

## 2.3.2 Six Fu organs

### 2.3.2.1 The Gallbladder

The gallbladder is attached to the liver and main function is to store bile and continuously excrete it to the intestines to aid the stomach and spleen in digestion failure to aid, resulting

in abdominal distention and loose stool. Since the bile is bitter fluid, and yellow in color, upward reversal of gallbladder Qi may give rise to a bitter taste in the mouth. The liver and gallbladder together have the function of supporting the free flow of Qi. Similarly, the relation of the liver to emotional changes such as: fear and palpitations, insomnia and dream-disturbed sleep is shared by the gallbladder.

### **2.3.2.2 Stomach**

The stomach is located in the epigastrium and the main physiological function of stomach is reservoir of food and drink, then food and drink are fermenting and grinding by action of the stomach so disturbance of these functions of the stomach will cause poor appetite, capacity for only small amount of food, and pain in the epigastric region. Of course, only in cooperation with the spleen's function digesting and transforming food and drink can be performed successfully by the stomach's function of receiving, to receive, digest and transform the food and drink. Sufficient stomach Qi make all the five Zang organs to be full of vigor, while the deficiency of stomach Qi leads to their weakness.

### **2.3.2.3 Small Intestine**

The small intestine is located in the abdomen main physiological functions are reception and continue digestion and absorbs essential substance and part of the water from the food, transmitting the residue of the food to the large intestine and of the water to the bladder.

### **2.3.2.4 The large intestine**

The large intestine is located in the abdomen and the main function of the large intestine is to receive the waste material sent down from the small intestine, absorb its fluid content, and form the remainder into feces to be excreted. Pathological changes of the large intestine will lead to dysfunction in this transportation function, resulting in loose stools or constipation.

### **2.3.2.5 The Bladder**

The bladder is located in the lower abdomen and the main function of the bladder is the temporary storage of urine, which is discharged from the body through Qi activity with assistance of the kidney Qi. Dysfunction of the bladder will lead to symptoms such as anuria, urgency of micturition and dysuria; and the failure of the bladder to control urine may lead to incontinency and enuresis.

### **2.3.2.6 San Jiao (Triple Energizer)**

The "Sanjiao" is a large Fu organ containing all the internal organs, and also used to locate the body parts. The physiological functions of Sanjiao control the activities of the Qi of the human body. Triple Energizer is a collective name of the upper, middle and lower Jiao (energizer): the upper Jiao is that the portion of the body cavity above the diaphragm which houses the heart and the lung. The middle Jiao is the portion between the diaphragm and umbilicus which houses the spleen and the stomach. The lower Jiao is the portion below the umbilicus which houses the liver, the kidney, the bladder, the intestines. Pathologically, diseases due to an abnormality of upper, or middle, or lower Jiao are manifestations of dysfunctions of the Zang-Fu organs within it.

## **2.4 The theory of essence, qi, blood and body fluids**

The four basic substances of life are essence, Qi, Blood and body fluids, they are the material bases which maintain the normal activities of the human body.

### 2.4.1 Essence

Essence (Jing) is a fundamental material of the human body and the material basis for various physiological functions of the human body. The congenital essence is received from one's parents, and is stored in the kidney; it is also known as "the prenatal essence", serving to promote the growth, development maturity, and reproduction of the body, thus the congenital essence is also called the "reproductive essence. The acquired essence is derived through the functions of the Zang-Fu organs from the nutritive substance of food and drink to nourish the body. In turn, it serves as the material basis for the functional activities of the Zang-Fu organs. Consequently, it is called "the essence of the Zang-Fu organs. The essence stored in the kidney includes both the congenital essence and the acquired one. The two are interdependent on and promote each other. Before birth, the congenital essence prepares the material basis for the acquired one; and after birth, the acquired essence continues to replenish the congenital.

### 2.4.2 Qi

Qi is described as the basic particles which constitute the universe and produce everything in the world through their movements and changes. Qi in its physiological sense refers to the motive force or energy (which is produced by the basic particles) required for various functional processes.

Certain qualitative terms differentiate Qi in the human body according to its source, function, and distribution. The terms are: primary Qi (Yuan Qi), pectoral Qi (Zong Qi), nutrient Qi (Ying Qi) and defensive Qi (Wei Qi). In terms of their source they may be further classified into congenital Qi and acquired Qi. Primary Qi, which is derived from congenital essence and inherited from the parents, is referred to as the congenital Qi. After birth, pectoral Qi, nutrient Qi, and defensive Qi are all derived from the refined essence of food, and are therefore known as the acquired Qi.

#### 2.4.2.1 Primary Qi (Yuan Qi)

Derived from the congenital essence, primary Qi needs to be supplemented and nourished by the Qi obtained after birth from the essence of food and water. Primary Qi takes root in the kidney and spreads to the entire body via the triple energizer (San Jiao). It stimulates and promotes the functional activities of the Zang-Fu organs and the associated tissues.

#### 2.4.2.2 Pectoral Qi (Zong Qi)

Pectoral Qi is formed by the combination of the clean Qi (Qing Qi) which is inhaled by the lung, and the essential Qi of the food and drink which is transformed by the spleen and stomach. Pectoral Qi is stored in the chest. Its main functions are: the one is to promote the lung's function of controlling respiration, so the strength or weakness of speech and respiration are related to the quality of pectoral Qi; and the other is to promote the heart's function of dominating the blood and vessels, so the circulation of Qi and blood, and the coldness and warmth and the motor ability of the four limbs and body trunk are all closely associated with the pectoral Qi.

#### 2.4.2.3 Nutrient Qi (Ying Qi)

Derived from the essential Qi of the food and drink transformed by the spleen and stomach, nutrient Qi circulates in the vessels. Its primary function is both to produce blood and to circulate with it to provide further nourishment.

#### **2.4.2.4 Defensive Qi (Wei Qi):**

Defensive Qi is also derived from the Qi of food essence, but unlike nutrient Qi it circulates outside the vessels. Defending the body against exogenous pathogenic factors is its principal function, hence the name defensive Qi. Other functions include: defend the body against exogenous pathogenic factors, control the opening and closing of the pores, moisten the skin and hair, readjust body temperature, and warm up the Zang-Fu organs.

#### **2.4.2.5 Function of Qi**

The physiological activities of the Zang-Fu and meridians, the circulation of blood and distribution of body fluid, are all dependent on the promoting and stimulating effect of Qi.

#### **2.4.3 Blood**

Blood is a red liquid circulating in the vessels, and is a vital nutrient substance in the body. The fundamental substances required in blood formation originate from the essence of food and drink produced by the spleen and stomach, these two organs are regarded as the source of Qi and blood. Blood circulates throughout the body, passing through the five Zang and six Fu organs in the interior, and the skin, muscles, tendons and bones on the exterior. In this way blood nourishes and moistens the various organs and tissues of the body. Qi and Blood are the foundation for human mental activities. Deficiency of blood, therefore, may lead to the mental disorders. An example is deficiency of heart or liver blood resulting in the mental restlessness, with symptoms such as palpitation, insomnia and dream-disturbed sleep.

#### **2.4.4 Body fluid**

Body fluid is formed from food and drink after its digestion and absorption by the spleen and stomach. The transportation, distribution and excretion of body fluid principally rely on the spleen's function of transportation, the lung's function of dispersing and descending and regulating water passages, and the kidney's function of controlling urination and separating the clear and the turbid. Of the three, the kidney is the most important. Body fluid moistens and nourishes various parts of the body.

### **3. The meridian-collateral system**

The meridians (Jing) and collaterals (Luo) are pathways in which Qi and blood circulates. The meridians are the major channels of the system and they run lengthwise within the interior of the body. They bring the body into an organic whole to carry on the systematic activities. Even though the five Zang and six Fu organs, and all the tissues and orifices each perform their own physiological activities, they need another structure to integrate their functions to maintain the body as an organic whole. The integration is accomplished mainly by the network of meridians, of which the four functions are involved with the meridian Qi. The collaterals are the branches of the meridians and they run crosswise from the meridians either on or just below the body surface. Since they are distributed over the entire body, the meridians and collaterals link together the Zang-Fu and other organs, the orifices of the body, the skin, muscles and bones. They form a specific network which communicates with the internal organs and limbs and connects the upper to the lower and the exterior to the interior of the body.

The meridian system consists of the twelve regular meridians: the three Yin meridians of the hand, the three Yin meridians of the foot, the three Yang meridians of the hand and the three Yang meridians of the foot, they the chief pathways of Qi and blood so are called regular meridians. There are eight extra meridians: namely Du, Ren, Chong, Dai, Yinqiao, Yangqiao, Yinwei and Yangwei meridians. The eight extra meridians are not directly related to any of the internal organs. They are interlaced with the twelve regular meridians, helping reinforce the communication between and adjustment of the twelve regular meridians.

### 3.1 The routes of the twelve regular meridians

The twelve regular meridians start and terminate at given parts, run along the regular routes and meet in a specified sequence. They are, moreover, associated with the Zang-Fu organs. Though we say there are twelve regular meridians, in fact these twelve meridians are doubled when counting symmetrically on both the left and right sides of the body.

#### 3.1.1 The Lung Channel of Hand Taiyin

The Lung Channel originates in the middle portion of the body cavity [1] and runs downwards internally to connect with the Large Intestine [2]; turning back, it passes upward through the diaphragm [3]; to enter its pertaining organ, the Lung [4]; from the internal zone between the lungs and the throat [5] it emerges to the surface of the body under the clavicle. Descending, the Lung Channel then runs along the medial aspect of the upper arm [6] to reach the elbow crease. From there, it runs along the anterior portion of the forearm [7] passes above the major artery of the wrist, and emerges at the radial side of the tip of the thumb [8]; another section of the Lung Channel branches off just above the wrist and runs directly to the radial side of the tip of the index finger [9] to connect with the Large Intestine Channel (See.Fig. 2).

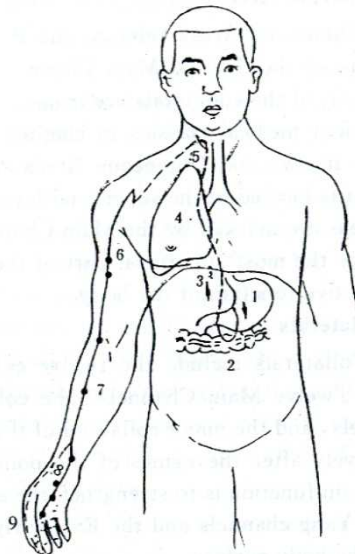


Fig. 2. The Lung Channel of Hand Taiyin



### 3.1.2 The large Intestine Channel of hand Yangming

The large Intestine Channel begins at the tip of the index finger, and runs upwards along the radial side of the index finger [1] and between the thumb and the index finger. It passes through the depression between the tendons of the thumb [2] and then continues upwards along the lateral aspect of the forearm to the lateral side of the elbow. From there, it ascends along the anterior border of the upper arm [3] to the highest point of the shoulder [4]. On the top of the shoulder, the channel divides into two branches [5]. One enters the body and passes through the Lung [6] diaphragm and the Large Intestine [7] which is its pertaining organ. Another one ascends externally along the neck [8] passes through the cheeks [9] and enters, internally, into the lower teeth and gum [10]. On the Exterior, it continues, it continues, curving around the upper lip and crossing to the opposite side of the nose (See Fig. 3).

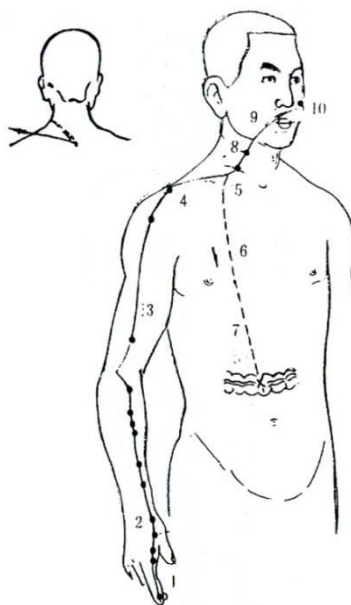


Fig. 3. The Large Intestine Channel of Hand Yangming

### 3.1.3 The Stomach Channel of Foot Yangming

The Stomach Channel begins, internally, where the Large Intestine Channel terminates, next to the nose [1]. It then ascends to the bridge of the nose, meeting the Bladder Channel at the inner corner of the nose. It enters the upper gum [2] and curves around the lips before passing along the side of the lower jaw bone [3] and through the angle of the jaw. It then runs upwards, running in front of the ear [4] to the corner of the forehead. A branch descends from the lower jaw [5] enters the body, and descends through the diaphragm. It then enters its pertaining organ, the Stomach, and connects with the Spleen [6]. Another branch leaves the lower jaw, but remains on the surface of the body as it crosses over the neck, chest [7] and abdomen [8] and terminates in the groin. Internally, the channel reconstitutes itself at the lower end of the stomach and descends inside the abdomen [9] to

reconnect with the external branch in the groin. From this point, the channel runs downwards over the front of the thigh [10] to the outer side of the knee [11] and continues along the center of the front of the lower leg to reach the top of the foot. It terminates at the lateral side of the tip of the second toe. A branch deviates from the Stomach Channel just below the knee [12] and ends at the lateral side of the middle toe. A short branch also leaves the top of the foot [13] and terminates at the medial side of the big toe to connect with the Spleen Channel (see Fig. 4).

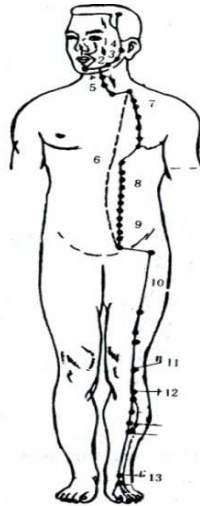


Fig. 4. The Stomach Channel of Foot Yangming

### 3.1.4 The spleen Channel

The spleen Channel originates at the medial side of the big toe. It then runs along the inside of the foot [1] turning in front of the inner ankle bone. From there, it ascends along the posterior surface of the lower leg [2] and the medial aspect of the knee and thigh [3] to enter the abdominal cavity [4]; it runs internally to its pertaining organ, the Spleen [5] and connects with the Stomach [6]. The main trunk of the channel continues on the surface of the abdomen, running upwards to the chest [7] where it again penetrates internally to follow the throat [8] up to the root of the tongue [9] under which it spreads its Qi and Blood. An internal branch leaves the Stomach, passes upwards through the diaphragm, and enters into the Heart [10] where it connects with the Heart Channel (see Fig. 5).

### 3.1.5 The Heart Channel of Hand Shaoyin

The Heart Channel has three branches, each of which begins in the heart [1]. One branch runs downwards through the diaphragm [2] to connect to the Small Intestine. The second branch runs upwards from the heart along the side of the throat [3] to meet the eye. The third branch runs across the chest from the Heart to the Lung [4] and then descends and emerges in the armpit. It passes along the midline of the inside of the upper arm [5] runs downwards across [6] crosses the wrist and palm [7] and terminates at the inside tip of the little finger, where it connects with the Small Intestine Channel (see Fig. 6).

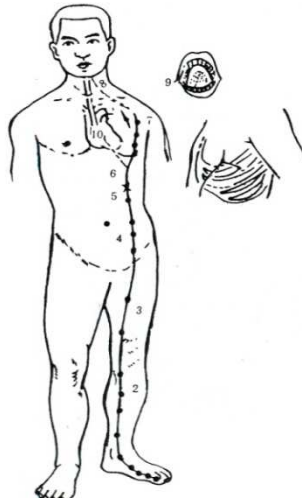


Fig. 5. The spleen Channel

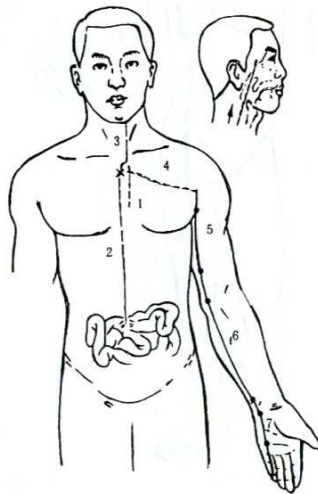


Fig. 6. The Heart Channel of Hand Shaoyin

### 3.1.6 The Small Intestine Channel of Hand Taiyang

The small Intestine Channel begins on the outside of the little finger, crosses the palm and wrist [1] and passes upwards along the posterior aspect of the forearm [2]. The channel continues upwards along the posterior border of the lateral aspect of the upper arm [3]. Circles behind the shoulder [4], and runs to the center of the uppermost part of the back (where it meets the Du Channel). Here, the channel divides into two branches, one entering internally [5] to connect with the Heart [6], diaphragm, and Stomach [7] before entering its pertaining organ, the Small Intestine [8]; the second branch ascends along the side of the neck [9] to the cheek [10] and the outer corner of the eye [11] before entering the ear. A short

branch leaves the channel on the cheek [12] and runs to the inner corner of the eye, where it connects with the Bladder Channel (see Fig. 7).

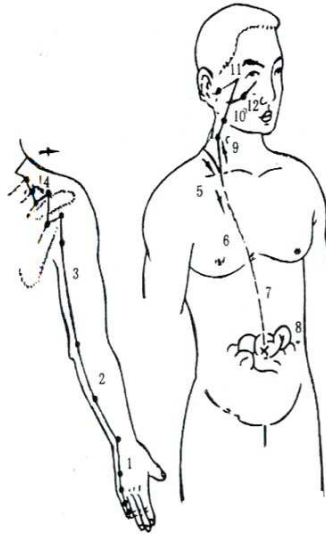


Fig. 7. The Small Intestine Channel of Hand Taiyang

### 3.1.7 The Bladder Channel of Foot Taiyang

The Bladder Channel starts at the inner side of the eye and ascends across the forehead [1] to the vertex of the head. From this point, a small branch splits off and enters into the brain [2] while the main trunk of the channel continues to descend along the back of the head [3] and bifurcates at the back of the neck [4]. The inner of these two branches descends a short distance to the center of the neck [5] and then descends parallel to the spine [6]. A branch splits off entering the body in the lumbar area and connecting to the Kidney [7] and its pertaining organ, the Bladder [8]. The outer branch traverses the back of the shoulder [9] descends adjacent to the inner branch and the spinal cord, and crosses the buttocks [10]. The two branches continue downwards along the posterior aspect of the thigh [11] and join behind the knee. The single channel now continues down the back of the lower limb [12] circles behind the outer ankle, runs along the outside of the foot [13] and terminates on the lateral side of the tip of the small toe, where it connects with the Kidney Channel (See Fig.8).

### 3.1.8 The Kidney Channel of Foot Shaoyin

The Kidney Channel starts from the inferior aspect of the small toe, runs across the sole of the foot [1] and emerges along the arch of the foot [2] to circle behind the inner ankle and pass through the heel. It then ascends along the medial side of the lower leg [3] to the medial side of the knee crease, climbs upwards along the innermost aspect of the thigh [4] and penetrates the body near the base of the spine [5]. This branch connects internally with the Kidney [6] its pertaining organ, and with the Bladder [7] before returning to the surface of the abdomen above the pubic bone and running upwards over the abdomen and chest [8]. Another branch begins inside at the Kidney [6] passes upward through the Liver [9] and

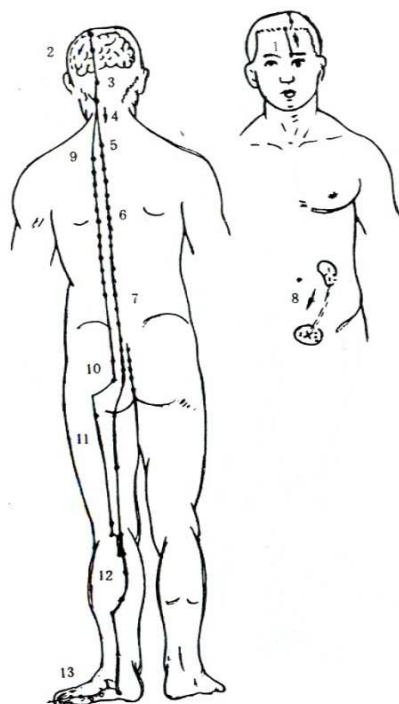


Fig. 8. The Bladder Channel of Foot Taiyang

diaphragm, and enters the Lung [11]. This branch continues along the throat [10] and terminates at the root of the tongue. A smaller branch leaves the Lung [11] joins the Heart, and flows into the chest to connect with the Pericardium Channel (see Fig.9).

### 3.1.9 The Pericardium Channel of Hand Jueyin

Beginning in the chest and in its pertaining organ, the Pericardium [1], this channel descends through the diaphragm [2] to link the upper middle and lower portions of the San Jiao. A second internal branch of the channel crosses the chest [3] emerging to the surface at the area of the ribs. The channel then ascends around the armpit [4] and continues down along the medial aspect of the upper arm [5] to the elbow crease. It runs further down the forearm. A short branch splits off from the palm [8] to connect with the San Jiao Channel at the end of ring finger (see Fig. 10).

### 3.1.10 The san Jiao Channel of Hand Shaoyang

Beginning at the outside tip of the ring finger, the San Jiao Channel proceeds over the back of the hand [1] and wrist to the forearm [2]. It runs upwards, around the outer elbow, along the lateral aspect of the upper arm [3] to reach the posterior shoulder area [4]. From here, the channel travels over the shoulder [5] and enters into the chest underneath the breast bone. An internal branch passes from this point through the Pericardium, penetrates the diaphragm [6] and then proceeds downwards [7] to unite the Upper, Middle, and Lower Jiao. An external branch ascends toward the shoulder and runs internally up the neck [8]. It

reaches the posterior border of the ear [9] and then interiorly circles the face [10]. A short branch originates behind the ear, penetrates the ear, and emerges in front of the ear [11] to reach the outer end of the eyebrow and connect with the Gallbladder Channel (see Fig. 11).

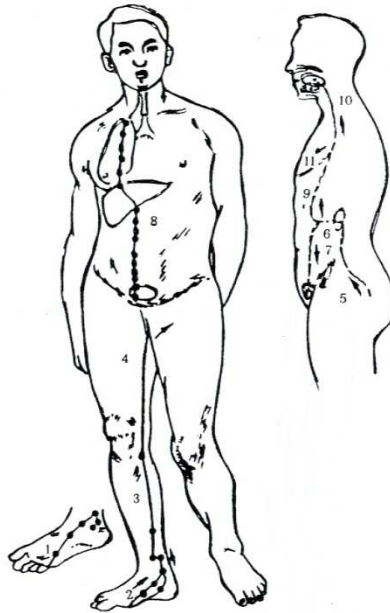


Fig. 9. The Kidney Channel of Foot Shaoyin

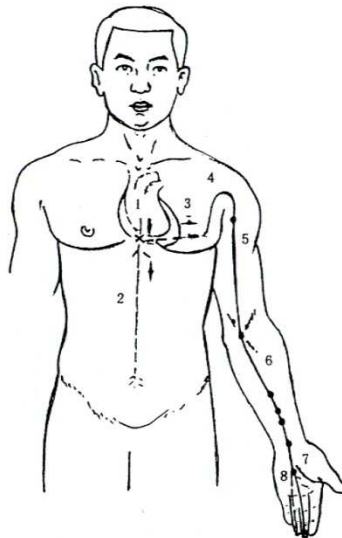


Fig. 10. The Pericardium Channel of Hand Jueyin

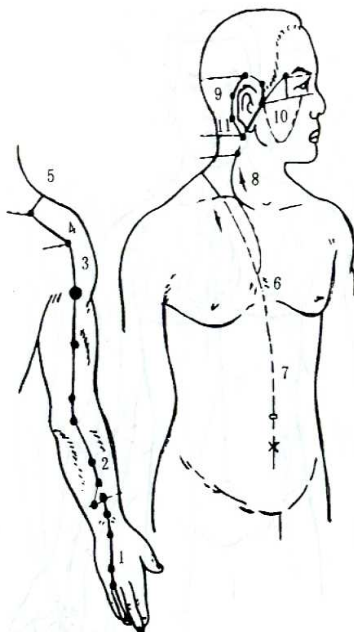


Fig. 11. The san Jiao Channel of Hand Shaoyang

### 3.1.11 The Gallbladder Channel of Foot Shaoyang

The Gallbladder Channel begins at the outer corner of the eye [1] where two branches arise. One branch, remaining on the surface, weaves back and forth on the head before curving behind the ear [2] to reach the top of the shoulder. It then continues downwards, passing in front of the armpit [3] and along the lateral aspect of the rib cage [4] to reach the lip area. The second branch traverses the cheek [5] internally and proceeds through the neck [6] and chest [7] to reach the Liver and its pertaining Organ, the Gallbladder [8]. Continuing downwards, this branch emerges on the side of the lower abdomen, where it connects with the other branch in the hip area [9]. The channel then descends along the lateral aspect of the thigh [10] and knee to the side of the lower leg [11] and further downwards in front of the outer ankle. It crosses the top of the foot [12] and terminates at the lateral side of the tip of the fourth toe. A branch leaves the channel just below the ankle to cross over the foot [13] to the big toe, where it connects with the Liver Channel (see Fig.12).

### 3.1.12 The Liver Channel of Foot Jueyin

Beginning at the top of the big toe, the Liver Channel traverses the top of the foot [1], ascending in front of the inner ankle and along the medial aspect of the lower leg [2] and knee. It runs continuously along the medial aspect of the thigh [3] to the pubic area, where it encircles the external genitalia [4] before entering the lower abdomen. It ascends internally [5], connects with its pertaining underneath the ribs [7] before pouring into the Lung [8] where it connects with the Lung Channel. The entire cycle of the channel system begins anew here. Reconstituting itself, the channel follows the trachea upwards to the throat [9] and connects with the eyes [10]. Two branches leaves the eye area. One descends across the

cheek to encircle the inner surface of the lips [11], another branch ascends across the forehead [12] to reach the vertex of the head (see Fig.13).

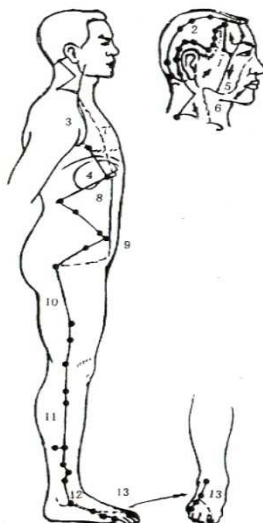


Fig. 12. The Gallbladder Channel of Foot Shaoyang

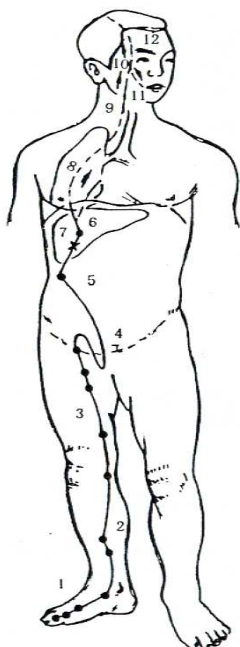


Fig. 13. The Liver Channel of Foot Jueyi



### 3.1.13 The Du Channel

The Du Channel begins in the pelvic cavity [1]. An internal branch ascends from here to the Kidney [2]. Another internal branch descends to emerge at the perineum [3] and passes through the tip of the coccyx. Ascending along the middle of the spine [4], it reaches the head [5] to penetrate into the brain [6]. The main branch continues over the top of the head, descends across the forehead [7] and nose to end inside the upper gum [8] (see Fig. 14).

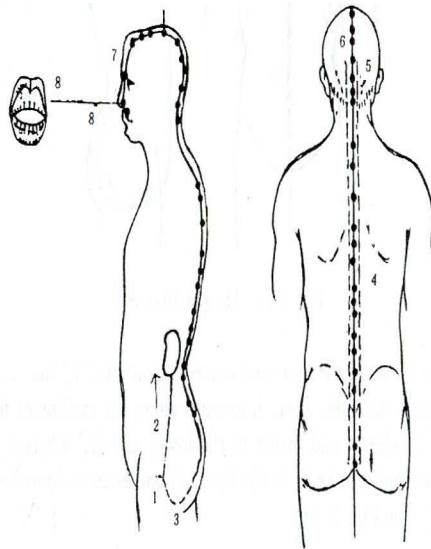


Fig. 14. The Du Channel

### 3.1.14 The Ren Channel

The Run Channel begins in the pelvic cavity, emerges at the perineum between the anus and external genitalia [1] and runs forward across the pubic area. It ascends along the midline of the abdomen [2] chest, and throat to the lower jaw [3] where it penetrates internally to encircle the lips [4] and sends a branch to the eyes [5] (see Fig.15).

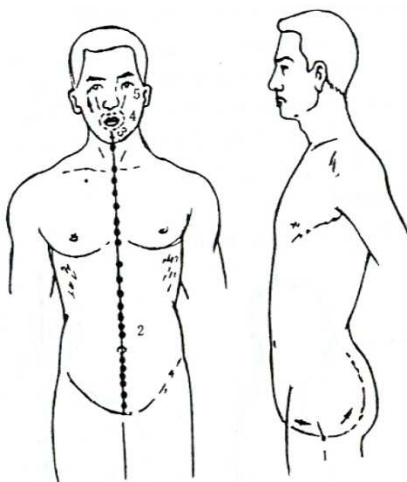


Fig. 15. The Ren Channel

## 4. Etiology and pathogenesis

In traditional Chinese medicine (TCM), every disease must be the result of some pathogenic factors. In the study of etiology, clinical manifestations are of basic importance, by analyzing symptoms and other indications, TCM is able to identify the causative factors of disease. Numerous factors can cause diseases, but in general the factors include the six climatic factors.

### 4.1 The six exogenous factors

Wind, cold, summer heat, damp, dryness and fire (mild heat and heat) are the six climatic changes found in nature. Diseases due to the six exogenous pathogenic factors are closely related to the seasonal changes in the weather and to the living environment. For example, heat syndromes mostly occur in summer, cold syndromes in winter, and damp syndromes are usually caused by prolonged exposure to damp.

Wind is the predominant Qi of the spring, although pathogenic wind and the diseases it causes are not confined only in the spring. They can occur in any season. TCM holds that wind is the most important pathogenic factor for exogenous diseases. Wind is a Yang pathogen and is characterized by "upward and outward dispersion." Thus, it attacks the Yang parts of the body easily, i.e. the body surface and the upper body; this leads to the loosening of the pores and the looseness of the body surface and the symptoms such as headache, sweating or aversion to wind, etc. usually appear.

Pathogenic wind, moreover, occurs in gusts and is characterized by rapid changes. Thus, a second characteristic of diseases caused by pathogenic wind is that they begin abruptly and symptoms spread to different parts of the body.

#### **4.1.2 Cold**

Cold is the predominant Qi in winter. In winter, being thinly clothed, or being exposed to the cold after sweating, caught in the rain, and wading in water, may all predisposes an individual to an attack of pathogenic cold.

Diseases caused by pathogenic cold can be divided into two types: an attack by cold on the body surface and an interior attack. The former is due to a decrease in the body's defensive Yang which reduces Yang dispersion on the body surface; the latter is due to a sudden injury of the Zang-Fu organs' Yang Qi. Cold has three specific properties and related pathological influences.

If the pathogenic cold attacks the body surface, the pores become obstructed as does the interstitial space, and the defensive Yang fails to disperse with the result of the symptoms such as aversion to cold, fever and absence of sweat. If the pathogenic cold attacks the blood vessels, the vessel contraction and the retarded flow of Qi and blood to the joints will occur, leading to cold, numbness and restricted movement of the limbs.

#### **4.1.3 Summer-heat**

Summer-heat is the predominant Qi of summer. Diseases caused by summer-heat are only seen in this season. Summer-heat is a Yang pathogenic factor. When a person is attacked by summer-heat, an excess of Yang occurs, leading to high fever, fidgeting, flushed face and a surging (Hong) pulse, massive sweating consumes body fluids, resulting in thirst and scanty dark urine. Sometimes shortness of breath, lassitude, or sudden loss of consciousness may occur; all are due to the loss of Qi following the exhaustion of body fluids.

#### **4.1.4 Damp**

Damp is the predominant aspect of the climate at the end of summer. The damp is a Yin pathogenic factor and is therefore apt to disturb the normal flow of Qi, leading to a stuffy chest, scanty urine and difficulty in bowel movement. The characteristic of the damp is that it tends to go downward and to impair the Yin parts of the body. So, pathogenic damp more often attacks the lower parts of the body and can cause edemas in the lower limbs. If the meridians and joints retain the damp, the dispersion of Yang Qi is hindered and the symptoms of soreness, pain and heavy sensations in the joints will occur. This is known as "Bi-syndrome (e.g. rheumatism) due to the damp." Pathogenic damp also tends to produce turbid excretions from the body: stickiness in the eyes, sticky stools, turbid urine, massive foul-smelling vaginal discharge, or oozing eczema, etc.

#### **4.1.5 Dryness**

Dryness is characteristic of autumn. During this season, the temperature and humidity gradually decrease. Lack of moisture causes many things in nature to dry out. Pathogenic dryness usually attacks the lung via the mouth and nose. Dryness depletes body fluids. Exhausting the body fluids, it causes such symptoms as dryness in the mouth and throat, thirst, dry and cracked skin, lusterless hair, scanty urine and constipation. Pathogenic dryness often impairs the functions of lung, the "delicate organ" which favors moisture over dryness, though the lung does not tolerate the pathogenic dampness, it reacts more adversely to the pathogenic dryness.

#### **4.1.6 Fire (heat)**

Fire and heat are caused by excessive Yang characteristic is its capability of "flaring up". Consequently, diseases due to pathogenic fire tend to display symptoms such as high fever, aversion to heat, fidgeting, thirst, perspiration, and a surging and rapid pulse. Pathogenic fire often consumes the body fluids and Qi. Pathogenic fire predisposes the individuals to carbuncles, furuncles, boils and ulcers when it attacks the blood. In addition, ulcers and painful local red swellings are also clinically diagnosed as Yang and fire syndromes.

### **4.2 Phlegm and fluid retention, and blood stagnation**

Phlegm, retained fluids, and stagnant blood are all pathological results of the dysfunction of the Zang-Fu organs. Since they can further affect the Zang-Fu organs and other tissues, either directly or indirectly, and can cause numerous diseases, they are also regarded as the pathogenic factors.

#### **4.2.1 Phlegm and fluid retention**

Phlegm and retained fluids are caused by the influence of the six exogenous pathogenic factors, irregular diet or abnormal emotional activities, all impair the functions of lung, spleen, kidney for the water metabolism, and the Qi of triple energizer. The main pathological manifestations of Phlegm and retained fluids are dizziness, nausea, vomiting, shortness of breath, palpitations or mania and semi-consciousness and sometimes visible phlegm or retained fluids.

#### **4.2.2 Blood stagnation**

Blood stagnation is a pathological product that appears in the course of certain diseases, yet, it becomes, in turn, the pathogenic factor of other diseases. By blood stagnation, it is meant that local blood stasis is in the meridians, Zang-Fu organs or other tissues, as well as the accumulation of extravasated blood somewhere. Deficient and stagnant Qi fails to propel blood circulation, because Qi is the commander of blood. The clinical manifestations of blood stagnation depend on the site and the cause of the disease. Stagnation of blood in the heart would cause palpitation, a suffocating sensation in the chest, cardiac pain and the purplish-colored lips and nails.

Blood stagnation in the lung produces pain in the chest and expectoration of blood. Stagnation in the stomach and intestines causes hematemesis and constipation.

### 4.3 Disharmony of Yin and Yang

Disharmony of Yin and Yang refers to the pathogenic changes involving either excess or deficiency of Yin or Yang, occurring when the body is invaded by the pathogenic Qi. Diseases will not occur unless the body is invaded by pathogenic factors which cause derangement of Yin and Yang in the interior. Yin-Yang disharmony, i.e. excess or deficiency of either Yin or Yang, is mainly manifested in the form of the syndromes of cold and heat and excess and deficiency. In general, heat syndromes of the excess type will occur in cases of the excess of Yang; cold syndromes of the excess type will occur in case of the predominance of Yin; cold syndromes of the deficiency type will occur in cases of the insufficiency of Yang, and heat syndromes of the deficiency type in cases of the deficiency of Yin.

### 4.4 Conflict between anti-pathogenic Qi and pathogenic Qi

The imbalance between the anti-pathogenic Qi and the pathogenic Qi refers to the struggle between the resistance powers of the body and any of the pathogenic factors. Invasion of pathogenic Qi destroys the Yin-Yang harmony of the body and causes functional disturbance of the Zang-Fu organs and meridians, derangement of Qi and blood. These are mainly manifested as the excess or deficiency syndromes.

Syndromes of the excess type are likely to occur if there is both the excessiveness of the pathogenic Qi and the anti-pathogenic Qi. It is commonly seen in the early and middle stages of diseases due to invasion by the exogenous pathogenic factors, and diseases caused by retention of phlegm fluid, stagnant blood. Deficiency mainly refers to the insufficiency of the anti-pathogenic Qi which is the pathological reaction dominated by the decline of the anti-pathogenic Qi. It is commonly seen in disease resulting from prolonged weakness of body constitution, hypo-function of the Zang-Fu organs, and deficiency of Qi.

## 5. Conclusion

Traditional Chinese medicine (TCM) studies human physiology and pathology according to basic theory, such as concepts of yin and yang, five elements, zang-fu organs, and the meridian system. Also TCM explain the etiology, pathogenesis, prevention and treatment of diseases. Basically in traditional Chinese medicine (TCM) that there is no disease without pathogenic factors. We must seeking the causative factors through the differentiation of symptoms and signs. So in TCM in order to provide a better guide for diagnosis and treatment, we studies not only the nature of causative factors and their special characteristics, but also their clinical manifestations.

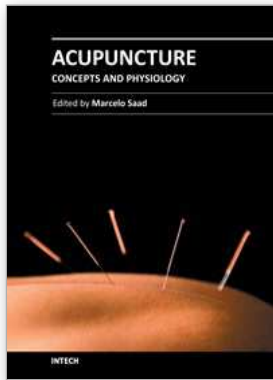
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## **Acupuncture - Concepts and Physiology**

Edited by Prof. Marcelo Saad

ISBN 978-953-307-410-8

Hard cover, 222 pages

**Publisher** InTech

**Published online** 10, October, 2011

**Published in print edition** October, 2011

Acupuncture and related techniques are useful tools for treating a spectrum of diseases. However, there are still many areas of controversy surrounding it. We hope this book can contribute to guide the advance of this ancient medical art. In the present work, the reader will find texts written by authors from different parts of the world. The chapters cover strategic areas to collaborate with the consolidation of the knowledge in acupuncture. The book doesn't intend to solve all the questions regarding this issue but the main objective is to share elements to make acupuncture more and better understood at health systems worldwide.

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