

... d) Thin and small tongue

The tongue body is thinner (vertically) and smaller (horizontally and vertically) than normal.

	Thin	Small
Indications	qi and blood deficiency	yin deficiency with heat
Tongue Body	pale and thin body, with thin coating	red and thin, small body with little or no coating
Pathogenesis	When qi and blood are deficient, the tongue body lacks nourishment and becomes thin.	When there is a deficiency of yin, the tongue body is underfilled and thus the tongue's size will shrink.
Remark	A thin or small tongue without other complaints may prove to be congenital and not indicate a pathology.	

Table 1.5.14 Thin and Small Tongue and its Indications

— C. Tongue Surface

The surface of the tongue should be moist, relatively smooth, and have neither prickles, ulcers, nor cracks.

Pathomechanism of abnormal changes of the tongue surface: When the surface of the tongue body is inadequately nourished by qi, blood, and body fluids, cracks may result. The two etiologies are heat, which injures the blood and body fluids, and dampness, which obstructs the upward flow of qi and blood.

Pathogenic heat can also push the qi and blood upward where they overfill the tongue body. This causes the papillae to thrust outward and the appearance of prickles. If pathogenic heat putrefies the muscles, there will be ulcerations.

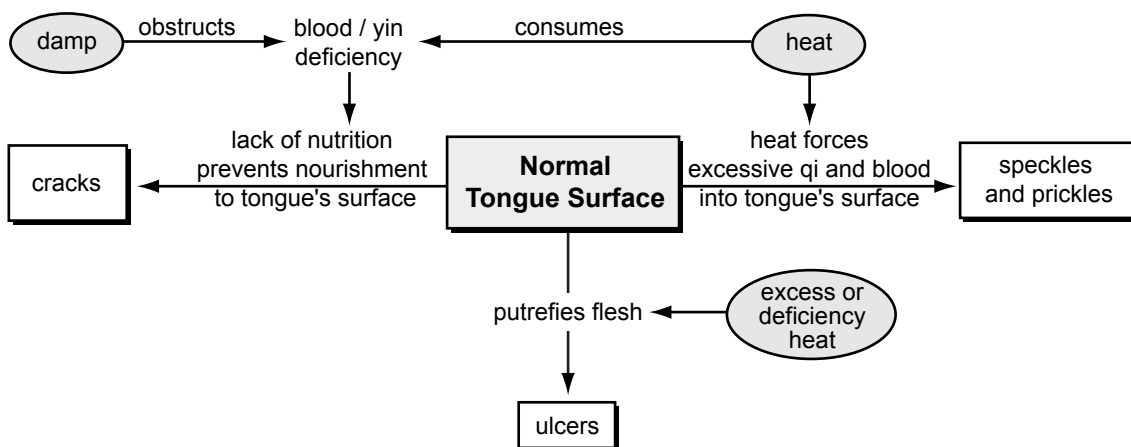


Chart 1.5.12 Pathomechanism of Abnormal Tongue Surfaces

... a) Tongue cracks (fissures)

These are obvious cracks on the surface of the tongue which are not covered or filled with coating. The size, depth, and shape of cracks vary. They may be found over the entire tongue or be restricted to the anterior or central portion, or the lateral edges of the tongue.

Tongue Cracks				
Indications	excess heat	deficiency syndrome		
		yin deficiency	blood deficiency	Spleen qi deficiency with dampness
Tongue Body	deep red	red body	pale or slight red	pale, flabby, with teethmarks
Tongue Coating	dry coating	no coating	varied	varied
Pathogenesis	excess heat impairs body fluids; or a deficiency of essence, blood, yin, or body fluids; all lead to insufficient nutrition of the tongue body's surface which causes the cracks			damp accumulation in the tongue body obstructs the fluids and blood from nourishing the tongue's surface
Remarks	Cracks in the tongue will occur in 0.5% of healthy people. In this case, there will be no complaints, the cracks are not deep, and they'll persist on the tongue unchanged.			

Table 1.5.15 Tongue Cracks and their Indications

... b) Tongue speckles and prickles

There are speckles (flat) or prickles (raised) on the surface of the tongue that look like thorns on the skin of a strawberry. Speckles look red, white, or black, while prickles often look red or black. They both tend to appear on the lateral borders of the tongue but can be found scattered over the entire tongue.

Speckled and Prickled Tongue			
Indications	toxic heat	heat in the nutritive or blood level	damp heat accumulation in blood
Tongue Body	bright red tongue body	deep red, red, or dark purple prickles	red prickles
Tongue Coating	yellow coating	little or no coating	thick yellow coating
Pathogenesis	Prickles or speckles are formed when the papillae enlarge. Pathogenic heat pushes blood to excessively fill the fungiform papillae.		
Remarks	Speckles (flat) are generally considered to be due to blood stagnation, while the prickles (raised) prickles are most likely due to pathogenic heat.		

Table 1.5.16 Speckles and Prickles on the Tongue and their Indications

... c) Tongue sores

Tongue sores vary in size. They can form a yellow head. After some time, they erode and create ulcerations. The area is red and painful.

Section 3

Questions and Answers for Deeper Insight into Smelling and Listening

1. What are the differences between shortness of breath and shortage of qi?

Shortness of breath is short, rapid, and interrupted breathing. It is similar to asthma, but without the lifting of the shoulders. Shortage of qi is more difficult to see as it is very close to one's natural breathing; however, it is feeble, shallow, and light. Additionally, it limits one's ability to produce sounds, as the expiration is weak.

The pathomechanism of both shortness of breath and shortage of qi is insufficient Lung qi, however the pathogenesis of these two conditions is different.

Shortness of breath can arise from either excess or deficiency. Excess-type shortness of breath is caused by water retention in the chest, which limits the space available to inhale the clear qi. With a lack of qi entering, the Lung responds with rapid and shallow breathing in order to overcome the insufficiency of qi, resulting in "shortness of breath." This condition can also arise from chronic illness which consumes the Lung qi, or some other *zàng fǔ* organ dysfunction whereby the production of qi is compromised, leading to Lung qi deficiency.

By contrast, shortage of qi can only arise from deficiency. It is most commonly due to a deficiency of antipathogenic qi associated with chronic illness, weak constitution, malnutrition, or aging. Insufficient antipathogenic qi leads to a deficiency of Lung qi, which also gives rise to symptoms of fatigue and weak respiration, aggravated by slight exertion.

2. How is it that listening to a patient's vocal sounds can help predict pathological changes in the *zàng fǔ* organs?

Vocal sounds are produced by the coordinated functions of the Lung, throat, epiglottis, lips, tongue, teeth, and nose. The Lung governs the qi. While the Lung is by definition a *zàng* (solid) organ, it is unique in that it is also considered to be hollow, with many holes (中空有竅 *zhōng kōng yǒu qiào*). Because it is hollow, it can fill with clear qi, and the holes can reverberate when air is pushed upward through the throat. This produces sound.

While sound originates in the throat, it is the numerous movements of other structures that modify that sound into speech and other vocalizations. These include the opening and closing of the epiglottis, movement of the tongue, shape of the lips, and position of the teeth. Hence, listening to the changes in the sounds and vocalizations of the patient can help one identify pathological changes in the phonic organs.

According to five-phase theory, the sounds, *zàng* organs, and phonic organs all cooperate in a balanced manner to produce sound and vocalizations.

Phase	Wood	Fire	Earth	Metal	Water
pitch	mi (角 jiǎo)	so (徵 zhǐ)	do (宮 gōng)	re (商 shāng)	la (羽 yǔ)
vocalization	shouting	laughing	singing	crying	groaning
zàng organ	Liver	Heart	Spleen	Lung	Kidney
phonic structure	tongue	teeth	throat	mouth	root of tongue

Table 2.3.1 The Five Phases and their Phonic Structures

Under normal circumstances, sound is produced harmoniously. It may deviate up or down by a few levels of pitch in accordance with one's constitution, age, sex, and emotional status, but the deviations are generally very small. However, when pathogens attack and cause pathological change in the *zàng fǔ* organs, an imbalance of the qi and blood can ensue. Thus, sound will lose its harmonious, smooth, and fluid qualities. Depending on the location of the pathology, the sound and voice will undergo a corresponding change. Therefore, listening to the changes in the sound and vocalizations can help one identify pathological changes in the phonic organs and, by extension, the *zàng fǔ* organs.

Phase	Wood	Fire	Earth	Metal	Water
normal sound characteristics	gentle and smooth; not too long nor short, pitch not too high nor low, sound not too tight nor loud	slightly short and high, clear with appropriate pitch and volume dynamics	long, thick deep, and free-flowing	slightly long, sharp, with a clang and jingle	short, high, thin
key characteristics	long	clear	deep	sharp	thin
abnormal characteristics	urgent, hurried	robust, strong	slow	sad, sorrowful	low volume, feeble

Table 2.3.2 Normal and Abnormal Sound Characteristics of the Five Phases

sult in a deficiency of yin or yang. When there is yin deficiency, there is not enough body fluids to dispatch to the body surface; when there is yang deficiency, the yang qi will not be strong enough to steam the body fluids, and therefore no sweat is produced.

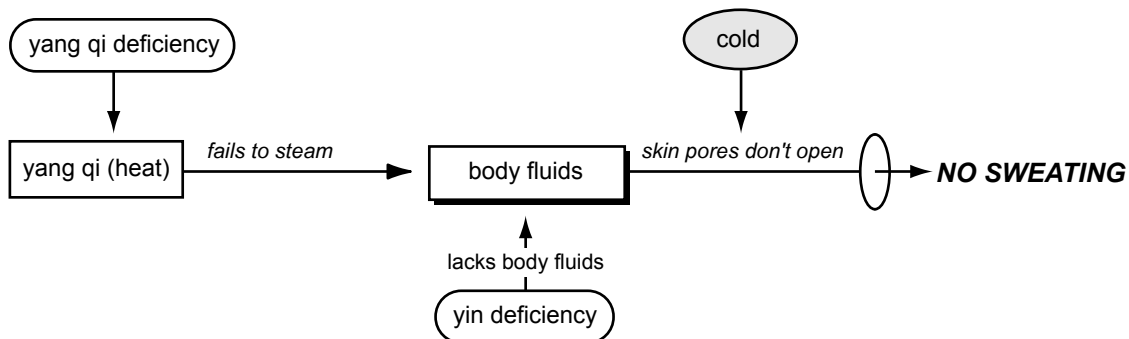


Chart 3.3.11 Pathogenesis of Anhidrosis

— C. Symptoms and Indications

Description	Indications	Pathogenesis
acute onset, severe chills with mild fever, no sweating, headache, nasal obstruction	exterior wind cold	pathogenic cold causes constriction and blockage of skin pores
chronic illness, dry skin and dry hair, five center heat, irritability	interior	yin deficiency shortage of body fluids cannot product sweat
intolerance to (fear of) cold, desire for warm drinks, pale face and tongue, deep, weak, and slow pulse		yang deficiency declining yang can no longer evaporate body fluids

Table 3.3.6 Symptoms and Indications of Anhidrosis

MORBID SWEATING

(2) Profuse sweating

— A. Definition

Excessive perspiration on the skin; overevaporation of body fluids.

— B. Etiology and Pathomechanisms of Profuse Sweating

There are two causes of profuse sweating. The first is body fluids being steamed by excessive pathogenic heat. This pathogenic heat can come from either an external invasion, such as an attack of wind-heat or summer heat, or excessive interior heat. The second cause of profuse sweating is loose interstitial spaces and open skin pores due to the failure of yang qi. The yang fails to consolidate the body surface, allowing the body fluids to escape from the body.

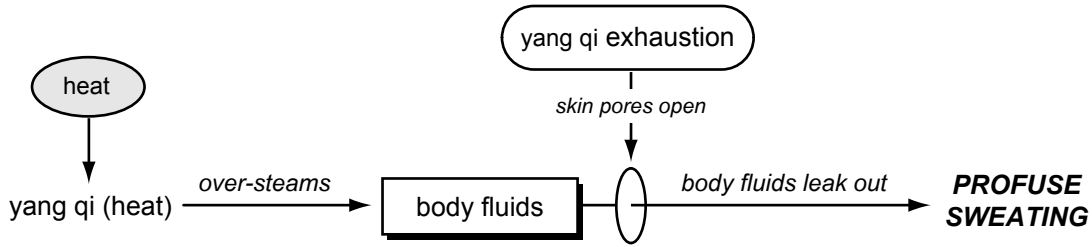


Chart 3.3.12 Pathogenesis of Profuse Sweating

— C. *Symptoms and Indications*

Description	Indications	Pathogenesis
profuse warm (hot) sweating with red face, high fever, thirst and big pulse	excessive heat	excessive heat steams and pushes body fluids out
cold and clear sweat, or oily sweat with pale face and cold limbs	yang exhaustion	yang fails and skin pores open, fluids leak out
sticky, warm, and yellowish sweat with warm limbs, thirst, sunken eyes, thin or faint pulse	yin exhaustion	yang fails following yin failure, deficient heat pushes out remaining body fluids

Table 3.3.7 Symptoms and Indications of Profuse Sweating

(3) **Spontaneous Sweating**

— A. *Definition*

Frequent sweating during the daytime in the absence of any sweat-inducing activity. Spontaneous sweating is aggravated by slight exertion.

— B. *Etiology and Pathomechanisms of spontaneous sweating*

Because of yang qi deficiency, or the failure of defensive yang to consolidate the body surface or to regulate the opening and closing of the skin pores, the interstitial spaces loosen and there is a leakage of body fluids. Physical exertion consumes more qi, and thus the sweating is aggravated by slight exertion.

Another reason for spontaneous sweating is disharmony between the nutritive and defensive qi. Under normal circumstances, the nutritive and defensive qi mutually control each other. Defensive qi circulates on the surface of the body and consolidates the nutritive qi so as to keep it inside. Meanwhile, the nutritive qi supplies nutrition for the defensive qi. When exopathogenic factors attack the body, the defensive qi rises up against the pathogens, and this action may disrupt the balance between the nutritive and defensive qi. Defensive qi then fails to consolidate the nutritive qi and the body fluids leak out.

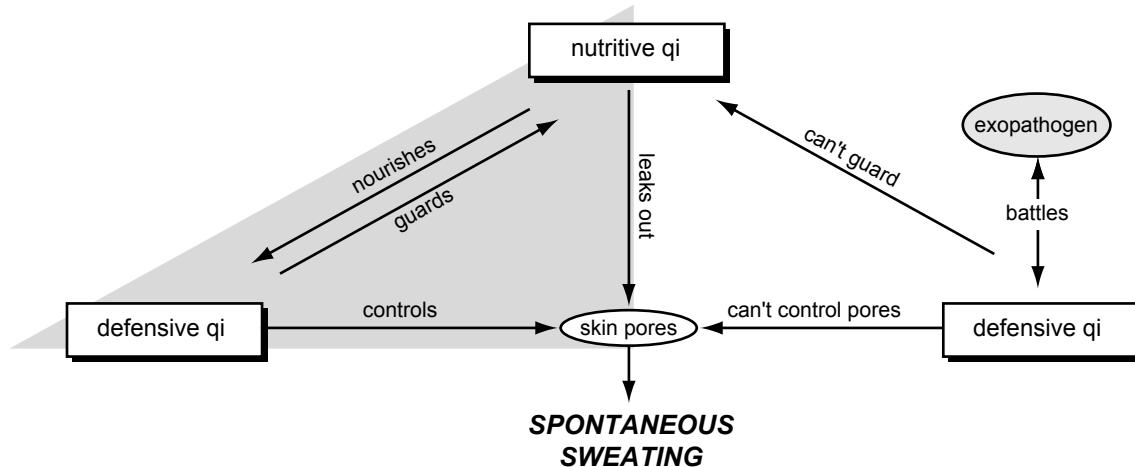


Chart 3.3.13 Pathogenesis of Spontaneous Sweating

— C. *Symptoms and Indications*

Description		Indications	Pathogenesis
spontaneous sweating, aversion to wind, body aches, possible fever and chills, sneezing, thin white coating, moderate pulse		nutritive / defensive qi disharmony	defensive qi fails to consolidate the surface, interstitial space is loose and skin pores open, body fluids escape
spontaneous sweating worse after exertion	frequent colds, aversion to cold, shortness of breath	qi deficiency	Heart / Lung qi deficiency, not consolidating the surface, allows body fluids to escape
	cold limbs, poor appetite, weak low back	yang deficiency	Kidney / Spleen yang deficiency - yang cannot control yin, yin escapes

Table 3.3.8 Symptoms and Indications of Spontaneous Sweating

(4) **Night Sweats**

— A. *Definition*

Sweating that occurs while asleep and stops upon awakening.

— B. *Etiology and Pathomechanisms of Night Sweats*

As a physiological function, the defensive qi circulates on the skin's surface during the daytime and then enters the interior and moves into the yin phase with the nutritive qi during sleep. Since the defensive qi is not on the surface, the interstitial spaces are slightly loose and the skin pores open easily. At this time, a very mild heat, such as deficiency heat or heat generated by stagnation, may be able to steam the body fluids outward.

If yin essence is insufficient it will be unable to control the yang. This will lead to a relative predominance of yang qi, which will give rise to endogenous deficiency heat during sleep when the defensive

qi is completely interior. The defensive qi is also yang, so when it enters the interior at night and combines with deficiency heat, it will produce a stronger heat that pushes out the body fluids.

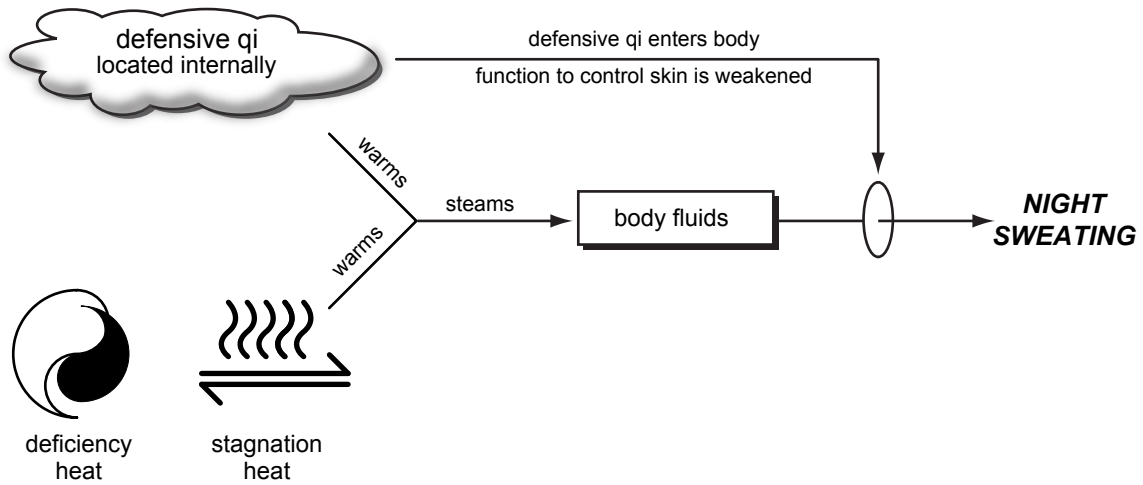


Chart 3.3.14 Pathogenesis of Night Sweats

— C. Symptoms and Indications

Description	Indications		Pathogenesis
frequent night sweating, dull and heavy headache, poor appetite	excess	dampness accumulation	During the sleeping period, yang retreats to the interior, so defensive qi is weaker in the skin. Deficiency or stagnation heat alone is then strong enough heat to push outward the body fluids that would not otherwise be expressed when yang is controlling the exterior.
night sweats with short term illness, alternating chills and fever		shào yáng pattern	
palpitations, pale face, dizziness, insomnia, shortness of breath, poor memory	deficiency	Heart blood deficiency	
hot flashes, five center heat, thirst, low grade fever, emaciation		Kidney yin deficiency	

Table 3.3.9 Symptoms and Indications of Night Sweats

(5) Pathological Sweating at Different Locations

— A. Definition

Sweating is present only in certain parts of the body, or is profuse or excessive only in those areas.

— B. Etiology and Pathomechanisms of Pathological Sweating at Different Locations

In TCM, we view the body as a whole. Local areas are governed by the internal organs. Connections occur via the channels and collaterals. Thus, sweating in a particular part of the body will reflect the condition of a specific organ. Inquiry about the location of abnormal sweating helps us identify the location of the disease in a channel, collateral, or zàng fǔ organ. Generally speaking, abnormal

■ Three: Abnormal Pulse (Pathological Pulse)

The pulse found in a person with a disease is called a morbid or pathological pulse. The pathological pulse refers to an abnormality in the pulse that usually manifests in its width, depth, strength, rate, length, rhythm, tension, or shape.

I. COMPONENT CHANGES AND PATHOGENESIS

Qi and blood are the basic components of the pulse; the substance of pulse is the blood, and the power of the pulse is the qi. Qi and blood play different roles in the generation of a pulsation. Qi pertains to yang and governs movement, while blood pertains to yin and functions to fill the vessels. Blood depends on qi for its movement.

The pulse arises mainly from the flow of qi and blood in the vessels. Normal flow and sufficiency of the qi and blood in the vessels is the condition of the normal pulse. When the flow of qi and blood is abnormal or of insufficient volume, the pathological pulse will be formed.

(1) Change in Width

Change in width means that the diameter of the blood vessel has increased or decreased. Since the diameter is dependent on the condition of the qi and blood, it will increase when the qi and/or blood are over filled, and will decrease when there is insufficient qi and/or blood, especially if there is insufficient blood to fill the vessel. A change in the width of the vessel can indicate the following:

Wide width: hyperactivity of yang

- Hyperactivity of yang: excessive heat in the body which raises and moves the qi and blood to expand the blood vessels.
- Hyperactivity of yang due to yin deficiency: outward floating of yang due to the depleted yin failing to control the yang.

Thin width: insufficiency of yin and blood: insufficient yin and blood fails to fill the blood vessels.

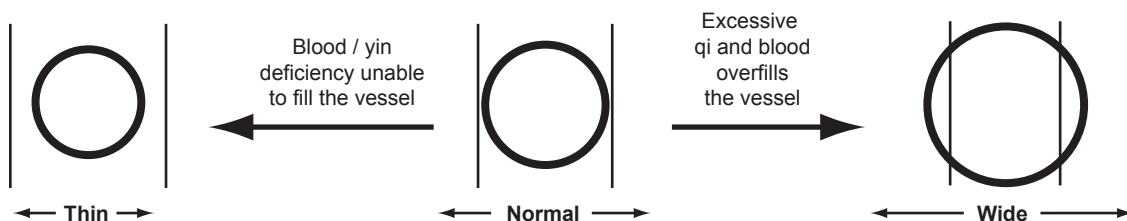


Chart 4.1.2 Pulse Width and its Pathomechanisms

(2) Change in Depth

Change in depth means that the location of the strongest pulsation has changed. Qi moves the pulse; when qi moves, blood moves. The pulse moves to the superficial depths when there is excessive or relatively excessive yang qi (floating yang). The pulse moves to the deeper depths when the yang qi is debilitated, and the pushing movement lacks force and is unable to move the blood to the exterior. A change in depth can indicate the following:

Superficial depth: the qi and blood are moving outward toward the superficial layers

- exterior pattern: the defensive yang and pathogens battle, and the qi and blood amass in the exterior
- hyperactivity of yang due to insufficient yin/blood: when yin blood is insufficient, it is unable to constrain the yang, which then floats to the surface.

Deep depth: the failure of qi and blood to flow outward from the interior of the body due to internal pathogens obstructing the flow of qi and blood; or the deep pulse represents a deficiency of qi and blood which inhibits their ability to flow outward from the interior.

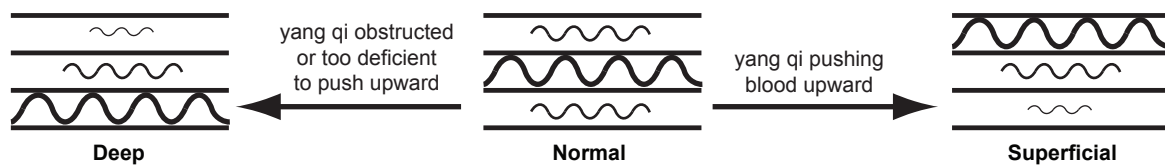


Chart 4.1.3 Pulse Depth and its Pathomechanisms

(3) Change in Strength

The strength of the pulse depends on the qi and blood, especially the qi. Qi moves the blood, and when the qi is strong and exuberant, the blood will move normally and the pulse will be balanced and have force. A change in strength may indicate the following:

Forceful: strong qi and blood fighting off an invasion of pathogenic factors, or a stagnation of qi and blood.

Forceless: deficiency of qi and blood, especially deficiency of qi, which fails to fill and move the blood in the vessels.

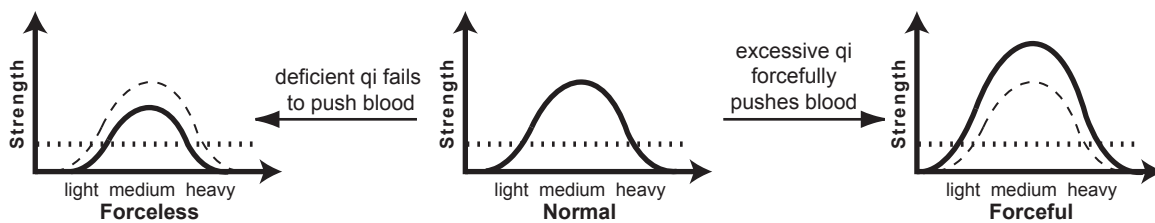


Chart 4.1.4 Pulse Strength and its Pathomechanisms

(4) Change in Rate

Pulse rate is determined by a number of factors, of which the state of the yang qi plays a leading role because it governs the function of the movement of blood via the Lung and Heart. A change in rate can indicate the following:

Increased rate: the yang governs movement, and yang hyperactivity, or the relative hyperactivity of yang qi, may cause the qi and blood to circulate more quickly inside the vessels.

Decreased rate: obstruction of the yang qi by pathogenic cold, or deficiency of yang, may prevent it from promoting the normal circulation of qi and blood.

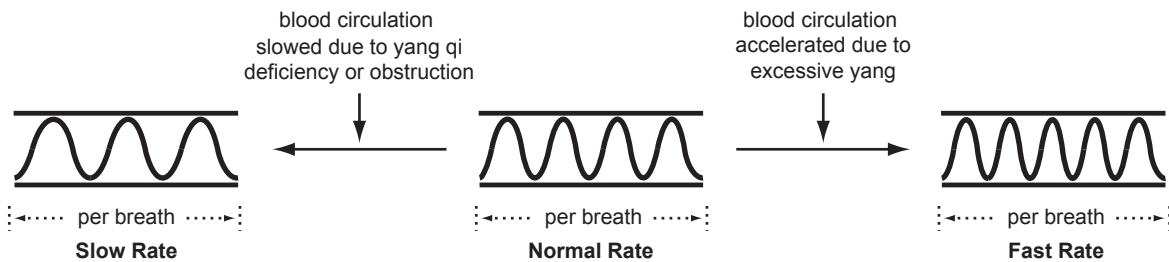


Chart 4.1.5 Pulse Rate and its Pathomechanisms

(5) Change in Length

A normal pulse should be felt at all three positions (distal, middle, proximal). The length of the pulse depends on the condition of the qi and blood. A change in length can indicate the following:

Increased length: excessive qi and blood filling the vessels.

Decreased length: qi deficiency, which fails to activate the flow of blood, or a pathogenic factor that has obstructed the vessels and prevented the qi and blood from filling the pulse to its normal length.

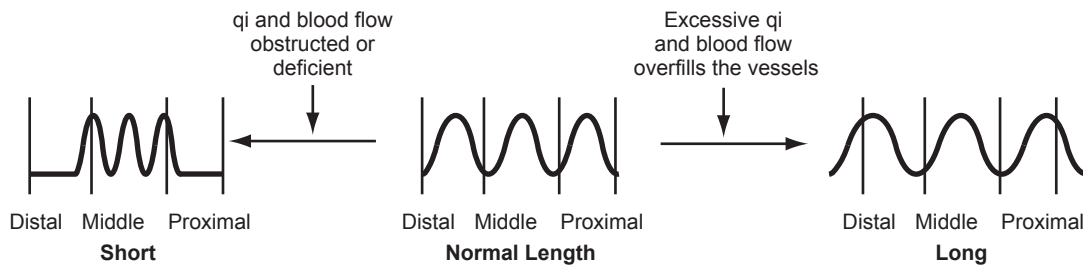


Chart 4.1.6 Pulse Length and its Pathomechanisms

(6) Change in Rhythm

The rhythm of the pulse mainly depends on the Heart qi, since the Heart qi commands the blood to move through the vessels. The pulse beats with a regular rhythm when the qi and blood move smoothly. When qi is deficient, or excessive pathogenic factors (blood stasis, phlegm, food, etc.) obstruct the qi, the pulse will beat with an irregular rhythm.

Arrhythmic pulse: Heart yang qi fails to keep the blood moving constantly in the vessels; or qi exhaustion in other organs affects the Heart yang qi.

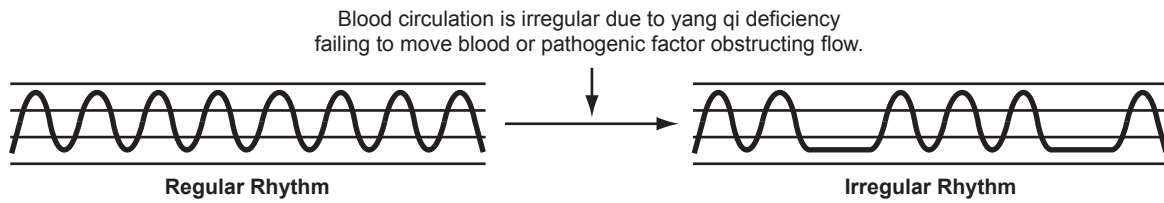


Chart 4.1.7 Pulse Rhythm and its Pathomechanisms

(7) Change in Tension

Tension refers to the tension of the blood vessels (vasotonia). It is the pulling force of the blood vessels. The tension of the vessel depends on the qi and blood, as well as the condition of the blood vessels. A change in tension may indicate the following:

Taut: the blood vessel feels tight and hard under the fingers due to qi stagnation or to blood vessel constriction.

Slack: the blood vessel feels soft and loose due to qi and blood deficiency failing to fill up the vessels.

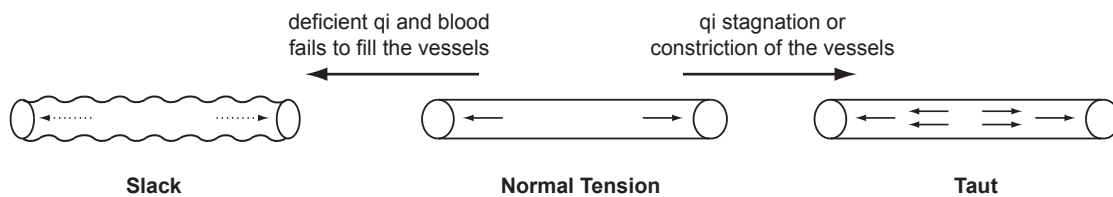


Chart 4.1.8 Pulse Tension and its Pathomechanisms

(8) Change in Shape

The normal shape of the pulse should be smooth and gentle, reflecting the smooth flow of the qi and blood inside the vessel. There are two possible causes for disruption of the smooth flow of blood:

- Excess pathogenic factors obstruct the flow within the vessel, or excess qi and blood fails to flow smoothly.
- Severe qi, blood, or essence deficiency, which fails to fill the vessel and causes the shape of the vessel to change.

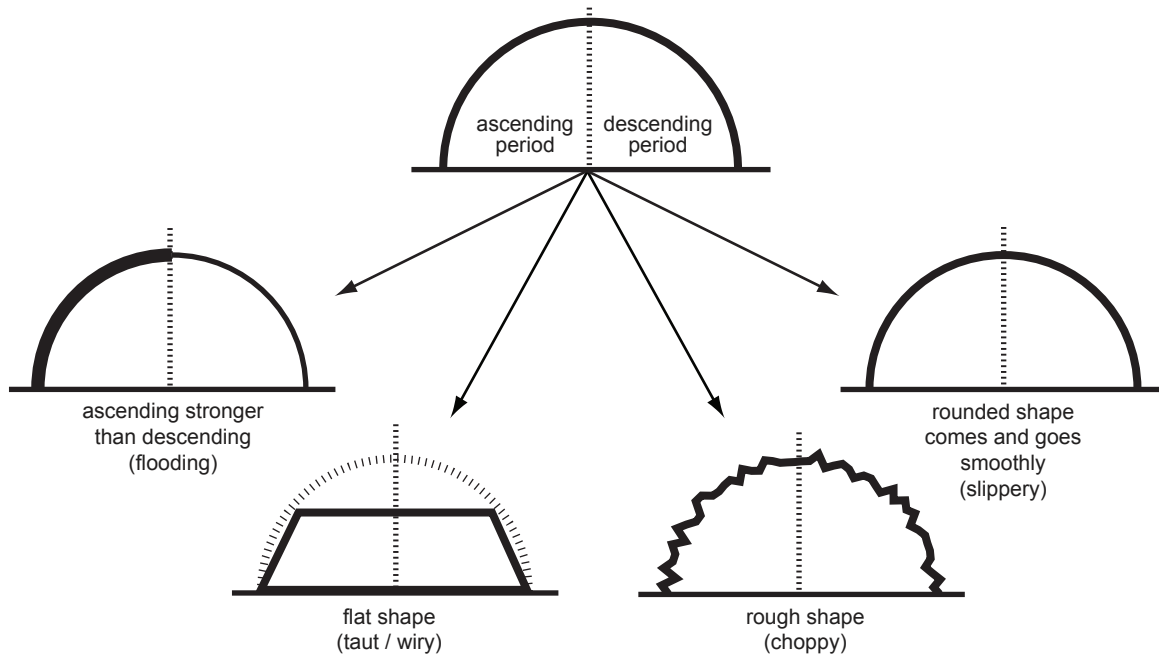


Chart 4.1.9 Pulse Shape and its Pathomechanisms

II. PATHOLOGICAL PULSES

In order to understand pathological pulse qualities, practitioners throughout history have taken the several types of pathological pulses and categorized them in different ways to make them more helpful in the clinic.

(1) Pathological Pulses Categorized by Yin and Yang

All pathological pulses can be divided into the categories of yin and yang. The pulses with forceful strength, or superficial depth, rapid speed, or long length are associated with yang, while those that are forceless, deep, slow, or short are associated with yin.

TCM DIAGNOSIS COMPREHENSIVE EXAMINATION

- 1) Which of the following is the most important component in the observation of the spirit?
 - a. Facial expression
 - b. Mental state
 - c. Physical activity
 - d. Eye movement

- 2) Which of the following patterns does *NOT* give rise to a pale facial complexion?
 - a. Qi deficiency
 - b. Blood deficiency
 - c. Cold pattern
 - d. Yin deficiency

- 3) A female patient reports that her hair looks dull with a tendency to split. What do these symptoms indicate?
 - a. Deficiency of Kidney yin
 - b. Deficiency of Lung qi
 - c. Deficiency of Liver blood
 - d. Deficiency of Heart yang

- 4) Hair that suddenly falls out in big clumps is due to:
 - a. Wind
 - b. Blood deficiency
 - c. Lung qi deficiency
 - d. Damp-heat

- 5) Purplish sclera indicates:
 - a. Liver fire
 - b. Liver wind
 - c. Dampness
 - d. Blood stagnation

- 6) When the eye's sclera is unclear, it indicates which of the following?
 - a. Wind
 - b. Heat
 - c. Dampness
 - d. Cold