

Tongue Diagnosis

Tongue Diagnosis (p.201-219)

- Inspection of Tongue Body

R. Bishay

Tongue Diagnosis

- Introduction
- Tongue body
- Tongue color
- Tongue shape
- Tongue motility
- Tongue coating
- Recent researches on tongue diagnosis

Introduction of Tongue Diagnosis

- Inspection of tongue is a unique and important diagnostic method of TCM used to observe the abnormal changes in the tongue body and the tongue coating in making diagnosis of diseases.

Introduction of Tongue Diagnosis

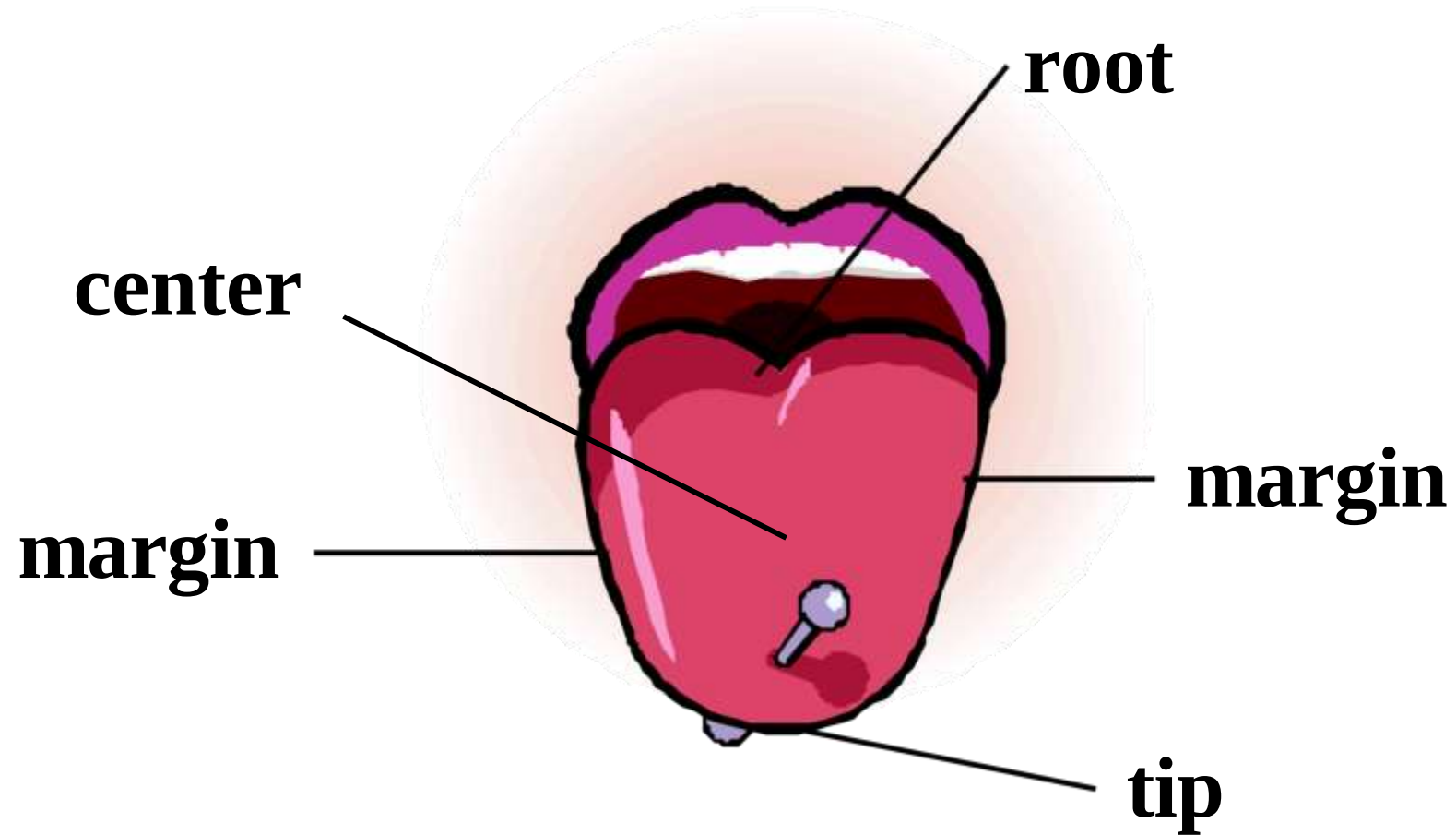
- Tongue serves as a mirror of the viscera. Channels and collaterals of the viscera are all connected directly or indirectly with the tongue, e.g. Channels and collaterals of the **heart**, **liver**, **spleen**, **lung**, **kidney**, **triple burners** and **urinary bladder** are directly connected with tongue. Tongue is closely related to qi, blood, body fluid and viscera.

Introduction of Tongue Diagnosis

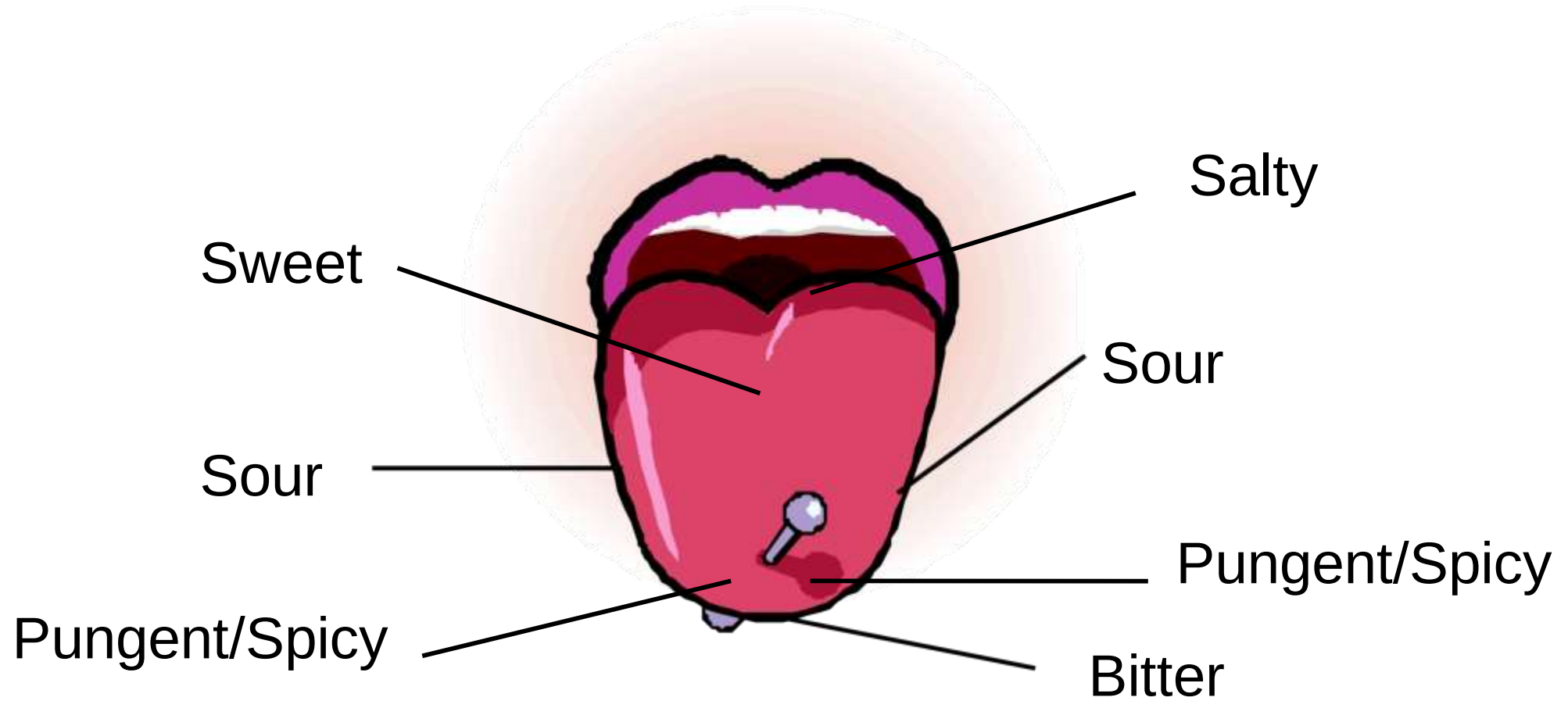
- Mucosa on the tongue papillae is sensitive to changes. Being a sensitive mark of internal changes, the tongue serves as an indispensable guide in differentiation of syndromes.

R. Bishay

Different parts of the tongue



The Relation between Five Flavors and Different Positions of the Tongue



Introduction of Tongue Diagnosis

- Any local part can be the representative of the whole body. Tongue is also an example.
- **Heart** opens to tongue; **spleen** channel winds around tongue; *kidney* also relates to tongue (**H**ealthy **S**tudents ***K**now*).

Introduction of Tongue Diagnosis

- Ancient people had established the doctrine that different part of the tongue correspond to various internal organs; namely, tip reflects the heart and lung; middle part, the spleen and stomach; its root, the kidney; both sides of the tongue, the liver and gall bladder. This theory is valuable nowadays in clinical diagnosis.
- This theory can be applied in combination with the judgment of tongue coat and the tongue body.

History of Tongue Diagnosis

- “In febrile disease of the lungs, the patient will have sudden chills and goosebumps, aversion to wind and cold, yellow coating on the tongue, and fever.” (Huang Di Nei Jing – Su Wen, Chapter 32)
- These are the changing pattern of the tongue **coating to yellow** when the exterior syndrome transmits to interior whereas **excess heat is found in lung and stomach**.

History of Tongue Diagnosis

- Zhang Zhongjing in his “Shanghan Lun” regarded tongue diagnosis as one of the means of diagnostic methods in TCM.
- “Patient got distention in chest, lip emaciates and tongue being bluish in color... that is blood stasis” (Jingui Yaoluo).

What can be observed?

- When the tongue is being observed, the patient should face the light with his tongue protruding very naturally.
- The coating of the tongue should be inspected first, *then the tongue body*. The inspection should be done quickly and thoroughly while special attention is paid to the effects of the **light, diet, medicine** and **seasons on the tongue**.

What can be observed?

- In addition to the inspection with eyes, other modern devices can be used, such as fluoroscopy intravital microscopy, pathological section and scrape smear examination, to enhance the accuracy and objectivity of the tongue inspection.

History of Tongue Diagnosis

- The author used the **bluish tongue** as the indicator for **blood stasis** syndrome.
- Other literatures are found in Sung, Ming and Qing dynasties on tongue diagnosis. Specialists in febrile diseases during their research in febrile diseases developed a set of theories and practices in observing both teeth and tongue called “Inspection of Tongue in Febrile Diseases”.

The Contents of the Tongue Inspection

- Inspection of the tongue comprises the inspection of the tongue body and the coating. The tongue body refers to the tissue of the muscle and blood vessels, while the coating refers to something on the tongue like mosses (lacking true roots), which is formed, according to the theory of TCM, by the rising of the qi of the spleen and stomach.

The Contents of the Tongue Inspection

- Normal picture of the tongue is described as having a 1-soft and flexible body, 2-**light red**, 3-moist and 4-bright, 5-neither too fat nor too thin, and with 6-normal shape.
- A thin and white coating with **clear grains**, which, evenly scattered and rooted on the tongue, cannot be wiped out, and which is neither wet nor dry, sticky or greasy, is described as being ‘**light red tongue with thin and white coating**’.

The Contents of the Tongue Inspection

- Abnormal pictures of the tongue are pathological manifestations. The tongue body and the coating should be examined together and consulted together in examination with each different emphatic point.
- Usually, the emphasis is put on the tongue body when deficiency or excess of the viscera is examined, but the emphasis is on the coating of the tongue when the degree of seriousness of pathogenic factors and the sufficiency or deficiency of the stomach qi is examined.

General Features of Tongue Diagnosis

- Different parts of the tongue with their manifestations
- Tongue Body
- Tongue Coating

Distribution of Tongue Parts

Distribution according to the stomach channel

- Tongue tip belongs to Shang (upper) wan (CV 13)
- **Central** part of the tongue belongs to Zhong (middle) wan (**CV 12**)
- Tongue **root** belongs to Xia (lower) wan (**CV 10**)

(This classification usually found in gastrointestinal disease)

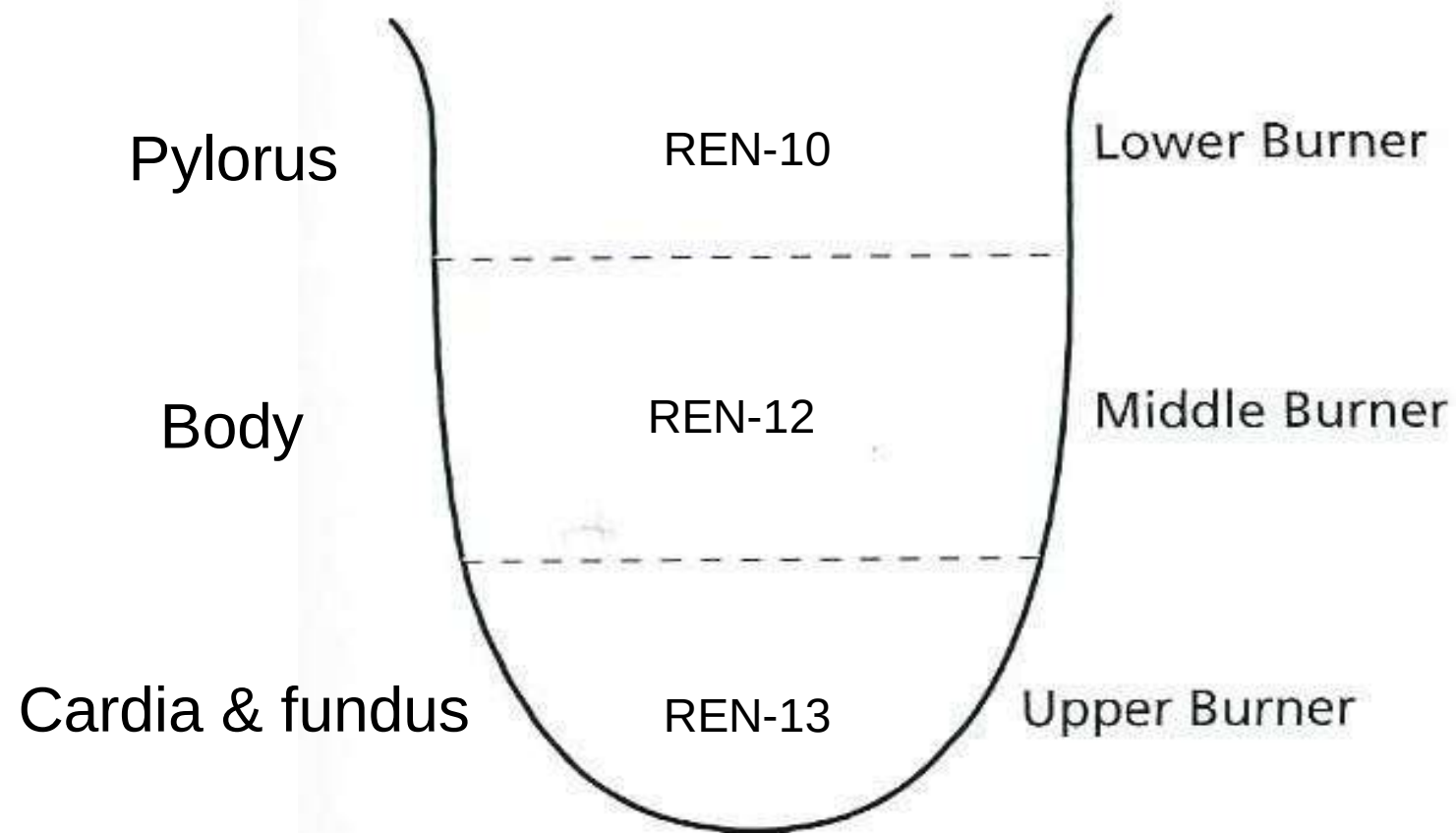
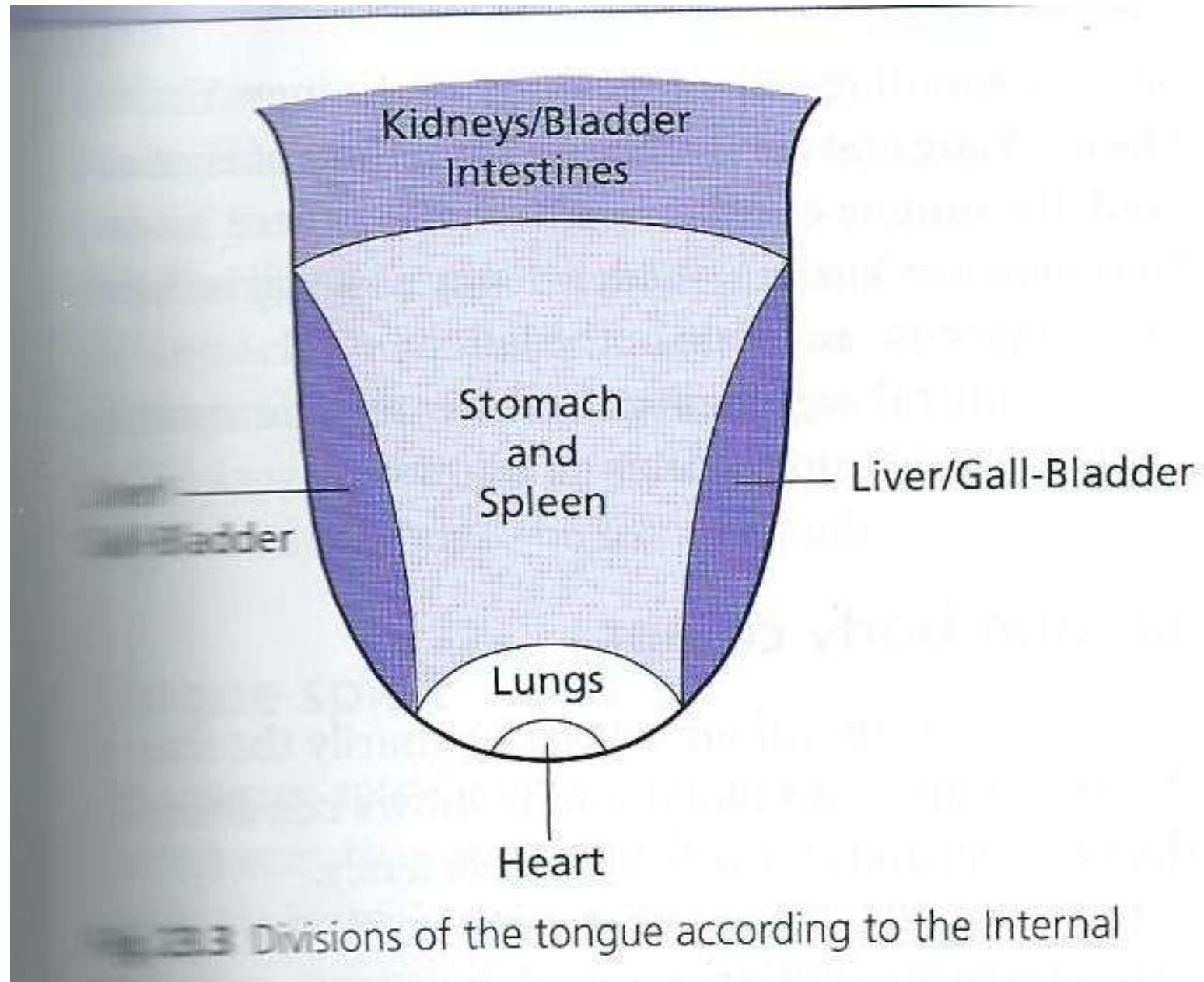


Fig. 23.2 Divisions of the tongue according to the Three Burners

Distribution of Tongue Parts

According to Zang-fu (Organ) theory

- Tongue tip governs heart
- Tongue sides near by tip and behind it govern lung
- Both margins govern liver and gall bladder
- Tongue root governs kidney
- Central tongue part governs spleen and stomach (For reference use in diagnosis only; and must combine with the information gathered from tongue quality and tongue coat)



Warm-up Exercise:

Guess the causes of the followings:

- Tongue boil in the tongue body –
- Tongue got ulcer in tip or one side of the tongue –
- Red in tongue tip –
- Red in margins of the tongue surface –
- Black and prickly tongue –

Inspection of Tongue Body

- Tongue body refers to the muscle surface of the whole tongue which is called the tongue proper or tongue body.
- Tongue **b**ody can reflect the change in **q**i and **b**lood and the excess and deficiency of the internal **o**rgans.
- Normal color of the tongue body should be light red with proper coloration, bright and with moisture. Attention should also be paid to the form(shape) and movement (whether retarded or not) of the tongue itself.

Diagnosis of Tongue Body

- Diagnostic inspection of tongue body include the color, shape and movement.
- Normal color of tongue body should be **light red** while abnormal color will be pale, **red**, **crimson red**, **purple**, **blue** or even **black**.

Diagnosis of Tongue Body

- Form of tongue body will be considered as coarse or fine texture, whether it has any prickles (light needle heads), any fissures in the central body, and whether it is swollen or thin.
- Movement refers to its softness (normal) or stiffness, whether it is trembling, limp wilting, contracted, deviated, relaxation or protruded agitated.

Tongue Body: Inspection of Color

- The color of tongue body under normal conditions is light red with proper coloration, bright with moisture (light red and moist). Because normal tongue body is made up of blood color and tongue color together which is caused by abundant blood supply inside the tongue pushed by the yang qi. Normal people with sufficient qi and blood will have tongue light red in color.
- Colors indicating diseases are as follows: pale, red, crimson, purple, bluish and black.

Inspection of Tongue Body: Pale

- Pale tongue is much paler than the normal light red, or even bloodless.
- Formation: pale tongue is associated with deficiency of qi and blood. Blood fails to nourish the tongue, or yang qi is too weak to transport blood upward, causing the tongue turn pale.

Inspection of Tongue Body: Pale

- Indication: deficiency syndrome and cold syndrome. A thin pale tongue shows deficiency of both qi and blood, while a **fat, tender and pale tongue** manifests **deficiency of yang qi**
- Modern research: connected with anemia, erythropenia, disturbance of albumin synthesis, **lower plasma proteins and tissue edema**. Hyperfunction of endocrine glands, contraction of terminal blood vessels, slow circulation, reduction of basal metabolism and disorder of digestive function.

Sub-division of Pale Tongue

Pale white tongue: deficiency and cold. If white more than red called pale white tongue; When whole tongue turns white, the disease will be more serious.

- Deficiency means blood deficiency (then less blood in tongue)
- Cold means deficiency in yang (unable to boost the blood upward to the tongue)

Sub-division of Pale Tongue

Pale tongue with dampness: spleen yang deficiency unable to drive away the water then water stays on the tongue (earth is too weak to interact water); it is also known as spleen deficiency disturbed by dampness (could be slippery/greasy tongue).

Sub-division of Pale Tongue

Pale tongue with little fluid: yang deficiency
unable to distribute fluid. Qi and blood after
transformed from water and grains cannot be
transported to become body fluid due to **yang**
deficiency.

Clinically: Patient having ascites but with pale and
dry tongue. This is because of yang deficiency
unable to transport fluid to tongue (known as
yang unable to produce fluid).

Inspection of Tongue Body: Red

- Red tongue body is redder than normal, typifies **excessive heat**, for heat will make blood circulation more rapidly and violently, thus more qi and blood will run into the tongue and fill the vessels, hence the appearance of a **bright red** coloration in tongue.

Inspection of Tongue Body: Red

- Indication: heat syndrome. A rough and red tongue with prickles, and thick and **yellow coating** is due to **full heat**; a tender and red tongue with little or no coating, or with fissures, due to empty heat; a red tongue **tip**, due to flaring up of **heart fire**; red **sides/margins** of the tongue due to excessive fire of the **liver and gallbladder**; red middle part of the tongue, due to excessive heat of the middle jiao (middle burner).

Sub-division in Red Tongue

- **Red tongue** with yellow coat belongs to excess heat. When exopathic pathogen invades the body from wei aspect to qi aspect, evil qi will increase while vital qi is not yet exhausted. Conflict between vital qi and evil qi makes the patient to have high fever, agitated thirsty, constipation, overflowing pulse with strength, this is called **full heat transforming to fire**.

Sub-division in Red Tongue

- Tongue red and tender belong to empty heat. The patient not feeling thirsty, empty pulse or fine and rapid but without strength. Empty heat is usually caused by exhaustion of real yin. The patient will have low fever, or afternoon tidal heat (low fever usually from 2:00 to 4:00 in the afternoon). He will feel heat in both palms and soles, also night sweating. His tongue has very little coating.

Sub-division in Red Tongue

- Red tongue with **prickle** belongs to heat in ying aspect. Prickle means having **granular structure** on the surface of the tongue, which is usually bigger and darker than usual pigments. This belongs to **heat pathogens**. The more the prickles, the deeper the pathogen invading into the body. Besides the depth of the pathogen, the practitioners can tell the location of the heat inside the body. e.g. tip belongs to heart and lung; middle part refers to the spleen and stomach which accumulates lots of heat, which means heat in either one of the zang-fu.

Sub-division in Red Tongue

- **Red tongue with dryness**: over exhaustion of stomach fluid, stomach fluid is formed by the yin fluid. **Stomach heat** leads to fever, dryness and constipation. Red in the margins implies heat in liver and gallbladder.

Symptoms associated with **liver and gallbladder heat**: hypochondriac distention, feeling upset and annoyed, mouth **tasted bitter**, nausea with bitter water, dizziness with blurred vision, tinnitus, fever alternated with chill.

Inspection of Tongue Body: Crimson

- **Crimson red** is redder than redden tongue and occurs as a result of an increasingly **deepened redness** after redden tongue.
- **Formation:** the same as those of redden tongue.

Inspection of Tongue Body: **Crimson**

- Indication: extreme heat and more serious. It indicates invasion of **ying-blood by heat (exopathy)**, or accumulation of latent heat in the heart and stomach, and transmission of warm and **hot pathogens directly to pericardium**. In case of internal injury, crimson tongue with dry or fissured coat indicates hyperactivity of fire due to yin deficiency, or exhaustion of fluid of stomach and kidney. **Crimson tongue with little and moist coat shows blood stagnation in the interior.**

Sub-division of Crimson Tongue

- Cause: Heat invading blood or ying aspect or yin deficiency and effulgent fire.
- Sign and symptoms: high fever at night, agitated with restless, falling unconscious in serious case.
- Crimson tongue with yellow and white coating: pathogen not yet entering to interior, white means exterior, yellow means from wei to qi aspect. However, it later on will develop to high fever, agitated with restless, unconscious and with macules on the surface of skin.

Sub-division of Crimson Tongue

- Whole tongue with crimson: Stomach fire injuring fluid
- Crimson tongue with red specks: heat toxin entering heart, if the specks are purplish black, that means fire heat entering to the pericardium, patient will then have high fever and delirium.

Sub-division of Crimson Tongue

- **Crimson only on tongue tip**: excessive heart fire. Patient has exalted spirit, often laughs in the dream, will show maniac disease when serious.
- Crimson tongue with little moisture: either heat pathogen injury fluid or prolonged yin deficiency (including blood, fluid and jing deficiency). Usually caused by invasion of exogenous pathogen and then heat pathogen entering ying aspect and then injuring the body fluid.

Sub-division of Crimson Tongue

- **Crimson with red tongue with dampness**: 1. Heat pathogen carrying dampness enters ying (nutritive level) aspect. This syndrome will be more complicated and lingering because of dampness. Signs and symptoms include feeling heavy, lack of spirit and feeling tired, unwilling to talk, sometimes unconscious, chest suffocated, no appetite, diarrhea, **crimson tongue with yellow coating**, yellow urine (*dampness with heat*).

Sub-division of Crimson Tongue

- 2. Yin deficiency and **effulgent fire**. Signs and symptoms include patient often has **phlegm (phlegm means dampness)**, exhausted yin and jing (**crimson tongue**), agitated and easily got irritated, **tidal red cheeks**, coughing with blood, nausea, tend to vomit, tongue red and crimson with dampness, slippery and rapid pulse (sometimes empty pulse or fine pulse).

Red and Crimson Tongue

- Both red and crimson tongue indicate heat syndromes. The deeper the color, the more serious the heat pathogen is.
- If tongue body grows from pale to red, then to crimson, it suggests heat is becoming more intense and the disease more serious; If the tongue body turns from crimson to red, then to light red, it suggests subsidence of pathogenic heat.

Red and Crimson Tongue

- More research found mechanism of formation of crimson tongue manifold. The main causes are high fever, deficiency of vitamins and dehydration, while anemia and coma are supplementary factors. All those can lead to inflammation of the tongue capillary hyperplasia, congestion, dilation of the periglottis proper, and blood concentration and hypercoagulation state, thus causing crimson tongue.

Inspection of Tongue Body: Purple

- **Purple** tongue is purple, usually denote a **stagnation** of qi and blood, caused by either **coldness** or **heat**, or by asthenic (weak) qi and yang, or by alcoholism, retention of indigested food, **phlegm** and pathogenic damp-heat.
- If **excessive heat** results in consumption of the body fluid and stagnation of qi and blood, purple tongue will turn withered (shrunk or wrinkled) and dry. In case of blood stagnation due to **coldness**, the tongue turns **light purple or purplish blue** and moist.

Sub-division of Purple Tongue

- Indicating unsmooth flow of qi and blood, or blood stasis with accumulation of coagulated blood in blood vessels.
- Whole tongue with purple: degree of blood stasis is more serious. Partly purple means the infection part of body is still relatively little.

Sub-division of Purple Tongue

- **Crimson purple** tongue: tongue condition is red purple and dry indicating that the **heat** pathogen is **deep** and serious, body fluid is seriously injured with **blood stagnated severely**. This is because the heat pathogen inside can injure the vital qi, fluid through its hotness. Also, with the water component inside blood decreased, the viscosity of blood increases, the flow of blood inside the vessels is not free, thus stagnation of blood results, that makes the blood purplish crimson in color.

Inspection of Tongue Body: Bluish

- The color of **bluish** tongue is like that of the blue veins exposed on skin, or bloodless like the tongue of ox, is result of excessive **yin-cold in the interior**, **stagnation of yang and blood** due to weakened blood circulation.
- Indication: stagnation of yang caused by accumulation of coldness, or accumulation of coldness by yang insufficiency, or blood stagnation in the interior. Generally, **wholly bluish tongue** pertains to **yin-cold syndrome**; bluish sides of the tongue, to blood stagnation in the interior.

Sub-division of Blue Tongue

- Serious syndrome with severe exhaustion of qi and blood. *Qi deficiency: white complexion, palpitation and easily feeling tired; Blood deficiency: dizziness, heart-beating, both lip and tongue pale, insomnia, blurred vision, dry skin and burned hair.*

Sub-division of Blue Tongue

- Blue and moist tongue: deficiency and cold
- Blue and *dry burned* tongue: *fire-heat*
- Whole tongue blue but **still got coating**: pathogen still not entering into the interior: if no coating that means critical stage (seldom found in outpatient), but attention must be paid to observe the tongue condition on its coarseness and tenderness, its moisture and dryness.

Purple and Bluish Tongue

- Tongue is sometimes found tinged with **blueness** an **purpleness** in different proportions, and such a tongue is called **purplish blue** tongue.
- Indication: Purplish blue tongue indicates **extreme heat** or **extreme coldness** syndrome, **blood stagnation** and *alcoholism*. These colors arise from changes in blood components and their dynamic changes in the lower layer of the epiglottis.

Purple and Bluish Tongue

- Purplish blue tongue is mainly seen in liver and gallbladder diseases and heart diseases. Chief factors contributing to its formation are venous stagnation, slower blood circulation, increase of blood viscosity and hypoxia, while the supplementary factors are closely related to erythromatosis, drinking, pigmentation, and increase of cold agglutinin in blood.

Inspection of Tongue Body: Black

- Black tongue is characterized by deep red blended with black, denoting the complete exhaustion of qi and blood, more serious than bluish tongue
- Purplish tongue means red more than black, but black tongue is black more than red. Ancient practitioner said **black tongue** indicated **dead syndrome**
- Black with moisture: deficiency and cold
- Black and **burned dry: extreme fire-heat**

Cases in Black Tongue

- A patient feeling tasteless, not willing to eat, involuntarily spitting with clear saliva, not enough qi, watery stool (this is due to coldness in both spleen and kidney that the stool contained undigested food), tongue coat white, fine and slow pulse.

This belongs to () syndrome.

- A patient suffering from blood stasis in the body, or heat pathogen invading blood aspect (the deepest level or wei, qi, ying, blood), night fever, macules appeared under the skin, gum bleeding or nosebleeding, or even hematemesis. (seldom found in outpatient cases).

This belongs to () syndrome.