

Function of the Liver and Gallbladder in TCM

Allison Bailey, MD

The Liver

- ❖ The Liver is often compared to an army general because it is responsible for overall planning of the body's functions by ensuring the smooth flow and proper direction of Qi



Functions of the Liver

- ❖ Stores blood
- ❖ Ensures the smooth flow of Qi
- ❖ Controls the sinews
- ❖ Manifests in the nails
- ❖ Opens into the eyes
- ❖ Controls tears
- ❖ Houses the Ethereal Soul (Hun)
- ❖ Affected by anger

Other Liver Relationships

- ❖ Its smell is rancid
- ❖ Its color is green
- ❖ Its taste is sour
- ❖ Its climate is wind
- ❖ Its sound is shouting

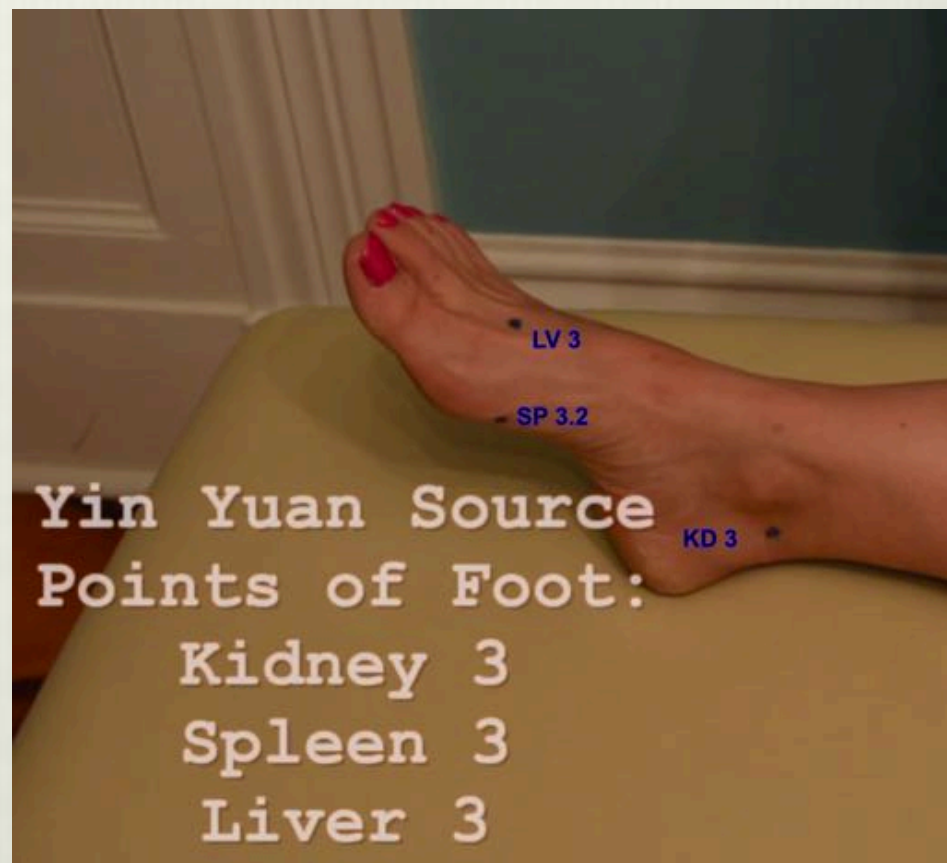


The Liver Stores Blood

- ❖ The Liver is the most important organ for storage of blood
- ❖ **Regulates the volume of blood** in the body according to physical activity
 - ❖ With activity, blood is directed to muscles & sinews
 - ❖ With rest, blood returns to the liver
 - ❖ Important influence on a person's energy level
 - ❖ Indirectly influences resistance to external pathogenic factors
 - ❖ TCM approach: Nourish Liver-Blood with **St36, Liv8 & Sp6**

The Liver Stores Blood

- ❖ Liver function of storing blood **influences menstruation**
 - ❖ Influences Ren Mai and Chong Mai
- ❖ If Liver-Blood is normal-regular normal menses
- ❖ If Liver-Blood is deficient-amenorrhoea/oligomenorrhoea
- ❖ If Liver-Blood is in excess or hot-heavy menses
- ❖ If Liver-Blood is stagnant-painful menses
- ❖ TCM approach: **St36, Liv8, Sp6** and **CV4**
- ❖ **Liv3** also important in regulating Ren Mai and Chong Mai



The Liver Stores Blood

- ❖ Liver-Blood **moistens the eyes and sinews**
 - ❖ If Liver-Blood is deficient, patient may have dry eyes and/or blurry vision
 - ❖ If Liver-Blood has heat, the eyes may become red and painful
- ❖ Liver-Blood moistens and nourishes the sinews (tendons, ligaments, cartilage), essential for the proper functioning of all joints
 - ❖ If this fails, there may be muscle cramps and contraction of tendons
 - ❖ If Liver is affected by Internal Wind, there will be tremor or convulsions (shaking of tendons)

The Liver ensures the smooth flow of Qi

- ❖ Most important of all of Liver's functions
- ❖ Impairment of this function is very commonly seen in clinical practice
- ❖ Normal direction of movement of Liver-Qi is partially upwards and partially outwards in all directions to ensure the smooth and unimpeded flow of Qi everywhere
 - ❖ Helps Stomach-Qi to descend and Spleen-Qi to ascend
- ❖ Affects emotional state, digestion, and secretion of bile

The Liver ensures the smooth flow of Qi

- ❖ In relation to emotional state:
 - ❖ **Ensures a balanced emotional life**
 - ❖ Primarily a function of the Ethereal Soul
 - ❖ Proper coordination and integration between the Ethereal Soul (Hun) and the Mind (Shen)
 - ❖ If Qi is obstructed, gives rise to frustration, depression or repressed anger and associated physical symptoms
 - ❖ TCM approach: **Liv 3**
 - ❖ Reciprocal relationship:
 - ❖ Improper Liver function leads to emotional tension
 - ❖ Anger/frustration lead to impaired Liver function

The Liver ensures the smooth flow of Qi

- ❖ The smooth flow of Liver-Qi assists the Spleen and Stomach in digestion
- ❖ If Liver-Qi becomes stagnant or horizontally rebellious
 - ❖ It may invade the Stomach preventing the downward movement of Qi causing belching, sour regurgitation, nausea or vomiting.
 - ❖ It may invade the Spleen preventing Spleen Qi from rising causing diarrhea
- ❖ TCM approach: Use **Liv 14** for the Stomach, **Liv 13** of Spleen, both with **CV 12**

The Liver ensures the smooth flow of Qi

- ❖ Ensures the flow of bile
- ❖ If Liver Qi flows smoothly, bile is secreted properly and digestion is good
- ❖ If Liver-Qi is stagnant, the flow of bile may be obstructed, resulting in bitter taste, belching, jaundice, and inability to digest fats
- ❖ TCM approach: **Liv 14** and **GB 34**

The Liver controls the sinews

- ❖ The Liver nourishes the sinews which includes tendons, cartilage and ligaments
 - ❖ Affects our capacity for physical movement, ensures movement of the joints
- ❖ If Liver-Blood is normal-sinews will be moistened and well nourished, smooth movement of joints, good muscle action
- ❖ If Liver-Blood is deficient-the sinews lack moistening causing contractions, cramping, numbness/tingling
- ❖ If Liver-Blood stagnant-stiffness, rigidity, joint pain
- ❖ If Liver-Wind develops-tremors or convulsions

The Liver controls the sinews

- ❖ Neurological convulsions: Liver-Wind
 - ❖ Shaking of the tendons
 - ❖ Febrile seizures=Heat stirring Liver-Wind
- ❖ Liver (tendons, ligaments, cartilage) and Spleen (muscles of the limbs/skeletal muscles) closely related
 - ❖ Weakness of the limb muscles related to Spleen
 - ❖ Cramps, contractions, joint stiffness related to Liver
- ❖ TCM approach: **GB 34**, the Gathering Point for sinews

GB34



On the lateral aspect of the lower leg, in the depression anterior and inferior to the head of the fibula.

The Liver manifests in the nails

- ❖ The nails are considered a by-product of the sinews
- ❖ Under the influence of Liver-Blood
- ❖ If Liver-Blood normal-moist healthy nails
- ❖ If Liver-Blood is deficient-dry, brittle, cracked
- ❖ If Liver-Blood is stagnant-nails will be dark or purple

The Liver opens into the eyes

- ❖ Liver-Blood nourishes and moistens the eyes, giving them the capacity to see
- ❖ Liver-Blood normal-eyes will be moist and vision will be good
- ❖ Liver-Blood deficient-blurry vision, myopia, dry eyes
- ❖ Liver-Yin deficient-dry, gritty eyes
- ❖ Liver-Blood stagnant-painful eyeball
- ❖ Liver-Yang rising-watery eyes
- ❖ Liver-Fire-dry, bloodshot, red, swollen, painful eyes
- ❖ Liver-Wind-eyeball moving (nystagmus)

The Liver controls tears

- ❖ Tears are the fluid related to the Liver
- ❖ In particular, the basal tears (lubricate the eyes) and reflex tears (when a foreign body enters the eyes), rather than the emotional tears
- ❖ Liver-Blood or Liver-Yin deficiency may cause dryness of the eyes
- ❖ Liver-Yang rising may cause watery eyes

The Liver houses the Ethereal Soul

- ❖ The Ethereal Soul (Hun) is the mental-spiritual aspect of the Liver and is Yang in nature
- ❖ At death Hun survives the body to flow back to a world of subtle, non-material energies
- ❖ Influences the capacity of planning our life and finding a sense of direction in life
- ❖ If the Liver is healthy, the Ethereal Soul is firmly rooted and can help us plan our life with wisdom and vision
- ❖ If Liver-Blood is weak, the Ethereal Soul is not firmly rooted and cannot give a sense of direction in life

Hun vs. Po

- ❖ Ethereal Soul
- ❖ Liver
- ❖ Controls Yang spirits
- ❖ Light, subtle
- ❖ Continues to exist after death of the body
- ❖ Formless consciousness
- ❖ Three treasures: Jing, Qi, Shen
- ❖ Corporeal Soul
- ❖ Lung
- ❖ Controls Yin spirits
- ❖ Dense, physical
- ❖ Dissolves with the body at the time of death
- ❖ Tangible consciousness
- ❖ Sensory perception: of the eyes, ears, nose, mouth

The Liver is affected by anger

- ❖ Anger is the emotion that is closely related to the Liver
- ❖ Anger causes stagnation of Liver-Qi, especially when it is repressed
- ❖ Anger that is vented causes Liver-Yang rising or Liver-Fire
- ❖ Relationship is mutual: state of anger causes Liver pathology and a Liver pathology may cause someone to be frustrated/irritable

The Five Element Human Emotions

- ❖ Heart (FIRE): **Excitement** makes the Qi scatter and becomes chaotic
- ❖ Stomach (EARTH): **Worry** makes the Qi become stagnant
- ❖ Lungs (METAL): **Grief** causes the Qi to become exhausted
- ❖ Kidneys (WATER): **Fear** causes Qi to descend
- ❖ Liver (WOOD): **Anger** forces the Qi to rise upward and concentrate

The Healing Transcendent Emotions

- ❖ Heart (Fire): **Happiness & Love** slows, warms and opens the Heart
- ❖ Stomach (Earth): **Learned Instinct** moves you in the right direction
- ❖ Lung (Metal): **Gratitude** lightens grief
- ❖ Kidney (Water): **Wisdom** calms fear
- ❖ Liver (Wood): **Human Kindness/Compassion** pacifies anger

Other Liver Relationships

- ❖ The Liver's smell is rancid
- ❖ The Liver's color is green: may cause greenish complexion
- ❖ The Liver's taste is sour: a person who experiences sour taste may indicate a Liver pathology
- ❖ The Liver's climate is wind: person with Liver disharmony often complains of being badly affected by wind
- ❖ The Liver's sound is shouting

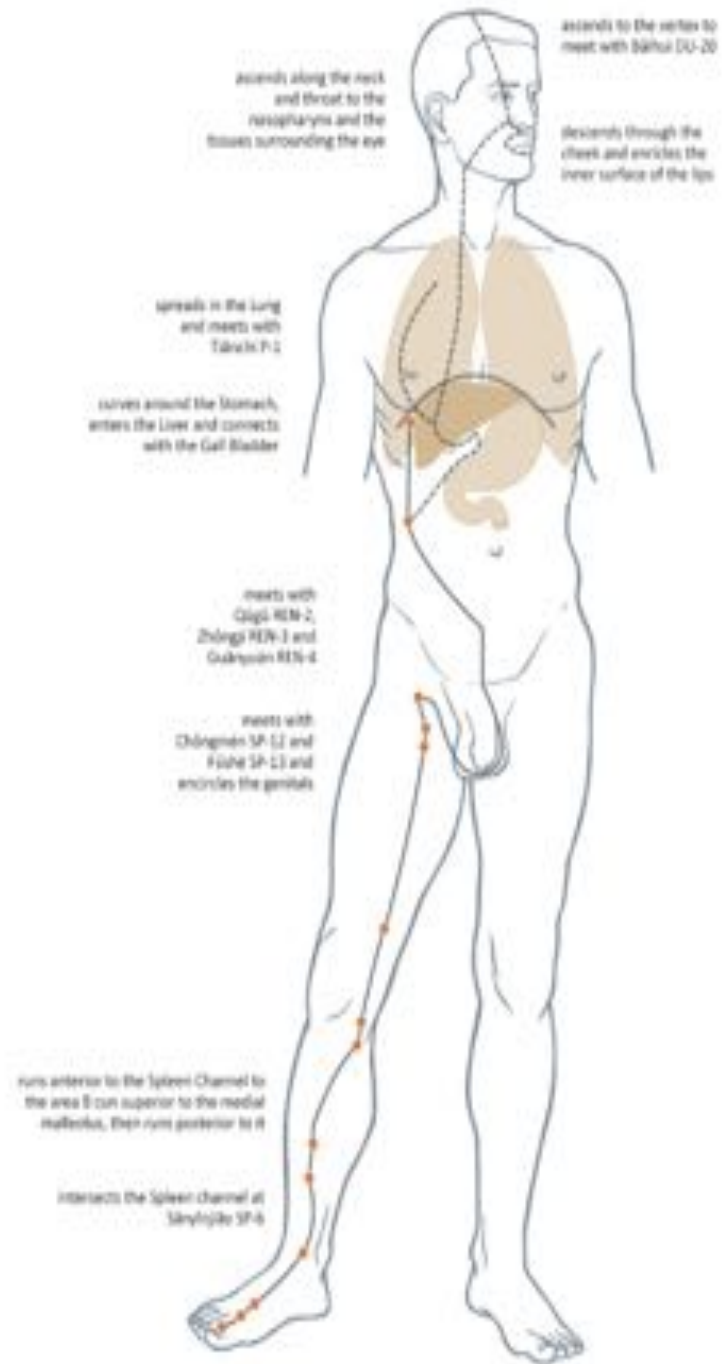
Causes of Liver Imbalance

- ❖ Dietary causes
 - ❖ Excess consumption of hot-energy foods such as red meat, spices, alcohol
 - ❖ Excess consumption of greasy, fatty foods, such as dairy products, fried foods
- ❖ Medications
- ❖ Over use of herbs/supplements
- ❖ Emotional causes
 - ❖ Stress
 - ❖ Anger, frustration, resentment
- ❖ Hormonal imbalance
- ❖ Medical conditions affecting the liver
 - ❖ Hypercholesterolemia
 - ❖ Hepatitis
 - ❖ Fatty Liver

Diagnosis of Liver Disorders

- ❖ Patients do not often seek acupuncture treatment specifically for Liver imbalance
- ❖ May present with a large spectrum of complaints related to the Liver (headache, joint pain, tendonitis, GYN problems, hormone imbalance, digestive complaints)
- ❖ Treatment of underlying Liver disorder allows for healing of patient's chief symptomatic complaint
- ❖ Abdominal palpation leads us to diagnose Liver disharmony

PRIMARY CHANNEL



Abdominal Palpation for Liver disorders

- ❖ Pressure pain in the left St 26-27 region: Stagnation of Blood in the Abdomen (Oketsu)
- ❖ Pressure pain, especially sharp pain, at the right Liv 14 indicates Liver excess
- ❖ Lightly pinch skin in the region of right Liv 14
 - ❖ Edema, thicker skin here compared to left side and/or dull pain or numbness indicates Liver deficiency
- ❖ Pressure pain or tightness under the right ribcage=liver excess disorder related to chemical exposure or internal liver disease

Back palpation for Liver disorders

- ❖ Pressure pain and tightness at Left Bl 35 indicates rectal vein congestion
- ❖ Right Liver Shu (Bl 18) and diaphragm Shu (Bl 17) are tighter than on the left side (Region)
 - ❖ Swollen Liver pushes on the diaphragm
- ❖ Tension/stiffness in the right posterior neck and shoulder area may indicate Liver imbalance
- ❖ Pressure pain at the right Huato Jiaji point of C3 is associated with Liver deficiency
 - ❖ Patients may present with both excess and deficiency

Oketsu – Left St26-27 region



Oketsu

- ❖ Stagnation of Blood in the Abdomen
 - ❖ Due to surgery, bruising, chronic medication or drug use, respiratory disorders, hormonal imbalance, infections, high fever
 - ❖ Lu 5 may be more influential point on Oketsu if Immune/Respiratory is predominant cause
 - ❖ Use bilateral Lu 5 with Left Lv 4 in this case
- ❖ Related to rectal vein congestion (may also be associated with pressure pain at Left BL35) with toxins absorbed in blood caused by chronic constipation.

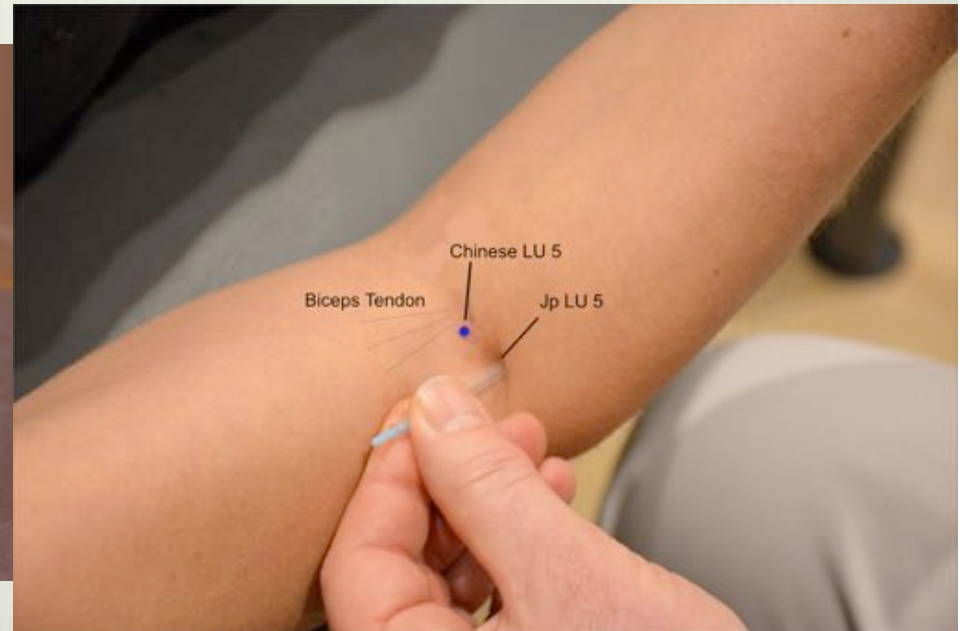
Palpatory Release of Oketsu with Lv4



Needle goes in same as
the finger



Left Lv 4 with Lu5



Liver Excess

- ❖ According to Master Nagano, there are two types of Liver excess
- ❖ Pressure pain at Liv 2 (Fire Point) indicates excess in the Liver channel
 - ❖ Tendonitis, uterine fibroids, prostatitis
- ❖ Sharp pain to palpation at Liv 14 and/or swelling or pressure pain in the right subcostal area indicate excess in the Liver Organ
 - ❖ Elevated liver enzymes, diabetes, hepatitis, hypercholesterolemia, overuse of alcohol/drugs, chemo/XRT, highly stressed emotional state

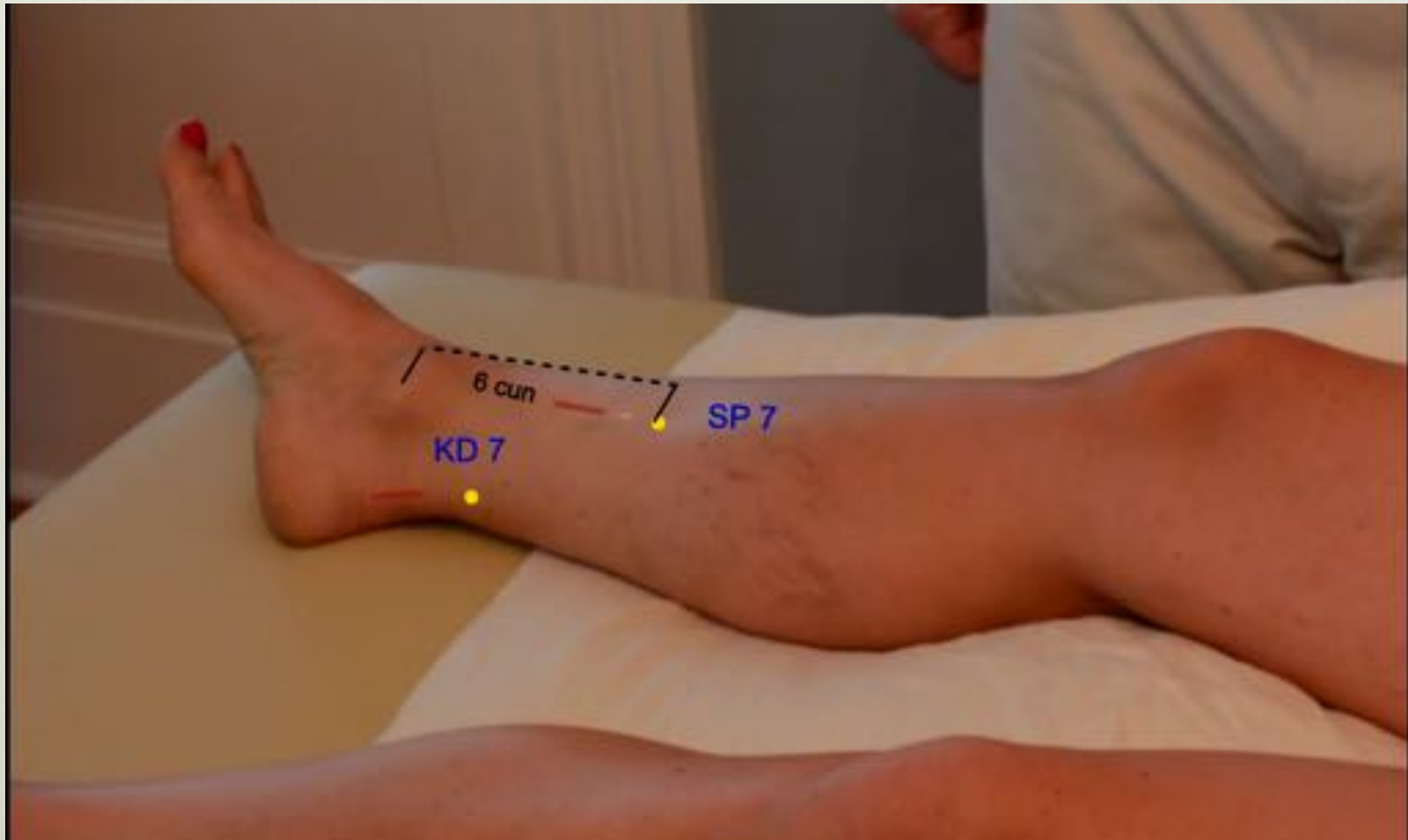
Liver channel excess treatment

- ❖ Excess in Liver Channel (pressure pain at Liv 2)
- ❖ Treat Metal (Liv 4) Water (Liv 8) points
- ❖ Liv 4 needled at 15-45 degree angle upwards with the flow of the meridian
- ❖ Liv 8 needled perpendicularly

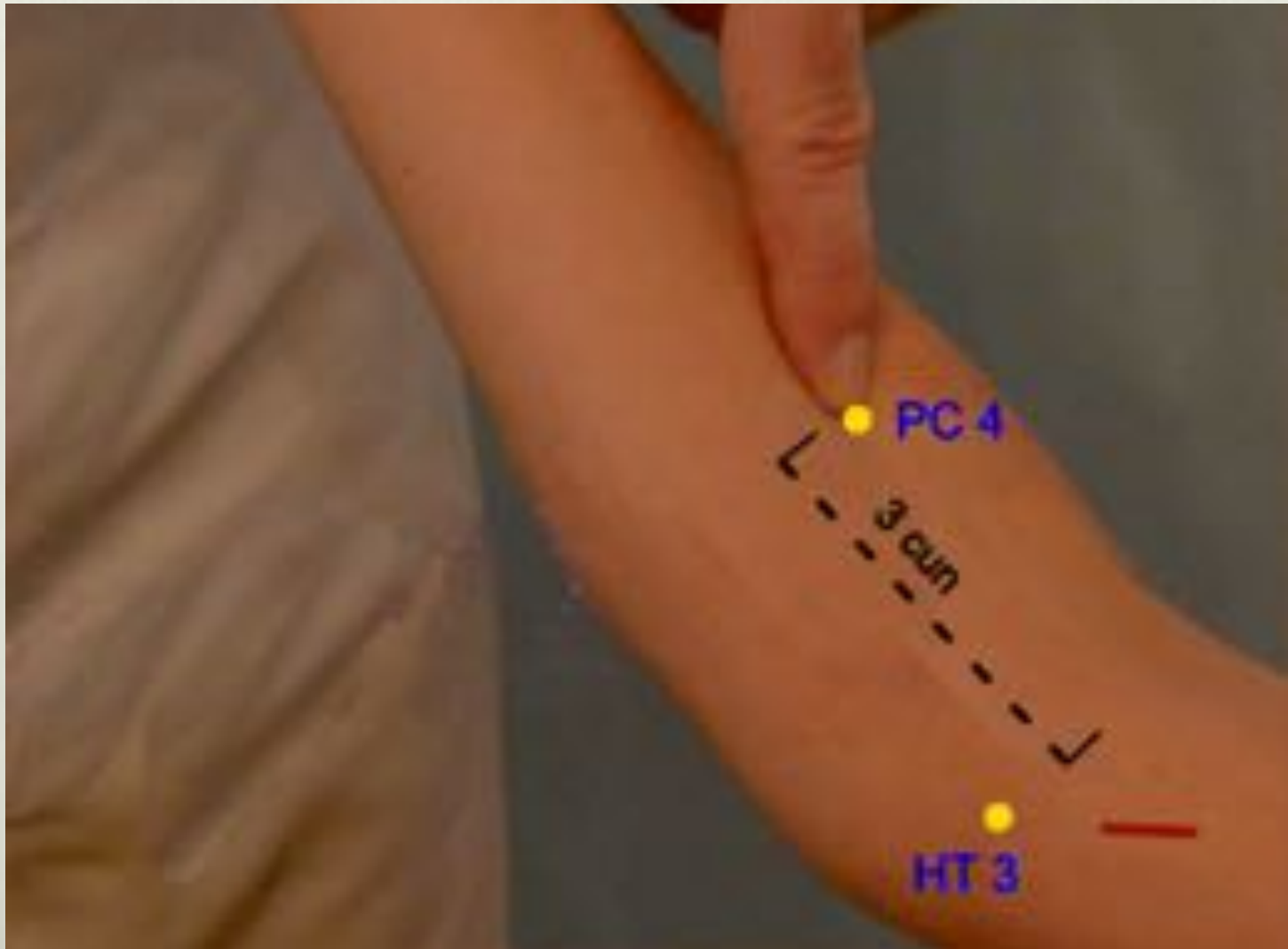
Liver organ excess treatment

- ❖ Kid7, Sp7, Ht3 and Japanese PC4 on the right side of the body only
- ❖ Kid7 is needled at 15-45 degrees with the flow of the meridian
- ❖ Sp7 inserted at 45 degrees with the flow of the meridian
- ❖ Ht3 and Japanese PC4 needled at 15-45 degrees with the flow of the meridian
- ❖ Add Right Liv 13 (Spleen Mu) if still pp at Liv 14

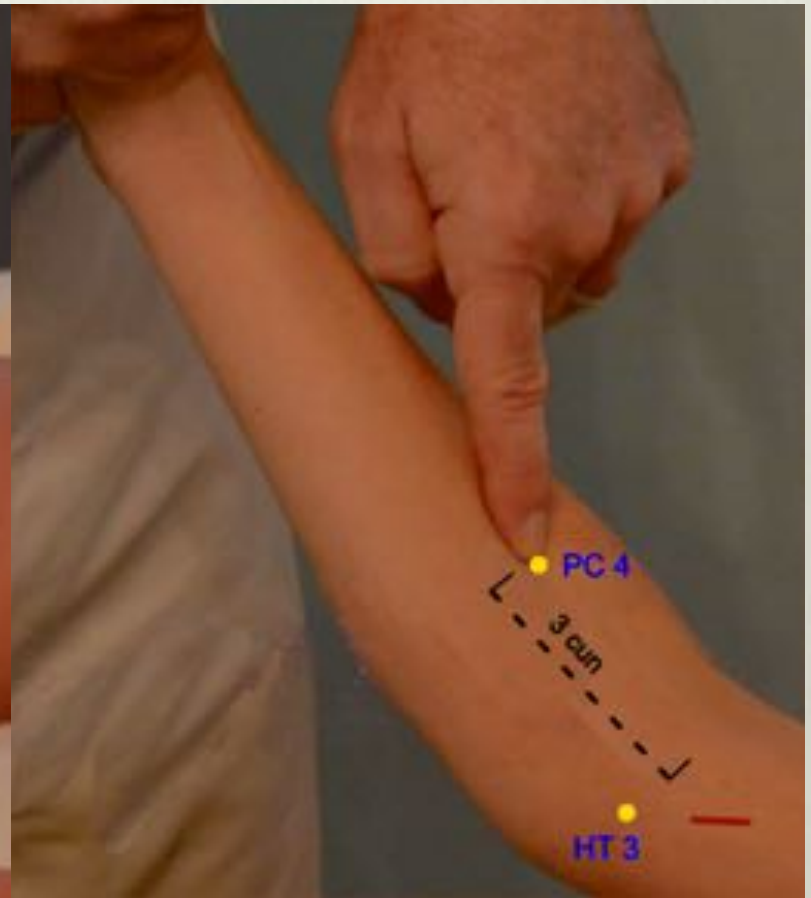
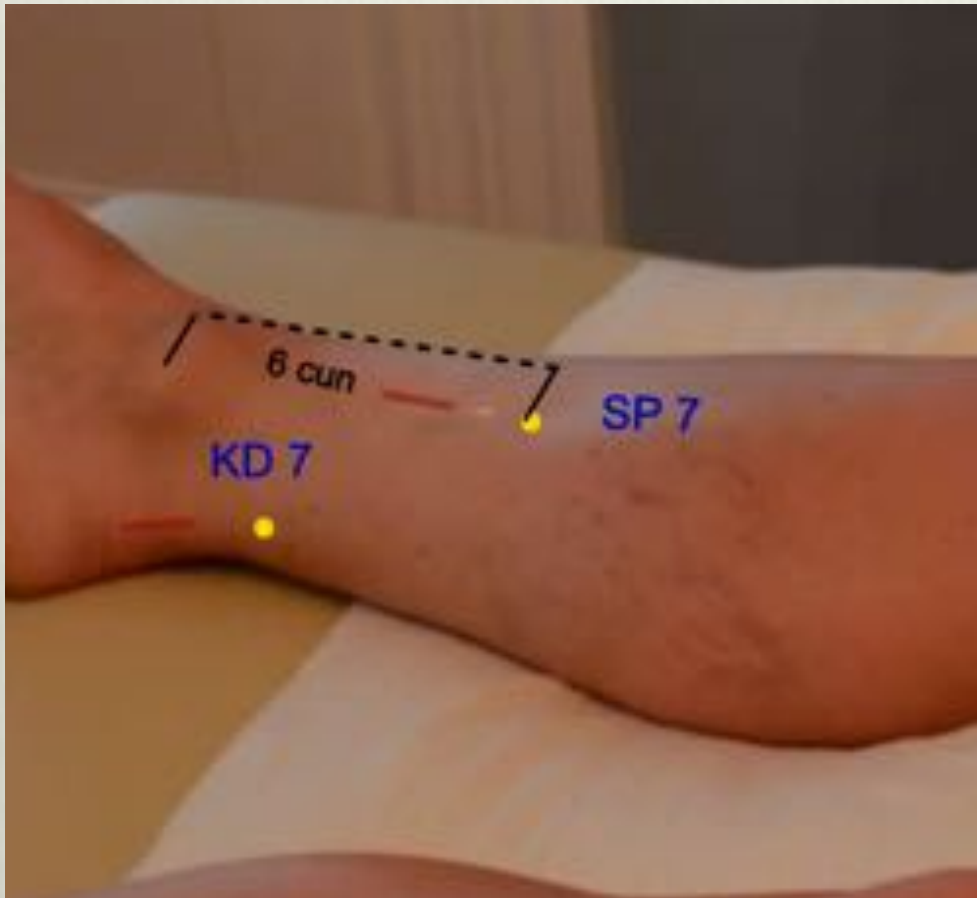
Liver Excess Treatment: Right Leg



Liver Excess Treatment: Right Arm



Liver Excess Treatment



Liver organ excess treatment

- ❖ If Liv 14 is tender but there is no pain, swelling in the right subcostal area and liver enzymes are normal
 - ❖ Treat Liv 3, needled perpendicularly or at 45 degree angle with the flow of the meridian
- ❖ Angular cheilitis: considered by Master Nagano to be Liver excess
 - ❖ Treated with bilateral Liv 3 and Sp 3.2

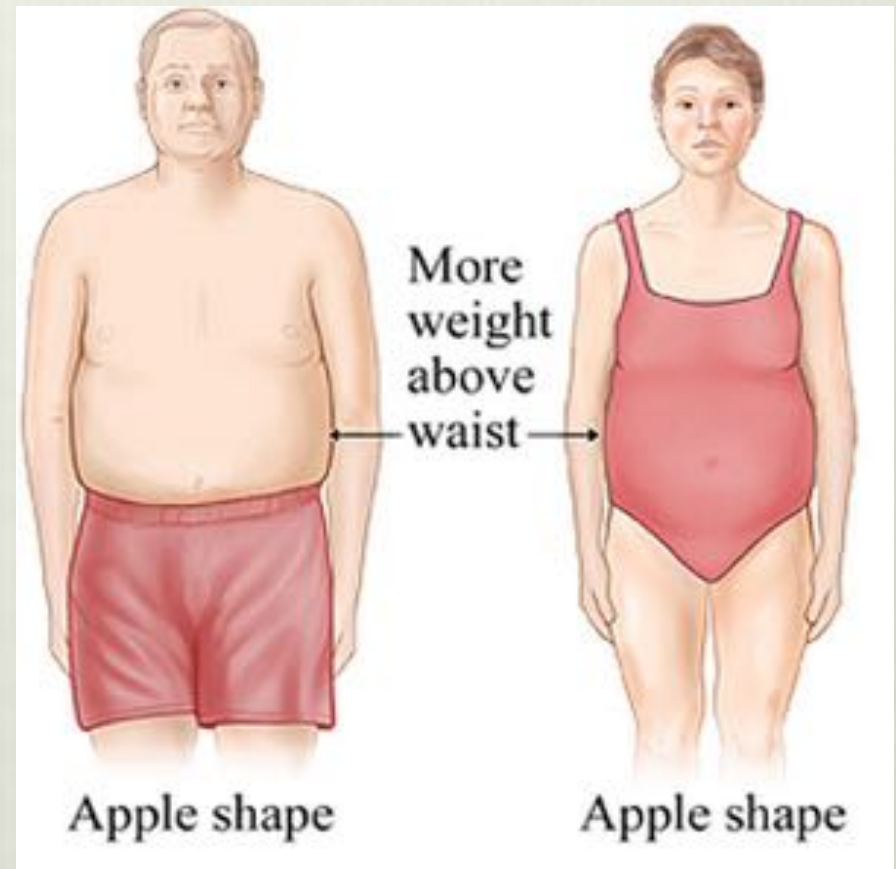
Liver deficiency

- ❖ Presentation: blood thinner medications, itchiness without a rash, muscle/ligament pain in mid-back, shoulder region (BL 43, gao huang shu)
- ❖ Diagnosis: Tightness or pressure pain at right C3, thick skin/edema at right LV 14
- ❖ Treatment: LV 1: 4 possible locations, mainly on right side but sometimes bilateral treatment needed
 - ❖ LV 1 is Wood on Wood point
 - ❖ Called Horary Point, very nourishing or tonifying for an organ



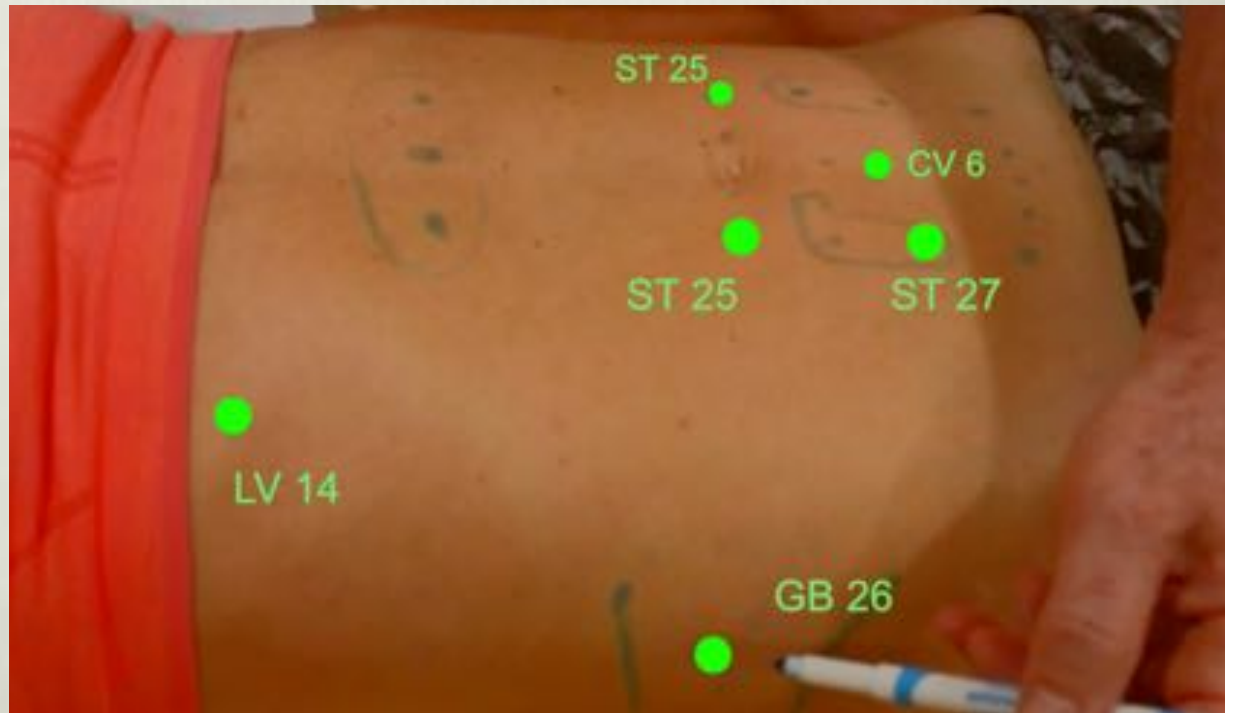
Fatty Liver

- ❖ Often seen in obese patients with fat metabolism issues
- ❖ Palpatory findings
 - ❖ Pressure pain may be found under the ribs on right often only found when patient inhales
 - ❖ Western medical diagnostics often helpful



Nagano's Fatty Liver Treatment

- ❖ Needle and/or Moxa:
 - ❖ Right Liv14
 - ❖ Left GB26
 - ❖ Bilateral St25 and St27
 - ❖ CV 6
 - ❖ Can add LV 13 Spleen Mu



The Gallbladder

- ❖ Only Yang organ that does not deal with food, drink and their waste products
- ❖ Stores bile, a refined product
- ❖ Does not communicate with the outside via orifice
- ❖ One of the six extraordinary Yang organs
- ❖ Gallbladder is said to influence the capacity for making decisions and courage

Functions of the Gallbladder

- ❖ The Gallbladder stores and excretes bile
- ❖ The Gallbladder controls decisiveness
- ❖ The Gallbladder controls the sinews

Stores and Excretes Bile

- ❖ Receives bile from the Liver, which it stores, ready to excrete when needed during digestion
- ❖ Only Yang organ that stores a “clean” fluid such as bile, the purity of bile was stressed by the classics
- ❖ Bile then enters the intestines to aid in digestion
- ❖ The flow of bile depends on the free flow of Liver-Qi
- ❖ The smooth flow of bile aids the Stomach and Spleen in digestion
- ❖ When Liver-Qi is stagnant and bile does not flow smoothly, the function of the Spleen and Stomach are impaired

Controls Decisiveness

- ❖ Controls the capacity to make decisions
- ❖ Liver controls the ability of planning one's life
- ❖ These two functions must be harmonized so we can plan and act accordingly
- ❖ “The Gallbladder is like an impartial judge from whom decisiveness emanates”
- ❖ Gallbladder pathology makes one indecisive

Controls the Sinews

- ❖ Almost identical to the Liver's function
- ❖ Slight difference is that the Liver nourishes the sinews with Liver-Blood and the Gallbladder provides Qi to the sinews to ensure their proper movement and agility
- ❖ The Gathering Point for Sinews is GB 34

Mental aspects of Gallbladder

- ❖ Besides decisiveness, the Gallbladder gives courage and initiative, ability to make changes
- ❖ The ascending of Gallbladder-Qi stimulates the ascending and free flow of Liver-Qi on a mental level
- ❖ If this function is lacking, the person will be depressed
- ❖ If this movement is excessive, the person will be manic
- ❖ Gallbladder influences the quality and length of sleep, deficiency can cause early morning awakening

Relationship with Liver

- ❖ Liver and Gallbladder depend on one another to perform their respective functions
- ❖ The Gallbladder function of storing and excreting bile depends on the Liver function of the smooth flow of Qi
- ❖ The Liver relies on Gallbladder-Qi to aid its function of the smooth flow of Qi
- ❖ Ascending of Liver-Qi relies on Gallbladder-Qi
- ❖ Liver's influence of planning our life depends on the Gallbladder's capacity to help make decisions

The Gallbladder Channel

- ❖ Regulation of Autonomic nervous system
 - ❖ Points on the Gallbladder meridian are used with Triple Warmer points in the Shao Yang treatment
- ❖ Inflammatory Conditions
 - ❖ Points on the Gallbladder meridian are often used to treat inflammatory problems, such as tendonitis, pelvic inflammatory disease, cholecystitis
- ❖ Structural imbalances of the lateral aspect of the body
 - ❖ Dai Mai, hip and piriformis muscle pain

Gallbladder Points

- ❖ GB31: Lateral aspect of the thigh 7 cun superior to the popliteal crease (or where tip of middle finger reaches) on the IT band or about one inch posterior
- ❖ Releases piriformis muscle
- ❖ Treats GYN issues such as PID, endometriosis and/or prostatitis in men



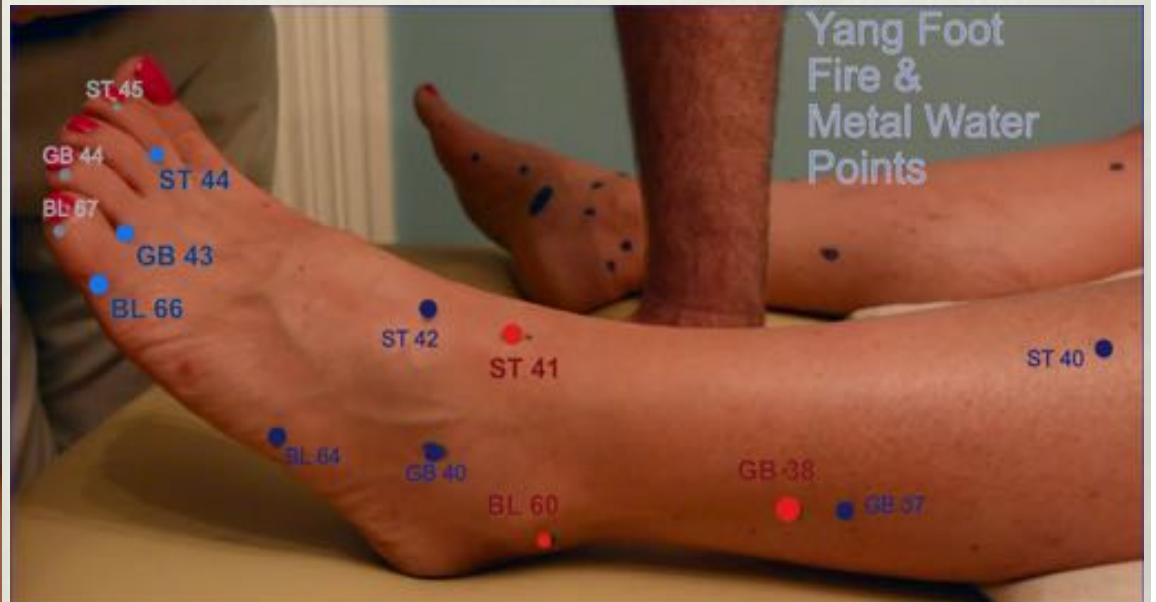
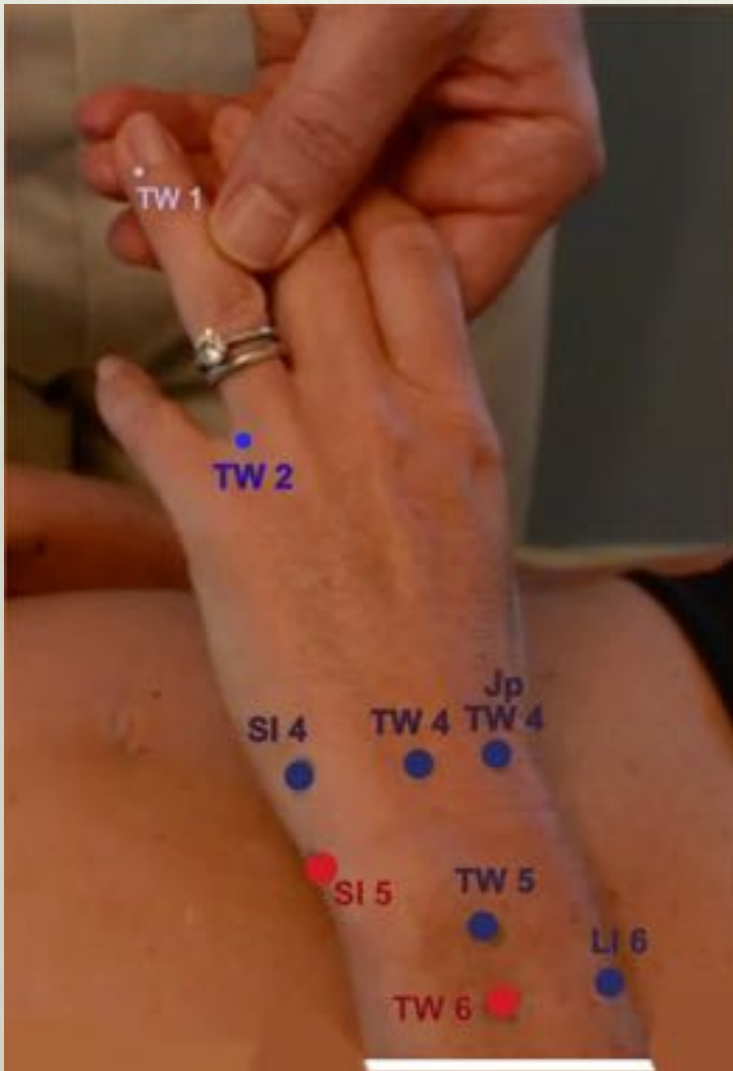
Gallbladder Points

- ❖ GB34: On the lateral aspect of the lower leg, in the depression anterior and inferior to the head of the fibula.
- ❖ Used to treat CTS, wrist tendonitis
- ❖ Weakness or atrophy of the lower extremity due to stroke



Cholecystitis Treatment

- ❖ Right Metal Water points of the Gallbladder and Triple Warmer meridians
 - ❖ Gallbladder metal: GB44
 - ❖ Dorsal aspect of the 4th toe at the proximal lateral corner of the nail
 - ❖ Gallbladder water: GB43
 - ❖ Between the 4th and 5th toe half a cun proximal to the margin of the web
 - ❖ Triple warmer metal: TW1
 - ❖ Dorsal aspect of the 4th finger at the lateral corner of the nail
 - ❖ Triple warmer water: TW2
 - ❖ Dorsal aspect of the hand at the proximal end of the web between the 4th and 5th fingers



Important Points

❖ Liv1

❖ Liv2

❖ Liv3

❖ Liv4

❖ Liv8

❖ Liv14

❖ GB26

❖ GB31

❖ GB34

❖ GB43

❖ GB44