Vital Substances

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I. QI Qi, Blood and Body Fluids are the fundamental substances of the human body. They are the material foundation for the physiological functions of the Zang Fu organs, tissues and meridians.

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1. THE CONCEPT OF QI: Qi is the most basic substance of the human body, as well as the fundamental substance in maintaining the vital activities of the human body.

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2. THE FORMATION OF QI: The Qi of the human body is derived from the ***congenital Essence*** of the parents, the **nutrients of food** *(the Essence of food and water),* and the ***clear Qi from the natural air***. It is formed through the general physiological functions of organs such as the ***Lungs***, *Spleen* and ***Kidneys***.

Qi is sufficient only when the physiological functions of the Kidneys, Spleen, Stomach and Lungs are in balance; if the physiological functions of the Stomach and Lungs and other organs lose this balance, the formation of Qi will be affected.

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The transportation and transformation functions of the Stomach and Spleen are very important in the process of Qi formation. The nutrients of food and water are the basic substances of the human body in maintaining the vital activities.

Through the digestion and absorption of the Spleen and Stomach, food and water can be transformed into the nutrient part to nourish the body; with the nourishment of the nutrient part of the food and water, the congenital Essence can maintain the normal physiological functions.

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3. **THE PHYSIOLOGICAL FUNCTIONS OF QI**: Qi is the fundamental substance in maintaining the vital activities of the human body.

Its main physiological functions include the following:

Promoting, warming, protecting, checking, Qi Hua

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3.1 The promoting function

This refers to the stimulating and promoting effects of Qi. Qi is the very active substance of the Essence: it can stimulate and promote the growth and development of the human body, and the physiological functions of all the Zang Fu organs, meridians and tissues.

Qi can also promote the formation and circulation of the Blood, and the formation, distribution and secretion of the Body Fluids; *deficiency of Qi* can lead to pathological changes such as *retarded development of the human body or early aging, even to Blood deficiency, poor circulation of Blood or retention of water and fluids*.

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3.2 The warming function

Qi is the source of Heat in the human body. The normal temperature of the body is maintained and readjusted by Qi. The normal physiological functions of the Zang Fu organs, meridians and tissues should be maintained at a relatively stable temperature; this temperature is very helpful for the normal circulation of Blood and Body Fluids.

The dysfunction of Qi in warming the body can lead to symptoms such as *low body temperature, cold body and cold limbs, or the* ***Cold*** *can transform into* ***Heat****, due to the* ***Qi stagnation*** *(friction heat)*.

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3.3 The protecting function

Qi can protect the body surface and defend it from the invasion of external pathogenic factors.

‘Pathogens attack the body only when the Qi is deficient’ means that the pathogenic factors attack the body and make the body ill only when the defending function of Qi is weak.

If the defending function of Qi is weak, the body resistance will be reduced and the body *gets ill easily*.

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3.4 The checking function against flowing away

Qi can check and prevent the Blood, Body Fluid and other fluids from flowing away.

It means that the Qi checks and controls the Blood to prevent it from flowing out of the bood vessels; it can also controls intestine fluid, and sperm.

If the defending function of Qi is weak, a large amount of the Body Fluids will get lost, and symptoms such as ***bleeding***, ***incontinence***, and ***seminal emission*** will occur.

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The checking and promoting functions of Qi are ***counteracting and interassisting***.
Qi promotes the **circulation** of Blood, and the **distribution** and secretion of Body Fluids; Qi also checks and controls the fluids in the body and **prevents them from flowing away** abnormally.
These two functions of the Qi work together to maintain the normal circulation, secretion, and discharging of the fluids in the body.

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3.5 Qihua (activities of Qi)

Qihua refers to *all kinds of changes* through the activities of Qi. In detail, it refers to the metabolism and intertransformation of the Essence, Qi, Blood, and Body Fluids.

For example, *food and water transform into nutrients*, and then into the *Qi, Blood and Body Fluids*; Body Fluids transform into *sweat and urine*; after digestion and absorption, the food and water can be transformed *into wastes* in a further step.

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The abnormal checking function of the Qi can affect the whole metabolism of the materials and energy.
It can affect the digestion and absorption of food and water, then affect the formation and distribution of the Essence, Qi, Blood and Body Fluids, and also the formation and discharge of sweat and urine.
In fact, it affects the **whole process of body metabolism** –the process of the transformation of matter and energy.

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4. THE MOVEMENTS OF QI AND THE FORMS OF MOVEMENTS:

Mechanism of Qi:

Qi movement. Basic movements of Qi: Ascending, descending, leaving and entering are the four types of Qi movements.

Qi moves constantly, and flows all over the body. It promotes and stimulates the physiological functions of the Zang Fu organs, meridians and tissues, as well as the circulation of the Blood and Body Fluids.

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The balance of the ascending and descending movements are the key point for the Zang Fu organs in maintaining the normal vital activities. For example, in the respiration function of the Lungs, exhalation is the leaving movement of Qi, inhalation is the entering movement of Qi, dispersing is the ascending movement of Qi, and the descending action of Lung-Qi is the descending movement of Qi.

They are opposite movements but united in their function. From the general point of view, all physiological activities must be in coordination; looking into various parts of the body, they have their predominant or normal way of movement.

For example, the Qi of Liver and Spleen must ascend; **Lung and Stomach-Qi descend**, when these organs are functioning normally.

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The abnormal Qi movements are as follows:

Qi stagnation Qi is blocked in a localized area of the body
Reverse flow of Qi over ascending, less descending of Qi
Sinking of Qi over descending, less ascending of Qi
Qi collapse Qi leaves the body, cannot be held inside
Closed Qi Qi is closed inside, **cannot go out**

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Disharmony of Qi in the Zang Fu organs:
For example,
Lung-Qi fails in dispersing and descending,
the Spleen-Qi sinks down;
the Stomach-Qi rebels and goes upward,
the Kidneys fail to receive Qi; as a result, **Liver-Qi is stagnant.**

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5. THE DISTRIBUTION AND CLASSIFICATION OF QI

Here we look at the classification of the various types of Qi according to their main constituent parts, distribution, location and special functions.

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5.1 Yuan Qi/Primary Qi

This is also called '***Original Qi***' or '***Genuine Qi'.*** It is the most fundamental and important Qi, as well as the primary moving force for the vital activities of the human body.

Formation: Derived from the ***congenital Essence that is stored in the Kidneys (Pre-heaven Qi)***, it needs to be supplemented and nourished by the food and water Essence (Post-heaven Qi) that is transported and transformed by the Spleen and Stomach.

Making use of the Triple Burner as the passage, it can be sent to the Zang Fu organs internally and the body surface externally.

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Functions: Promoting the growth and development of the human body, stimulating and promoting the physiological functions of all the Zang Fu organs, meridians and tissues.

If Yuan Qi is sufficient, all the Zang Fu organs and related tissues will be active and healthy.

Congenital deficiency of the body, insufficient postnatal nourishment, or prolonged illness, can all lead to a deficiency in Yuan Qi/Primary Qi. When this happens to children they may suffer from retarded growth and development; when it happens to the *adults*, they may suffer from Qi *deficiency of the Zang Fu organs or reduced reproductive function.*

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5.2 Zong Qi/Pectoral Qi

This is the Qi gathered in the chest. The place where the Zong Qi/ Pectoral Qi/Central Qi gathers in the chest is called ‘the Sea of Qi’ – ‘Shanzhong’.

Formation: It is formed by the combination of the Water and food Essence that are transported and transformed by Spleen and Stomach **(Gu Qi)**, **and** the **Qing Qi** – clear/air and clean Qi from the air that is inhaled by the Lungs.

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Functions: It helps the Lungs to control respiration.
The strength of speech, voice and respiration are related to the deficiency and excess of Zong Qi/ Pectoral Qi. If Zong Qi/Pectoral Qi is sufficient, speech is clear, the voice is strong and respiration is even; if Zong Qi/Pectoral Qi is insufficient, then speech will be unclear, the voice will be feeble and respiration will be weak, even causing asthma.
It goes along the Heart Meridian and can activate the **Blood circulation**.
The circulation of Blood, the *temperature and the activity of the body*, the sensations of **vision** and **hearing**, and the **strength and rhythm of the heartbeat** are all related to the condition of Zong Qi/Pectoral Qi.

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5.3 Ying Qi/Nutrient Qi

This is also called '**Rong Qi'** –'Ying-nutrient and Blood'. It flows together with Blood in the blood vessels, and is **full of nutrition**. Compared to the Wei Qi/Defensive Qi, Ying Qi/Nutrient Qi **pertains to Yin**, and therefore it also has another name '***Ying-nutrient Yin***'.

Formation: It is derived from the Essence part of the nutritive food and Water that is produced by the Spleen and Stomach.

Function: To nourish and produce the Blood.

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5.4 Wei Qi/Defensive Qi

This flows outside the bood vessels. Compared to Ying Qi/Nutrient Qi, **it pertains to Yang**, and is also known as '**Defensive Yang**'.
Formation: It is **derived from water and food Essence**. It is characterized as '**fierce "aggressive" and bold**'; it is *very active, and moves fast; it travels outside the vessels, but between the skin and muscles*, moving *within the chest and abdominal cavities*.
Functions:
1- It **protects** body surface and defends the body from attack by external pathogens.
2- It **warms and nourishes** the Zang Fu organs, tissues, skin and body hair.
3- It can also r**egulate** the opening and closing of the **body pores**, and the secretion of sweat.

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5.5 Comparison between Ying Qi/Nutrient Qi and Wei Qi/Defensive Qi

Both of these are derived from water and food Essence, but ‘Ying Qi/ Nutrient Qi travels inside the vessels and Wei Qi/Defensive Qi travels outside the vessels.’

Ying Qi/Nutrient Qi holds itself inside and pertains to Yin, Wei Qi/Defensive Qi defends the outside and pertains to Yang. They work together in coordination to maintain the *normal opening and closing of the body pores* and the *normal body temperature*, *‘Human being is active in daytime and sleeping at night’, and the normal ability to defend* the body from external pathogens.

If there is disharmony between Ying Qi/Nutrient Qi and Wei Qi/Defensive Qi, symptoms such as chills and fever, **no sweating or profuse sweating**, ‘Having an unclear mind in daytime and being sleepless at night’, and *low body resistance* may occur.

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