

An Introduction to Contemporary Chinese Pulse Diagnosis

by Ross Rosen and Brandt Stickley

There are many models of pulse diagnosis practiced within East Asian Medicine. Contemporary Chinese Pulse Diagnosis (CCPD) employs a 3-depth model, as such; it incorporates earlier models from the Nei Jing, Li Shi Zhen (1564), and Zhang Jie Bing (1624).

Like the Nei Jing Su Wen model, Yin organ energetics are emphasised. Therefore the Yin organs (Heart, Liver, Lung, Kidney Yin and Kidney Yang) and the Stomach are seen as the significant energetic factors and are assigned the 6 pulse positions (Ni 1995, p. 47). Incorporating the three depths, the Qi depth represents the contribution of each Yin organ to the total Qi of the organism; the Blood depth, the blood; and the Organ depth relays information of the organ itself.

Other similarities are found in the organization of pulse positions. The Nei Jing model posits a holographic representation of the physical form at the radial artery, with the distal positions reflecting the chest, the middle positions the epigastrium to the abdomen and the proximal positions the abdomen to the feet. (Ni 1995, p. 69) Li Shi Zhen (1564) views the pulse similarly with his model of the Three Burners (Li 1985, p. 3). Li also describes palpation of the superficial, middle and deep aspects of the pulse (Li 1985, p. 5). These considerations have likewise become the standard model used in contemporary China.

Zhang Jie-Bing's (1624), location of the sternum at the right distal position anticipates Dr Shen's diaphragm position (Zhang 1624; Hammer 1993). It is also interesting that Zhang Jie-Bing similarly notes the Large Intestine in relationship to the left proximal pulse and the Small Intestine in relationship to the right proximal pulse, though in a more superficial position (Zhang 1624, Hammer 1993). Dr Shen's positioning of the Pericardium is also similar to Zhang Jie-Bing. But perhaps the most intriguing aspect of this pulse system lies in the story of the two men associated with its development in modern times. Dr John HF Shen and Dr. Leon Hammer, M.D. are listed in Volume I of the AAAOM's 'Pioneers and Teachers AAAOM Historical Project'. Their association lasted for over 28 fruitful years, until Dr Shen died in 2000.

Dr Shen trained in the lineage of the Ding tradition, both as a formal student in the Shanghai College of Chinese Medicine (Scheid 2007, p. 394) and as an

apprentice in this important current of medical scholarship. After he joined the intellectual exodus from China prompted by the Communist revolution, he continued to practice in Taiwan and Southeast Asia. Whilst in Vietnam, he is believed to have encountered a pulse tradition passed down from father to son in the Mekong delta. The model documented in *Fourth Uncle in the Mountain* is strikingly similar to that of Dr Shen. The pulse positions described in this text are nearly identical to that used in CCPD (Quang 2004, pp. 120-122).

Contemporary Chinese Pulse Diagnosis is the result of Leon Hammer's refinement of the pulse system which he inherited through the tutelage of Dr John Shen. With 80 qualities, 6 Principal positions, 22 Complementary positions, and 8 Depths it offers an extraordinary amount of information about a person's past, present and future health. The capacity to realise Chinese medicine in such depth and breadth has inspired many practitioners who seek this realisation to master its complexity.

As described by Dr Leon Hammer, "The Normal pulse is a sensitive and precise measurable standard of health. It enables us to detect early deviations from health. It provides us with a preventive medicine. All of these capabilities are almost completely lacking in our modern health care system" (Hammer 1993). The significance of this statement lies precisely in the capacity of the pulse to become a tool for preventive medicine, and as an evolving means of incorporating expanding bodies of knowledge into the rich framework of traditional Chinese Medicine in the service of this ideal. Another point demonstrating the importance of a sophisticated system of pulse diagnosis is the degree to which it renders intelligible even the most knotty, complex and chronic conditions across the entire spectrum of the body-mind. As Zhu Dan-Xi states, "If a physician intends to determine whether the blood and Qi are diseased or not, they have no other way to obtain that knowledge than by palpating the pulse" (Zhu 1994, p. 12).

The following article illustrates the clinical application of this pulse system in the diagnosis and management of a forty-three year old woman with multiple chronic complaints in the context of a unique asking, looking and listening diagnostic methodology that we name as

Contemporary Oriental Medicine (COM). In the article, the reader will note a few concepts they are perhaps unfamiliar with, in particular, Heart shock/trauma, and nervous system tense/weak. Heart shock is explained in more detail in the case, but for the sake of educating the reader, a brief description of the nervous system follows.

Dr. Shen's experience across many continents allowed him to formulate unique concepts. Like the architects of Wen Bing theory, he articulated his model using the energetic terminology of Zhang Zhong Jing. Thus, he equated the Taiyang with the lightest and fastest moving forms of energy, namely the nervous system (Hammer 2005, Ch. 14; Hammer 2005 Chinese Pulse Diagnosis, Ch. 15). This is not to confuse the Taiyang meridian, or the Taiyang stage with the systems model. The equivalent of the 'nervous system' in traditional Chinese medicine would be one of the singular organs, the sea of marrow, which is engendered and maintained by Kidney Essence; this refers to the substance of the central nervous system [brain, spinal cord].

The integrity of the 'nervous system' is the primary factor in the aetiology of all psychological disorders. No matter what the stress may be, if the 'nervous system' is vulnerable, there will inevitably be psychological conditions. If this type of energy, that Dr Shen calls the 'nervous system,' is strong, the stress is more likely to produce physical disorders than psychological, especially if another 'system' or organ is at risk. However, powerful stressors may overpower even the strongest resistance.

We will introduce here, two basic concepts including the nervous system tense and the nervous system weak. The principal symptom signifying nervous system tense is an ongoing tension that may or may not be related to a particular life stress, often found with tension uniformly over the entire pulse and a thin tight pulse at the Qi depth. A further differentiation can be made between a constitutional type, and that derived from lifestyle. Nervous system weak, a constitutional condition, is often found in a person who has a lifelong history of neurasthenia, one whose symptoms are always changing and who is highly vulnerable, unstable, and easily disturbed or stressed, and also subject to constantly fluctuating allergies. The disorder does not represent illness as much as physical and mental instability and vulnerability to illness.

CCPD is a sophisticated means of understanding the whole person. It reveals the patient's constitution, previous illnesses, early physiological insults, environmental stressors, trauma, lifestyle, emotions and behaviour. It also predicts future pathologies with accuracy. CCPD is rooted in the work of Dr. John HF Shen and developed by Leon Hammer, MD as

described in the book *Chinese Pulse Diagnosis: A Contemporary Approach*.

The following case study will examine the diagnostics of CCPD, especially in relation to understanding the entire individual using concepts from Contemporary Oriental Medicine (COM)TM and *Dragon Rises, Red Bird Flies* (DRRBF). It represents a unique synthesis and integration of the many facets of Chinese medicine, preserving classical concepts and making them accessible to modern practitioners in a industrial world. Indeed, some of the diagnoses made with CCPD have been found to be instrumental to the clinical success and outcomes involving Dr. Hammer's "blocks" to treatment (see note 1), one of which is examined below. Future case studies will examine some of the other common blocks found in modern practice and uncovered via the pulse.

Chief Complaints:

The patient is a 43 year old female presenting on September 25, 2007, with multiple complaints. First, she describes insomnia in which for at least five years, she wakes 3-4 nights each week at 3:00am feeling restless with a strong craving for crunchy food. This restlessness and craving prevents her from returning to sleep. She eats, usually cereal, which allows her to have a bowel movement. Only then can she return to sleep. This entire process takes an hour or more.

The patient is constipated and typically needs to relieve her bowels as described above. She suffers from acid reflux with a history of ulcer and has difficulty losing weight. She craves food, even if she has just eaten and her stomach is full. She has food sensitivities.

She complains of an overall feeling of imbalance. The patient is concerned of the above, and wants to prepare her body for pregnancy.

Current Health Status:

Despite questioning on all facets of her health, only the following issues were reported. Patient suffers from mild facial rosacea. She describes her energy as good, but admits that she "goes until I crash." After additional questioning, patient admits experiencing mental fog and fatigue. She denies emotional imbalance (although she appears nervous). She feels she was not nourished by her mother, who had no time for her due to juggling four siblings. She had no 'real' relationship with her father to whom she cannot relate. She often feels dizzy and disoriented with headaches 1-2 times each month around her premenstrual time. Her memory is poor. Her first period was at age 12; her cycle is irregular at 22-29 days, around 4 days of flow with dark red blood. There is no clotting. She had two pregnancies, one a miscarriage. Her daughter is three years old. She

previously had a positive mammogram with a negative biopsy and fibrocystic breasts.

Past Medical History

Her mother was 26 years old at conception; father age 32. Her mother took cortisone throughout pregnancy for a sun allergy, had mild nausea and food aversions during pregnancy, and experienced significant "homesickness." Her family was in Cuba and, during this time, her mother's sister was diagnosed with schizophrenia causing significant mental upset during the gestation. Her father smoked in the household during pregnancy. The patient was born a few days early via a natural onset vaginal delivery. Labour was prolonged. Birth was traumatic to her mother due to the extended labour (and mostly likely to the patient from a suspected breech presentation derived from the pulse). Patient was taken to the NICU. During infancy, she was bottle-fed. She was an insomniac and barely slept. As a child, she contracted German measles. Her parents' excessive conflict was stressful for her as the oldest of five children. At age 3, she was trapped under water after being knocked over by a wave at the beach. It took many years before she was able to submerge her head under water again and to this date must hold her nose. At age 20, she was involved in a motor vehicle accident which wrote-off her car, a severe shock, despite the lack of major injuries. At 26, she had chickenpox.

Diagnoses

Below is a list of many of the diagnoses taken from the pulse record. They are listed here for completeness, the major issues shown in bold. Within the scope of this article we must confine our discussion to the few major imbalances, (see appendix A for key).

Overall: 1. **Toxicity (mild)** [choppy on first impression]
2. **Qi stagnation with excess Heat** [tense, muffled] consuming Yin and creating **Yin deficiency** [tight]

Superficial: 1. Qi stagnation (moderate resignation) [cotton (2+) Above Qi depth]

Blood: 1. Heat [See depths]

Nervous System: 1. **Tense-weak** [thin and tight on left side, deep right proximal position]

Retained Pathogen(s): 1. Heat (moderate) [O-B;O-O: robust pounding (3)]

Heart: 1. Shock – Yin deficiency [hesitant wave]

2. **Blood deficiency (moderate to severe)** [change of rate with exertion (28)]

3. **Qi stagnation + trapped Qi in chest** (a different type of stagnation where qi in the chest is unable to escape), [inflated in distal positions] [Heart-Lungs][also suggests breech birth presentation]

4. **Depression with lack of joy (moderate to severe)** (muffled in left distal position)

5. Parenchymal damage (damage to the tissues themselves) [rough vibration in left distal positions]

6. Separation of Yin and Yang (mild to moderate), [intensity changing (3+), slightly low rate]

Lungs: 1. **Trapped Qi in chest** [inflated right distal position]

2. Yin-blood deficiency

3. Parenchymal damage, poor alveolar functioning [rough vibration in special Lung position]

4. Dampness

5. Neoplastic activity (moderate) [muffled]

Liver: 1. **Qi stagnation with excess Heat** (moderate +)

2. Neoplastic activity (moderate) [muffled (3)]

3. Qi deficiency (mild to moderate)

4. **Blood stagnation**; engorged distally (mild to moderate)

Digestive: 1. **Stomach Qi stagnation with excess Heat (moderate +)** [tense right middle position]

2. **Damp-Heat in the Stomach** [tense, leisurely]

3. **Spleen Qi deficiency (moderate) + parenchymal damage** [reduced substance right middle position + change intensity (2)]

4. **Esophageal Qi stagnation plus Damp-Heat** [inflated (2+), slippery]

5. **Large Intestine Damp-Heat; neoplastic activity (moderate)** [tense, slippery, muffled]

6. **Small Intestine Damp-Heat; parenchymal damage** [tense, leisurely, rough vibration]

Kidneys:1. **Blood stagnation in the tissues** [choppy]

2. Neoplastic activity (moderate)

3. **Qi-Yang deficiency (8th stage)** [deep right proximal position]

Pelvic: 1. **Impaired function** [thin, deep, change intensity]

2. **Inflammation + Damp-Heat** (reflecting gastrointestinal) [tight, tense, slippery]

3. **Neoplastic activity (severe)** [muffled (4)]

Correspondence of Major Signs & Symptoms

Symptom	Condition	Comments
Insomnia: wakes after 4 hours sleep and needs nourishment, especially something “crunchy.”	--Heart Yin and Blood deficiency (increased rate on exertion of 28 beats; smooth and rough vibrations) --Spleen-Earth deficiency --Could also be due to food stagnation. Her food craving (crunchy) at this time may be a signal to eat roughage to aid peristalsis	There are many different kinds of insomnia’s related to the Heart. Where the patient sleeps for 4-5 hours, wakes and cannot return to sleep is a Heart blood stagnation pattern; restless sleeping is a Heart Yin deficient pattern, etc.
Constipation	--Damp-Heat in Stomach [tense, leisurely] and Intestines (tense, slippery) --Trapped Qi in chest (inflated), (preventing Qi from descending to LI) --Nervous system (sympathetic)	Ecology (symptom informs us about the nature of imbalance and solution, i.e., move food and qi)
Feeling of Imbalance Denial	--Heart shock (rough vibrations over entire pulse) --Heart Yin and blood deficiency --DRRBF: Pericardium Yin excess drains Fire phase, --COM: Heart Qi & blood	While many aetiologies exist for the feeling of “imbalance,” based on her history and other patterns, the Heart shock and resultant destabilisation is the most obvious aetiology i.e., Imbalance with the Emperor results in chaos throughout the Zangfu.
Acid Reflux/Ulcer Rapid Hungering	--Stomach Heat -- Fire --Oesophageal stagnation plus -- Damp-Heat --Stomach Fire	
Rosacea	--Blood Heat --Stomach Heat --Toxicity --Retained Heat Pathogen	
Energetic “Crashing”; Lack of Endurance	--Heart Yin deficiency --Kidney Qi-Yang deficiency --‘Nervous system tense-weak’ --DRRBF: Liver Yin deficiency (inability to retreat) --DRRBF: Earth deficiency (boundaries)	The patient’s lack of awareness of her deficient energy stems from the constant state of fight or flight initiated by the Heart shock and concomitant Heart Yin deficiency and nervous system weak disorder and adaptive denial and Liver Yin deficiency preventing strategic retreat. Due to the lack of root in her Kidneys, this energy can be quickly consumed resulting in “crashes, i.e., Liver and Kidney deficiency.”

Contemporary Oriental Medicine (COM)

Contemporary Chinese Pulse Diagnosis (CCPD), Contemporary Oriental Medicine (COM) and Dragon Rises, Red Bird Flies (DRRBF) integrate multiple levels of imbalances into a clear and useable understanding of each person's unique manifestation of illness and consequent management and implementation of treatment.

We find a 43 year old woman (despite her denial/unawareness) suffering from anxiety and worries (smooth vibration over entire pulse, left distal position change intensity (3+); increase rate on exertion of 28) as well as depression (left distal position muffled (3+)) and a feeling of resignation (cotton (2+). Above Qi depth; left distal position muffled (3-3+). Aetiological factors include the early life traumas, especially the cortisone throughout the pregnancy (a significant 'trauma' which affects cortisol levels, causing hypoadrenalism, elevating blood pressure and blood sugar, while depressing the immune system), mother's emotional upset during gestation and the prolonged difficult delivery followed by admission into the NICU with loss of parental contact. The patient's infant/childhood insomnia suggests early life trauma, i.e., Heart shock (rough vibration over the entire pulse) and its effect on her nervous system, causing a nervous system tense-weak disorder. Her stressful childhood and near drowning contributes to an already compromised and unstable Heart and nervous system.

Following the progression of a nervous system tense-weak disorder and Heart shock, we see the cumulative effects of these imbalances. Generally, trauma early in life is more significant than occurring when one is mature and robust. Early trauma destabilises immature physiology, in particular the Heart and spirit, planting the seed for problems later in life. An overactive nervous system [parasympathetic] affects the regulation of metabolic activity, becoming a constant source of heat [the engine overheating due to working beyond one's energy]. We see an increased demand on the Heart whose natural response to traumas is to increase the heart rate. Over time, this weakens/consumes the energy of the Heart and the rate slows. Thus, it is always important to understand where a patient is in relation to any prior traumas.

Early life trauma (the cortisone and probable breech (inflated at distal positions) also depletes Kidney qi-yang energies. The adrenals act (cortisone) as shock absorbers in the body and tapping into this system and depleting its reserves can have significant repercussions if the trauma is severe and early in one's life. The extent of the patient's trauma had an impact reflected in the deep and reduced substance right proximal position evidencing the 8th stage of Kidney Qi-Yang deficiency (Hammer 2005 Chinese Pulse Diagnosis p. 739). A useful and very general guide to

aetiology is the organ that has a diminished quality like feeble-absent quality or where there is greatest chaos. This is where the problem began. The organ that has a hard quality is where the problem is presently (Hammer 1993).

Dragon Rises Red Bird Flies (DRRBF)

We can apply a few insights from the phase-oriented approach of Dragon Rises Red Bird Flies. These concepts can be integrated with other diagnoses to enhance the therapeutic relationship and intervention.

DRRBF describes the evolution of being in terms of Chinese Medicine energetics, as viewed through the lens of humanistic psychology (Hammer 2005, Ch. 1). The patient experienced manifold insults in the intra-uterine environment described above, creating Water phase deficiencies. The patient describes disruptions of bonding associated with NICU, and a lack of "nourishment" from her busy mother, and a stressful, combative environment during the early developmental years and lack of a relationship with her father. The chief complaint suggests the desire for bonding and nourishment, now reversed in her need for a child at an advanced age (see note 2) and is also expressed as insomnia, restlessness, and food cravings. These findings implicate an Earth phase deficiency in nourishment (Hammer 2005, Ch. 11). Her inability to retreat [Wood phase] (Hammer 2005 Ch. 9) compensates for these early deficits. Denial (Pericardium Yin excess) (Hammer 2005, Ch. 10) enables the compensation.

Taken together, these patterns illustrate multiple attempts to regain function in both the psyche and soma. The scope of our intervention is now increased, localised and rendered accessible to intervention. A number of signs and symptoms support our thesis. Firstly, the chief complaint joins two basic functions of the digestive process in a compensatory action. An infantile demand for nourishment is regressive in character, suggesting a maladaptive response to a basic need. The need is met not through higher order integrative behaviours, but through reversion to the satisfaction of basic demands. The 'mental fog' is an inability to digest and assimilate information. The patient compensates for her state of confusion through hyper vigilance, demonstrated both in her repeated calls and queries before initiating treatment. The process also contributes a tendency towards collapse. Collapse is her body's means to preserve function. In short, given her propensity to over-exert and deplete herself, her early history, anxiety, imbalance under stress, and the craving for nourishment in both her nights and her desire to reproduce we see a nervous system weak person with insults to Earth bonding who compensates with a Liver Yin deficient personality pattern (inability to retreat), made possible through denial associated with Pericardium Yin excess.

As symptoms, these characteristics of the patient's case can be discussed in conventional terms, but using this model links cognitive style, early life experience, character structure, relationships and chief complaints. Where bonding and early insults are primary concerns, one must take extra care to establish a safe contact, tempering experience in the context of the therapeutic relationship. Aware of these aspects of the patient, profound increases in awareness can be stimulated.

Integration

The root issues exposed are: Heart shock causing Heart yin deficiency (hesitant pulse wave), Nervous system tense-weak and Kidney Qi-Yang deficiency. The nervous system imbalance creates heat from stagnation with a primary effect on the digestive system (due to the vulnerability of Earth function). The Heat in the Stomach further harasses the spirit creating restlessness, especially at night, causing/aggravating the insomnia. A natural response to heat is the body's attempt to bring water to balance it. As a result of heat that is too great to be balanced, water mixes with the heat, creating a Damp-Heat condition, making the imbalance more recalcitrant. The craving for the crunchy foods is the body's attempt to get the patient to eat the roughage that she needs to deal with her imbalanced gastrointestinal system. Craving food immediately after she eats suggests Stomach Fire.

The interventions are prioritised as follows:

IMMEDIATE INTERVENTION

1. Damp-Heat in the Stomach and Intestines and oesophageal Qi stagnation: This must take place first, or at least concurrently, as herbs and treatments geared toward resolving shock and nourishing Heart Yin and Kidney Yang will be of no avail if the treatment cannot be processed or digested by the weak digestive system.
2. Heart shock/trauma [w/ compensatory Pericardium Yin excess and Heart Blood and Qi deficiency.
3. Pelvic lower body neoplastic activity: attention must be given here to prevent significant illness. This treatment can be concurrent with moving Damp-Heat in the Stomach and Intestines as moving the lower burner will be implicated in both.

INTERMEDIATE INTERVENTION

1. Strengthen Kidney Qi-Yang,
2. nervous system,
3. Toxicity (if still present; minor and will probably resolve with Damp-Heat issue)

LONG-TERM INTERVENTIONS

1. Strengthen Earth element,
2. Continue boosting Kidney Qi-Yang,
3. manage nervous system and strengthen Yin and Blood.

Patient Update: While treatments are outside the scope of this case study, it should be noted that applying the diagnoses and treatment plan the following results were seen:

The patient received acupuncture (see note 3) once weekly thus far over the past six weeks. After two treatments patient was experiencing mental clarity, bowel movements daily and the ability to return to sleep much easier. After five treatments, she reported excellent sleep without waking up at all for over a week, bowel movements daily and during the day, increase in energy without any 'sudden drops in energy, healthy appetite and no acid reflux.' Herbs were added after the first four treatments (see note 4).

In this brief case study, the reader has been exposed to a number of unique concepts, elucidated from the pulse and DRRBF. Within the limits of this article, we only have space to speak to and define the one's most relevant to this case. In the following articles to come, we shall explore in more detail these unique concepts and how they inform our diagnoses, treatments and management of patients. The next articles will explain in further detail, Heart shock, nervous system disorders, Toxicity and many other essential principles of CCPD.

Notes

Note 1: Dr. Hammer's "blocks" are to be distinguished from the Worsley blocks. They include: trauma and shock, stability, structure, retained pathogens, (including toxicity and parasites), external pathogens, anomalies, homesickness, obfuscation, scars, pain, etc.

Note 2: As the patient is 43 year old parous woman with health concerns, the strong desire for another child, while normal, does, in this circumstance, suggest an attempt to satisfy one's own needs for nourishment and bonding.

Note 3: First treatment: Yinxi (HE 6), Neiguan (P 6), Tianchuang (SI 16), Jiuwei (REN 15), Tianshu (ST 25), Sanyinjiao (SP 6). Second treatment: Yinxi (HE 6), Shanzhong (REN 17), Tianchuang (SI 16), Anmian (M-HN-54), Fulu (KI 7), Taichong (LIV 3), Zhongwan (REN 12), Tianshu (ST 25). Third treatment: Neiguan (P 6), Tianchuang (SI 16), Anmian (M-HN-54), Shanzhong (REN 17), Jiuwei (REN 15), Zhongwan (REN 12), Tianshu (ST 25), Yanglingquan (GB 34). Fourth treatment: Shaohai (HE 3), Tianchuang (SI 16), Shanzhong (REN 17), Jiuwei (REN 15), Zhongwan (REN 12), Tianshu (ST 25), Chongmen (SP 12), Fujie (SP14), Yinlingquan (SP 9).

Note 4: While the management plan consists of multiple steps, the following was initiated as step one. Yunnan Bai Yao (64 pills as follows: Red pill at night. Day 1, 1 orange pill two times per day. Day 2, 1 orange pill three times per day. Day 3, 1 orange pill four times per day. Day 4 to end, 2 orange pills, four times per day. In addition to the above, patient was

placed on: Xi Yang Shen 9g, Mai Men Dong 9g, Wu Wei Zi 6g, Shi Chang Pu 6g, Yuan Zhi 6g, Zhi Shi 5g, Gua Lou Pi 9g, Xie Bai, 6g, Chuan Xiong 6g, Huang Lian 5g and Huang Qin 5g.

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Appendices

Appendix A - Contemporary Chinese Pulse Record

Name: CA07		Gender: F	Age: 43	Date: 9/25/07
Chief Complaint: insomnia, digestive		Height: 5'2"	Weight: 152	Occupation: quality assurance engineer
Rhythm: N		Rate/Min: Begin: 68 End: 68 W/Exertion: 96 Change: 28		
First Impressions of Uniform Qualities Tight changing back and forth to tense; smooth vibration; rough Vibration; robust Pounding (2); ~choppy		W/Standing: Other Rates During Exam:		
Left Side:		Depths		
Right Side:		Above Qi Depth: cotton (2+)		
Thinner, tighter stronger vibrations		Qi: see sides		
Wider, more tense		Blood: Heat		
		Organ: same as first impression		
		O-B: robust pounding (3)		
		O-O: robust pounding (3)		
		Wave: Hesitant		
PRINCIPAL POSITIONS		COMPLEMENTARY POSITIONS		
L:	Distal Position	R:	L:	Neuro-psychological
Muffled (3-3+)	Muffled (2+-3)		-----	-----
Tense	Thin			
Inflated	Tight			
~Rough vibration	Inflated			
Change intensity (3+)	Rough vibration			
Pericardium --			L: Special Lung Position	R:
			Narrow; slippery;	Narrow, tense-tight
			Rough vibration	Rough vibration
			Muffled (1+)	Pleura:
			Heart	
			Mitral Valve: --	
			Enlarged: --	Large Vessel: --
			L: Diaphragm	R:
			----	-----
Tense	Tense			
Muffled (3)	Rough vibration			

Reduced substance ~Rough vibration Robust pounding (3) Change intensity (1+)	Reduced substance Robust pounding (3) Change intensity (2) Leisurely	Liver Engorged: Distal: inflated (2) Radial: -- Ulnar: -- Gall Bladder: same as left middle	
L: Proximal Position R:		Spleen-Stomach Esophagus: Inflated (2+); slippery Spleen: -- Stom-Pyl. Exten: Tense; leisurely robust pounding (3+); change intensity (1+) Peritoneal Cavity/Pancreas: -- Duodenum: --	
Tense Choppy Vibration Muffled (2) Reduced substance Change intensity (2)	Deep Tense Reduced substance Robust pounding (3) Muffled (2+) Change intensity (2)	Large: Intestines Small: Tense, slippery, muffled (2+) Tense, rough vibration Smooth vibration Robust pounding (3), Muffled (1+); leisurely	
L: Pelvis/Lower Body R:		Thin, tight, muffled (2+) Smooth vibration, Change intensity (1+) Deep, tense, slippery Reduced substance Muffled (4)	
Three Burners Upper: -- Middle: -- Lower: --		Key: P = Present; --- = Absent; ~ = Occasional; Pnd = Pounding; Int = Intensity; Vib = Vibration; Degree (low 1 – 5 high)	