Tongue and Pulse Diagnosis

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Chapter 1--Pulse Diagnosis Introduction
Chapter 2--Pathologic Pulse
(Part 1, 2, and 3)
Contents of Pulse Diagnosis

Chapter 1 Pulse-taking Introduction

What is Pulse-taking Diagnosis?

- Pulse-taking
  - An important part of body palpation diagnosis in TCM.
  - A diagnostic method by means of doctor’s fingers pressing the patient’s radial artery to examination the conditions of the pulse and diagnosis disease.
  - It is an unique diagnostic method of TCM.

[video]
Why Introduce Pulse Diagnosis?

- The fundamentals of the formation of the pulse. Its formation is associated with the Zang and Fu organs, qi and blood.
  - Heart dominates blood and vessels.
  - Lung dominates the Qi and vessels meet in the lung.
  - Spleen and stomach are the source of qi and blood, and spleen also controls blood flow.
  - Liver stores blood and regulate the circulation volume of blood.
  - Kidney stores essence. The essence can transform itself into blood.

The Significance of Pulse Diagnosis

- The significance of pulse diagnosis
  - To recognize the exterior and interior of diseases.
  - To judge the deficiency and excess.
  - To ascertain nature of the disease.
  - To identify cause of disease
  - To inspect the disease of mechanism
  - To predict the prognosis
The location of pulse-taking

- Three pulse-taking methods
  - The universal palpation (whole body method)
    - Head, hand and feet;
  - Three pulse taking locations (three part method)
    - Ren Ying (Carotid artery), Cun Kou (Radial artery) and Fu Yang (Dorsal artery of foot)
  - Cun Kou pulse-taking
    - Refers to obvious pulsation place of the radial artery on both sides of the wrist. Pulse over Cun Kou is divided into three parts: Cun, Guan, Chi (inch, Bar and cubit)

- Guan pulse
  - It is located slightly below the styloid process of radius
- Cun pulse
  - The anterior part of the Guan pulse
- Chi pulse
  - The posterior part of the Guan pulse
The corresponding viscera of three portions

<table>
<thead>
<tr>
<th></th>
<th>Left radial artery</th>
<th>Right radial artery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cun pulse</td>
<td>Heart and Tan Zhong (the part between the breasts)</td>
<td>Lung and Chest</td>
</tr>
<tr>
<td>Guan pulse</td>
<td>Liver and Gallbladder</td>
<td>Spleen and Stomach</td>
</tr>
<tr>
<td>Chi pulse</td>
<td>Kidney (yin) and lower abdomen</td>
<td>Kidney (yang) and lower abdomen</td>
</tr>
</tbody>
</table>

The corresponding viscera of three portions

Left hand

- Cun
- Guan
- Chi

Heart
Liver
Kidney
Lung
Spleen

Right hand

- Cun
- Guan
- Chi

Kidney
Lung
Spleen
How to take the pulse?

1. The Posture of Pulse-taking
   - The posture of Doctor
     - The doctor ought to sit upright and let the elbow and forearm being flat on the table.
     - The doctor should avoid the position right opposite to the patient. Doctor should face the sides of patient.
   - The posture of patient
     - The patient can sit or lie on his back with the forearm stretched on the table or bed on the same level of heart.
     - The wrist is put straight, the palm turns over and fingers are relaxed to extend the Cun Kou region.
How to take the pulse?

2. Time
   - Morning is the best. Pulse taking can also be undertaken at other times, patient and doctor are both relaxed.

3. Putting fingers
   - The best way for doctor to use his fingers is to feel the patient's pulse in right hand by the left hand, and vice versa.

   When feeling pulse of adult patient, all the three fingers, the index finger, middle finger and third finger, should be used.
   - About putting on fingers, first, the middle finger is put on the Guan position which is at the medial side of the styloid process of radius
   - Then the index finger is put on the Cun position which is distal to the Guan position
   - Finally the ring finger is put on the Chi position which is proximal to Guan position. The three fingers keep in a bow shape and the tips are at the same level with the finger-belly touching the pulse.
How to take the pulse?

The distances between fingers are determined according to the patient’s height. If the patient is tall with long arms, the finger ought to be put at a relative larger distance, and vice versa.

The infantile arm is short and could not contain the three fingers. So the doctor can put only one finger on Cun Kou pulse. It is not necessary to divide the three portions of the Cun Kou.

4. The Pressing Strength

- The doctor should put different strength on fingers to feel pulse at different levels.
- The pressing strength may be slight, moderate or heavy.
- The touching, seeking and pressing are the key points for taking pulse.
  - Palpating in slight strength is called touching (Fu qu, or Qing qu);
  - Palpating with moderate strength is seeking (searching, or Zhong qu).
  - Palpating with heavy strength (press the finger deeply to the place between the tendon and bone) with great force is pressing (Chen qu).
How to take the pulse?

- There is a difference between general touching and single touching. The general touching is to feel pulse by three fingers at the same time. Using this method, we get a whole impression about the pulse.
- The single touching is to feel pulse by only one finger. It gives us the visceral conditions respectively. Usually, the general touching and single touching are used in combination so as to get clues as much as possible for diagnosis.
- The general touching is used firstly and then is the single touching.
  - First, all the three fingers are put on Cun Kou with small strength. Then with moderated force. and finally with the strong force.

How to take the pulse?

- Second, the middle and ring finger are lifted a little. Only the index finger is used on Cun portion with strength from slight to heavy. Finished that, the index finger is lifted a little and the middle finger is used to feel pulse of Guan portion in the same way of using index finger.
- Finally, the middle finger is lifted and the ring finger is used to detect the pulse of Chi portion in the same way of the other two fingers.
- Some doctors may do the single touching only by one finger which is moved from portion to portion.
- The results got from general touching and single touching are sometimes not identical. Judgment should be made in combination with other clinical data.
How to take the pulse?

5. Normal Breath
- One breath is an inhale and an exhale. The breath is used to count the beating number of pulse. In adults, the normal rate of pulse is 4 to 5 beats for one breath, the 3 beats for each breath is slow and 6 is rapid. Because the normal breath is used as the criterion time for pulse counting, the doctor must keep relaxed and adjust the breath to smooth to avoid mistake.

How to take the pulse?

6. Duration
- The time for one pulse-taking is usually no less than the time of fifty pulse beats. If there is not intermittence in pulse beating, the prognosis is relative good. We should not take pulse in a careless way, because it concerns patient's life.
What is normal pulse?

- **Normal pulse**
  - It is possible to recognize the pathological pulse only when the doctor have a deep understanding on the normal pulse.
  - The normal pulse, also called common pulse or ordinary pulse (Ping Mai), is characterized by the pulsation in all three portions which is 4 to 5 beats in one breath (60-90 beats/minute), with moderate force and regular rhythm.

- The pulse is closely related to the internal and external environment. It often changes along with the change of climate, surrounding, diet and emotions. If the changes do not cause diseases, the pulse corresponding to them is still within normal range because the pulse still has the characters of normal pulse, being full of stomach qi, being full of vitality and being rooted.
Several concepts

1. Being Full of Stomach Qi (Wei Qi)
   - The Spirit Pivot took the soft and moderate pulse as the pulse full of stomach qi. Based on that, Dai Qizong made an explanation on the pulse full of stomach qi that: "The neither large nor thin, neither long nor short, neither floating nor deep, neither slippery nor sluggish, and in moderate force with describable vigorous state is the pulse full of stomach qi. " This description gives us the criteria for the pulse full of stomach qi.
   - The pulse with little stomach qi indicates the illness, that without stomach qi means death, and the pulse being full of stomach qi is the sign of health.

2. Being Full of Vitality (Shen)
   - The vessel is the house of blood. The heart dominates blood and stores the mind. When blood and qi are abundant, the mind is vigorous and healthy, the pulse is then full of vitality. The pulse which beats in the way of moderate force and unified rhythm in a soft vessel is considered as being full of vitality. The vitality is based on the essence, qi and blood. So the states of essence, qi and blood can be detected from the vitality in pulse.
Several concepts

3. Being Rooted

- The pulse with root is explained in two statements.
  - (1) taking the pulse in Chi portion as the root.
  - (2) the pulse felt in deep level means being rooted, because ancients held that patient would die if pulse was without root in all portions.

- The kidney is the congenital foundation and all the activities of the body rely on kidney qi. The existence of kidney qi to the body is similar to the alive root to the tree. The tree without leaves is alive only if the root is alive. The body can also revitalized when pulse is rooted. The existence of kidney qi gives the pulse root.

Several concepts

- No matter what the pulse is, the pulse is rooted when pulsating in deep level even by forceful pressed or moderately pulsating in Chi portion. The diseases can be cured. If all the pulse disappears in the deep level on the forceful pressing, or the pulse is feeble and extinguishing in Chi portion, it is the pulse without root and the disease is critical.
Several concepts

To summarize:

- Slow, forceful, and stable pulse means stomach qi in pulse which shows the excellent function of spleen and stomach.
- The slow but forceful pulse reflects the abundant qi and blood and calm mind.
- The pulse beating in deep level or slow but forceful beating in Chi portion means the root of pulse which exhibits the plentiful kidney essence and qi.

Affected factors

- The pulse changing within normal range can be affected by the following factors.
  - A. Exogenous Factors
    - a. The Seasons
      - The pulse changes along with the seasonal changes. The changed pulse is called seasonal pulse. In spring, the pulse in all portions are somewhat taut. In summer, the pulse surges slightly. In autumn, the pulse is floating a little. In winter, the pulse is relatively deep. All the changes are within normal range. If pulse changes contrary to those, it is sign of diseases.
b. Environment

The normal pulse varies with the environmental changes. The ancients thought that the pulse in northerner was strong and that in southerner was gentle; and the pulse of people in the same district might vary due to the different living conditions of constitutions.

B. Endogenous Factors

a. Sex

- Sun Simiao pointed out that the pulse in women was softer and slightly rapider than that of men.

b. Age

- The pulse in infant is 7 to 8 times in the time of one breath. In child of above 5 years, the pulse is normal when it beats 6 times in a breath. The pulse beating over 6 times is due to heat and that below 4 times is due to cold. The pulse of younger is strong while that in the aged is little weak.

c. Constitution

d. Daily Life

- The emotional reaction, labor, rest and food-intake can all change the pulse. When emotion changes, the pulse changes too. The pulse of a worker is stronger than that of intellectual. After strenuous exercise, the pulse is rapid and surge. The pulse becomes rapid when having alcoholic drinking. The pulse is often surge after meal and becomes supple when hungry. Those changes should be distinguished from the changes due to diseases.
Affected factors

- e. Physiological Variation.
  - The pulse is not located at Cun Kou but goes from chi portion to dorso-radial region obliquely. That is called oblique-running pulse. It can be found in one or two sides and are the physiological variation.

- f. Pregnancy and Menstruation.
  - When women are in the menstrual or pregnant period, the pulses are changed. The changes will be discussed later.

Contents of Pulse Diagnosis

Chapter 2 Pathological Pulse

Part I
What is pathological (morbid) pulse?

- **Pathological (morbid) pulse**
  - When disease occurs, the qi and blood vary too. so the pulse changes. The pulse in disease condition is called morbid pulse. The morbid pulses are different with the changes of the diseases cause, location, mechanism and syndrome.
  - The pulse condition is felt by the doctor's fingers. The pulse obtained differs from one doctor to another, but should not be varied too much.

- The pathological pulses which are clinically used are defined in accordance with the location, frequency, dynamic and rhythm of the pulse, shape, force etc.
  - *Mai Jing*: the earliest book in pulse diagnosis
    - 24 pathological pulses were recorded.
  - *Bin Hu Mai Xue*
    - 27 pathological pulses were recorded.
  - *Zhen Jia Zheng Yan* written by Dr. Li, Shi Cai
    - Add rapid pulse, so total 28 pathological pulses
  - 28 pathological pulses have been used until presently in the clinic
Categories of Pathological Pulse

- **Category 1 (9 types)**
  - Pulse marked by abnormal location

- **Category 2 (5 types)**
  - Pulse marked by abnormal frequency
  - Rapid, Swift, Bubble-rising, Slow, Water-leaking pulse.

- **Category 3 (4 types)**
  - Pulse marked by abnormal pulse rhythm
  - Running (Rapid Intermittent), Knotted, Intermittent, Snapping pulse.

- **Category 4 (6 types)**
  - Pulse marked by abnormal pulse shape
  - Full, Thready, Slippery, Uneven (choppy), Taut (wiry), Tense (tight), Moderate (huan) pulse.

- **Category 5 (4 types)**
  - Pulse marked by abnormal pulse force
  - Replete (strong), Feeble (weak), Indistinctive (Faint), Scattered pulse.

Category 1—Abnormal Pulse Location

- Pulse marked by abnormal location
- Pulse location refers to the site of palpation, i.e. its depth, length.
- Normal pulse can be felt in Cun, Gaun and Chi, neither floating or deep.
- When the pulse feels floating or deep, short or long, it is considered as abnormally located pulse.
- Such as floating, hollow, tympanic, soft deep, firm, hidden, short and long pulses.
Abnormal Pulse Location---Floating Pulse

1. Floating Pulse
   - Pulse Character
     - The floating pulse is a pulse condition that the pulse is easily felt and at the full in the superficial level, and its force decreases slightly in the deeper level. It is just like the wood floating on water.
   - Indications
     - Exterior syndrome
     - Deficiency syndrome
   - Similar Pulses
     - The hollow pulse, tympanic pulse, scattered pulse and soft (soggy) pulse are similar to the floating pulse.
### Abnormal Pulse Location---Floating Pulse

**Exterior Syndrome**
- **Mechanism**
  - When exogenous evils invade the exterior of the body, the defensive-yang rises against the evil. The yang pushes the qi and blood to go to the exterior. Therefore the pulse is mostly felt in the superficial level obviously.

- **Differentiation**
  - The forceful floating pulse -- Exterior excess syndrome
  - The weak floating pulse -- Exterior deficiency syndrome.
  - The floating and tight pulse -- Due to wind cold.
  - The floating and rapid pulse -- Due to wind heat.

**Deficiency Syndrome: exhaustion of yang in critical case.**
- If the yang is too weak to match the yin, the yang will float on the body surface, so the pulse becomes floating and weak. In endogenous diseases, the floating pulse is a bad omen for the exhaustion of genuine qi.
Abnormal Pulse Location---Hollow Pulse

2. Hollow Pulse
   - Pulse Character
     - The hollow pulse is similar to the leaf of green Chinese onion which is hollow. The pulse is characterized by wide and soft vessel when lightly touched, and hollow when seeking. On pressing, the edges of vessel are clearly felt, but the center is obscure.
   - Indication
     - Loss of blood and yin deficiency.
       - So the pulse is usually seen after the massive bleeding or dehydration.

Mechanism
- The pulse shows a solitary yang without yin. After loss of blood, the yin and blood could not fill up vessel and contain the yang-qi. The yang loses its dependence and goes to the out part of body. It is not rooted, therefore it is a sign of severe deficiency.

Differentiation
- Rapid hollow pulse is seen in yin deficiency with bleeding.
- Slow hollow pulse is due to deficiency of both qi and blood.
Abnormal Pulse Location---Tympanic Pulse

3. Tympanic Pulse
   - Pulse Character
     - It is large, hollow and taut, giving the felling of the surface of a drum being touched.
     - Both tympanic and hollow pulse are large, floating, and hollow.
     - Tympanic pulse also feels forceful and taut, and feel hardness of blood vessels.
     - Hollow pulse also feels as touching a scallion stalk, and softness of the blood vessel.
   - Indications
     - Blood deficiency and essence exhaustion (chronic diseases)
Abnormal Pulse Location---Tympanic Pulse

- **Mechanism**
  - The tympanic pulse is like the leather covering of drum. The large, taut and tense feature when touching is due to qi floating which is caused by the essence and blood deficiency. The hollow character at deep level is a sign of deficiency of qi and blood.

- **Differentiation**
  - Blood deficiency and essence exhaustion (general long time). It is found in diseases of bleeding, seminal emission, abortion, metrorrhagia and metrostaxis.
  - Slow tympanic pulse indicates the dangerous condition.

Abnormal Pulse Location---Soft Pulse

- **4. Soft (soggy) Pulse**
  - **Pulse character**
    - The pulse is floating (superficial), weak (forceless) and thready (thin).
  - **Indications**
    - Dampness syndrome
    - Deficiency syndrome
Abnormal Pulse Location---Soft Pulse

Mechanism
- The dampness depresses the vessels.
- The qi and blood are difficult to flow in vessels. So, the pulse is thready and soft. The qi, yin and blood deficiency makes the yang loss its dependence. The yang is floating.

Differentiation
- Dampness syndrome—dampness in the exterior
  - The rapid soft pulse means the damp-heat in the body
  - Slow and soggy means cold dampness
- Deficiency syndrome
  - Any deficiency of qi, blood, yin and blood could show soft pulse. The pulse is usually present in diarrhea, spontaneous sweating, asthma and weakness.

Abnormal Pulse Location---Deep Pulse

5. Deep Pulse
- Pulse character
  - Deeply located, it can hardly be felt by light touching, palpable by moderate force, distinct only by heavy pressing or deep take. Pulse Classic described it as "weak by touching and strong by pressing."
- Indication
  - Interior syndrome
- Mechanism
  - The evils accumulate in body, the qi, blood and yang are obstructed in the inner part of body and could not rise against the evil. So, the pulse is deep. If the pulse still beats under the heavy pressing, it may be caused by the abdominal mass.
  - If it is deficient syndrome, it is due to qi and blood deficiency which is unable to move in vessels.
Abnormal Pulse Location---Deep Pulse

- **Differentiation**
  - The **forceful** deep pulse indicates the interior excess syndrome.
  - The **weak** deep pulse suggests the interior deficiency syndrome (Qi, Yang, or Qi and blood).
  - **Deep rapid** pulse indicates the interior heat.
  - **Deep slow** pulse suggests the inveterate interior cold.
  - **Deep slippery** pulse means phlegm or fluid retention.
  - **Deep uneven** pulse is due to blood stasis.
  - **Deep moderate** pulse shows the cold-dampness.
  - **Deep thready** pulse exhibits the qi deficiency.
  - **Deep faint** pulse is a sign of heavy deficiency of both qi and blood.
  - **Deep taut or tight** pulse is often present in pain syndromes in the heart or abdomen.

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Abnormal Pulse Location---Hidden Pulse

- **6. Hidden Pulse**
  - **Pulse character**
    - The pulse is not felt when touching, seeking and pressing. Only by heavily pressing to bone, the pulse can be felt.
  - **Indication**
    - Critical pulse
    - Interior syndrome
  - **Mechanism**
    - Pathogens shut in the interior of the body, syncope and severe pain. i.e. toxic dysentery
Abnormal Pulse Location---Firm Pulse

7. Firm Pulse
   - Pulse character
     - The firm pulse is characterized by being deep, taut, long, large, and forceful. It can not be felt by light or moderate take.
   - Indication
     - Interior excess cold syndrome
   - Mechanism
     - Because of accumulation of yin-cold, subsidence of yang qi, so it shows firm pulse.
     - It is usually found in abdominal mass, lumps and hernia.
     - In clinic, the firm pulse is seen in chronic nephritis and arteriosclerosis.

Abnormal Pulse Location---Short Pulse

8. Short Pulse
   - Pulse character
     - The pulse could not be felt in all the three portions. The pulse in Cun or Chi, or both of them are absent.
   - Indication
     - Qi syndrome (Qi deficiency or Qi stagnation)
   - Mechanism
     - The exuberant qi makes blood circulating well.
     - While the deficient Qi leads to blood circulation hard. If Qi is unable to direct the flow of blood, pulse is short.
Abnormal Pulse Location---Short Pulse

Differentiation
- The short and weak pulse indicates qi deficiency.
- The deep, short and forceful pulse suggests blood stasis or stuffiness in abdomen.
- The short, slippery pulse is due to phlegm, food retention.
- The short and hollow pulse is present in massive bleeding.
- If phlegm, blood stasis or food retention obstructs Qi moving, the vessel is not stretched, the pulse is also short. It is pointed out in some classics that short pulse means Qi disease.

Abnormal Pulse Location---Long Pulse

9. Long Pulse
- Pulse character
  - It is marked by long and straight. It surpasses Cun, Guan, and Chi.
- Indications
  - Physiological type: long and gentle, indicating sufficiency of Qi and blood
  - Pathological type: long and taut, indicating excess syndromes (i.e. liver fire, the adverse flow of Qi, heat phlegm, epilepsy, hernia, constipation)
Abnormal Pulse Location---Long Pulse

Mechanism
- The long pulse is a sign of exuberant Qi in normal condition. The normal long pulse is moderately forceful. But if the pulse is too long and forceful, because the liver fire, the adverse flow of Qi, heat phlegm, etc. that lead to accelerate blood flow and fullness of the blood vessels, pulsation will extend over the three positions.

Questions
1. Zang or Fu organ in the following portions?

<table>
<thead>
<tr>
<th></th>
<th>Left radial artery</th>
<th>Right radial artery</th>
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<tbody>
<tr>
<td>Cun pulse</td>
<td></td>
<td></td>
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<tr>
<td>Guan pulse</td>
<td></td>
<td></td>
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<tr>
<td>Chi pulse</td>
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</tr>
</tbody>
</table>
2. If a pulse is characterized by the pulsation in all three portions which is 4 to 5 beats in one breath (60-90 beats/minute), with moderate force and regular rhythm. It belongs to
A. Floating pulse
B. Normal pulse
C. Critical pulse
D. Slow pulse

3. The floating pulse indicates
A. Exterior Syndrome
B. Excessive syndrome
C. Yin Syndrome
D. All of A, B, and C

4. Which of the flowing is floating pulse?
A. The pulse is characterized by wide and soft vessel when lightly touched, and hollow when seeking. On pressing, the edges of vessel are clearly felt, but the center is obscure.
B. The pulse is easily felt and at the full in the superficial level, and its force decreases slightly in the deeper level. It is just like the wood floating on water.
C. It is large, hollow and taut, giving the felling of the surface of a drum being touched.
D. Deeply located, it can hardly be felt by light touching, palpable by moderate force, distinct only by heavy pressing or deep take.
5. Which of the flowing pulse has not floating character?
A. The hollow pulse,
B. Tympanic pulse,
C. Soft pulse
D. Firm pulse

6. Soft (soggy) Pulse indicates
A. Dampness
B. Deficiency
C. interior cold
D. Both A, and B

7. Soft (soggy) pulse has the following characters EXCEPT:
A. Floating,
B. Weak
C. Thready
D. Taut

8. Hollow Pulse indicates
A. Yang excess
B. loss of blood and yin deficiency
C. blood stasis
D. excessive cold
9. Which of the following does not have the deep character?
A. deep  
B. firm  
C. hidden  
D. hollow

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating</td>
<td>It is easily felt &amp; at the full in the superficial level, and its force decreases slightly in the deeper level.</td>
<td>Exterior Syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deficiency Syndrome</td>
</tr>
<tr>
<td>Hollow</td>
<td>Wide and soft vessel when lightly touched, and hollow when seeking. On pressing, the edges of vessel are clearly felt, but the center is obscure.</td>
<td>Loss of blood</td>
</tr>
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<td></td>
<td></td>
<td>Yin depletion</td>
</tr>
<tr>
<td>Tympanic</td>
<td>Large, hollow, taut, giving the felling of the surface of a drum being touched.</td>
<td>Blood deficiency</td>
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<td>and essence</td>
</tr>
<tr>
<td>Soft (soggy)</td>
<td>Floating, weak and thready.</td>
<td>Dampness, Deficiency</td>
</tr>
</tbody>
</table>
## Deep feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hidden</td>
<td>not felt when touching, seeking &amp; pressing. Only by heavily pressing to bone, the pulse can be felt.</td>
<td>Interior interior (critical)</td>
</tr>
<tr>
<td></td>
<td>&amp; pressing. Only by heavily pressing to bone, the pulse can be felt.</td>
<td></td>
</tr>
<tr>
<td>Deeply</td>
<td>located, it can hardly be felt by light touching, palpable by moderate force, distinct only by heavy pressing or deep take</td>
<td>Interior syndrome</td>
</tr>
<tr>
<td>firm</td>
<td>deep, taut, long, large, and forceful. It can not be felt by light or moderate take.</td>
<td>Interior excess cold (abdominal mass, lumps and hernia)</td>
</tr>
</tbody>
</table>

## Contents of Pulse Diagnosis

### Chapter 2 Pathological Pulse

#### Part II
Categories of Pathological Pulse

- **Category 1 (9 types)**
  - Pulse marked by abnormal **location**

- **Category 2 (5 types)**
  - Pulse marked by abnormal **frequency**
    - Rapid, Swift, Bubble-rising, Slow, Water-leaking pulse.

- **Category 3 (4 types)**
  - Pulse marked by abnormal **pulse rhythm**
    - Running (Rapid Intermittent), Knotted, Intermittent, Snapping pulse.

- **Category 4 (6 types)**
  - Pulse marked by abnormal **pulse shape**
    - Full, Thready, Slippery, Uneven (choppy), Taut (wiry), Tense (tight), Moderate (huan) pulse.

- **Category 5 (4 types)**
  - Pulse marked by abnormal **pulse force**
    - Replete (strong), Feeble (weak), Indistinctive (Faint), Scattered pulse.

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**Category 2 -- Abnormal Pulse Frequency**

- Pulse phenomenon marked by abnormal frequency
- It includes acceleration of pulse frequency and deceleration of pulse frequency.
- Acceleration of pulse frequency refers to pulse over 90 beats/minute (five beats to normal cycle of respiration) with general regular rhythm. i.e. rapid, swift, bubble-rising pulse.
- Deceleration of pulse frequency refers to pulse below 60 beats/minute with general regular rhythm. i,e. Slow pulse, water-leaking pulse.
Abnormal Pulse Frequency---Rapid Pulse

1. Rapid Pulse
   - Pulse Character
     - The pulse is rapid and beats 6 or 7 times for each breath (90-139 beats/minute) with generally regular rhythm.
   - Indications
     - Heat syndrome
       - The forceful rapid pulse--excessive heat
       - The weak one indicates deficient heat
     - Deficiency syndrome
       - Rapid and weak.
         - Rapid and weak—Yin deficiency
         - Rapid, weak and floating, not rooted---Deficient Yang

Mechanism
   - Heat makes qi and blood move rapidly.
   - Rapid pulse in cases of deficiency of yin and yang is caused by deficiency of Yang qi and its unbridled release.
   - Differentiation
     - The floating and rapid pulse--exterior heat.
     - The deep and rapid pulse--interior heat.
     - The slippery and rapid pulse--phlegm-fire.
     - The thready or weak and rapid pulse—yin or blood deficiency.
     - The taut and rapid pulse--the liver fire.
     - The weak, rapid and not rooted pulse—the qi or Yang deficiency
2. Swift Pulse

- Pulse Character
  - The pulse is more rapid and pulsates more than 7 times for each breath (140-180 beats/minute) with generally regular rhythm.

- Indication
  - Utmost Yang and exhaustion of Yin
  - Impending exhaustion of the vital-qi.

- Mechanism
  - It results from exhaustion of Yin and hyperactivity of Yang
  - Excessive Yang heat causes acceleration of blood flow and high frequency of the pulse

- Differentiation
  - Swift and taut pulse is due to excess Yang-heat and exhaustion of Yin-fluid.
  - Swift and feeble pulse is due to declining of Yang-qi.
Abnormal Pulse Frequency---Bubble-rising Pulse

3. Bubble-rising Pulse
- **Pulse Character**
  - It is palpable on light touch, very rapid, over 180 beats/minute, or uncountable beats like bubble rising to the surface of boiling water.
- **Indications**
  - Hyperactivity of Yang and exhaustion of Yin-fluid.
  - Seen usually in paroxysmal supra-ventricular tachycardia, Viral myocarditis)
- **Mechanism**
  - The pulse is rootless. It is a sign of extreme heat in three yang and absence of yin. Because the loss of yin makes the qi uprooted and floating.

Abnormal Pulse Frequency---Slow Pulse

4. Slow Pulse
- **Pulse Character**
  - The pulse pulsates 3 times for each breath and moves slowly (40-59 beats/minute) with generally regular rhythm.
- **Indications**
  - Cold syndrome
- **Mechanism**
  - The cold causes contraction. When cold invades the body, or deficiency yang produces cold, the qi and blood are stagnant. Then the qi and blood circulation in vessels slows down. so, the pulse beating is slow.
Abnormal Pulse Frequency---Slow Pulse

- Differentiation
  - The slow and forceful pulse shows the excess cold
  - The weak and slow pulse shows the deficiency cold.
  - Healthy persons especially athletes and physical laborers.

Abnormal Pulse Frequency---Water-leaking Pulse

- 5. Water-leaking pulse
  - Pulse Character
    - The pulse is very slow (21-40 beats/minute) with irregular or regular rhythm. It is compared to the leaking drops from the roof after rain.
  - Indication
    - It suggests the dying stomach qi or the exhaustion of defensive qi and nutrient qi (i.e., serious coronary heart disease, hyperkalemia, sinus bradycardia)
  - Mechanism
    - It results from the deficiency of stomach qi, nutrient qi, consequent weakness of transportation.
Category 3 -- Abnormal Pulse Rhythm

- The pulse phenomenon marked by abnormal pulse rhythm (Arrhythmia)

1. Running Pulse (Rapid Intermittent Pulse)
   - Pulse Character
     - The pulse beats rapidly with irregular intermittence.
   - Indications
     - Hyperactivity of Yang qi
     - Stagnancy of qi, blood, retention of phlegm (stroke; infarction)
     - Deficiency of the viscera (sometimes)

Abnormal Pulse Rhythm---Running Pulse

- Mechanism
  - When excessive heat accelerates blood circulation, the pulse will be rapid.
  - When stagnancy of qi, blood, retention of phlegm cause block, the pulse will be intermittent.
  - When deficiency of the yang qi and discontinuance of yin and yang, the pulse will be rapid, intermittent and weak.
Abnormal Pulse Rhythm---Knotted Pulse

2. Knotted Pulse

- Pulse Character
  - The pulsating is slow with irregular intermittence. After the missed beating, the pulse continues immediately.

- Indications
  - Excess of yin
  - Qi stagnation, blood stasis, phlegm retention
  - Declining qi and blood (Knotted with weak pulse)

Mechanism

- Excess of yin, qi stagnation, blood stasis, phlegm retention, declining qi and blood block the blood circulation.
- Deficiency of zang-fu organs, qi and blood causes the unsmooth circulation of blood.
3. Intermittent Pulse

- Pulse Character
  - The pulse is *slow with regular intermittent*. After intermittence, the pulse will wait a little moment and then continue beating.

- Indications
  - Visceral weak
  - Syndrome of pain, fright and trauma
    - It can be seen in arrhythmia caused by myocardial infarction, coronary heart disease, et al.

- Mechanism
  - The declining visceral qi and blood could not form a successive flow in vessels, so the pulse is weak and the pulsation is missed frequently.
  - Fright, trauma or severe pain can also cause disorders of vascular qi which fails to run continuously.
4. Snapping Pulse

- Pulse Character
  - It beats irregularly in both rate and force with a frequency of 90-130 beats/minute.
- Indications
  - Exhaustion of kidney Qi (i.e., Atrial Fibrillation, Ventricular fibrillation)
- Mechanism
  - Exhaustion of kidney Qi leads to interruption of vascular qi.

Category 4 -- Abnormal Pulse Shape

- Pulse condition marked by abnormal pulse shape.
- 1. Full Pulse
  - Pulse Character
    - It is a large volume pulse felt like wave surging, coming vigorously and going gently.
  - Indications
    - Extreme interior heat syndrome (Full pulse companied by fidget, extremely thirst, fever etc symptoms)
    - Also indicates yang hyperactivity, stomach heat and abscess.
Abnormal Pulse Shape---Full Pulse

- **Mechanism**
  - When heat evil fills up all over the body, the genuine Qi is mobilized, the qi and blood rush into vessel to fight against evil, so the vessel dilates and the pulse forms.
  - If the pulse is present in deficiency syndrome, it is due to exposed genuine qi which escapes to the exterior. If the extremely excessive heat damages the yin, the yang has to float outwards. the full pulse at that time shows that both yin and yang are out of their normal range. It is a sign of dying.

Abnormal Pulse Shape---Thready Pulse

- **2. Thready Pulse**
  - **Pulse Character**
    - The vessel is thin and soft like a thread. The pulsation is clear even by pressing, “as thin as a silk thread”.
  - **Indications**
    - All kinds of deficiency (qi, blood, yin, yang)
    - Dampness syndrome
Abnormal Pulse Shape---Thready Pulse

Mechanism
- Qi and blood are insufficient. The vessel is not well filled up and becomes thin.

Differentiation
- The floating and thready pulse—yang deficiency or dampness.
- The deep and thready pulse—interior deficiency.
- The thready and moderate pulse means dampness in the middle.
- The rapid and thready—heat due to yin deficiency.

3. Slippery Pulse

Pulse Character
- It is a pulse coming and going smoothly, feeling slick to the finger like beads rolling on the pulse.

Indications
- Phlegm, food retention and excessive heat are the main syndromes.
- Pregnant women or normal persons.
Abnormal Pulse Shape---Thready Pulse

- **Mechanism**
  - When excessive evil in the body, the qi rises against the evil, the qi and blood are all mobilized, therefore the vessel is filled up and the qi and blood in vessel moves quickly. The pulse becomes plump and slippery.
  - The slippery pulse in a woman may imply the pregnancy. The slippery pulse in a normal body means the plenty of qi and blood.

- **Differentiation**
  - The floating and slippery pulse--wind-phlegm.
  - The deep and slippery pulse--phlegm or food retention.
  - The rapid slippery pulse--phlegm-fire.
  - The slippery and strong pulse--excessive heat.

Abnormal Pulse Shape---Uneven Pulse

- **4. Uneven (choppy) Pulse**
  - **Pulse Character**
    - It comes and goes unsmoothly, giving a feeling of unevenness but no feeling of slickness when touched. The feeling of the pulse just like that of scraping a bamboo with a little knife.
  - **Indications**
    - Qi stagnation, blood stasis, phlegm or food retention.
    - Insufficiency of body fluid and blood deficiency.
Abnormal Pulse Shape---Uneven Pulse

- **Mechanism**
  - The deficiency is the blood or body fluid deficiency which could not fill up the vessel and lead to uneven flow of qi and blood in vessel.
  - The excess is the qi stagnation, blood stasis, phlegm or food retention which stays in meridians and makes the blood flowing hard.

- **Differentiation**
  - The uneven and feeble pulse—qi deficiency
  - The strong and uneven pulse—blood stasis with excessive heat
  - The thready and uneven pulse indicates the exhaustion of body fluid.
  - The wiry and uneven pulse marks the qi stagnation.

Abnormal Pulse Shape---Wiry Pulse

- **5. Wiry (taut) Pulse**
  - **Pulse Character**
    - The vessel is long, straight and stretched like a string stretched on a violin.
  - **Indications**
    - Diseases of liver and gallbladder: stagnancy of liver-qi, flaming-up of liver fire, hyperactivity of liver Yang (can been seen in hepatitis, cirrhosis, hepato-carcinoma, hypertension and arteriosclerosis).
    - Pain syndrome
    - Malaria
    - Phlegm and fluid retention
Abnormal Pulse Shape---Wiry Pulse

- **Mechanism**
  - It is the manifestation of tense vascular qi.
  - The liver is chiefly responsible for the dispersion and regulation of the flow of qi. The failure of liver fails to disperse and govern the flow of qi that will result in the disturbance of qi’s activities. Therefore, wiry pulse will occur.
  - Pain syndrome, malaria, phlegm and fluid retention result in the imbalance between Yin and Yang and tense vascular qi.

Abnormal Pulse Shape---Tense Pulse

- **6. Tense (tight) Pulse**
  - **Pulse Character**
    - The vessel is tight. It feels like fingers on a tightened cord.
  - **Indications**
    - Cold syndrome
    - Pain syndrome
  - **Mechanism**
    - The cold causes contraction. The cold inside the body makes the vessel contracted. So the pulse is tight. The pain syndrome is mostly due to obstruction. The obstruction in vessel tightens the vessel.
Abnormal Pulse Shape---Tense Pulse

- **Differentiation**
  - The floating tight pulse--exterior cold (excess syndrome)
  - The deep tight pulse--interior cold.
  - The acute pain such as cold pain in the abdomen and joints, cardiac pains, and the cold syndrome of the accumulation of indigested food in the stomach and the intestines.

Abnormal Pulse Shape---Moderate Pulse

- **7. Moderate (huan) Pulse**
  - **Pulse Character**
    - The pulse beats 4 times for each breath, faster than slow pulse. It divided into normal moderate pulse and morbid moderate pulse. Normal moderate pulse is gentle with moderate tension. Morbid moderate pulse is sluggish, accompanied with other pulse condition, such as floating pulse and slow pulse.
  - **Indications**
    - Dampness syndrome
    - Deficiency of spleen
Abnormal Pulse Shape---Moderate Pulse

- **Mechanism**
  - If the pulse is vigorous with equal intervals, and the pulses in three portions are the same, it is a normal pulse.
  - The weak one is due to wind-damp attack in meridians or dampness in viscera. Because the dampness is sticky and easy to stay in vessels. It obstructs qi and blood flow.
  - If the moderate pulse is present in a patient suffering from prolonged or critical diseases, it is a sign of deficiency of genuine qi.

- **Differentiation**
  - The floating moderate pulse--the wind-damp attack.
  - The deep moderate pulse--cold-dampness syndrome.
  - The thready and moderate pulse -- qi deficiency.
  - The moderate and sluggish pulse -- qi and blood deficiency.

---

Questions?

1. Knotted Pulse can indicate the following syndromes except
   A. Excess of yin,
   B. Excess of qi stagnation, blood stasis, phlegm retention
   C. Wind evil in the exterior
   D. Declining qi and blood.

2. Slow Pulse can indicate healthy persons. It is
   A. True
   B. False
3. The character of running pulse is the pulse beats
A. Slowly with regular intermittent
B. Rapidly with irregular intermittence.
C. Slowly with irregular intermittence.
D. Rapidly with regular intermittence.

4. How many beats for each minute is rapid Pulse?
A. 140-180 beats/minute
B. 90-139 beats/minute
C. Over 180 beats/minute
D. Less than 50 beats/minute

5. A patient suffers from cough 2 days with floating and rapid pulse. His disease is due to
A. Cold phlegm in the lungs
B. Damp-heat in the spleen
C. Wind-cold in the exterior
D. Wind-heat in the exterior

6. The patient has fever and bitter taste in mouth, cough with pain radiating to the hyperchondriac, wiry and rapid pulse. It is
A. Heat-phlegm in the lungs
B. Heat-phlegm in the heart
C. Heat-phlegm in the liver
D. Heat-phlegm in the stomach
7. The patient feels hot sensation after her fever disappeared being treated by medicine. Her peeled and pale tongue with thready and rapid pulse. It is due to
A. Excessive heat still in the interri
B. Excessive cold in the shaoyang
C. Deficiency of Yin and qi
D. All of A, B, C

8. The patient feels palpitation and distress of the chest one week, swollen tongue with thick greasy coating, knotted pulse, after suffering from cold. It is caused by
A. Qi and blood deficiency
B. Qi stagnation in the heart
C. Blood stasis blocking the heart
D. Damp-phlegm blocking the chest Yang

9. The patient suffers from severe lower abdominal pain suddenly, with slow pulse. It is
A. The excess cold in liver meridian
B. The deficiency cold in liver meridian
C. The excess heat in the lower Jiao
D. Qi and heat in the lower Jiao

10. Short pulse refers to it is only felt
A. Weak
B. Thin
C. Wide
D. In only one or two position.
11. Thready pulse indicates all kinds of deficiency and dampness syndrome. It is
   A. True
   B. False

12. If a patient’s pulse is rapid and thready, it is
   A. Heat due to Yang excess
   B. Heat due to yin deficiency.
   C. Damp cold in the exterior
   D. Excess cold in the exterior

13. Slippery pulse suggests all of the following syndromes EXCEPT
   A. Phlegm.
   B. food retention
   C. normal persons.
   D. deficiency of yin

14. The rapid slippery pulse indicates
   A. phlegm-cold
   B. phlegm-fire
   C. wind-cold
   D. heat due to deficiency of Yin
15. What kind of characters does the slippery pulse have?
A. It is a pulse coming smoothly 
B. Going smoothly
C. Feeling slick to the finger like beads rolling on the pulse
D. All A, B, and C

16. Uneven (choppy) pulse indicates deficiency of Yin & blood, and
A. Blood stasis
B. Exterior syndrome
C. Wind
D. Excessive heat

17. If you feel the pulse is long, straight and stretched like a string stretched on a violin. It is belongs to
A. Slippery pulse
B. Full pulse
C. Weak pulse
D. Wiry (Taut) pulse

18. Wiry pulse indicates all of the following diseases except
A. Diseases of liver and gallbladder
B. pain syndrome
C. cold syndrome
D. phlegm and fluid retention.
Categories of Pathological Pulse

- **Category 1 (9 types)**
  - Pulse marked by abnormal location

- **Category 2 (5 types)**
  - Pulse marked by abnormal frequency
    - Rapid, Swift, Bubble-rising, Slow, Water-leaking pulse.

- **Category 3 (4 types)**
  - Pulse marked by abnormal pulse rhythm
    - Running (Rapid Intermittent), Knotted, Intermittent, Snapping pulse.

- **Category 4 (6 types)**
  - Pulse marked by abnormal pulse shape
    - Full, Thready, Slippery, Uneven (choppy), Taut (wiry), Tense (tight), Moderate (fuan) pulse.

- **Category 5 (4 types)**
  - Pulse marked by abnormal pulse force
    - Replete (strong), Feeble (weak), Indistinctive (Faint), Scattered pulse.
**Category 5---Abnormal Pulse Force**

- Pulse marked by abnormal force

  1. Replete (strong) Pulse

    - **Pulse Character**
      - It can be felt at the location of Cun, Guan and Chi, forceful on all three portions no matter at what level, long and large, giving a feeling of fullness.

    - **Indications**
      - Excess Syndrome

    - **Mechanism**
      - The pulse is formed when evil is exorbitant and the genuine qi is also vigorous. The right Qi fighting against evil fills up vessels and acts powerfully, so the pulse is forceful and filled up.

---

**Abnormal Pulse Force---Replete Pulse**

- **Differentiation**
  - It is present in the cases of excess evil, blood stasis and fire blazing in which the fever, abscess, indigestion, constipation, mania and fidget are usually the main symptoms.
  - The floating and strong pulse---exterior excess syndrome.
  - The tight and strong pulse---the internal cold accumulation.
  - The deep and strong pulse---interior excess syndrome.
  - The full and strong pulse---sign of fire.
2. Feeble (Weak) Pulse

- **Pulse Character**
  - It is felt weak on light and heavy touching at the locations of Cun, Guan, and Chi, giving a feeling of emptiness.

- **Indications**
  - Deficiency Syndrome

---

**Differentiation**
- The floating and weak pulse
  - ---Exterior deficiency syndrome.
- The slow and weak pulse
  - ---Yang deficiency.
- The rapid and weak pulse
  - ---Yin deficiency.
- The uneven and weak pulse
  - ---Blood deficiency.
- The wiry and weak pulse
  - ---Excessive wood with declining earth.
- The large and weak pulse
  - ---Qi depletion.
Abnormal Pulse Force---Indistinctive Pulse

3. Indistinctive (Faint) Pulse

- **Pulse Character**
  - The vessel is extremely thin and feeble, barely palpable on pressing.

- **Indications**
  - Extreme declining of Vital Qi
    - Deficiency of qi and blood, exhaustion of Yang-qi. i.e., it may also occur to severe vomiting, profuse sweating, and profuse hemorrhage

- **Mechanism**
  - Because the qi and blood are too weak to fill up and drive pulsating, the pulse feels thready, soft, weak, and obscure.

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Abnormal Pulse Force---Indistinctive Pulse

- **Differentiation**
  - The floating indistinctive pulse
    - Yang exhaustion.
  - The deep indistinctive pulse
    - Yin deficiency or diarrhea with abdominal pain due to visceral yang exhaustion.
  - The indistinctive and uneven pulse is present in loss of blood.
  - The indistinctive and taut pulse is seen in the case of convulsion.
4. Scattered Pulse

- Pulse Character
  - The "scattered" means inability to concentrate. It has two characters:
    - It is rootless scattered, felt by light touching but indistinctive on heavy pressing.
    - It is uncountable, uneven in rhythm no sign of pause.

- Indications
  - Exhaustion of qi, failure of the Zang-organs and Fu-organs. Seen in critical syndrome
    - It can be seen in arteriosclerotic cardiopathy, rheumatic heart disease.

- Mechanism
  - The formation mechanism of scattered pulse mainly lies in exhaustion of qi, dispersion of the Yang Qi due to dissociation of Yin and Yang.
Questions?
1. It can be felt at the location of Cun, Guan and Chi, forceful on all three portions no matter at what level, long and large, giving a feeling of fullness. It is
A. faint pulse
B. Replete (strong) pulse
C. weak pulse
D. Both A and C

2. Replete pulse indicates
A. Excess Syndrome
B. deficiency
C. dampness
D. heat due to deficiency of Yin

3. The character of feeble (weak) pulse is
A. It is felt weak on light and heavy touching at the locations of Cun, Guan, and Chi, giving a feeling of emptiness.
B. It can be felt at the location of Cun, Guan and Chi, forceful on all three portions no matter at what level, long and large, giving a feeling of fullness
C. The vessel is extremely thin and feeble, barely palpable on pressing.
D. All A, B and C

4. The rapid and weak pulse indicates
A. excess heat
B. yin deficiency
C. Excess cold
D. Hyperactivity Yang
5. Indistinctive (Faint) Pulse indicates
A. Extreme declining of the vital qi
B. Extreme excess heat
C. Extreme excess cold
D. Interior cold syndrome

6. The characters of the scattered pulse are
A. It is rootless scattered, felt by light touching but indistinctive on heavy pressing.
B. It is uncountable, uneven in rhythm no sign of pause.
C. Deep and strong
D. A and B

7. A patient has headache, sweating, aversion to wind, stuffy nose, retching, absence of thirst, thin and white coating, floating slow and feeble pulse. This disease is
A. Exterior deficient syndrome due to exogenous attack of wind-cold.
B. Exterior deficient syndrome due to exogenous attack of wind-heat.
C. Exterior excess syndrome due to exogenous attack of wind-cold.
D. Exterior excess syndrome due to exogenous attack of wind-heat.
8. A patient has painful chest which radiates to the upper back, wheezing, cough with copious sputum, shortness of breath, a thick, greasy tongue coating and deep, slow and wiry pulse. This is due to
A. Cold phlegm blocking the chest yang
B. Qi stagnation blocking the liver meridian
C. Heat phlegm blocking the chest Yang
D. Heat phlegm in the lung

9. If we feel the pulse is easily felt & at the full in the superficial level, and its force decreases slightly deeper level. It indicates
A. The Exterior Syndrome
B. The interior Syndrome
C. Excess heat syndrome
D. Wind in the liver

10. If a patient has high fever, fidgets, extreme thirst, profuse sweating, red tongue with thick yellow coating. His pulse should has following pulses EXCEPT
A. Rapid pulse
B. Full pulse
C. Strong
D. Thready

11. A patient suffers from hypochondriac pain, headache, vertigo, irregular menstruation, distended breasts, bitter taste in the mouth, dry mouth and throat, fatigue, reduced appetite, pale tongue, and wiry and thready pulse. This disease is due to
A. Deficiency of spleen qi
B. Deficiency of liver blood
C. Stagnation of liver qi
D. Liver qi stagnation with blood deficiency
Female pulse and infant pulse

1. Female pulse
   - Women have special and unique physiological and pathological changes. And women belong to yin, men belong to yang. Therefore, the female pulse is somewhat different from male pulse.
   - A. Pulse about menstruation
     - If the pulse becomes little large or surge in Guan and Chi portion of left hand without fever, abdominal distention and bitter taste, it implies the menstruation in few days.
     - If the pulse is slightly uneven or weak, or slippery in Chi portion but normal in the other two portions, there will be a menstruation with trouble.

2. Infantile pulse
   - <3 years old, observing the vein of the index finger.
   - 4-9 years old, taking pulse with one finger for three portions.
   - Feeling 6 kinds of pulses.
     - Floating, Deep, Rapid, Slow, Replete, Weak Pulse.
Pulses in combination

- The floating and tight pulse
  - Wind cold or wind Bi syndrome
- The floating and moderate or weak pulse
  - Exterior deficiency syndrome
- The floating and rapid pulse
  - Wind heat
- The floating and slippery pulse
  - Wind phlegm or exterior syndrome with phlegm
- The deep and slow pulse
  - Interior cold syndrome
- The deep and wiry pulse
  - Liver qi stagnation or phlegm and fluid retention

- The deep and choppy pulse
  - Blood stasis
- The deep and moderate or weak pulse
  - Spleen deficiency or dampness retention
- The deep and thready pulse
  - Yin deficiency or blood deficiency
- The deep and thready and rapid pulse
  - Deficient heat
- The wiry and rapid pulse
  - Liver heat or liver fire
- The wiry and tight pulse
  - Cold pain or cold obstructing liver meridian
Pulses in combination

- The wiry and thready pulse
  - Liver and kidney yin deficiency or liver qi stagnation with spleen deficiency
- The wiry and slippery and rapid pulse
  - Liver fire with phlegm or phlegm-fire in the interior
- The rapid and slippery pulse
  - Phlegm-fire or food retention and transforming heat
- The rapid and replete pulse
  - Excessive heat in the Qi level

Choosing one from the non-identical pulse and symptom

- The non-identity between pulse and symptom may present in some occasions. For example, the yang pulse with symptoms related to yin, or pulse of excessiveness with symptoms of deficiency. The non-identity makes syndrome differentiation difficult. The causes of the non-identity include:
  - 1. Sudden onset
Choosing one from the non-identical pulse and symptom

- When evil invades the body and causes disease onset suddenly, the symptoms occur but the pulse is not changed in time, then the pulse and symptoms are not identical. Or the sudden occurred pain makes the qi and blood stagnated, then the flow in vessels could not reflect the true condition in body.

2. Mild illness
- When illness is mild, the qi and blood are not involved, so the pulse is not changed. The malaise in body but not in pulse.
- Or in some cases, the pulse is changed, but the patient has not felt any discomfort. It is morbid pulse without symptoms in body.

3. Internal obstruction
- Sometimes, the phlegm, blood and food are staying in the body and obstructing the qi and blood flow, then the pulse may vague which is like the pulse of severe disease of deficiency.

4. Coexistence of diseases
- When many kinds of diseases are in the same body, or a disease occurs in the body with old disease, the pulse will not be identical to the symptoms.
Choosing one from the non-identical pulse and symptom

5. Constitutional difference

- The pulse in obese body is always deep, even though the exogenous disease attacks the body. On the contrary, the pulse in a slim body is usually floating even if there is interior disease in the body.

Choose pulse (true) and ignore symptom (false)
- For example, typhoid due to internal heat blockage. Cold limbs are manifestation while pulse is slippery and rapid.

Choose symptom (true) and ignore pulse (false)
- For example, unpalpable abdominal fullness and pain, constipation, thick and yellow coating, deep, thready and slow pulse. The pulse is due to excess heat block in the interior and make the qi and blood flow hard. This is false pulse.

Generally speaking, if the pulse belongs to deficiency and the symptoms to excess, the symptom is false.
## Summarization

### Summarization of Pulse Diagnosis

#### Floating Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating</td>
<td>It is easily felt &amp; at the full in the superficial level, and its force decreases slightly in the deeper level.</td>
<td>Exterior Syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deficiency Syndrome</td>
</tr>
<tr>
<td>Hollow</td>
<td>Wide and soft vessel when lightly touched, and hollow when seeking. On pressing, the edges of vessel are clearly felt, but the center is obscure.</td>
<td>Loss of blood</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yin depletion</td>
</tr>
<tr>
<td>Tympanic</td>
<td>Large, hollow, taut, giving the felling of the surface of a drum being touched.</td>
<td>Blood deficiency and essence</td>
</tr>
<tr>
<td>Soft (soggy)</td>
<td>Floating, weak and thready.</td>
<td>Dampness, Deficiency</td>
</tr>
<tr>
<td>Scatter</td>
<td>It is rootless scattered, felt by light touching but indistinctive on heavy pressing. It is uncountable, uneven in rhythm no sign of pause.</td>
<td>Exhaustion of qi, failure of the Zang-organs and Fu-organs. Seen in critical syndrome.</td>
</tr>
</tbody>
</table>
### Deep Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm</td>
<td>Deep, taut, long, large, and forceful. It can not be felt by light or moderate take.</td>
<td>Interior excess cold (abdominal mass, lumps and hernia)</td>
</tr>
<tr>
<td>Deeply</td>
<td>Located, it can hardly be felt by light touching, palpable by moderate force, distinct only by heavy pressing or deep take</td>
<td>Interior Syndrome</td>
</tr>
<tr>
<td>Hidden</td>
<td>Not felt when touching, seeking &amp; pressing. Only by heavily pressing to bone, the pulse can be felt.</td>
<td>Interior Syndrome (Critical)</td>
</tr>
</tbody>
</table>

### Slow Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow</td>
<td>Pulsates 3 times for each breath and moves slowly (40-59 beats/minute) with generally regular rhythm.</td>
<td>Cold syndrome</td>
</tr>
<tr>
<td>Moderate</td>
<td>Beats 4 times for each breath, faster than slow pulse.</td>
<td>Normal moderate Damp syndrome, Deficiency of spleen</td>
</tr>
<tr>
<td>Knotted</td>
<td>Pulsating is slow with irregular intermittence. After the missed beating, the pulse continues immediately</td>
<td>Excess of yin, Qi stagnation, bl-stasis, declining qi and blood.</td>
</tr>
<tr>
<td>Intermittent</td>
<td>Slow with regular intermittent. After intermittence, the pulse will wait a little moment and then continue beating.</td>
<td>Visceral weak</td>
</tr>
<tr>
<td>Uneven</td>
<td>Comes and goes unsmoothly, giving a feeling of uneveness.</td>
<td>Qi stagnation, blood stasis, phlegm or food retention, deficiency of blood &amp; yin</td>
</tr>
<tr>
<td>Water-leaking</td>
<td>The pulse is very slow (21–40 beats/minute) with irregular or regular rhythm. It is compared to the leaking drops from the roof after rain.</td>
<td>It suggests the dying stomach qi or the exhaustion of defensive qi and nutrient qi</td>
</tr>
</tbody>
</table>
## Fast Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid</td>
<td>beats 6 or 7 times for each breath. (90-139 beats/minute)</td>
<td>Heat syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deficiency syndrome</td>
</tr>
<tr>
<td>Swift</td>
<td>More than 7 times for each breath (140-180 beats/minute).</td>
<td>Ulmost Yang and exhaustion of Yin or Qi</td>
</tr>
<tr>
<td>Bubble-rising</td>
<td>It is palpable on light take, very rapid over 180 beats/minute, or innumerable beats</td>
<td>Hyperactivity of Yang-heat &amp; exhaustion of yin</td>
</tr>
<tr>
<td>Running</td>
<td>Beats rapidly with irregular intermittence.</td>
<td>Yang hyper-function, &amp;/or stagnancy of qi, blood, retention of phlegm deficiency of the viscera</td>
</tr>
<tr>
<td>Snapping</td>
<td>It beats irregularly in both rate and force with a frequency of 90-130 beats/minute.</td>
<td>Exhaustion of kidney Qi leads to interruption of vascular qi.</td>
</tr>
</tbody>
</table>

## Deficiency Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin</td>
<td>Thin and soft like a thread. The pulsation is clear even by pressing. “as thin as a silk thread”</td>
<td>All kinds of deficiency</td>
</tr>
<tr>
<td></td>
<td>Damp-syndrome</td>
<td>Damp-syndrome</td>
</tr>
<tr>
<td>Feeble</td>
<td>Felt weak on light and heavy touching at the locations of Cun, Guan, and Chi</td>
<td>Deficiency syndromes</td>
</tr>
<tr>
<td>Indistinctive (Faint)</td>
<td>Extremely thin and feeble, barely palpable on pressing.</td>
<td>Extreme declining of the vital qi</td>
</tr>
</tbody>
</table>
### Excessive Feeling

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Character</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replete (Strong)</td>
<td>felt at the location of Cun, Guan and Chi, forceful on all three portions no matter at what level long and large, giving a feeling of fullness</td>
<td>Excess Syndrome</td>
</tr>
<tr>
<td>Long</td>
<td>Long and straight</td>
<td>Excess syndrome</td>
</tr>
<tr>
<td>Slippery</td>
<td>Coming and going smoothing, feeling slick to the finger like beads rolling on the pulse.</td>
<td>Phlegm, food retention and excessive heat. pregnant women or normal persons.</td>
</tr>
<tr>
<td>Wiry (taut)</td>
<td>long, straight and stretched like a string stretched on a violin.</td>
<td>Disease of liver &amp; gallbladder Pain, malaria, phlegm &amp; fluid</td>
</tr>
<tr>
<td>Full</td>
<td>Large volume felt like wave surging coming vigorously and going gently.</td>
<td>Excessive heat syndrome yang hyperactivity, stomach heat and abscess</td>
</tr>
<tr>
<td>Tight</td>
<td>Tight, the pulsation is swift and forceful feels like fingers on a tightened cord.</td>
<td>Cold and pain</td>
</tr>
</tbody>
</table>