Course:	Classic Pulse Diagnostics	Date:	March 21-22, 2009

Classic Pulse Diagnosis

There's a lot of stuff written about pulses, probably all of it better than I am putting it together, but what I'm offering you here is Will Morris' method of systematically taking pulses, making sense of what you find,

This material comes from his Classic Pulse Diagnostics weekend seminar, offered at the Academy of Oriental Medicine in March of 2009.

Happy reading. Feel free to distribute this document as you see fit, *as long as you do it for free!!* If I find you're making money off of this I'm going to be copiously and legally pissed.

The Ground Level

Using the pulse to interpret the health of a client is a very old art form and takes years to master. This will give you the basics foundation to work with, starting you on the path to becoming conversant in pulses. To really get great you have to work at it, take a lot of pulses, and most importantly of all, learn to trust your own instincts about what you feel.

Remember that two people feeling the same pulse may have different descriptions of that pulse. One person may say it's wiry and the next says it's slippery. Can they both be right? Quite possibly so. This is a very subjective experience! As you're learning to take pulses you'll make your life a lot simpler and will feel less insecure about what you feel if you just accept this as a fact:

Different people will get different findings from the same pulse.

Remember too that the pulse is an excellent way to find out what's happening in the body. You can use what you feel and your analysis of that to drive your inquiry (the questions you ask your patient) and may very well get much more information than you would just by sitting and asking the diagnostic questions we learn in Diagnosis 1 and 2. But the pulse isn't the *only* way to get information, nor is it your only diagnostic tool. Combine the pulse findings with questions/answers from the patient interview, tongue diagnosis, points that are tender on the body, etc. in order to form your pattern differentiations and treatment plans.

The Uber Basics

Pulses are 3 dimensional. They are also really simple at their basic levels. Pulses consist of:

- ☯ Tubes: the vessels
- ☯ Pump: the heart
- ☯ Fluid: the blood
- ☯ Ground substance: the tissues surrounding the vessels on all sides

This isn't terribly dissimilar (at the engineering level) from a tube coming out of a water pump. You just don't have to take a water pump's pulse to figure out how it's working!

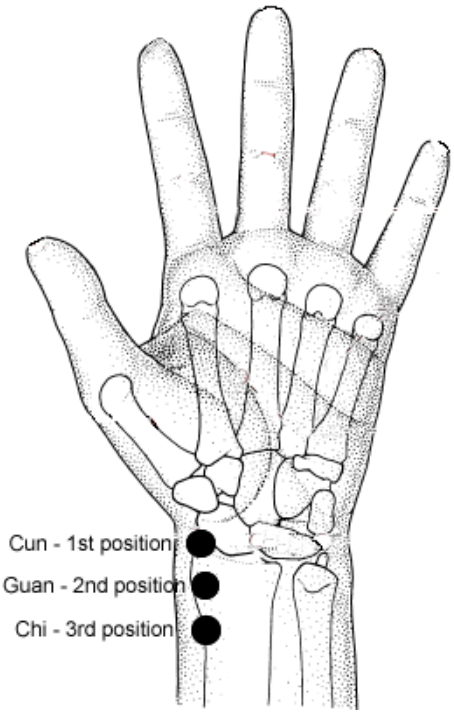
Keep the mechanical parts involved here in mind.

Ideal and Pathological Pulses

Ideal Pulses

You can't understand what pulse pathologies are unless you have a vision of what a healthy or ideal pulse looks like. An ideal pulse:

- Has root
  What the heck does that mean? The term 'root' consists of two different vectors/meanings:
  - Root can refer to the **chi** position, the 3rd position proximal to the first position at the wrist. A pulse should be strong here as this is the position of the Kidney from which our energy and original Qi flows!
  - Root can also refer to the deepest level of the pulse when you press vertically from the skin. You press down so that the vessel is squished not quite flat, but definitely squished. (Kind of like stepping on a garden hose but not until it's totally closed off.) If you press down to this level and you still feel the pulse, then it's said to have "root."



- Has Stomach Qi
  This is as subjective as it gets! This is sort of the Goldilocks ideal of pulse descriptions: it's not too fast, not too slow, not too strong, not too weak…it's *just* right. If it's moderate like this it is said to have Stomach Qi.

- Has Shen
  Good stability, good rate of speed, good volume of blood in the vessel.

- Other matches for an ideal pulse:
  - It matches the season of the year
    - In **spring** the pulse should feel a little more **wiry**, but is still moderate. You will feel moderate tension in the vascular system. That makes sense because in Spring everything on this planet is coming out of hibernation and is stretching in all directions. There's more warmth and movement in the blood but the vasculature might still be a little contracted from the winter movement inward.
    - In **summer** the pulse **surges** a little, but shouldn't be hurried. This pulse is a little more superficial. The heat of the season is being reflected inside and the heat comes to the surface a little. A surging pulse is also called a 'hooked' pulse. Think of the shape of an ocean wave as it comes onto the shore. There's a surge of energy pushing it into a wave shape, but not enough to sustain it to the end, so

you get the curl of the wave and then the quick collapse of the energy.

- In autumn, the pulse will feel moderate again, or perhaps a little choppy.
- In winter the pulse is going inward and thus is slightly deeper. As the days get shorter and the energy of plants goes inward, so does our energy.

- Matches in position and is evenly distributed through-out the positions.

Pathological Pulses

Pulse has 3 basic aspects to it:

- Form – the spatial component of the pulse. This is also called the shape.
- Time – rapid, slow, urgent, arrhythmic, etc.
- Trait – forcefulness, softness, hardness, etc.

Pulses are a hidden world even though they are a 3 dimensional shape– we can't see them so we have to explore them with our fingertips. Here are the pulses you are likely to find.

Moderate pulse

We discussed this in the ideal pulse. Moderate pulses are just that – moderate.

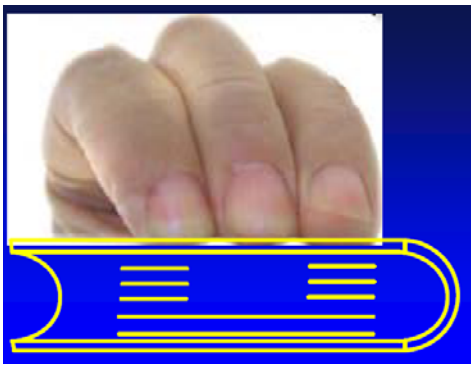
Floating pulse

Floating pulses are felt superficially with the fingers resting on the skin or maybe pressing *just* a little.

In a perfect world the root of the pulse is still present. An unhealthy person however may not have a root. This is an "empty" pulse. You might also refer to it as "floating without root." This is most often due to Qi xu (or sometimes to Yin xu). The graphic is a floating pulse without root in the middle position.

Deep pulse

Deep pulses can be found by pressing to the "organ depth" or at least ½ way in. The graphic below shows you a pulse that is deep in the middle.



Slow pulse

A slow pulse is less than 60 beats per minute. We are now required by law to do and document a beats per minute heart rate for all 1st time visitors to our clinics. Slow is also considered anything between 40 and 60 bpm.

Rapid pulse

90+ beats per minute. Also 90-140 bpm. Anything above this that you find should probably generate a 9-1-1 call…unless you're counting heart rate for a hamster!

Excess pulse

This is a forceful pulse felt in all 3 finger positions and at all 3 depths. It feels full. It will give you the impression that it is long (you can move your 3rd finger proximally and you can still feel it in the artery), large (thick/wide), and forceful.

Force is the primary distinction to an excessive pulse.

If you think you are feeling this in an elderly person, press to the lowest depth and see if there's root. There probably won't be. This is likely to be a cardiac pathology.

Deficient pulse

Large, but yielding and without any force (energy) to it.

Lack of force is the primary distinction to a deficient pulse.

Large/Big pulse

This is wide from side to side or wide. It also feels like it feels thick from top to bottom.

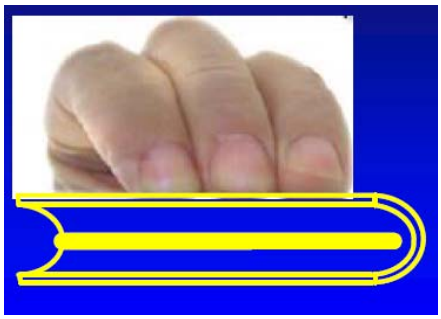
Thready

This is a very thin pulse. It's also very distinct from side to side. You can definitely feel the edges where the pulse stops. It feels small from top to bottom too.

This indicates a deficiency of Qi, Blood or Yin. The pulse gets thready if Qi and Blood xu fail to nourish the vessels. Qi xu can reduce circulation causing the vessels to become thready as well.

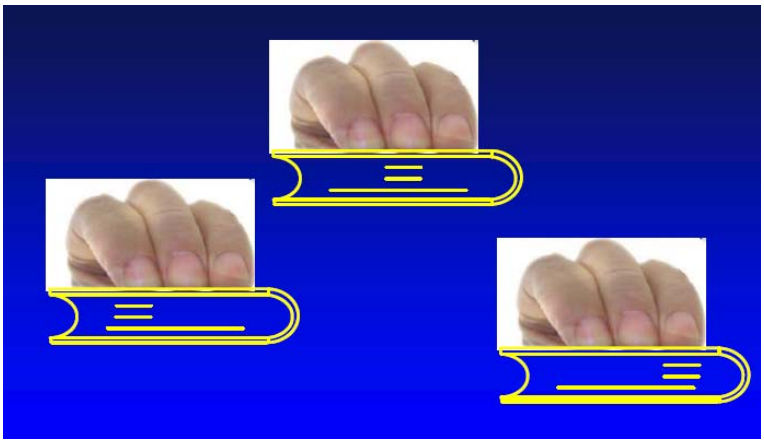
Long pulse

You can feel this pulse on all 3 fingers and it seems like it extends past you fingers. To feel for this, move your ring finger proximal up the vessel and see if you can still feel it. If so, this is a long pulse.



Short pulse

You cannot feel this pulse in all 3 positions. Don't confuse this with a pulse that is deep in one position. Despite the drawings below you won't feel it at the deepest level.



Why would one have this? Anatomical variation, trauma, organ deficiency, ganglion cysts and other things altering the structure of the vessel, and *stagnation*. There is stagnation somewhere in the body which is not letting the Qi through to another organ. Blood flow is impeded and stagnant qi is failing to move the blood so that the pulse positions are not filled. *Deficiency or stagnation are the primary reasons.*

Surging pulse

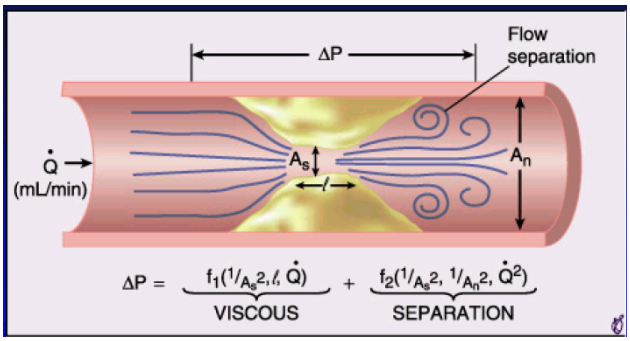
This is a pulse that arrives with force and departs without force like an ocean wave hitting the shore. Overall it is broad, large and forceful like a wave. The pulse is broad, large, forceful, comes on powerfully, but fades away because there's not enough Qi to sustain the wave. →

Slippery pulse

To feel a slippery pulse you have to press past the vessel wall level and into the blood stream. You won't feel it if you are pressing too superficially. (You will likely describe it as "wiry" if you don't press deeply enough.)

Reasons for slippery pulse: turbulence of the blood inside the vessel. This can be caused by dampness, phlegm, pregnancy, food stagnation, tumors, etc, all of which space consuming events which press on the vascular system and cause this turbulence. Elevated sugars, and lipids and other crapola floating in the blood stream such as cast offs from infections that have been killed off by macrophages can also cause slippery pulse.

Here is some turbulence caused by partial occlusion of the vessel wall. Pay no attention to the formula stuff: this is just an illustrative graphic!



If you hold your fingers flat and run one fingertip across them like you're strumming a guitar you get an idea of what slippery feels like. (Some people say that slippery seems to flow sideways while wiry feels more vertical.) This pulse slides quickly and smoothly under your fingers.

Choppy pulse

It's rough rather than smooth. The form is irregular as are the rhythm, force (strength) and shape (how it seems to feel in form under your fingers). The shape of the blood vessel may be rough or the blood flowing through it may feel rough. The amplitude (volume of blood in the vessel) of the wave can change due to the uneven force of this pulse. The unevenness of the pulse relates to time, form, and process – all of these change. Even the shape of the wave feels rough.

This is a complex pulse made more complex by poor translations over the years from classical Chinese to modern, from modern Chinese to English. One text suggests that if you are truly seeing a choppy/rough pulse there should also be rough skin between LU 9 and LU 5.

A pulse might be choppy due to phlegm retention and qi, blood or food stagnation. These accumulations impede the smooth circulation of blood in the vessels. If this pulse is forceless it suggests depletion of blood, loss of essence due to lost blood, lost constitutional strength, miscarriage or even excessive loss of semen.

Wiry pulse

Long, tense, stable, felt with varying level of pressure. Passes straight under fingers and can be highlighted by rolling your fingers along the surface of the vessel – feels like your fingers are on a bowstring (guitar, violin, etc.). You can divide this into excess, deficient, and moderate which varies in thickness. Excess is thicker, deficient is thin…but all are wiry in this scenario.

Why pulses might be wiry:

- Qi stagnation and stress.
  Wiry pulses may appear as a result of qi stagnation/stress. This is a neurovascular complex: stress signals the nerves to be on high alerts which in turn puts blood vessels on orange alert too. This results in a wiry pulse.

  Stagnation of Qi in any organ, not just the Liver, can result in a wiry pulse as well, though if there is stress the Liver mixes in and starts talking about it too.

- Hardness of the vessels.
  Determine if the vessel wall is supple and soft or tight and hard. It may be tight and hard due to stress or due to a lack of vascular health or it may get tense in the presence of cold. And by the way, don't confuse hardness with thickness – hardness is just that: hard.

Wiry pulses can be excess, deficient or moderate. In the progression there's plain old Qi yu – vascular tension. Qi yu can create heat making it more urgent and tense and forceful. When you have a Qi yu in a deficient system you won't feel so much excess here. You can even have a thready wiry.

Hurried pulse

This is an *arrhythmic* pulse. It is *rapid* and irregularly irregular. It's agitated and urgent, often described as a man running and stumbling. This can be an uneven firing of the AV node in the heart. The more frequent a missed beat is the worse it is and is likely to be cardiopathology.

Dr. Morris suggests you use more biomedical terms for arrhythmic pulses– his notes say regular/irregular or irregular/irregular and notes the count where the beats are missed or

that it can't be counted. Why? Because you usually need to refer these folks to a medical doctor! This is better for referrals and cardiologists are more likely to take you seriously.

Knotted pulse

Knotted is *slow* and irregularly irregular. After missing a beat the pulse continues immediately.

Slow indicates a cold pattern and circulation could be blocked by phlegm, cold, tumors or any number of pathogens. It can occur in deficiencies when Qi and Blood are insufficient to fill the channels so that pathogens fill in the gap and cause the arrhythmia.

Intermittent pulse

This is a pulse that misses a beat at regular intervals. As previously discussed, the more frequent the miss, the more serious the case. If it's really frequent like a miss every 4 beats this is referable! Another blip about irregular pulses: sometimes the beat isn't missed, but the intensity of the beats changes – press deeper to see if the beat is still missed.

If the amplitude comes and goes it means that the mitochondria aren't recovering quickly in the system and that the system is therefore somewhat fatigued. This is a heart Qi deficiency. Usually only see this in elderly folks. Can also be blood stasis anywhere in the body – this is the heart pumping against a stagnation (scar tissues, etc.) and fatiguing the heart.

Soggy Pulse

Floating, thready, and soft. There's no force and it gives way under pressure.

Indications:

- ☯ Progressed states of disease with xu of Qi, Yin and Blood, all of which allow the Yang to float. If the pulse disappears when you press the yang is expiring.
- ☯ You might also see a soggy pulse with dampness which is depressing the vessels

Hollow Pulse

Feels wide but distinct when you feel it side to side and touch lightly. It also feels very soft to the touch. If you press down, it seems to go away entirely. This is truly vacuous. It's kind of like a (soft) soda straw or if you want to be traditional about it then it feels like a green onion – you can feel the vessel, but it feels totally empty inside.

People at Beijing University say it's felt with hemorrhagic conditions. This is pretty severe blood loss, maybe internal bleeding. This can also indicate a loss of essence.

Leather Pulse

It's wide across and the vessel wall is thick. But it's superficial and without root (hollow). You find this most in old men. If you find it in an age inappropriate place like

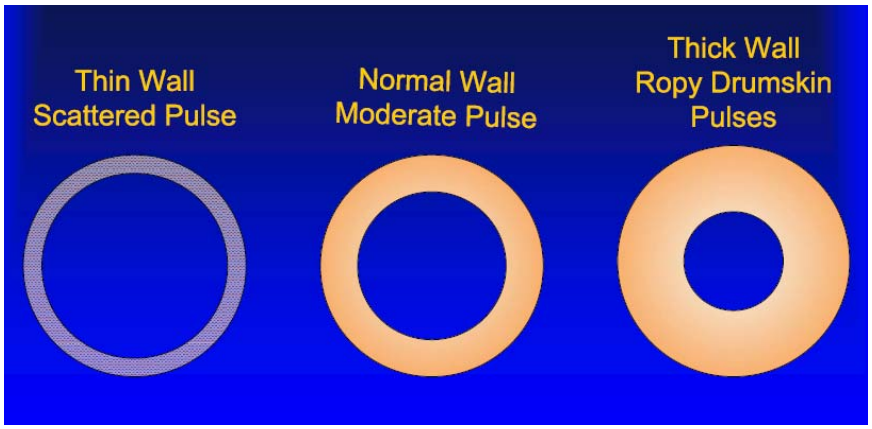
in a young person can indicate cocaine use, multiple personality disorders, ritual abuse and more. Look at the vessel wall drawing below.

Scattered Pulse

Large, floating, and weak. The wall of the vessel is very thin and seems to spread like powder in the wind when you press into it. This pulse lacks force and the form is unclear. Even the boundary between the wall of the vessel and the surrounding ground substance is indistinct and it's hard to feel the difference between them.

The rate is difficult to count and the scattered quality is felt throughout all pulse positions.

Look at the graphic below to see the representation of the thin wall compared to the normal one.



Ropy Pulse

OK, this isn't a traditional classic pulse per se. But here you go anyhow. Feel this quality of pulse by sliding your fingers from side to side radially and ulnarly (as opposed to proximal/distal). You will be able to feel the shape of the vessel and it will probably feel large from side to side.

Vessel walls can be thick (see the graphic above) due to high athletic training or due to a pathology in the vascular system such as hardening of the arteries. Feel for the hardness or suppleness of the vessel.

- If due to athletic training the vessel will feel supple and ropy which is better than hard. You will probably see big veins that stand out on the back of the athlete's hands and lower arms. Supple vessels nonetheless indicate that the vascular system is overworked due to heavy duty exercise for a long time.

  If you see this ropiness in a kid or teen who is very athletic this can be bad. Overwork at this age is not good for the body! This indicates that the blood isn't in sufficient contact with the vessels so you need herbal treatments to

bring the blood back into contact with the vessels.

- ☯ If this ropy quality is due to vascular pathology the vessel will feel hard to the touch. This is decidedly pathological and indicates atherosclerosis.

Ropy might also be called wiry, but it's not the same.

Hidden Pulse

This is a pulse that can't be felt with normal palpation like touching, seeking, pressing. You can only find this by pressing to the bone. It might be hiding under the tendon. This is caused by pathogens obstructing the interior. Usually a pretty severe pathology like a tumor formation.

Firm Pulse

This is deep down, bowstring feeling, forceful. This is not a Qi depletion, but a pathology latent in the interior. This pulse is stable and lacks normal variability. It's got tension, depth and forcefulness.

The cardio system really *should* have variations because it is a relatively chaotic process. . . Lack of normal heart rate variability is a predictor of cardiac pathology/mortality. If variability is too extreme or totally without variability that's bad.

Weak pulse

Yielding, deep, thin. You can only feel this at the deep level by pressing. Too much strength of palpation and the pulse becomes vague.

Minute Pulse

This denotes a vessel that is thin and soft to the point of absence.

This pulse occurs when there is insufficient blood to fill the vessel. If you cannot feel this with a light touch it indicates a decline of Yang. If it loses root it represents exhaustion of Qi or Yin.

Tight Pulse

This pulse is tense, forceful, "twisted like a rope" and moves side to side.

The tension and force indicate an excess, often pain.

If the vessel feels twisted like a rope this can indicate atherosclerosis.

If the pulse doesn't hit your fingers in the same place or feels like it is dancing from side to side, this is another indicator of a tight pulse. Moving side to side is the best indicator that there is cold. In a deficient patient this might be the only indicator of a tight pulse you get. Yang deficiency causing cold would be an example of this.

Tight pulses can also indicate food stagnation, sudden vasoconstriction of any etiology, and sudden increase in cardiac stroke volume. It can occur in allergies, infections, and hernias.

Moving Pulse

This is a short and urgent pulse. It can be slippery or rough with no arrival or departure like a little jumping bean. You will most often feel it in the left middle position. Patients with this pulse are usually having an extreme emotional crisis.

You might also see it in intense pain, fright, shock, or allergic reactions to meds as well as in pregnancy. Basically, this shows a struggle between Yin and Yang.

Racing Pulse

Over 140bpm. This is an extreme condition such as tachycardia, pericarditis, myocarditis and other very serious things you can't needle away. Refer, refer, refer! Or call 9-1-1, 9-1-1, 9-1-1!

This indicates heat and lots of it. If it lacks force it's a deficiency such as yin exhaustion or hyper Yang.

Techniques for Feeling the Pulse

Now you know the ideal pulses and the nomenclature for pathological pulses. Next we learn how to properly place the fingers and how to find the 3 vertical depths of the pulse. This is a little different from what was covered in Diagnostics, which recommended that you use the styloid process as your anatomical marker. Due to anatomical variation, this isn't as reliable as the method below which is more bullet proof for getting your fingers into the right places.

Patient placement

First, decide where you want your patient to be – lying on the treatment table or seated, preferably sitting in a chair across a table from you. I am going to recommend you sit across the table from your patient, especially when you are in learning mode. Either way, your patient's wrists should be approximately at the level of the heart.

If you need to take the pulse with the patient on the table it is recommended that you place the patient's hands on their stomach or chest with the elbows slightly flexed so that there is no tension on the nerve or blood vessel tissues.

Practitioner placement

Even though I recommend the sitting position, especially when you are learning to take pulses and are using the learning tools you'll find later, in a real-world clinic situation where you place your patient is largely dependent upon the space you have available. You have 3 basic options:

- Patient and practitioner seated across from each other with a table between to rest the hands on.
- Patient seated, physician standing
- Patient lying, physician standing

Regardless, you the practitioner, should be completely relaxed. Don't rise your elbows, reach, strain. Place your patient's hands so that you can reach both at the same time comfortably. The goal for you is to *not* mobilize too many large muscles. The less effort you can put into reaching the patient's hands the more sensitive you will be at picking up the pulse qualities! Don't contort yourself. Just reposition the patient! (It worked best for me to overlap the patient's hands slightly.)

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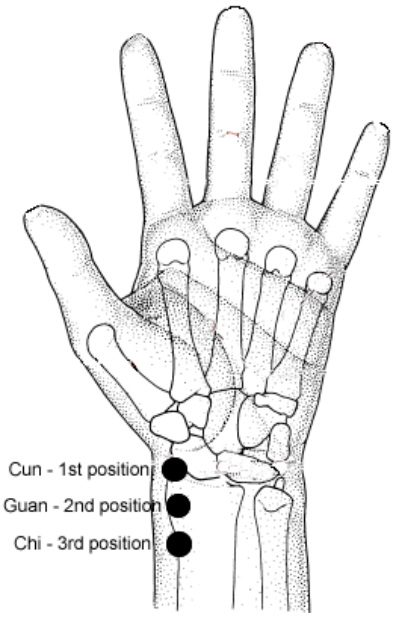
Here is how you place your fingers properly to find the cun, guan, and chi positions.



1) Bend the patient's wrists just slightly so you can clearly see the thenar eminence. Place your index finger on the eminence and slide it toward the wrist. It will fall into place and stop. That's the first position – the Cun position.

2) You should be able to feel a little dip with your ring finger proximal to the first position. This is at the edge of a large muscle in the forearm. This is the 3rd or Chi position.

3) Place your middle finger in between. This is the guan position.

4) Place your thumbs on the back of the patient's wrists rather than sticking them out to the side like a hitchhiker.

Do this on *both* wrists at the same time. Align your fingers with the artery if you need to. Sometimes they are in a straight line down the wrist or may be at an angle. Use your finger tips which have the most nerve endings.

If you happen to be a guitar player, have some scarring, or nerve damage use the portion of your fingers that are the most sensitive.

Techniques for *Taking* the Pulse

Here's the how-to step by step of taking the pulse. Each bold heading below is a step you take in gathering the pulse data. Don't judge what you find, but feel it and record it. We'll get to the analysis later on.

First Impressions

OK, this is where it gets a little difficult. It's not that this is a technically difficult skill. The hard part on the contrary is turning off your mind after so many semesters of being a critically thinking student.

You don't use your mind to get your first impression any more than you do walking down the street or going to a party when you get first impressions of people. You don't have to think of words or feelings that go with your first impressions, they happen automatically! This is the same thing you're going for with your first impressions of a person's pulse. With your fingers in place, turn off your brain and step into that "pulse party!"

Press in and feel that pulse for the first time. Don't spend more than 5 – 15 seconds. If you spend too long your mind will butt in and start bullying you into thinking things and then the deal is blown. Try to let 3 words or thoughts just hit your brain and quickly write them down. If you only get one, that's fine. These are your first impressions. Don't judge them.

I cannot emphasize enough how critical these first impressions are. During the pulse seminar in which I learned this we did a "speed dating" sort of thing with pulses. Half of the room sat still while the rest of us moved from chair to chair quickly getting first impressions of each pulse and that was it.

Sidebar:

Sometimes it's difficult to trust your own intuition and impressions. There are elements of American culture that do not necessarily encourage this behavior. But it's critical in Chinese Medicine and it's critical in pulse diagnostics.

If you have trouble with this and can't tell what you're feeling, I feel your pain. I'm right there with you. Took me an awful lot of therapy to even figure out that this was an issue for me!

If your issues aren't that critical, I'd recommend some Qigong. Get yourself grounded, open up your senses and your Dantian and *then* try the first impression exercise again.

No one is going to be mad at you and you're not going to fail anything based on your first impressions.

Another sidebar: A Word about Words

Even though there's a standard 'dictionary' of pulse words which you learned in the **Ideal and Pathological Pulse** section, those words may not be the ones that pop into your mind during your first impressions or even during the next phases of pulse taking. That's fine. Write down your words whatever they may be. Just translate them into the TCM pulse nomenclature when you're done.

As an example, I kept writing "soft" about a pulse and later learned that is "yielding" in TCM-Speak, meaning that it offers no resistance against the force I placed against it. All I knew at the time was that it felt like a cotton-ball.

Take the Pulse Rate at the Beginning of the Pulse Taking

By law in Texas we are required to record the BPM (beats per minutes) pulse rate of each patient we seen in clinic for the first time. To do a really good pulse analysis do it *each* time. Not only that, you're going to go overboard and do it 3 times. But we'll just start with one for now.

Count the beats per minute. I recommend you count for a full minute instead of counting for parts of a minute and multiplying. You often can't feel arrhythmias in partial minutes. You'll need a clock with a sweep hand.

The Overall Impression

Next you will feel the pulse with all 6 fingers at the same time. You record only what is consistent across all 6 fingers. Don't pay attention to individual variations at this point in the process.

First, feel for Cotton.

I'm going to introduce you to a concept called "cotton." With your fingers in place on the surface of the skin, press in and note how much ground substance is between the skin and the vessel wall at the Qi level (described below). If you feel tissues, fluid, any kind of "stuff" between the skin and the vessel wall this is cotton. Later you'll learn that this means something important. For now, move on to the three levels.

Now, feel all Three Levels.

Using all 6 fingers, feel to the Qi level, the Blood level and the Organ level. These are the 3 depths to a pulse. You feel these by pressing down vertically with your fingertips.

1. Qi Level
   This is the most superficial level of the pulse. You are basically feeling the vessel wall. The energy you are feeling here is indicative of the energy quality of the nerve supply to

the organs represented by the position on the wrist (cun, guan or chi)

2. Blood Level
   This denotes the vessel's supply of blood to an organ. This is felt deeper than the level of the vessel wall. You are pressing down into the blood supply and feeling the quality of the blood at this level.

3. Organ Level
   This is the deepest level to the pulse and you are squishing the vessel pretty flat, but not totally cutting off the blood supply through the vessel. This allows you to feel the energetic quality of the organ tissues themselves. A good pulse at this level of pressing indicates decent Qi to the organ, even against resistance.

Record anything odd or pathological you feel at any level. If you don't feel anything special, that's no crime and don't worry about it.

Left Side/Right Side

Leave the fingers of your right hand in place, but lift up to the lightly rest on the skin level. Now feel the left side by itself with all three fingers. Again, only pay attention to what is consistent across all three fingers.

Do the same with the other side.

Does it feel slippery in all 3 positions? Weak? Wiry? Do all 3 yield to pressure and offer no resistance, kind of like pressing on a cotton ball? Is one side noticeably weaker than the other?

The Triple Burner (or Upper, Middle, and Lower Jiaos)

You feel the upper, middle and lower jiaos by feeling with both index fingers, then both middle fingers, then with both ring fingers. Record what you feel. Don't think about what this might mean, just feel and record!

Upper Jiao/Burner

Lift the middle and ringer fingers up so they are resting at just the skin level. Feel the pulse only in the Cun position with your index fingers. Feel it at all 3 depths and record what you find.

Middle Jiao

Feel the pulse with only the middle fingers, lifting the index and ring fingers so they are just resting lightly on the skin.

Lower Jiao

Feel the pulse in the Chi position only with the ring fingers. Again, lift the other fingers up to rest only at the skin level.

The Principal Positions

Now you feel one position at a time, but only on one side at a time. Please assume you leave the unused fingers in place but left up to the skin level. I'm getting really tired of typing that! You can left them off entirely if you want, but when you're first learning it's a pain in the butt to keep having to find the placement.

Start with the distal positions and do them in this order, stopping after each one to record what you feel…again, no judging and analyzing yet! Feel each at all 3 levels. You only have to record what feels pathological. If it feels normal you can just skip that.

1. Left distal (cun)
2. Right distal
3. Left middle (guan)
4. Right middle
5. Left proximal (chi)
6. Right proximal

Take the Pulse Rate at the End of the Pulse Taking

Yup, take it again and record it. You could do partial minutes and multiply for this one. I recommend at least 30 seconds (times 2) for accuracy though.

Take the Pulse Rate After Exertion

Again? Yes, one more time, this time with a little mini-stress test.

1. Have the patient stand. Place yourself next to them so that you can support one of their wrists and so that you can see the sweep hand of a clock. Find a pulse point on the wrist where you can count the pulse easily.

2. Have your patient swing their free arm around in a circle rapidly for about 20 seconds. You don't have to count the pulse while they are doing this you just have to be ready to count it as soon as they stop. Be sure they aren't going to whack their hand on something in the process!

3. Have the patient stop after about 20 seconds and immediately do a pulse count. 15 seconds multiplied by 4 for this last pulse should be sufficient. You're just looking to see how much the pulse jumps as compared to the resting rate.

Figuring Out What It Means

Now it's time to analyze what you gathered in the last step. You know the basics of the Eight Diagnostics Principles. The simplistic application of this is:

- Excess/Deficient
  - Excess: full and overly strong type pulses
  - Deficient: weak type pulses
- Interior/Exterior
  - Interior is deep
  - Exterior is superficial/floating
- Heat/Cold
  - Heat is fast
  - Cold yields a slow pulse
- Yin/yang
  - As a rule and overall, yin is found on the right while yang is found on the left. In practice with the Kidney pulse, however, this is reversed. Kidney Yin is the left 3rd position while Kidney Yang is on the right in the 3rd position.

Use the pulses outlined in the Pathological Pulses section to flesh this out. Also, use these general rules to help you analyze:

- **Force** indicates deficiency or excess
- **Width** of a pulse from side to side indicates information about the Blood.
- **Amplitude** or **volume** indicates the quality of Qi and Yang
- **Hardness** of the vessel or the way the pulse feels indicates a deficiency of Yin
- **Urgency** and **Surging** indicates heat. Note that this isn't expressed as "fast" but "urgent." A pulse can *feel* fast, but the beats per minute does not reflect rapidity. Obviously, **rapid** pulses indicate heat as well.

- **Tightness** or **slowness** = Cold
- **Floating** indicates wind in the exterior
- **Changing** pulse indicates wind in the interior
- **Slipperiness** and **cotton** indicate dampness or phlegm.
  So does **moist skin** especially when you're in a climate controlled environment or it's not 'sweaty' weather. By the same token, feel the skin for **dryness** as there really is no pulse quality that would indicate this.
- **Floating + urgent or truly rapid + slippery** = Summer Heat

First Step:

For each of the pulse qualities you wrote on your Pulse Data Form, jot an analysis of that pulse. Use the pathological pulses as a guideline and draw on what you have learned in your Foundations, Diagnostics, Energetics, etc. classes to help you analyze what each sign means.

I've provided a sample pulse data form and analysis to give you an idea of what this looks like on the following pages.

Sample Pulse Data Form

Name	Patient X		Date	March 23, 2009
Age	Female, 38 years of age		Blood Pressure	Not taken
BPM Begin	78	First Impressions	Cottony. Wiry. Slightly Ropy.	
BPM End	66			
BPM Exertion	120			

Principal Positions

Distals	
Left	Tense and rootless. Using a lifting technique, feels slippery
Right	Thready, rootless. Slightly slippery
Middles	
Left	Harder than distal, slippery at blood level. Rootless
Right	Wiry. Slippery and forceful at blood level. Rootless
Proximals	
Left	Urgent, without force or root. Slippery at blood level.
Right	Urgent. Forceful.

Sectional Positions

Depths in all 6 positions	
Qi	-----
Blood	------
Organ	------
Sides	
Left	Wiry, no root
Right	More rooted than left
Burners/Jiaos	
Upper	Tense, deep, without root
Middle	Wiry, forceful, without root
Lower	--------

Now let's break this down.

- The pulse counts
  The differences in the pulse counts from the beginning to the end as well as the difference between resting pulse and exertion pulse indicate a **blood deficiency**. Differences should change this much in a non-blood deficient patient. Anything more than a 10 point difference from beginning to end can indicate blood deficiency.

- Depth in all 6 positions
  This section refers to anything which is felt consistently in *all 6 positions* for each depth. If a quality is not felt across all 6 fingers at a given depth, don't write it down. As you can see from this patient's pulse, nothing consistent was felt across all fingers at any level.

- Sides
  This refers to anything felt consistently on all 3 fingers for each side.

The Left side pulse tells you about the health of the organs overall, the health of the constitution, the quality of the pre-natal essence, and the quality of the blood.

The Right side gives your information about digestive health, the health of the acquired postnatal Qi, and Qi overall.

You can see that the Left is wiry and without root. It was springtime when this document was written, so a little wiry is to be expected, but this is above normal. It is also rootless indicating deficiency of organs, overall constitution, prenatal essence or blood.

The right has more root, so there's a balance difference between the left and right overall.

- The upper jiao is tense and rootless overall indicating a deficiency and deep indicating an interior condition. The middle jiao is slippery probably indicating dampness, forceful possibly indicating excess, but wiry showing **Qi stagnation** and rootless indicating an underlying deficiency. Nothing consistent in the 3rd/lower jiao positions felt on both sides, so nothing was recorded.

- The principle positions
  - Left/distal – heart
    Tense, rootless, slippery.
    Will Morris interpreted this as **phlegm misting the heart**, indicated by the tension and slipperiness.

  - Right distal – lung
    Thready, rootless, and slightly slippery.
    Will's interpretation was not a blood deficiency, but a **Lung Yin xu**.

  - Left middle – liver
    Harder than distal, slippery at blood level. Rootless.
    Remember the left was wiry overall as well. Will interprets this a **Qi stagnation of the Liver**. Slippery indicates not just dampness, but an obstruction somewhere which causes turbulence in the blood stream instead of the normal smooth flow. Qi stasis can cause this as well as dampness. Rootless/deficiency underlying.

  - Right middle – spleen
    Wiry, slippery/forceful at the blood level, rootless. Again, **Qi stagnation affecting the Spleen/**, damp accumulation, underlying spleen qi deficiency..

  - Left proximal – kidney yin
    Urgent, but forceless/rootless. Slippery.
    This was interpreted as empty heat – **urgency** indicating **heat**, but weak and

forceless indicating deficiency. Added up: **Kidney Yin Deficiency**

- Right proximal – kidney yang
  Urgent and forceful. **Urgent** indicates some **heat** and force is excess.

Overall there's a lot of forcelessness indicating **Qi deficiency**.

Second Step:

This is a step in which you build a flowchart of what you see and what is causing what. This is true data interpretation. Write down the broad things you see in your analysis of the pulse positions. For instance, if you saw Qi deficiency in the Kidney, the Spleen, and Lung, you'd write down "Qi xu – KI, SP, LU" rather than having 3 separate entries.

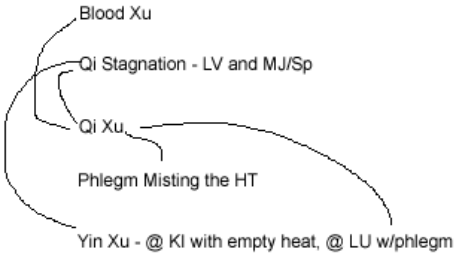
Using our example "Patient X", the mini-flowchart would show:

Blood Xu
Qi Stagnation – LV and MJ/Sp
Qi Xu
Phlegm Misting the HT
Yin Xu - @ KI with empty heat, @ LU w/phlegm

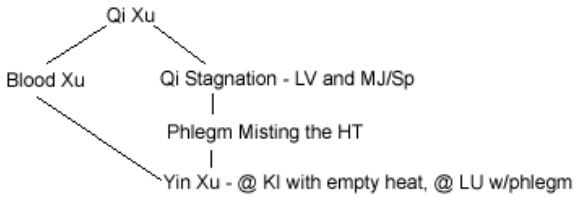
Third Step:

Think about what caused what. Looking at our sample patient, notice the Qi deficiency. Qi deficiency can cause blood deficiency as well as Qi stagnation and the damp signs (phlegm in the Lung and Phlegm Misting the Heart). Could the Qi stagnation have generated enough heat to begin damaging Yin? Seems pretty likely.

Take your mini-flowchart and draw some lines on it indicating what led to what to make the picture clearer in your head. Arrow heads are a challenge in my wimpy graphics package. Sorry about that.



That's kind of a train-wreck and hard for me to wrap my brain around, so I take it one step further and do this:



Arrow heads or not, it's looking like the Qi deficiency could be the root of all evil. This is the root of the problem while the other manifestations are the branches. Your treatment plan should therefore address Qi deficiency.

Using What You've Gathered

Your final step is using what you've gathered. Obviously, unless you become a pulse guru (which takes a lifetime of study), you are not going to use this information in isolation. Combine what you learn in the pulses with tongue diagnosis, observation, listening, palpation, etc. Use the pulse data to drive your questions to your patients and you will find you are asking more meaningful targeted questions and getting better data back from your clients.