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Oncology

a continuing education course

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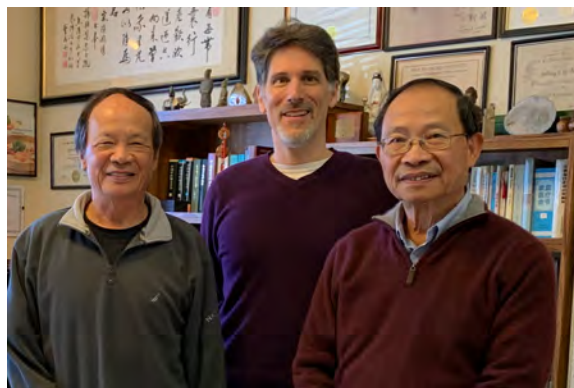
Authors

For many years, the Pang family has practiced and taught Chinese medicine. In this continuing education series, we explore the treatments informed by Ken and Jeffrey Pang's decades of experience combined with generations of Pang family wisdom.

Ken Pang, L.Ac. received his degree in TCM from the Guangzhou University of Chinese Medicine. He practiced as a licensed acupuncturist and herbalist in China, Hong Kong, and California. Retiring after 50 years of clinical practice, Ken Pang, L.Ac. now focuses on publishing the venerated Pang family secrets of TCM at the Healthcare Medicine Institute.

Prof. Jeffrey Pang, L.Ac. received his MD in western medicine and TCM from Sun Yat Sen University of Medical Science in Guangzhou. He practiced as a licensed acupuncturist for ten years in Guangzhou and Hong Kong prior to becoming a licensed acupuncturist in California, where he has maintained a private practice for decades. Since 1984, Prof. Pang has served as the department chair for the theory and herbology departments at Five Branches University. In addition, Prof. Pang is a principle author at the Healthcare Medicine Institute.

Adam White, L.Ac., Dipl.OM. has served as a faculty member and as the continuing education director for Five Branches University. His publications cover a variety of topics including Chinese medicine dietetics, the treatment of pelvic inflammatory disorder, and herb-drug interactions. He currently works at the Healthcare Medicine Institute and maintains a private practice in California.



Ken Pang, Adam White, Jeffrey Pang (from left to right)

Overview

Cancer is the term for a collection of related diseases that share a common pathological condition: cells divide without stopping and spread into surrounding tissues. This is because cancer cells ignore normal signals that govern apoptosis (programmed cell death). Apoptosis is the death of cells which occurs as a normal and controlled part of an organism's growth or development. In addition, many cancer cells evade immune system functions, which ordinarily remove damaged and abnormal cells.

Some cancers form tumors. Blood cancers (including leukemias), often do not form solid tumors. In addition, cancer cells may recruit normal cells in the local microenvironment of a tumor to form blood vessels, which feed the cancer cells with oxygen and nutrients.

Cancerous tumors are malignant, which means they can spread into, or invade, nearby tissues. In addition, as these tumors grow, some cancer cells can break off and travel to distant places in the body through the blood or the lymph system and form new tumors far from the original tumor.

Unlike malignant tumors, benign tumors do not spread into, or invade, nearby tissues. Benign tumors can sometimes be quite large, however. When removed, they usually don't grow back, whereas malignant tumors sometimes do. Unlike most benign tumors elsewhere in the body, benign brain tumors can be life threatening.¹

Genetics

According to the National Institutes of Health (NIH), National Cancer Institute, cancer is a genetic disease:

1. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

Cancer is a genetic disease—that is, it is caused by changes to genes that control the way our cells function, especially how they grow and divide.

Genetic changes that cause cancer can be inherited from our parents. They can also arise during a person's lifetime as a result of errors that occur as cells divide or because of damage to DNA caused by certain environmental exposures. Cancer-causing environmental exposures include substances, such as the chemicals in tobacco smoke, and radiation, such as ultraviolet rays from the sun.²

Drivers of Cancer

In general, the term “drivers of cancer” refers to genetic changes that contribute to cancer in three types of genes:

Proto-oncogenes
Tumor suppressor genes
DNA repair genes

Proto-oncogenes are involved in normal cell growth and division. However, when these genes are altered in certain ways or are more active than normal, they may become cancer-causing genes (or oncogenes), allowing cells to grow and survive when they should not.

Tumor suppressor genes are also involved in controlling cell growth and division. Cells with certain alterations in tumor suppressor genes may divide in an uncontrolled manner.

2. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

DNA repair genes are involved in fixing damaged DNA. Cells with mutations in these genes tend to develop additional mutations in other genes. Together, these mutations may cause the cells to become cancerous.³

Metastasis

Metastatic cancer is the type of cancer that spreads from the original location to other areas. When the cancer spreads to a new area, it tends to have the same molecular features, including chromosomal characteristics, as in the original area. “For example, breast cancer that spreads to and forms a metastatic tumor in the lung is metastatic breast cancer, not lung cancer. Under a microscope, metastatic cancer cells generally look the same as cells of the original cancer.”⁴ The majority of deaths due to cancer are from metastatic cancer.

Tissue Changes

Hyperplasia

Hyperplasia is when tissues divide at a faster than normal rate and extra cells accumulate or proliferate. Under a microscope, the cells appear normal. There are many causes of hyperplasia, including chronic irritation.

Dysplasia

Like hyperplasia, dysplasia involves a buildup of additional cells. Under a microscope; however, the cells appear abnormal and there are abnormal changes in tissue organization. These abnormal cells may lead to cancer.

Melanoma

3. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

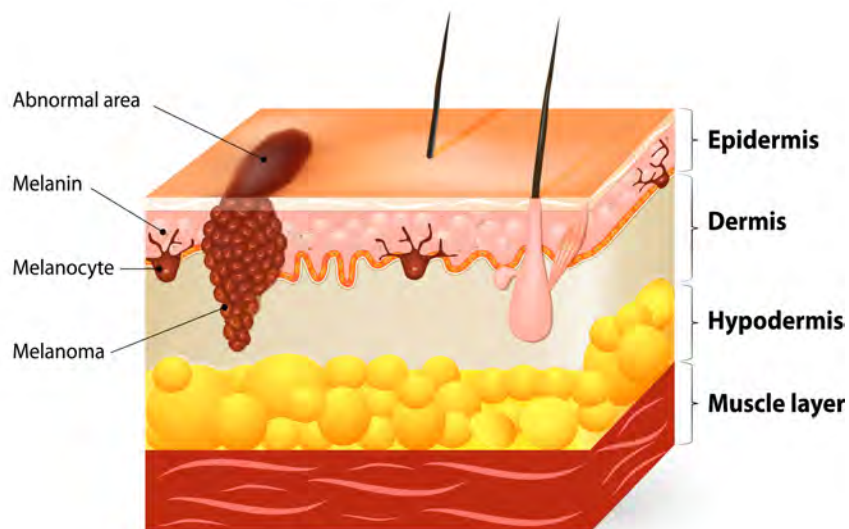
4. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

Not all types of dysplasia become cancerous, but monitoring the tissue is advisable. For example, an abnormal mole is a form of dysplasia (dysplastic nevus). In most cases, these do not become cancer. Monitoring is advisable to ensure the abnormal mole does not transition into a melanoma.

A **melanoma** is when pigment producing cells (provide color to the skin) become cancerous. Melanomas begin in melanocyte cells and are more dangerous than basal cell carcinomas and squamous cell carcinomas because they have the ability to spread rapidly. Risk factors melanoma include:

- Fair skin
- Skin cancer history or genetic history
- Excessive UV exposure
- Immunity system deficiencies
- Quantity and size of moles: the more moles and the larger the moles, the higher the risk.

MELANOMA



Carcinoma In Situ

Although often referred to as cancer, it is technically not cancer because abnormal cells are present but have not spread beyond the original tissue. Cancer cells invade surrounding tissues and spread. Carcinoma in situ remains in one area; however, it is often treated because it may become cancer; that is, it may spread to other areas.

Forms of Cancer

There are in excess of 100 types of cancer. Many are named after the original area where the cancer formed or the type of cells involved. In this section we review common types of cancer.

Carcinoma

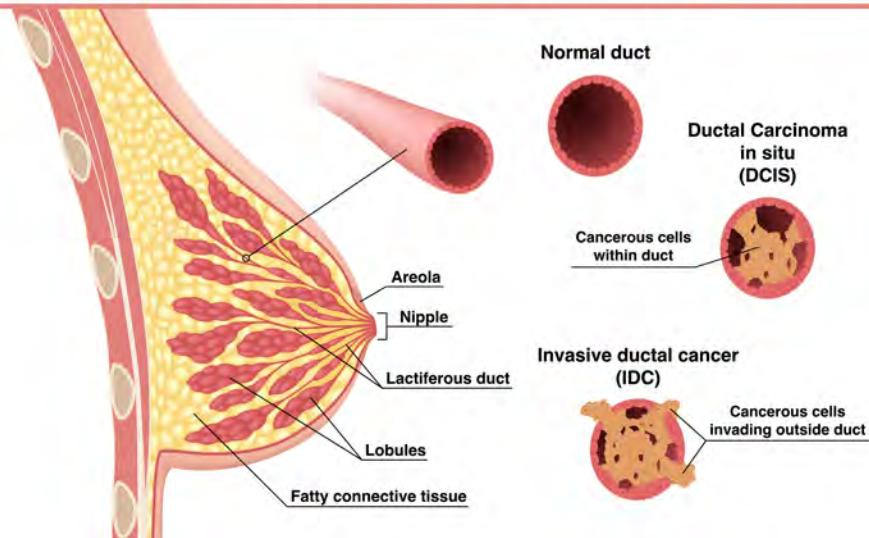
This is one of the most common forms of cancer, formed by epithelial cells, which are the cells that cover bodily surfaces including the skin, blood vessels, organs, and urinary tract. Different names are given to carcinomas based on the origin of what type of epithelial cell gave rise to the cancer. For example,

Adenocarcinoma is a cancer that forms in epithelial cells that produce fluids or mucus... Basal cell carcinoma is a cancer that begins in the lower or basal (base) layer of the epidermis, which is a person's outer layer of skin....

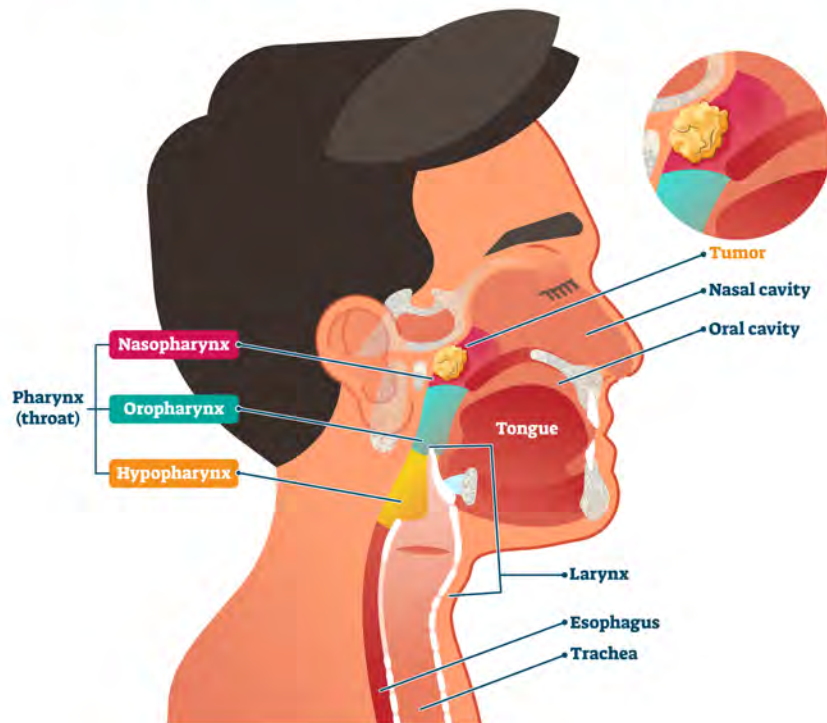
Squamous cell carcinoma is a cancer that forms in squamous cells, which are epithelial cells that lie just beneath the outer surface of the skin. Squamous cells also line many other organs, including the stomach, intestines, lungs, bladder, and kidneys.⁵

5. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

DUCTAL CARCINOMA OF THE BREAST

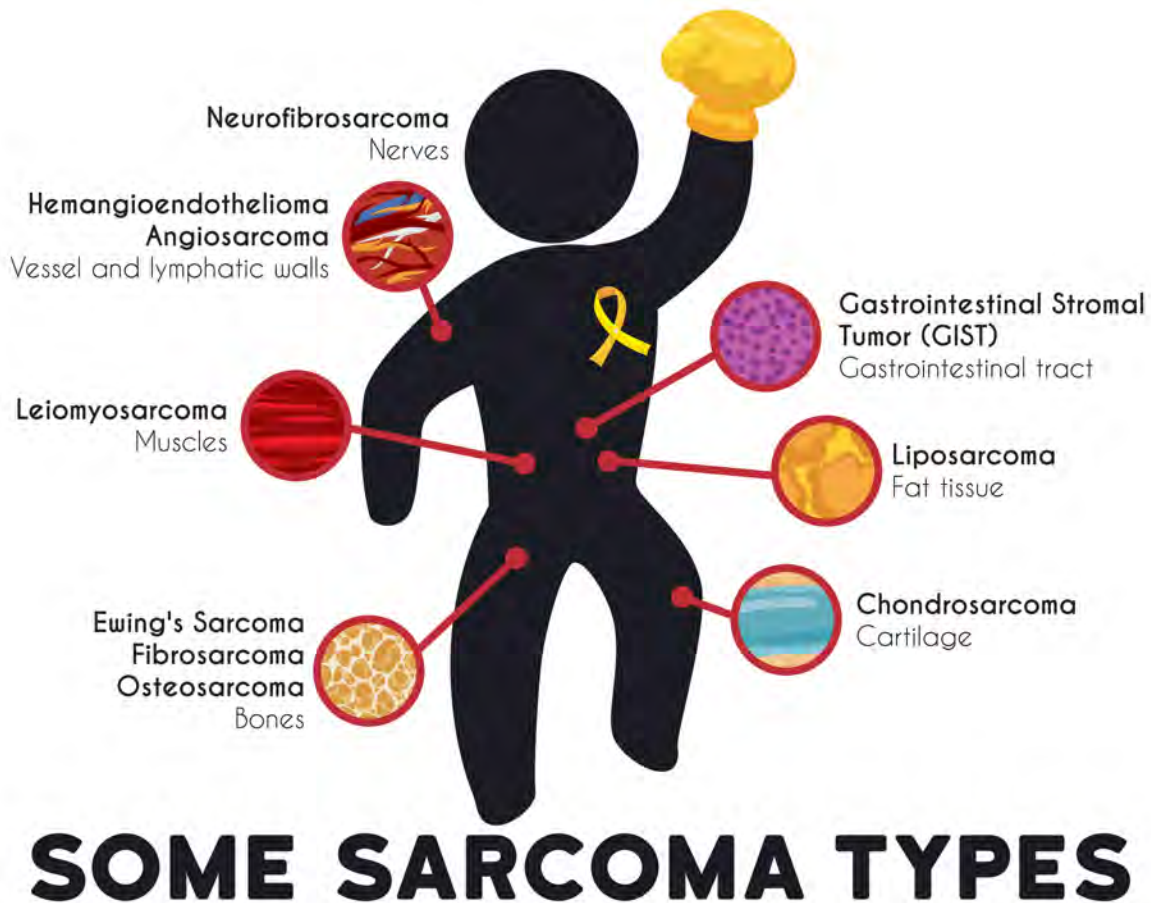


NASOPHARYNGEAL CARCINOMA



Sarcoma

Cancers that form in soft tissue and bone are sarcomas. This includes lymph vessels, tendons, ligaments, fat, and blood vessels.



Leukemia

Leukemia is cancer originating in the blood-forming tissue of bone marrow. This type of cancer does not form tumors. Leukemia is characterized by “large numbers of abnormal white blood cells (leukemia cells and leukemic blast cells) build up in the blood and bone marrow, crowding out normal blood cells.”⁶ This creates issues with the

6. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>. 4-15-2020. About Cancer.

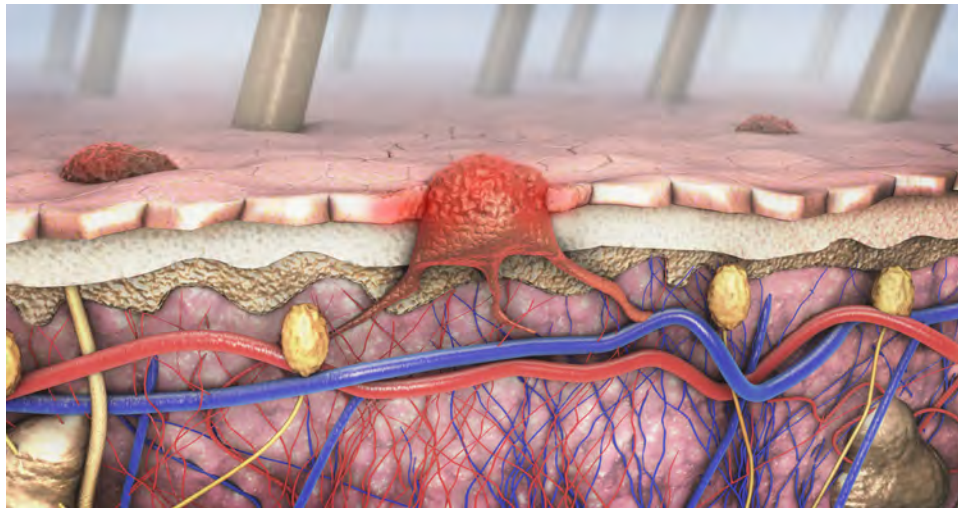
proliferation of normal blood cells and impairs oxygen distribution and fighting infections.

Lymphoblastic leukemia is when the bone marrow produces too many lymphocytes (a white blood cell type). Myeloid leukemia is when the bone marrow produces excess white blood cells and myeloblasts (immature white blood cells) buildup in the bone marrow and blood. This “impairs development of other blood cells, leading to a shortage of red blood cells (anemia) and platelets.”⁷

Melanoma

Melanoma is cancer that forms in pigmented tissues, primarily in the skin. However, any pigmented tissue may be involved, including tissue in the eye. Melanoma originates in cells that become melanocytes, which are responsible for creating melanin (pigment).

The following illustration depicts melanoma that enters the bloodstream and lymphatic tract:



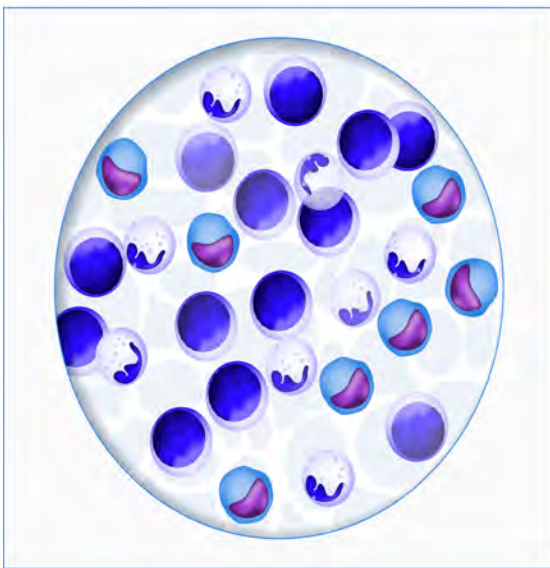
7. <https://ghr.nlm.nih.gov/condition/chronic-myeloid-leukemia>. 2020. Chronic myeloid leukemia. NIH.

Lymphoma

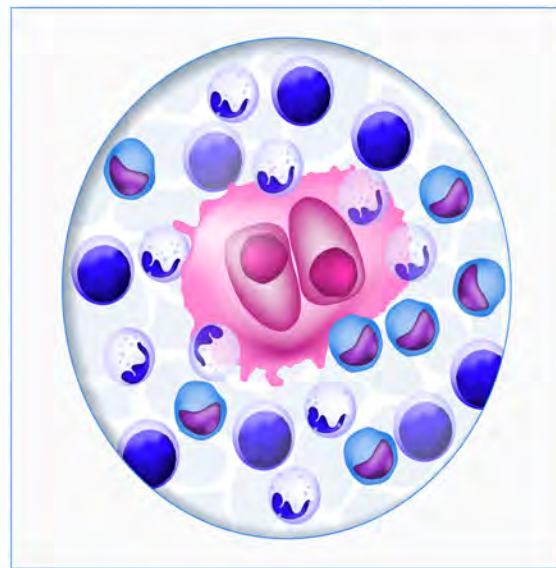
Lymphoma is a type of cancer originating from T cells or B cells (lymphocytes). These are white blood cells that are abnormal and build-up in lymph nodes and vessels and other areas of the body. Hodgkin lymphoma is the term referring to the build-up of Reed-Sternberg cells, which often form from B cells. Reed-Sternberg cells are large, abnormal lymphocytes that can contain more than one nucleus. Non-Hodgkin lymphoma is a more general term referring to cancers that form from B cells or T cells.

Hodgkin's lymphoma

Normal



Reed-Sternberg cells



Brain & Spinal Cord Tumors

Brain and spinal cord tumors may be benign (noncancerous) or malignant (cancerous). There are many types of these tumors and they are often named according to the type of cells involved or area of origination.

Multiple Myeloma

Multiple myeloma is a cancer wherein abnormal plasma cells build-up in bone marrow and form tumors. These are plasma cell neoplasms. The term neoplasm refers to new and abnormal growth of tissue, especially when cancerous.

Neuroendocrine Tumors

Neuroendocrine tumors may be malignant or benign. These originate from cells that release hormones. As a result, they can produce excess quantities of hormones and subsequent related pathologies. One type of neuroendocrine tumor is a carcinoid tumor, a slow-growing tumor that often forms in the gastrointestinal tract and can spread elsewhere. This type of tumor may result in the release of serotonin or prostaglandins, which causes diarrhea, bronchial spasms, flat angiomas, and drops in blood pressure.

Germ Cell Tumors

Germ cell tumors may be benign or malignant. They can occur in any area of the body and originate from cells that are responsible for the formation of sperm or eggs.

Chinese Medicine

The treatment of cancer patients is covered in the course material and is based on Pang family treatment strategies and the years of experience in treating cancer patients by Ken Pang, L.Ac. and Prof. Jeffrey Pang, L.Ac. It is our belief that combining Chinese medicine with western medicine is the best choice for patients and increases the ability of the immune system to fight cancer.

Disclaimer: Nothing in this course is intended to indicate that acupuncture or herbal medicine treats or cures cancer. The course materials present TCM and its perspective on supporting cancer patients.

TCM Etiology Of Tumors

- Qi Stagnation
- Blood Stasis
- Dampness
- Heat and Toxins
- Phlegm Stagnation
- Zheng Qi Xu (Good/Upright Qi Deficiency)
In this course, we use the term **zheng qi**. It is translated as good qi or upright qi, and refers to qi that protects the body and maintains health.



General Acupuncture Points

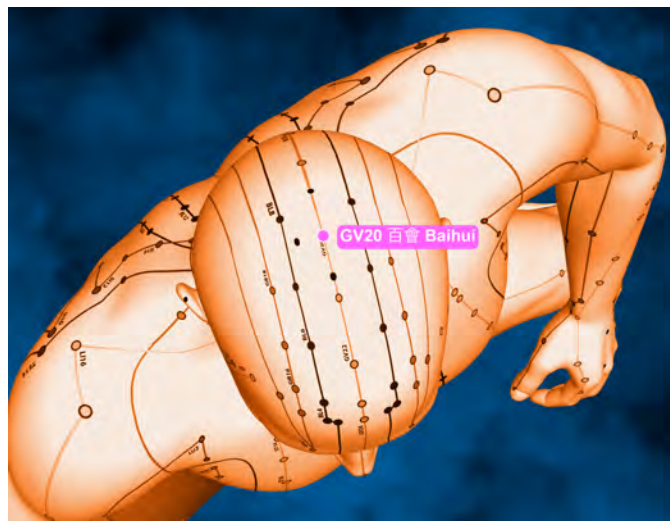
Cancer patients suffer from emotional trauma after being diagnosed with cancer. As a result, the following points apply for all cancer patients:

- DU20 (GV20), Yin Tang, PC6, HT7, LV3, LV14, LI4
- Ear Points: Shenmen and points for the Zang-Fu organs related to the specific cancer diagnosis (e.g., Heart, Liver, Kidney, etc.)

Acupoints Detail

GV20 (Baihui)

GV20 is 7 cun above the posterior hairline, on the midpoint of the line connecting the apex of the auricles. GV20 is located at the vertex at the midpoint of the head. GV20 may be measured 8 cun posterior to the glabella or 6 cun superior to the occipital protuberance. GV20 is a Sea of Marrow point. GV20 calms the spirit, clears the senses, extinguishes liver wind, and stabilizes ascending yang. GV20 is indicated for treating hypertension, headaches, dizziness, tinnitus, nasal congestion, shock or coma, mental disorders, poor memory, palpitations, and prolapsed rectum or uterus.



Yintang (M-HN-3, Hall of Impression)

This extra point is located at the midpoint between the medial extremities of the eyebrows at the glabella. Yintang calms the spirit, and benefits the nose and face. Indications include insomnia, anxiety, nasal congestion, sinus pain, and infantile convulsions.



PC6 (Neiguan)

This point is 2 cun above the transverse wrist crease, on the line connecting PC3 and PC7, between the tendons of the palmaris longus and flexor carpi radialis. PC6 is the luo (connecting) point of the pericardium channel. It is the confluent point of the Yinwei vessel (Yin Linking Vessel). PC6 regulates the heart, calms the spirit, regulates qi, suppresses pain, and harmonizes the stomach.

Common indications for use include: nausea, vomiting, hiccups, pain (cardiac, chest, elbow, upper arm, head, neck, stomach), mental illness, seizures due to epilepsy, insomnia, fever, palpitations, irregular menstruation, dysuria, postpartum dizziness. As a confluent point of the

Yinwei vessel, this point is paired with the confluent point of the Chong (Thoroughfare) vessel (SP4). Together, PC6 and SP4 are indicated for the treatment of heart, chest, and stomach disorders.

HT7 (Shenmen)

HT7 is located at the ulnar end of the transverse crease of the wrist, in the depression on the radial side of the tendon of the flexor carpi ulnaris. Use caution when needling this point to avoid the ulnar artery and ulnar nerve. HT7 is a shu stream, earth, son, and source point. HT7 calms the spirit, pacifies the heart, and the clears channels. Common indications for use include insomnia, mental illness, irritability, cognitive impairment, palpitations, epilepsy or seizures, hypochondriac region pain, icteric sclera, five palms heat, and jaundice.

LV3 (Taichong)

This point is located on the dorsum of the foot in the depression distal to the junction of the first and second metatarsal bones. LV3 is a shu stream, earth, and source point. LV3 pacifies the liver, regulates blood, and opens the channels. Common indications for use include: headache, vertigo, insomnia, irregular menstruation, abnormal uterine bleeding, extremity and joint pain, eye pain, rib pain, retention of urine or enuresis.

LV14 (LIV-14, Qimen, Cycle Gate)

LV14 is located directly below the nipple, in the 6th intercostal space, 4 cun lateral to the midline. Oblique medial or later insertion, approximately 0.5–1 cun, is widely considered the limit. Deep perpendicular needling or even deep oblique insertion may cause pneumothorax. As a result, caution is warranted when using this acupoint.

LV14 is the front mu point (alarm point) of the liver and is also the meeting point of the liver and spleen channels with the yin linking vessel (Yinwei Mai). LV14 harmonizes the liver and stomach, facilitates the

spreading of liver qi, and transforms and removes congealed blood (disperses masses). Indications include hypochondriac pain, intercostal neuralgia, abdominal distension, epigastric pain or fullness, stomach acid regurgitation associated with anxiety, chest pain or fullness, coughing, difficulty breathing, mastitis, and febrile diseases.

One interesting aspect of LV14 is that it is along the path of the spleen meridian of Foot-Taiyin (leg greater yin), which ascends across the diaphragm and intersects GB24, LV14, LU1, the root of the tongue, and then disperses over its lower surface. As a result, LV14 is designated as a crossing point on the spleen channel. Another great aspect of LV14 (Cycle Gate) is that it completes the circulation of qi cycle, which begins on LU1 (Zhongfu) and ends on LV14.

Hegu, LI4 (Joining Valley)

This point is on the dorsum of the hand, between the 1st and 2nd metacarpal bones, approximately in the middle of the 2nd metacarpal bone on the radial side.

LI4 is a source point and entry point. LI4 disperses wind, releases exterior conditions, suppresses pain, and clears the channels. Indications include headaches, eye pain, epistaxis, toothache, deafness, facial edema, facial paralysis, sore throat, trismus (lock jaw), fever, delayed labor, and pain.

Acupuncture For Cancer Pain

The following are points that assist in pain relief for specific types of cancer:

- Lung Cancer: LU6, LU10, KD3, PC6, SP4
- Liver Cancer: GB34, LV6
- Stomach Cancer: CV12, ST36

- Breast cancer: CV17, LV14, GB21, SI11

Acupoints Detail

LU6 (Kongzui, Greatest Orifice)

This point is located on the palmar aspect of the forearm, on the line joining LU9 and LU5, 7 cun above the transverse crease of the wrist. LU6 is a xi cleft (accumulating) point. LU6 regulates suppresses rebellious lung qi, cools the heat, and stops hemoptysis.



This acupoint opens the nasal orifice area to treat stagnation in the bronchi, asthma, and emotions affecting breathing. This acupoint specializes in the treatment of nose and breathing disorders due to emotional disturbances. LU6 also specializes in dispelling wind-phlegm affecting the nasal orifice. LU6 treats wind-phlegm pathogens stagnating in the nasal orifice causing asthma and coughing. Additional indications include local pain and sore throat.

LU10 (Yuji, Fish Belly)

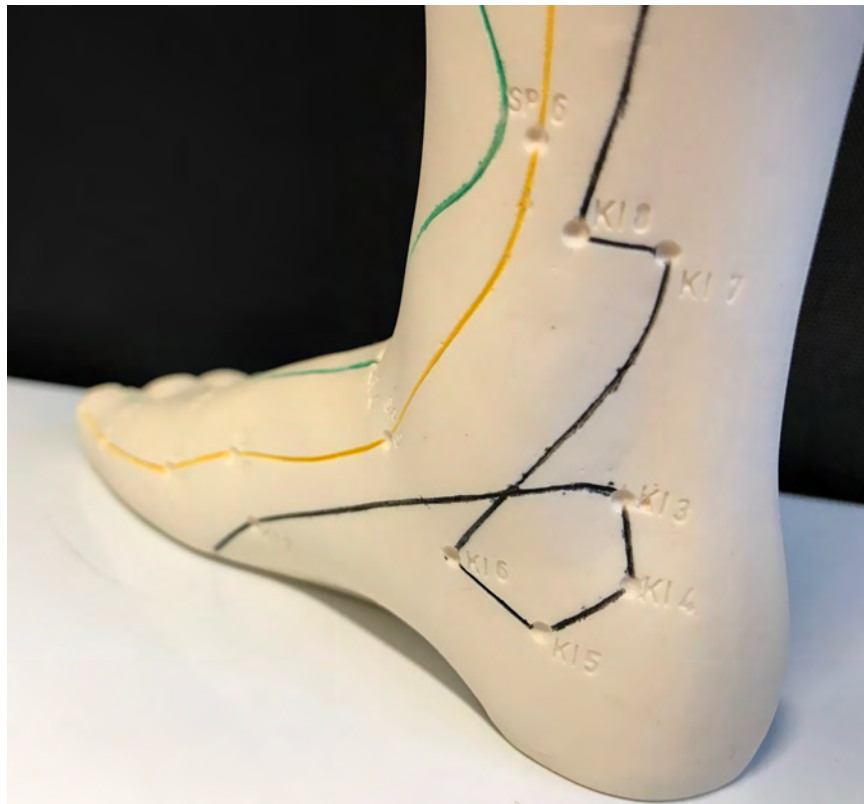
Yu means fish and ji means border. Together, the combination of the characters emphasizes the meaning of fish belly, because the area of LU10 looks like a fish belly.



LU10 is on the radial aspect of the midpoint of the first metacarpal bone, on the junction of the red and white skin (i.e., the junction of the dorsum and palm of the hand). It is a ying-spring, wood, ghost point, and fire point. LU10 cools the lung heat, benefits the throat, and revives from fainting. Traditional indications include coughing, hemoptysis, sore throat, laryngopharyngitis, loss of voice, and fever. LU10 is appropriate for the treatment of acute syndromes and excess.

KD3 (Taixi, Supreme Stream)

This point is located between the medial malleolus and the tendocalcaneus. KD3 is a shu stream, earth, and source (Yuan) point. KD3 benefits the kidneys, cools heat, and strengthens the lower back and knees. Common indications for use include irregular menstruation, enuresis, toothache, sore throat, tinnitus, deafness, emphysema, asthma, sore throat, and thirst.



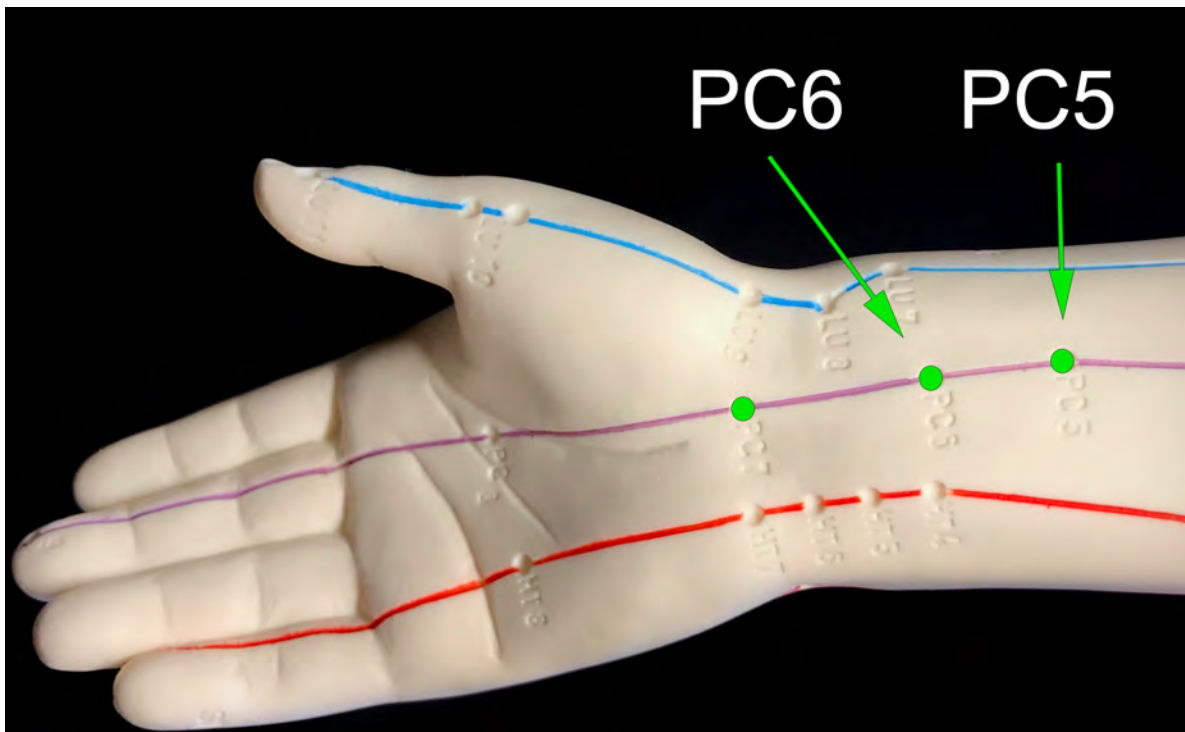
PC6 (Neiguan, Inner Pass)

This point is 2 cun above the transverse wrist crease, on the line connecting PC3 and PC7, between the tendons of the palmaris longus and flexor carpi radialis.

PC6 is the luo (connecting) point of the pericardium channel. It is the confluent point of the Yinwei vessel (Yin Linking Vessel). PC6 regulates

the heart, calms the spirit, regulates qi, suppresses pain, and harmonizes the stomach. Common indications for use include: nausea, vomiting, hiccups, pain (cardiac, chest, elbow, upper arm, head, neck, stomach), mental illness, seizures due to epilepsy, insomnia, fever, palpitations, irregular menstruation, dysuria, postpartum dizziness.

As a confluent point of the Yinwei vessel, PC6 is paired with SP4, which is the confluent point of the Chong (thoroughfare) vessel. Together, PC6 and SP4 are indicated for the treatment of heart, chest, and stomach disorders.



SP4 (Gongsun, Grandfather Grandson)

This acupoint is located in the depression distal and inferior to the base of the first metatarsal bone, at the junction of the red and white skin.

SP4 is the luo-connecting point of the spleen channel. SP4 is the confluent point of the penetrating vessel (Chong Mai). SP4 regulates

the spleen and stomach, regulates the Chong vessel, and is indicated for the treatment of gastric pain, vomiting, abdominal pain and distention, and diarrhea. Additional indications include local pain, irregular menstruation, insomnia, mental restlessness, swelling of the head and face, jaundice, and malaria.

GB34 (Yanglingquan, Yang Mound Spring)

This point is in the depression anterior and inferior to the head of the fibula. GB34 is a He Sea, lower He Sea of the gallbladder, earth, Ma Dan-yang heavenly star point, and meeting point of the muscles and tendons (Hui meeting point of the sinew). GB34 benefits the liver and gallbladder, clears and cools damp-heat, and benefits the sinews and bones. Indications include hypertension, lower limb and knee pain or paralysis, hypochondrium pain, bitter taste in the mouth, jaundice, and hepatitis.

LV6 (Zhongdu, Central Capital)

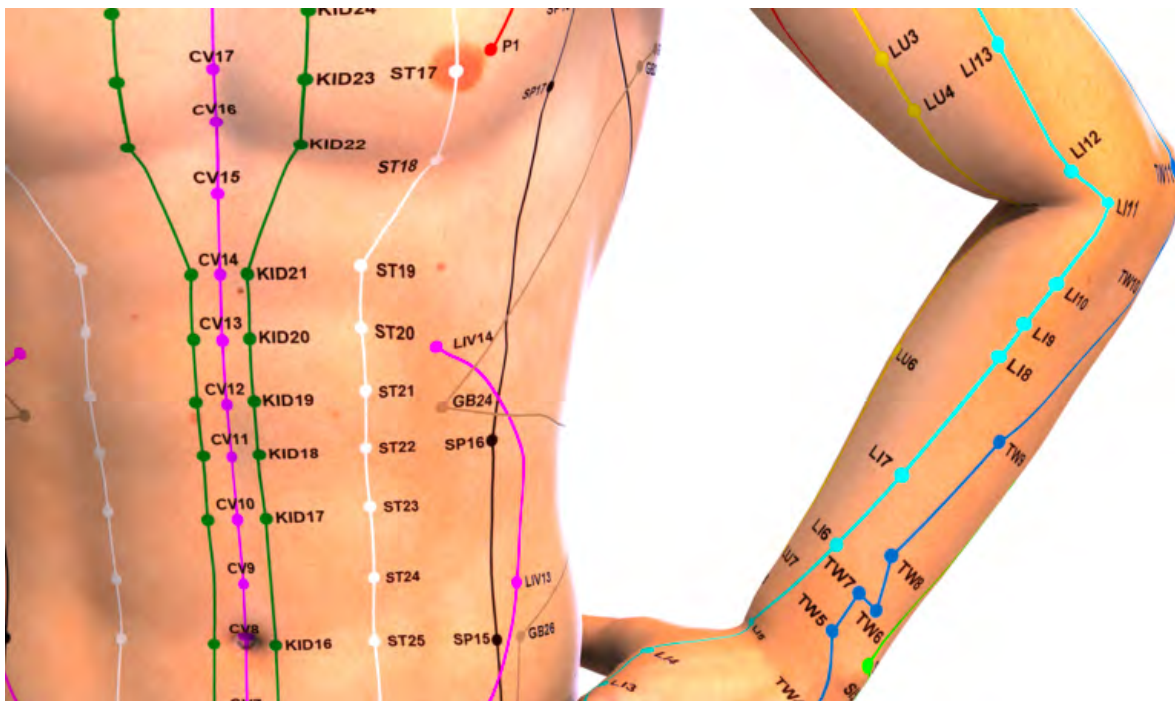
This acupoint is located 7 cun above the tip of the medial malleolus, near the posterior aspect of the medial border of the tibia. This acupoint is halfway between the popliteal crease and the tip of the medial malleolus. LV6 is a xi-cleft point, spreads liver qi, regulates the lower burner (jiao) & blood, and drains dampness. Indications for use include abnormal uterine bleeding and lower abdominal pain.

CV12 (Ren-12, Zhongwan, Middle Cavity)

This acupuncture point is located 4 cun above the umbilicus on the midline of the abdomen. This acupuncture point is halfway between the umbilicus and the sternocostal angle. CV12 is representative of similar points in the region in that care must be taken to avoid puncturing the peritoneal cavity. As a result, deep insertion is contraindicated. Acupuncture needling is applied at a perpendicular angle from 0.5 to 1.2 inches. The superior epigastric artery and vein are located at this point, as is a cutaneous branch of the 7th intercostal nerve. This point is common due to its importance in clinical practice. Use extra caution

with needle insertion depth, especially due to repetitive use of this point in the workplace.

CV12 is the front mu point of the stomach, influential point of all yang organs (Hui meeting point of the fu), and is an intersection point of the small intestine, triple burner and stomach channels. CV12 regulates stomach qi and transforms and suppresses rebellious qi. Common indications for the use of CV12 include stomachache, hyperemesis, nausea, abdominal distention, diarrhea, indigestion, jaundice, gastric ulcers, acid reflux, mental illness affecting the stomach, mania and insomnia.



ST36 (Zusanli, Leg Three Measures)

This acupoint is 3 cun below ST35, one finger-breadth to the anterior crest of the tibia. This point is lateral to a notch that is palpable on the tibia. Zusanli is a he-sea, earth, lower he-sea of the stomach, and sea of nourishment point. ST36 is a Gao Wu command point and a Ma Dan-

Yang heavenly star point. ST36 orders the spleen and stomach, regulates qi and blood, and tonifies qi. Common indications for usage include hypertension, gastric pain, vomiting, abdominal distention, diarrhea, constipation, mastitis, breast abscesses, enteritis, gastritis, edema, asthma, general weakness, emaciation, anemia, indigestion, hemiplegia, neurasthenia, and mental disorders.



CV17 (Shangqihai, Upper Sea of Qi)

This acupoint is located on the midline of the sternum, in a depression level with the junction of the fourth intercostal space and the sternum (midway between the nipples). CV17 is the front mu point of the pericardium, Sea of Qi point, and the influential point of qi. The spleen, kidney, small intestine, and sanjiao (triple burner) channels meet at this acupoint. CV17 regulates and suppresses rebellious qi, expands the chest, and benefits the diaphragm. Common indications for usage include chest oppression, shortness of breath, breast disorders, asthma, chest pain, insufficient lactation, difficulty swallowing, and palpitations.

LV14 (Qimen, Cycle Gate)

See prior section for details.

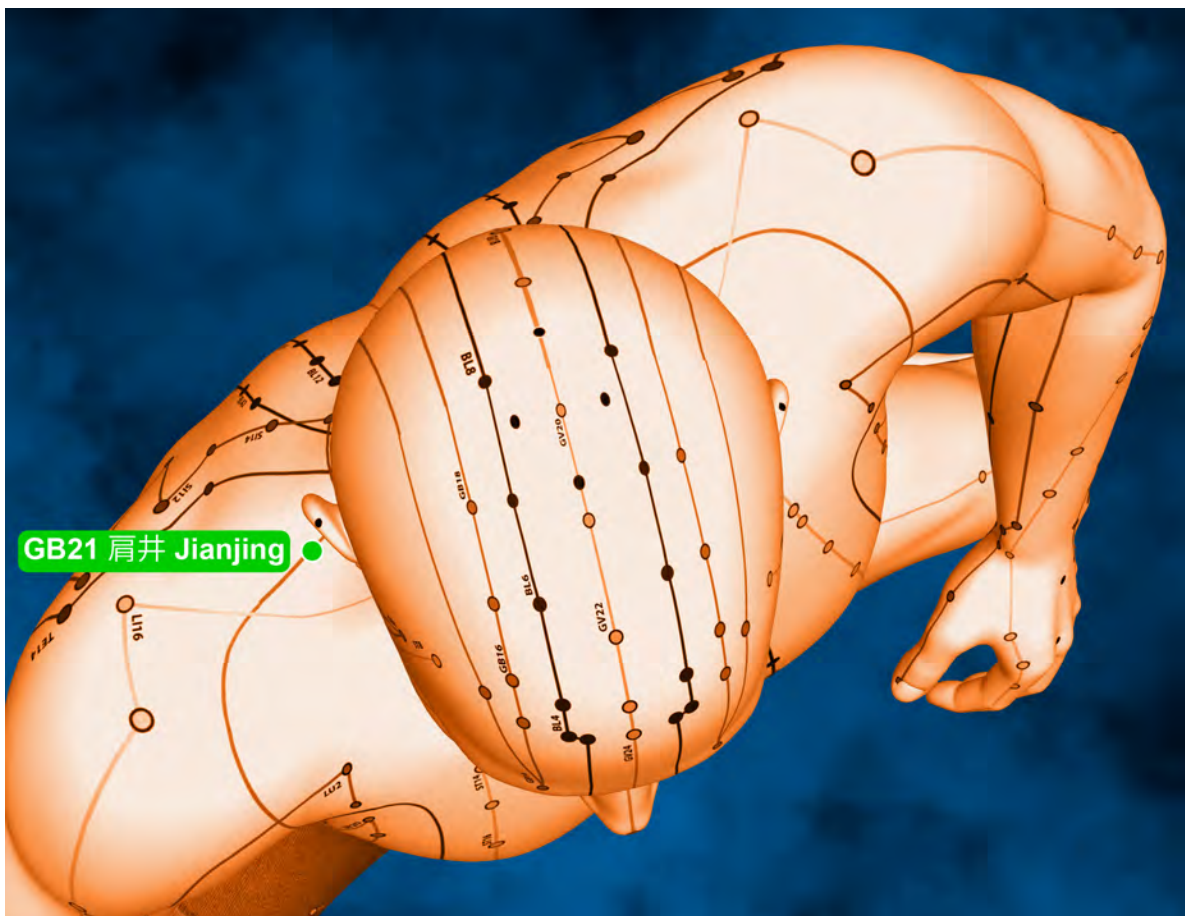
GB21 (Jianjing, Shoulder Well)

GB21 is located directly above the nipple, midway between GV14 and the acromion, at the highest point of the shoulder, at the crest of the trapezius muscle. GB21 is an intersection (meeting) point of the triple burner, stomach, and yang linking channels. GB21 regulates qi, stops pain, benefits the breasts, and expedites delivery. GB21 is indicated for the treatment of apoplexy and hemiplegia due to stroke, mastitis, difficult or prolonged labor, breast pain, scrofula, stiff neck, shoulder pain, and cervicalgia. This point is contraindicated for use during pregnancy.

Texts vary on needling depths and angles of insertion. The text *Chinese Acupuncture and Moxibustion* (Foreign Language Press, Beijing) notes that this point is needled perpendicularly 0.3 to 0.5 inches. Note the shallow insertion recommendation. The text does not mention the pinching-grabbing needle technique to the skin and muscle often taught in acupuncture schools as a precautionary measure. Needling techniques are beyond the scope of this course and are generally taught in live seminars or interactive environments. However, a discussion of needling methods from an academic perspective is important, given that there is a high risk of pneumothorax if this acupuncture point is needled perpendicularly or deeply.

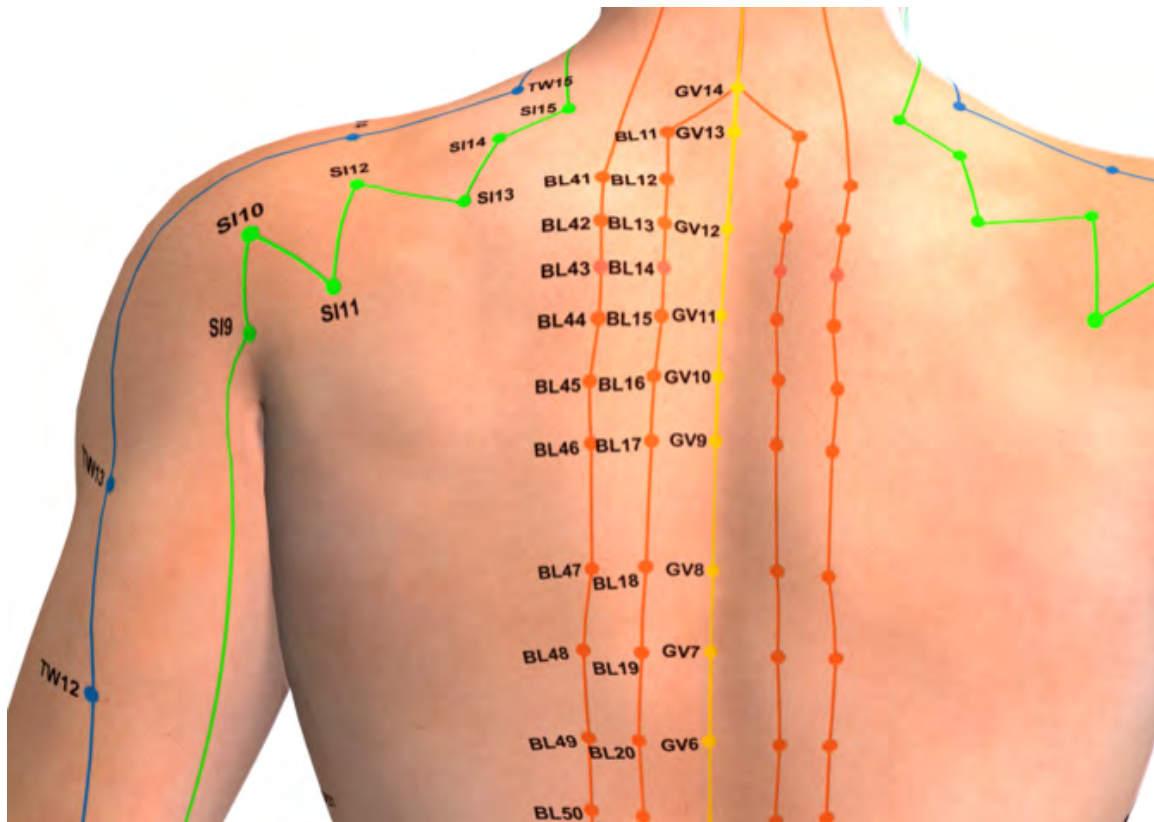
The text *Acupuncture, A Comprehensive Text* (Eastland Press) notes that the needling method for GB21 is “Straight insertion, 0.5-1 unit. Sensation: dissension and soreness extending to shoulder region. CAUTION: Care should be taken not to insert needle too deeply, to avoid puncturing the lung.” GB21 is at the apex of the lungs. In some individuals, the apex is less than 1 cun under GB21 and a perpendicular insertion of 1 inch, cun, or unit may cause pneumothorax. Therefore, the needle depth limit set in *Chinese Acupuncture and Moxibustion* is significantly safer and notably prohibits needling deeper than 0.5 inches.

A final comparison is from another respected acupuncture text, *A Manual of Acupuncture* (Deadman, Al-Khafaji, Baker. Journal of Chinese Medicine Publications). The needling method is described by the following, “Posterior oblique insertion, 0.5-1 cun. Caution: i. perpendicular insertion, especially in thin patients, carries a substantial risk of inducing a pneumothorax; ii. contraindicated in pregnancy.” Here, the posterior oblique insertion angle is a more cautious approach than the perpendicular needling method suggested in *Chinese Acupuncture and Moxibustion*, but the needling length is longer. Given the varying methods mentioned in each text, it is important to note that no one should attempt needling this point without having been trained in a professional acupuncture school or approved tutorial program. This point is common in clinical practice and requires caution.



SI11 (Tianzong, Heavenly Gathering)

This acupoint is located in the infrascapular fossa, at the junction of the upper and middle third of the distance between the lower border of the scapular spine and the inferior angle of the scapula. SI11 stops pain, regulates qi, unbinds the chest, and benefits the breasts. Indications for use include pain of the arm, scapula, and shoulder. Additional indications include asthma, painful hiccups, fullness of the chest, breast pain or swelling, breast abscess, and insufficient lactation.



TCM General Cancer Principles

The following are general treatment principles for supporting patients with cancer.

A. The Relationship of Tonifying Zheng Qi and Expelling Evil

1. Early stage: focus on expelling the evil and slightly tonifying the zheng qi.
2. Middle stage: equally tonify the zheng qi and expel the evil.
3. Late stage: focus on tonifying the zheng qi and slightly expelling the evil.

The aforementioned three principles are general guidelines; however, adjustments are made for specific diagnostic considerations. For example, a patient may be in the stage 1 “early stage” but may require stage 2 “middle stage” treatment strategies.

The term evil refers to unhealthy influences and processes that cause illness. This includes the six evils, which are also called the six pernicious influences: wind, cold, damp, heat, summer heat, dryness. Evil also refers other influences, including bloods stasis and heat toxins.

B. Bian Zheng vs. Bian Bing

Two important ways of looking at disease must be considered: bian zheng (pattern differentiation) and bian bing (disease differentiation). Bian zheng is the classic TCM (traditional Chinese medicine) differentiation of illness into syndrome patterns. This is based on principles including zang-fu syndromes (internal organ syndromes),

eight principles/parameters, six stages, four levels, channel diagnostics, san jiao disorders, and qi, blood, and fluid disorders.

Bian bing refers to naming a specific disease based on location or other etiology by disease differentiation (e.g., lung cancer, liver cancer, breast cancer, prostate cancer).

Lung Cancer Clinical Example

Let's take a look at a real world example from the Pang family clinic. A patient presented with the bian bing diagnosis of lung cancer; however, the bian zheng diagnosis was determined to be spleen qi deficiency with liver fire uprising.

- Bian bing: lung cancer
- Bian zheng: spleen qi deficiency with liver fire uprising

According to TCM principles of pattern differentiation, the treatment focuses on tonifying spleen qi and clearing liver fire. Importantly, when treating patients with cancer and developing treatment strategies, we maintain that syndrome/pattern differentiation is more important than disease differentiation from a licensed acupuncturist's perspective; however, both approaches must be considered. More on this patient with lung cancer characterized by spleen qi deficiency with liver fire uprising in the next section.

C. Channel Guiding Herbs

Ancient TCM practitioners considered that diseases have specific locations. In addition, medications also reach specific locations. As a result, medications require guidance to reach the correct location to remedy a specific disease. The concept of the medicinal guide applies to guiding herbal medicines to exert their effects to specific locations. This ancient principle is similar to the modern use of target therapy and drug carriers. Channel guiding herbs optimize targeting specific areas

for herbal formulas. This approach to care is often consistent with bian bing diagnoses, which are often given their terminology based on location (e.g., lung cancer, liver cancer, brain cancer, etc.).

Lung Cancer Clinical Example, Part 2: Bian Zheng & Bian Bing

Our real world example of the lung cancer patient with spleen qi deficiency and liver fire uprising was treated using both pattern differentiation and disease location principles. The herbal formula choice was based on bian zheng (pattern differentiation): Sheng Ling Bai Zhu San. This formula tonifies spleen, stomach, and lung qi, and also transforms dampness.

Channel guiding herbs were added to address disease location. Using the bian bing diagnosis of lung cancer, herbs that guide the formula to the lungs were added: Yu Xing Cao 鱼腥草, Gua Lou 瓜蒌, Huang Qin 黄芩. The pattern differentiation of liver fire also includes the liver channel as a location. A small amount of herbs that guide the formula to the liver channel were added: Long Dan Cao 龙胆, Chai Hu 柴胡. Using this approach to care, the herbal formula supported the patient and the patient subsequently fully recovered.

Review

Note that the bian bing diagnosis of lung cancer does not include the liver; however, the TCM bian zheng diagnosis of spleen qi deficiency and liver fire uprising does include the liver. As a result, channel guiding herbs to address this aspect of syndrome differentiation are added.

The following is a list of channel guiding herbs that help herbal formulas reach specific locations:

1. Liver channel: Chai Hu 柴胡, Qing Pi 青皮, Chuan Xiong 川芎, Wu Zhu Yu 吴茱萸

2. Gallbladder channel: Chai Hu 柴胡, Qing Pi 青皮
3. Heart channel: Huang Lian 黃連, Xi Xin 細辛
4. Small intestine channel: Huang Bai 黃柏, Gao Ben 藁本
5. Spleen channel: Sheng Ma 升麻, Cang Zhu 蒼朮
6. Stomach channel: Shi Gao 石膏, Bai Zhi 白芷, Ge Gen 葛根, Sheng Ma 升麻
7. Lung channel: Jie Geng, Sheng Ma 升麻, Cong Bai
8. Large intestine channel: Bai Zhi 白芷, Shi Gao 石膏, Sheng Ma 升麻
9. Kidney channel: Xi Xin 細辛, Zhi Mu 知母, Gui Zhi 桂枝, Du Huo 獨活
10. Bladder channel: Qiang Huo 青蒿
11. Sanjiao (triple burner): Chai Hu 柴胡, Lian Qiao 蓮翹
Upper jiao (burner): Di Gu Pi 地骨皮
Middle jiao: Qing Pi 青皮
Lower jiao: Fu Zi 附子
12. Pericardium channel: Chai Hu 柴胡, Mu Dan Pi 牡丹皮
13. Ren channel (Conception Vessel): Gui Ban 龜板, Bie Jia 鼈甲
14. DU channel (Governing Vessel): Lu Jiao 鹿角膠, Lu Rong 鹿茸

Herbs also guide in general directions:

- Guide the herbal effect upwards: Jie Geng 桔梗
- Guide the herbal effect downwards: Niu Xi 牛膝

D. Six TCM Oncology Principles

The following are six specific treatment principles for the treatment of patients with cancer within the Chinese medicine system:

1. Clear Heat and Toxins
2. Invigorate Blood and Dissolve Blood Stasis
3. Support Zheng Qi and Tonify the Root
4. Soften the Firmness and Spread Out Nodules
5. Yi Du Gong Du: “Toxic to Toxic”
6. Permeate the Dampness and Dispel Toxicity

E. Bian Bing Herbal Medicine Choices

The following are herbs used when considering bian bing (disease differentiation). Herbs listed as “comprehensive” are considered generally helpful for cancer patients. On the other hand, herbs listed citing specific conditions are considered helpful for supporting patients with that particular condition.

Disclaimer: Please note that many areas legally forbid listing any traditional medicine as beneficial for the treatment of cancer and this listing only indicates that the herbs support the patient that has cancer and does not specifically treat cancer. Check for local and national laws on the use of specific herbs as these regulation fluctuate.

- | | | | |
|-----|--------------------------------------|------------------------------|---------------------------------|
| 1. | Qing Dai 青黛 | 1 qian, three times per day: | chronic leukemia |
| 2. | Zhi Zi 山梔子 | | acute leukemia with excess heat |
| 3. | Qian Cao 茜草 | | digestive system cancers |
| 4. | Qi Ye Yi Zhi Hua 七葉一枝花, 蚤休, 重樓 | | comprehensive |
| 5. | Bai Hua She She Cao 白花蛇舌草 | | comprehensive |
| 6. | Ban Zhi Lian 半枝蓮 / Ban Bian Lian 半邊蓮 | | comprehensive |
| 7. | Bai Ying 白英 | | comprehensive |
| 8. | Long Kui Cao 龍葵草 | | comprehensive |
| 9. | Chun Gen Pi 椿根皮 | | intestinal cancer |
| 10. | Feng Wei Cao 鳳尾草 | | female system cancer |
| 11. | Wei Ling Xian 威靈仙 | | throat and esophagus cancer |

12. Shan Ci Gu 山慈菇 lymphatic system cancer
13. Wang Bu Liu Xing 王不留行 prostate and breast cancer
14. Ling Zhi 靈芝 lung & digestive system cancer
with qi deficiency (氣虛)
15. Wu Gong 蜈蚣 pain due to cancer, brain cancer
16. Chan Su 蟾酥 / Liu Shen Wan 六神丸 comprehensive,
esophageal cancer

Liu Shen Wan (six divine pill) is an herbal formula that contains Chan Su. Chan Su is toxic and must be used carefully and only where it is legal. This is an example of the toxic to toxic (yi du gong du) principle. The cancer is toxic and the Chan Su is toxic.

17. Ba Yue Zha 八月扎 (fruit of San Ye Mu Tong) comprehensive
18. Shi Shang Bai 石上柏 female system and lung cancer
19. Xi Huang Cao 溪黃草 jaundice, liver cancer pain
20. Niu Huang 牛黃 jaundice, liver cancer pain
- Pian Zai Huang 片仔黃 jaundice, liver cancer pain

Pian Zai Huang (Pien Tze Huang) is an herbal formula that contains Niu Huang and is sometimes used.

21. Bai Lian 白蘞 skin cancer
22. Chui Pen Cao 垂盆草 comprehensive
23. Guan Zhong 貫眾 influenza, comprehensive
24. Li Teng Gen 梨藤根 (Teng Li Gen, root of kiwi fruit) breast,
gastrointestinal, and liver cancer
25. Tian Kui Zi 天葵子
Zi Bei Tian Kui 紫背天葵
Use both of these herbs together for patients with: lung and
urination bladder cancer, lymphoma (cancer of the lymph nodes)
26. Da Ji 大薊

Xiao Ji 小薊 Both are appropriate for lymphoma & leukemia.
These herbs are similar and are interchangeable.

27. Kui Shu Zi 葵樹子 comprehensive, nasopharyngeal & esophageal carcinomas, leukemia
28. She Mei Cao 蛇莓草 breast cancer, thyroid cancer
29. Shan Dou Gen 山豆根 lung & throat cancer, leukemia
30. Hong Dou Shan 紅豆杉 lung cancer

Paclitaxel (brand name Taxol) is used to treat a number of types of cancer. Originally extracted from the Pacific yew, paclitaxel may also be extracted from *Taxus chinensis* (Hong Dou Shan), another species of yew.

31. Wu Zhi Mao Tao Gen 五指毛桃根 liver cirrhosis and cancer
32. Tu Bie Chong 土鱉蟲 liver & spleen swollen
33. Lou Lu 漏蘆 liver & skin cancer
34. Ling Xiao Hua 凌霄花 female system & skin cancer

F. General Immunity Support and Remove Tumor Formula

This following formula is for general immunity support for patients with tumors but is not listed for treating and removing tumors. Patients with tumors require referral to an appropriate medical professional for consultation and treatment of tumors.

Pang family traditional support formula:

Treatment Principle: Support the upright qi, expel evil qi

Ban Zhi Lian	半枝蓮	30g
Bai Hua She She Cao	白花蛇舌草	30g

Kui Shu Zi	葵树子	15g
Yi Yi Ren	薏苡仁	30g
Zhu Ling	猪苓	30g
Fu Ling	茯苓	15g
Ling Zhi	灵芝	30g
Dang Shen	党参	15g
Xi Yang Shen	西洋参	15g
Bai Zhu	白术	15g
Huang Qi	黄芪	15g
Nu Zhen Zi	女贞子	9g
Chai Hu	柴胡	9g
Yu Jin	郁金	9g
Ji Nei Jin	鸡内金	6g
Zhi Gan Cao	炙甘草	9g

Preparation:

Cover the herbs in water and decoct. Because this is a large amount of herbs, more water than usual is required. Dependent upon the patient's condition and tolerance for the formula, this formula can be taken 1–2 times per day. This formula supports the zheng qi (upright qi) while simultaneously allowing the evil qi to exit.

G. TCM Dietetics Treatments for Reducing Toxicity from Chemo & Radiation Therapy

Patients undergoing chemotherapy and radiation therapy require support. The depleting nature of chemotherapy indicates that tonifying qi and blood becomes an important principle in supporting these patients. The fire and toxins from radiation therapy indicates that clearing the fire toxins is an important principle. The following are helpful dietetics suggests for inclusion into the dietary regimen of patients.

1. Green tea with Jiao Gu Lan tea (Jiao Gu Lan Cha) 绞股蓝茶療法

Jiao Gu Lan 绞股蓝 is slightly bitter, cold, and enters the lung and heart channels. It tonifies qi, moistens the lungs, and dispels phlegm. Jiao Gu Lan also clears heat, eliminates toxins, and reduces inflammation. Green tea (Lu Cha, Cha Ye) clears heat, dispels dampness, and eliminates toxins. Together, these two herbs support patients with gentle detoxification. This is a simple dietary addition that helps support the patient.

2. Hai Dai Lu Dou Sheng Gan Cao Tang 海帶綠豆生甘草湯

This is a simple three herb formula of Hai Dai, Lu Dou 綠豆, and Sheng Gan Cao 甘草. The mung bean (Lu Dou) and raw licorice (Sheng Gan Cao) combination is taken as a hot tea or soup. It clears heat and relieves fire toxicity. Together, these herbs act as an antidote for many toxic substances.

Note the addition of Hai Dai to the traditional formula combination of Lu Dou and Gan Cao (Lu Dou Gan Cao Tang). Hai Dai 海帶 is kelp, a seaweed. This is salty, cold, and enters the bladder, liver, kidney, and stomach channels. Hai Dai transforms phlegm, cools hot phlegm, moistens dryness, nourishes fluids, promotes urination, softens hard nodules and masses, and benefits the kidneys. Hai Dai is indicated for patients with nodules, abdominal masses, tumors, goiter, and edema.

3. Zhu Yu Er Bao Zhou 珠玉二寶粥 (山药薏苡仁粥)

Known as pearl and jade porridge, Zhu Yu Er Bao Zhou is a congee made with Shan Yao 山藥 and Yi Yi Ren 薏苡仁 combined with meat or vegetables. This is a basic nutritional meal for cancer patients. As a congee, it is easy to digest and absorb.

4. Herbs for Tea

The following are herbs that can be included in everyday drinking teas that support the therapeutic functions but reduce toxicity for patients undergoing chemotherapy and radiation therapy.

- | | |
|-----------------|-----|
| • Huang Qi | 黃耆 |
| • Tai Zi Shen | 太子參 |
| • Bai Zhu | 白朮 |
| • Ji Xue Teng | 雞血藤 |
| • Chuan Xiong | 川芎 |
| • Gou Ji Zi | 枸杞子 |
| • Nu Zhen Zi | 女貞子 |
| • Tian Men Dong | 天門冬 |
| • Mai Men Dong | 麥門冬 |
| • Dang Gui | 當歸 |

H. Prevention of Cancer Recurrence

The basic principle to prevent the recurrence of cancer is to support the upright qi (zheng qi). The traditional view is that a strong body has a greater chance to prevent the recurrence of cancer. In this section, we look at different issues related to this topic.

1. No Obvious Triggers

This applies to patients that are depleted, especially survivors of late stage cancer, cancers that were not treated early, or cancers that were not given appropriate medical attention. For patients with deficiency due to these issues, the cancer may reappear within 3–6 months. In traditional medicine, we say this recurrence is because the evil was not completely cleared and while the zheng qi (upright qi) was deficient.

The treatment principle is to tonify the zheng qi and warm the kidney and spleen. Appropriate nourishing herbal formulas include the following:

Shi Quan Da Bu Tang 十全大補湯
Gui Shao Liu Jun Zi Tang 歸芍六君子湯

Also, Chinese medicinal fungi, including Ling Zhi mushrooms (靈芝, Ganoderma) are considered helpful.

2. Emotional Depression Trigger

According to Chinese medicine principles, imbalances of the seven emotions can lead to endogenous disease. In the case of depression, this depresses the body's defenses and may increase susceptibility to relapse. The following section is especially relevant to early stage cancer patients and those with emotional depression concerns that are causing new symptoms.

The diagnosis relating to this section is liver qi stagnation with heart and spleen deficiency. The treatment principle is to regulate the liver qi, nourish the blood, soften the liver, and tonify the heart and spleen. Two relevant herbal formulas for patients with mental depression are:

Xiao Yao San 逍遥散

Gui Pi Tang 归脾汤

Add appropriate herbal modifications to address issues of toxicity, emotional imbalances, and deficiency. A consultation with a mental healthcare specialist, such as a psychologist or psychiatrist, is important.

3. Improper Diet Triggers

a. Fa Foods and Rich Tonics

Eating Fa foods too early or resumption of strong tonifying foods too early may cause difficulty in wound healing, especially after surgery when organs need to heal. The general principle is to maintain a balanced diet, eat things that are easy to digest, and no heavy tonifying foods. Fa foods are those that cause the growth of pathogens.

Fa foods are contraindicated if skin problems are present, after an injury or surgery, or if there is an infection. The same is true for patients with cancer or having recently recovered from cancer. The Fa foods may lead to unwanted growth. The one Fa food exception is mushrooms because, in many cases, this food may be beneficial.

Fa Foods

- Shellfish, including shrimp and crab: these foods are particularly contraindicated for psoriasis, eczema, and patients with infections.

Shellfish tend to turn red when cooked and the concept is that the red from the cooking equates into increased redness and inflammation for these patients. Science confirms that there are several forms of reactions to shellfish including the release of histamines from mast cells.

- Alcohol
- Green onions and chives may present problems due to their warming nature.
- Mushrooms and bamboo shoots: they grow fast and therefore may make infections grow fast also. However, some mushrooms are considered beneficial. Mushrooms are the Fa food exception for patients with cancer.
- Roasted or barbecued foods: top contraindications are attributed to domestically raised roasted duck, goose, and Peking duck.
- Chicken, especially rooster, is contraindicated because it tonifies yang.
- Goat meat
- Tarot
- Soft drinks: sugar based drinks may make infections or pathogens grow. Also, soft drinks may make changes to the body pH, thereby contributing to infections and other issues.
- Peanuts, especially dry roasted peanuts, are in the Fa food group.

b. Food Stagnation due to damaged spleen & stomach qi by overeating and hard to digest foods

The main principle is to avoid overeating as not to tax an already compromised digestion system. In addition, identify and avoid foods that are difficult to digest. The treatment principle is to regulate the qi, strengthen the spleen, and harmonize the stomach. Appropriate herbal formulas include the following:

Zhi Zhu Wan

枳术丸

This simple formula is a combination of Bai Zhu 白朮 and Zhi Shi 枳實. It benefits the spleen and breaks up stagnant qi and food stagnation.

Mu Xiang Bing Lang Wan

木香檳榔丸膠囊

This herbal formula is used to move the qi, remove stagnation, drain the heat, and purge the bowels.

Ingredients:

- Mu Xiang
- Bing Lang
- Da Huang
- Qian Niu Zi
- Qing Pi
- Chen Pi
- Chao Xiang Fu
- Chao E Zhu
- Fu Chao Zhi Ke
- Huang Lian
- Huang Bai



Da Huang



Xiang Fu



Huang Lian



Huang Bai

Jian Pi Wan

健脾片

This popular formula is often referred to as the ginseng stomach pill and the strengthen the spleen pill. It tonifies the spleen, harmonizes the stomach, eliminates food stagnation, and stops diarrhea.

Ingredients:

- Chao Bai Zhu
- Fu Ling
- Ren Shen
- Dang Shen
- Shan Yao
- Wei Rou Dou Kou
- Shan Zha
- Chao Shen Qu
- Chao Mai Ya
- Mu Xiang
- Chen Pi
- Shan Ren
- Chao Huang Lian
- Gan Cao



Shan Yao

Mu Xiang Shun Qi Wan 木香顺气丸

This formula smoothes the qi, harmonizes the liver and stomach, descends the stomach qi, alleviates food stagnation, and strengthens the spleen and stomach.

Ingredients:

- Xiang Fu
- Wu Yao
- Mu Xiang
- Zhi Ke
- Chen Pi
- Chao Shen Qu
- Chao Shan Zha
- Chao Mai Ya
- Lai Fu Zi
- Fu Ling
- Bing Lang
- Qing Pi
- Can Cao



Gan Cao

c. Greasy and Rich Foods, Yang Tonifying Herbs

Consumption of greasy and rich foods may nourish the cancer or aggravate the condition. This may also be caused by premature or inappropriate use of strong tonifying herbs, especially yang tonics, including the following:

Ren Shen	人參
Lu Rong	鹿茸
Zi He Che	紫河車

The wrong dietary consumption often causes phlegm, qi, and blood stagnation under the diagram. For these instances, the treatment principle is to dispel the evil qi, soften the mass, eliminate phlegm, and invigorate the blood to dissolve stasis. A relevant and useful herbal formula is the following:

Ge Xia Zhu Yu Tang 膈下逐瘀湯

This formula focuses on invigorating the blood, dispelling blood stasis, moving the qi, and alleviating pain.

Ingredients:

- Chao Wu Ling Zhi
- Dang Gui
- Chuan Xiong
- Tao Ren
- Mu Dan Pi
- Chi Shao
- Wu Yao
- Gan Cao
- Yan Hu Suo
- Xiang Fu

- Hong Hua
- Zhi Ke



Chuan Xiong



Chi Shao

4. Exhaustion Triggered

Engaging in too much activity, including physical and sexual activities, may lead to exhaustion of qi, blood, yin, and yang. The idea is to slowly integrate into a normal lifestyle and not to engage too early or too strongly at first. Relevant herbal formulas include the following:

Jin Gui Shen Qi Wan

金匱腎氣丸

This Chinese medicine formula warms and tonifies the kidney yang.

Ingredients:

- Shu Di Huang
- Shan Zhu Yu (Shan Yu Rou)
- Shan Yao
- Zhi Fu Zi
- Gui Zhi
- Rou Gui
- Ze Xie
- Fu Ling
- Mu Dan Pi



Mu Dan Pi



Gui Zhi



Ze Xie

Zheng Qi Chong Ji (Nu Zhen Zi & Huang Qi granules) 贞芪冲剂

This is a simple formula combining Nu Zhen Zi (女真子) and Huang Qi (黄芪) to nourish the yin and tonify qi. Some providers have this available in granules that easily dissolve into water for consumption.

Dang Gui Bu Xue Tang 当归补血汤

This is a simple formula consisting of Huang Qi (黄芪) and Dang Gui (当归). It tonifies qi and blood and promotes the healing of wounds.

5. Repeat Triggers

The most important principle is to avoid exposure to carcinogens. As a buffer against exposure, the treatment principle is to support the zheng qi (upright qi) and dispel the evil qi. The basic principle is to identify appropriate herbal formulas to support the body's needs and to take them long-term. This includes formulas that balance the system such as harmonizing formulas and formulas that strengthen the system such as tonics. Relevant formulas to maintain internal balance include the following:

Xiao Chai Hu Tang 小柴胡汤

This formula harmonizes shaoyang stage disorders, benefits the liver, and harmonizes the liver and spleen.

Ingredients:

- Chai Hu
- Huang Qin
- Zhi Ban Xia
- Sheng Jiang
- Ren Shen
- Zhi Gan Cao
- Da Zao



Chai Hu



Huang Qin

Bu Zhong Yi Qi Tang

补中益气汤

This is a strong and uplifting tonic. It tonifies the spleen and stomach qi, raises the qi, and lifts prolapsed organs.

Ingredients:

- Huang Qi
- Ren Shen or Dang Shen
- Bai Zhu
- Zhi Gan Cao
- Dang Gui
- Chen Pi
- Sheng Ma
- Chai Hu
- Sheng Jiang (some formulations)
- Da Zao (some formulations)



Huang Qi

Shi Quan Da Bu Tang

十全大補湯

This formula tonifies qi, blood, and yang.

Ingredients:

- Huang Qi
- Rou Gui
- Ren Shen
- Shu Di Huang
- Bai Zhu
- Dang Gui
- Bai Shao
- Chuan Xiong
- Fu Ling
- Gan Cao



Dang Gui

6. *General Principles on Cancer Recurrence (Relapse)*

A few thoughts on supporting cancer patients are appropriate at the end of this course. All cancer recurrence types listed above may be combined, especially due to a combination emotional issues and exhaustion.

The pathogenesis of cancer recurrence, according to Chinese medicine, is primarily due to deficiency. The treatment principle is to support the zheng qi (upright qi). This is based on pattern differentiation and application of appropriate treatments based on diagnostic patterns. This may be yang deficiency, yin deficiency, qi and blood deficiency, and other concerns such as heat and toxins.

Main Principle

The goal is mastering the art of trading off supporting the zheng qi with dispelling the evil qi in the correct proportions. Additional principles are to avoid exposure to pathogenic triggers and to seek psychological counseling to support the emotions.



Ken Pang, L.Ac. and Prof. Jeffrey Pang, L.Ac. (left to right)

Cancer Treatment Centers

Most major cancer treatment centers in the USA provide acupuncture for patients. For example, Johns Hopkins Medicine has staff licensed acupuncturists. Here is a quote from their *Integrative Medicine & Digestive Center* web page: ⁸

Acupuncture has been shown to ease the nausea, vomiting, dry mouth, fatigue, anxiety, depression and immune suppression that can often accompany cancer treatment.[1] Acupuncture and Chinese medicine have also been shown to ease side-effects of chemotherapy and radiation, such as insomnia, night sweats, hot flashes, lack of appetite, weight loss, constipation or diarrhea, pain and melancholy. Our goal is to help patients tolerate the maximum recommended dose of radiation or chemotherapy, in order to promote the best medical outcome. Our licensed acupuncturists help patients manage the side-effects of rigorous cancer treatment so they can stay strong through treatment and recovery.

A recent study on menopausal breast cancer patients shows acupuncture is just as effective as drug therapy in reducing menopause symptoms like hot flashes and night sweats. Acupuncture has the added advantages of being virtually side-effect free, and of increasing energy, clarity of thought and sex drive.[2] Acupuncture has also been shown to relieve joint pain and stiffness in post-menopausal breast cancer patients who have taken aromatase inhibitors.[3]

In survivors, acupuncture bolsters quality of life by treating some of the permanent effects of chemotherapy. Those who have had surgery find that acupuncture improves range of motion and flexibility and decreases pain associated with scar tissue. Survivors often experience peripheral neuropathy—a

8. Johns Hopkins Medicine, hopkinsmedicine.org/integrative_medicine_digestive_center/services/cancer_supportive/cancer_supportive_acupuncture.html. Integrative Medicine & Digestive Center, 8-23-2020.

chronic side-effect of chemotherapy in which fingers and toes can feel numb, weak or tingly—which can be managed with acupuncture. Studies also show that acupuncture can reduce pain and weakness. In one study, patients with advanced gynecological cancers reported a significant reduction in pain after 5 to 7 treatment sessions. Without any further treatment, these patients' pain and weakness were less severe for up to ten months.[4] [5]

References:

[1] Cohen, Andrea J., Alexander Menter, and Lyndsey Hale. "Acupuncture: Role in comprehensive cancer care—A Primer for the oncologist and review of the literature." *Integrative Cancer Therapies* 4, no. 2 (2005): 131-143, accessed January 26, 2010.

[2] Walker, Eleanor M., Alba I. Rodriguez. et al. "Acupuncture versus venlafaxine for the management of vasomotor symptoms in patients with hormone receptor-positive breast cancer: a randomized controlled trial." *Journal of Clinical Oncology* 28, no. 4, (Feb 1 2010).

[3] Crew, K., et al. (2010). "Randomized, blinded, sham-controlled trial of acupuncture for the management of aromatase inhibitor-associated joint symptoms in women with early-stage breast cancer." *Journal of Clinical Oncology* 28 (7), 1154-1160.

[4] Wong, R. and S. Sagar. "Acupuncture treatment for chemotherapy-induced peripheral neuropathy." *Acupuncture in Medicine* 2006.

[5] "Acupuncture." *NIH Consensus Conference. JAMA* 280 (17): 1518-24, 1998.

Next:

The following section takes a look at select pieces of research on the integration of acupuncture and herbal medicine into patient care.

Research

The following articles help to review acupuncture and herbs from the perspective of modern research.

Sloan-Kettering Cancer Center Research & Lymphoedema

Memorial Sloan-Kettering Cancer Center research demonstrates that acupuncture significantly reduces lymphoedema related arm swelling in women after breast cancer surgery. Lymphoedema is a when there is fluid retention and tissue swelling in the body due to disorders of the lymphatic system. The lymphatic system controls the return of interstitial fluid to the bloodstream. After breast cancer surgery, the lymphatic system can be damaged by lymph node surgery or radiation therapy. Symptoms may appear quickly or take several months or years to become apparent. Swelling of the arms and sides of the body is most common after lymphatic system damage due to breast cancer procedures.

The researchers at Sloan-Kettering (New York) note that existing conventional treatments for lymphoedema are only “marginally beneficial, rarely reducing arm swelling in any meaningful way.” The new study concludes that acupuncture is safe and that some of the women in the study showed a 30 percent or better reduction of lymphoedema related arm swelling.

In this study, lymphoedema was diagnosed when the affected arm was greater than 2 cm in circumference than the unaffected arm. Participants received acupuncture at a rate of 2 times per week for a total of four weeks. Results were tabulated after a six month follow-up. No serious events were reported and the study concludes that “acupuncture appears safe and may reduce lymphoedema associated with breast cancer surgery.”

Reference:

Acupunct Med. doi:10.1136/aim.2011.004069. A safety and efficacy pilot study of acupuncture for the treatment of chronic lymphedema. Barrie R Cassileth, Kimberly J Van Zee, Yi Chan, Marci I Coleton, Clifford A Hudis, Sara Cohen, James Lozada, Andrew J Vickers.

Acupuncture Pancreatic Cancer Pain Research

Researchers conducted a randomized, placebo controlled study to investigate whether or not acupuncture reduces pain associated with pancreatic cancer. This type of cancer is often accompanied by severe abdominal or back pain. The researchers concluded that, “Electroacupuncture was an effective treatment for relieving pancreatic cancer pain.”

A total of 60 pancreatic cancer patients with severe pain were randomly divided into two groups. Group 1 was the placebo control group and group 2 received verum acupuncture. The acupuncture points used in the study were the Jiaji points from T8 to T12, bilaterally, for a total of 30 minutes of acupuncture needle retention time per office visit. Treatment frequency was once per day for a total of 3 days of care. The pain intensity levels were assessed using numerically rated scales prior to the study, upon completion of the three sessions of acupuncture treatments and at a 2 day follow-up appointment.

The placebo control group showed little to no change in pain levels. The electroacupuncture group showed a significant reduction in pain intensity levels. The improvements were measurable after the 3 session completion and at the 2 day follow-up appointments. As a result of the findings, the researchers conclude that acupuncture is successful in the reduction of pain associated with pancreatic cancer.

Acupuncture for the treatment of patients with cancer became recognized as an important treatment application following a 1997 National Institutes of Health study showing that acupuncture is effective for treating nausea due to chemotherapy. Since that time, many studies demonstrated that acupuncture provides important pain relieving benefits for patients undergoing cancer treatments. One study on this topic was conducted at the University of Maryland School of Medicine for patients receiving medications for treatment of multiple myeloma (MM), cancer of plasma cells that affects bone marrow.

MM is often treated with the pharmaceutical drug bortezomib. Peripheral neuropathy, damage to peripheral nerves, is a common side effect causing pain in cancer patients taking bortezomib. The University of Maryland research finds that acupuncture is effective for relieving peripheral neuropathy pain due to bortezomib intake in cancer patients. This finding affects cancer treatments in that bortezomib induced pain is a dose-limiting factor. The researchers conclude, "Acupuncture is a viable treatment option for MM patients experiencing painful BIPN (bortezomib-induced peripheral neuropathy)."

Patients received acupuncture at a rate of 1-2 times per week or once every two weeks dependent upon clinical responses. Acupuncture points used in the study were: auricular shen men, auricular point zero, two auricular points where electro-dermal signals were detected, LI4 (Hegu), TB5 (Waiguan), LI11 (Quchi) , ST40 (Fenglong) and Bafeng. All patients experienced pain reduction immediately following the first acupuncture visit. No adverse reactions were associated with the acupuncture treatments and patients experienced long lasting pain relief.

References:

Chen, Hao, Tang-Yi Liu, Le Kuai, Ji Zhu, Cai-Jun Wu, and Lu-Ming Liu. "Electroacupuncture treatment for pancreatic cancer pain: A randomized controlled trial." Pancreatology (2013).

Ting Bao, Lixing Lao, Michelle Medeiros, Ruixin Zhang, Susan G. Dorsey, and Ashraf Badros. Medical Acupuncture. September 2012, 24(3): 181-187. doi:10.1089/acu.2011.0868. The University of Maryland School of Medicine, Baltimore, Maryland.



Acupuncture Surpasses Drug For Hot Flashes And Insomnia

Acupuncture is more effective than medications for improving sleep quality in survivors of breast cancer. University of Pennsylvania (Philadelphia), Memorial Sloan Kettering Cancer Center (New York), and Memorial University (Newfoundland and Labrador) researchers determined that electroacupuncture outperforms gabapentin for improving sleep latency and efficiency for female breast cancer survivors with hot flashes. In a controlled clinical trial, the researchers conclude that acupuncture improves sleep duration and significantly improves the length of time needed to transition from full wakefulness to restful sleep (sleep latency).

The researchers determined several other benefits provided by acupuncture to breast cancer survivors with hot flashes. Acupuncture reduces sleep disturbances, decreases daytime dysfunction, and improves sleep efficiency. Based on the data, the researchers conclude that acupuncture improves overall sleep quality. In addition, acupuncture does not produce adverse effects associated with gabapentin (e.g., dizziness, fatigue, ataxia) or venlafaxine (e.g., dry mouth, constipation, headaches). The researchers demonstrate that acupuncture produces superior positive patient outcomes without the undesirable adverse effects associated with medications. The research was published in *Menopause: The Journal of The North American Menopause Society* and was supported, in part, by a grant from the US National Institutes of Health (NIH).

It is estimated that there will be approximately 6 million breast cancer survivors in the US by the year 2020. Breast cancer survivors have a higher rate of hot flashes and comorbid sleep disturbances compared with women that do not suffer from breast cancer. This is due to several factors including several forms of cancer treatments: hormone therapy (e.g., tamoxifen, aromatase inhibitors), chemotherapy, surgery. The researchers provide background for the initiation of the study. They cite recent clinical trials demonstrating that acupuncture “is an effective treatment for hot flashes in breast cancer survivors with few, if any, side

effects.” They add that the quality of evidence is high because the conclusions were drawn from double blind, randomized, placebo controlled investigations. Of these prior investigations, they add that several find acupuncture effective for improving sleep quality and duration.

The focus of their intervention was to determine the efficaciousness of an established pharmacological intervention versus that of electroacupuncture. The researchers note that electroacupuncture was chosen for one arm of the investigation because prior investigations demonstrate that electroacupuncture affects endorphin and neuropeptide levels. The second arm of the investigation was administration of gabapentin, based on its successful implementation in usual care.

Two experienced licensed acupuncturists were chosen to implement acupuncture therapy. The first acupuncturist had eight years of prior clinical experience and the second acupuncturist had twenty years of clinical experience. The choice of using licensed acupuncturists seems obvious, however; it is important to note that there exists other studies that do not use any Traditional Chinese Medicine (TCM) principles for acupoint selection or application. There are studies in which no licensed acupuncturists are involved, but rather academics with little to no experience in the field of acupuncture. As a result, their outcomes are predictably poor. The investigation we are examining in this article, by contrast, is an authentic and well-designed model without bias.

Participants received acupuncture twice per week for the first two weeks. Next, weekly acupuncture therapy sessions were administered for an additional six weeks. This totaled ten acupuncture treatments over an eight week period.

The choice of acupoints was determined on a patient by patient basis, consistent with clinical practice in a standard acupuncturist clinic. Manual acupuncture techniques were applied to obtain deqi at the acupoints and electroacupuncture was applied between two acupoints

(not specified in the research document) with a 2 Hz frequency setting. Needles were retained for thirty minutes per acupuncture session. All needles were Seirin brand filiform needles of a 0.25 mm gauge and either a 30 or 40 mm length. For patients receiving drug therapy, gabapentin was administered daily (900 mg).

The researchers conclude that “EA [electroacupuncture] produces comparable, if not better, improvements in sleep quality than GP [gabapentin], a currently recommended pharmacological intervention.” The researchers note that electroacupuncture produced superior patient outcomes for the improvement of sleep quality. They add, “women receiving EA reported were able to fall asleep faster and spent more time in bed sleeping as opposed to lying awake in bed trying to sleep. Our results suggest that EA results in improved sleep in women with hot flashes and might be a viable treatment option in women who do not wish to take medication.”

The researchers discussed various aspects of acupuncture related to the study. They cite evidence demonstrating that acupuncture affects “a number of neurotransmitters and hormonal factors associated with sleep, such as serotonin, melatonin, and gamma-aminobutyric acid.” They add that acupuncture potentially increases slow wave sleep time and repairs fragmented sleep architecture. As a result of these improvements in sleep, subjects perceive “a deeper and more restorative sleep.” Furthermore, the researchers note that prior investigations demonstrate that acupuncture is more effective than benzodiazepines. Acupuncture produces a 91% positive patient outcome rate and benzodiazepines produce a 75% positive patient outcome rate for the treatment of insomnia. In addition, a prior investigation finds acupuncture equally effective as zolpidem for improvement of sleep.

The researchers discovered a bidirectional nature of hot flashes and insomnia. Improvements in sleep quality produce reductions in hot flashes. Likewise, reductions in hot flashes improve sleep quality. The researchers postulate that successful interventions for the treatment of

hot flashes and insomnia will “positively impact other areas of functioning as well.”

The takeaway from this study is that acupuncture is effective for the treatment of insomnia and hot flashes for breast cancer survivors. Also, acupuncture presents a treatment option absent the adverse effects associated with conventional medications.

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Herb Research: Ban Zhi Lian

Research on the anti-cancer properties of the Chinese medicine herb Ban Zhi Lian emerges from laboratories and university research facilities. Acupuncturists have used this herb for generations as an anti-toxin herb and now modern research confirms its clinical efficacy. An aqueous extract of the herb Ban Zhi Lian (*Scutellaria barbata*) was found to have “anti-proliferative gene expression responses in human breast and prostate cancer cells” by researchers at the University of California at Berkeley, Department of Molecular and Cell Biology. [1]

Researchers at the Medical School of Xi'an Jiaotong University, Department of Oncology, concluded that Ban Zhi Lian “has antitumor activity and seems to be safe and effective for the use of anti-tumor therapy.” [2] Other research finds that Ban Zhi Lian “exhibited potential anticancer activity... through induction of apoptosis.” [3]

Ban Zhi Lian is often combined with another herb, Bai Hua She She Cao, for the treatment of lung and gastrointestinal cancers. Often, acupuncturists administer the herbs as a supplement to conventional chemotherapy.

References:

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Acupuncture Helps Cancer Patients

New research published in the *Annals of Oncology* (Oxford University Press, Oxford Journals) concludes that acupuncture is effective for relieving dry mouth caused by cancer radiation therapy. A sample size of 145 patients with chronic radiation induced xerostomia (dry mouth) was studied in a randomized investigation of acupuncture treatments compared with oral care education. The researchers noted that acupuncture was superior to oral care and produced pronounced and clinically significant results.

The researchers documented that acupuncture significantly reduced severe dry mouth, reduced issues of sticky saliva and reduced the need for patients to sip fluids to swallow food. Acupuncture also significantly reduced the need to wake up at night to drink. The researchers concluded that eight acupuncture treatments performed at a rate of one per week was superior to oral care education for the relief of xerostomia induced by cancer radiation therapy.

In a related case history published by the Medical College of Wisconsin in the *Journal of Cancer Therapeutics & Research*, researchers conclude that acupuncture reduces chemotherapy and radiation treatment side effects. The study demonstrated that acupuncture reduced painful swallowing and dry mouth that resulted from chemotherapy and radiation treatment.

Manual acupuncture, electroacupuncture and auricular acupuncture were used. Stomach and Large Intestine Yangming channel points used in the study were: ST3, ST4, ST5, ST6, ST7, ST36, LI4 and LI11. Shaoyang, Taiyang, Taiyin, Ren and Du points were also used: SI18, SI19, GB2, GB3, SP6, GV20, CV23, CV24. Ear acupuncture points Shenmen and Point Zero were also included. Electroacupuncture was applied to ST5, ST6 and ST7 bilaterally for some acupuncture treatments and to ST3 and ST4 as well.

The acupuncture needles were 15mm and 25mm in length respectively and the needle depth ranged from 0.25 cm to 1cm. Electroacupuncture was set to 30Hz with an amplitude adjusted for patient tolerances.

In another related study, researchers concluded that acupuncture significantly relieves hiccups for patients with late-stage cancer. A total of thirty patients were included in the investigation. Ten improved markedly, eighteen patients demonstrated improvement and two patients did not respond to acupuncture therapy. The total effective rate for the acupuncture therapy exceeded 93 percent.

These three recent investigations suggest that acupuncture plays an important role in supporting patients with cancer. Patient comfort and bodily functions were shown to improve markedly. The amelioration of chemotherapy and radiation side effects serves to relieve suffering and improve the quality of life for cancer patients.

Reference:

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Acupuncture Alleviates Cancer Pain, Fatigue, & Anxiety

University of Pittsburg and Temple University researchers find acupuncture effective for the alleviation of cancer pain. Acupuncture alleviated additional cancer related concerns including nausea, fatigue, anxiety, and interference with life activities due to pain.

The researchers note that acupuncture reduced pain severity with over 60% of cancer patients “experiencing a clinically meaningful reduction of 30% in pain severity and interference. Acupuncture also resulted in significant improvement in associated symptoms.”

The team of doctors and researchers cited Vickers et al. for the basis of the investigation noting that “acupuncture has been studied extensively showing benefits over placebo for nonmalignant conditions.” Additional research on acupuncture for the treatment of cancer related pain and side effects was cited. Dean-Clower et al. demonstrated that acupuncture reduces cancer related pain in an 8 week study involving 12 acupuncture treatments.

The study, involving “women with advanced breast or ovarian carcinoma,” documents a “63% reduction in pain severity and a 75% decrease in pain interference, along with reductions from baseline in anxiety, depression, and fatigue.” Pfister et al. found acupuncture effective for reducing pain and xerostomia while improving functioning for cancer patients. Mehling et al. conducted a study of 138 cancer patients with the acupuncture group experiencing significantly less pain than the control group.

Glick et al. from the University of Pittsburg and Temple University (Pennsylvania) note that Dean-Clower et al. demonstrated greater pain reductions than their study due to three factors. The Dean-Clower et al. patients uniformly had advanced disease, received acupuncture at a larger number of acupoints, and all 12 acupuncture treatments were administered within a more concentrated period of time.

Glick et al. note, “The extended duration of the current study, as long as 22 weeks, may have diluted the treatment effect.” They add, “The design of this project was dictated by the primary aim of providing a clinical service.”

Glick et al. note, “This study investigated the effect of acupuncture on cancer-related pain as well as other symptoms, including nausea, fatigue and anxiety. It was found that these symptoms were reduced over a course of treatment involving 9 – 12 sessions of acupuncture. Specifically, pain severity and interference with life activities were significantly reduced with treatment.”

A total of 60% of patients had a 30% reduction in pain severity. A total of 36% of patients had 50% reduction in pain intensity. A total of 64% had a 30% reduction in pain interference and 52% had a 50% reduction of pain interference with life activities. Edmonton Symptom Assessment System ratings document a 51% mean reduction of pain, a 49% mean reduction of nausea, a 59% mean reduction of fatigue, and a 44% mean reduction of anxiety.

All patients in the study received standard oncologic and medical care at the Center for Integrative Medicine at UPMC (University of Pittsburgh Medical Center) Shadyside or at UPMC Shadyside Hospital (Pittsburg, Pennsylvania). A flexible protocol of 12 acupuncture treatments over a period of 2–4 months was made available. The researchers note that the preferred regimen of care was 2 acupuncture treatments per week for 4 weeks followed by an additional 4 weeks of acupuncture at a rate of once per week. Flexibility was allowed to account for hospital admissions, difficulty in scheduling, and personal preferences for treatment times.

The acupuncture treatment regimen was based on research of Traditional Chinese Medicine (TCM) texts and articles on the treatment of cancer related pain and associated symptoms. The treatment protocol was designed by 3 licensed acupuncturists and the treating

acupuncturist had 7 years of clinical experience. The primary acupuncture points chosen for patients were:

- PC6
- LI4
- ST36
- KD3

Electroacupuncture of 4 Hz at moderate intensity was run from LI4 to ST36 for patients with no history of cardiac arrhythmias or pacemakers. For patients with anxiety, irritability, or agitation the following acupuncture points were added:

- GV20
- Yintang
- Auricular: tranquilizer point

For patients with depression, despair, or withdrawal the following acupuncture points were added:

- GV20
- Yintang
- HT7

All needles were sterile, disposable, single-use stainless steel needles. Body point needles were 0.22 x 25 mm and auricular needles were 0.16 x 15 mm. The researchers note that all body style acupuncture needles were “place to a sufficient depth to elicit De Qi.” The depth typically ranged between 1/2 to 3/4 of an inch. Manual stimulation was applied with the rotation technique at insertion and later to elicit De Qi for body style acupuncture points not receiving electrical stimulation. Average needle retention time was 30 minutes and a maximum of 14 acupuncture needles were applied during any acupuncture treatment session. The flexible treatment protocol allowed for individual customization of acupuncture treatments based on a patient’s needs.

The researchers note, “This included omitting treatment for any extremity that was involved in lymphatic surgery.” An option to use fewer acupuncture points, shorten the treatment time to 20 minutes, or limit needle stimulation was available for patients that were frail or fatigued. Treatment time was optionally extended to 40 minutes for patients with very severe pain or for slow responders. The researchers add, “at the discretion of the acupuncturist, if other symptoms warranted treatment, modifications to the protocol were allowed to treat additional points.”

The researchers note that “the vast majority of patients had carcinoma, and the majority had locally invasive or metastatic disease. The majority of patients were actively receiving chemotherapy or other treatment, but several patients were recruited from the Cancer Survivorship Program at the University of Pittsburgh Medical School, Pittsburgh, PA, and were beyond any acute disease-related treatment.” The design of the study bridged the gap between strict acupuncture point protocols required for research and flexibility of acupoint customization needed to reflect a real world acupuncture treatment as it would be applied in a clinic. Given the significant pain reductions and improvements in other conditions, the researchers suggest additional studies investigating the semistructured protocol, pain reduction benefits to cancer patients, and cost savings relevant to health insurance coverage and patient accessibility to acupuncture care.

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Acupuncture Cancer Pain Relief



Acupuncture alleviates cancer pain and reduces opioid use. Researchers conducted a meta-analysis of 14 randomized controlled trials and conclude that acupuncture reduces pain levels for patients with cancer. [1] In addition, the research indicates that opioid use may decrease significantly as a result of acupuncture analgesic treatments. The research was published in *JAMA Oncology* and includes contributions from Memorial Sloan Kettering Cancer Center (New York), RMIT University (Australia), and Guangdong University (Guangzhou) researchers.

The investigators determined that true acupuncture produces significantly greater pain reduction than sham controls. The review sorted for quality clinical trials from 17 RCTs (randomized controlled trials), including 1,111 patients. A total of 14 RCTs (including 920 patients) were admitted as quality evidence to the investigation. A total of 7 studies were conducted in China, 6 in the USA, and 1 each in Korea, France, Brazil, and Australia.

The investigators note that pain is a common reason for cancer patients to seek emergency medical services and that hospital admission is also common for cancer patients visiting emergency departments. They add

that hospitals need to include acupuncture services to address this demand based on the “growing evidence of the efficacy of acupuncture.” [2]

The investigators cite evidence from Memorial Sloan Kettering Cancer Center (New York, NY), Harvard T. H. Chan School of Public Health (Boston, Massachusetts), and China Academy of Chinese Medical Sciences (Beijing, China) researchers demonstrating that most national cancer centers in the USA provide acupuncture. [3] However, the investigators note that there are significant barriers to access. They cite acupuncture’s exclusion from many insurance plans in the USA as a major obstacle for patients seeking acupuncture as an alternative or supplementary analgesic therapy.

One issue is that insurance coverage varies greatly and is largely governed on a state-by-state basis. Acupuncture services are included on the federal level within the Medicare and Medicaid system; however, this only applies to patients suffering from chronic lower back pain unrelated to surgery and the total number of annual visits are limited. For some patients, the Veterans Health Administration covers acupuncture treatments and battlefield acupuncture is a service provided by the US military. Notably, the American Pain Association and the American College of Physicians both recommend acupuncture as a nonpharmacologic treatment option. [4]

Greater inclusion of acupuncture services by licensed acupuncturists into healthcare systems for patients receiving cancer therapies alleviates suffering from severe pain and nausea. Chemotherapy patients benefit significantly from acupuncture’s often immediate and lasting ability to relieve nausea and vomiting. [5] The scope of cancer research examining traditional Chinese medicine is diverse. For example, University of Texas MD Anderson Cancer Center (Houston) and Fudan University Cancer Center (Shanghai) researchers conclude that acupuncture reduces the frequency and severity of dry mouth for head and neck cancer patients receiving radiation therapy. [6]

Research indicates that many cancer clinics provide nonpharmacologic analgesic options to meet the needs of their patients. Acupuncture's role is expanding in this environment to alleviate suffering and provide treatment options.

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Acupuncture Leads The Channels

Research indicates that acupuncture enhances targeting of an important chemotherapy drug for the treatment of lung cancer to the lungs, while simultaneously protecting the liver and kidneys. Paclitaxel, also known as Taxol, is a mitotic inhibitor used in the treatment of lung, ovarian, and breast cancer, along with other types including cancers of the head and neck. Extensive research has been underway to minimize the adverse side effects of paclitaxel including mixing it with DHA.

One focus of this type of research is to improve cell targeting so that only the regions requiring the drug are affected. In this experiment, researchers discovered that specific acupuncture points have specific effects on targeting and delivery of paclitaxel. The investigative team notes that acupuncture at specific acupuncture points influences paclitaxel tissue distribution with unique characteristics.

Using high-performance liquid chromatography, the researchers discovered that applying acupuncture needles at acupoint Feishu (BL13) targeted paclitaxel to the lungs more effectively than when using acupoint Lingtai (DU10). Both acupuncture points increased the time of metabolism while significantly reducing distribution of paclitaxel to the liver and kidneys.

The laboratory experiment followed National Institutes of Health guidelines for the care and use of animals in the experimental setting. The team notes that care was given to minimize the suffering of the laboratory mice. Electroacupuncture was applied with 2 Hz rectangular waveform at 7-8 mA for 10 minutes, once per day.

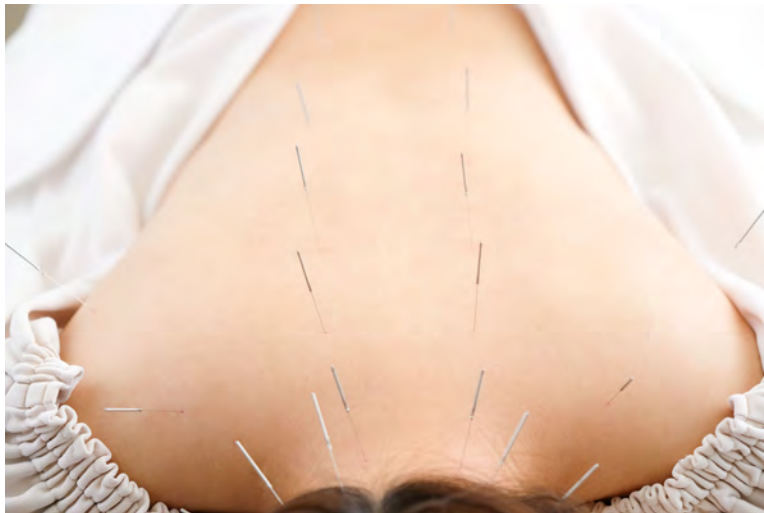
The researchers note that electroacupuncture influences “tissue distribution of Paclitaxel.” Additionally, they posit that tissue distribution changes may be one of the effective action mechanisms by which acupuncture exerts its therapeutic effects during chemotherapy. They concluded, “Acupuncture at Feishu acupoint facilitated the delivery of

Paclitaxel to lung more effectively than did acupuncture at Lingtai acupoint.” In addition, both acupuncture points “resulted in an obvious decrease of Paclitaxel distribution in kidney and delayed Paclitaxel distribution in liver.”

Paclitaxel was obtained from USA Abbott Aires Biosciences (Illinois) and Merk’s acetonitrile was used in the experiment. The team used a high-speed centrifuge, electric glass homogenizer, and a Swiss made electronic analytical balancer. The high-performance liquid chromatograph was from Dionex (USA), and the electroacupuncture machine was from Shanghai Medical Apparatus and Instruments Factory. The acupuncture needles used in the study were from the Shanghai Shunfeng Medical Instrument Company.

Reference:

Cheng, Z., Wang, S., Li, C. et al. Effects of acupuncture on the tissue distribution of Paclitaxel in lung carcinoma mice. Chin. J. Integr. Med. (2014). <https://doi.org/10.1007/s11655-014-1819-1>.



Acupuncture Treatment Example

Breast Cancer Surgery Lymphedema Relief



Acupuncture is an effective treatment modality for breast cancer related lymphedema (BCRL). Nanjing University of Traditional Chinese Medicine researchers investigated the effects of acupuncture on BCRL patients in a randomized controlled clinical trial. The study finds that acupuncture effectively reduces upper arm circumference, improves shoulder range of motion, and patients self-reported overall quality of life improvements.

Lymphedema occurs when excess lymph (a fluid that circulates throughout the body that removes bacteria, wastes, etc.) accumulates in specific areas. BCRL is a potential side effect of breast cancer surgery and often occurs in the upper arms. Breast cancer surgical procedures often involve a lymph node biopsy or removal of lymph nodes from the underarm area. Surgery and radiation therapy may damage vessels and prevent lymph circulation thereby causing fluid to accumulate in tissues.

BCRL includes arm swelling or stiffness, and skin thickening or roughness. Many breast cancer survivors develop BCRL and current treatment methods are limited, with the treatment mainly involving

physical therapy, compression sleeves, and manual and mechanical lymph drainage. In both Traditional Chinese Medicine (TCM) and Traditional Korean Medicine (TKM), BCRL is classified as edema and is considered a result of qi and blood stagnation combined with deficiency.

The research of Yao et al. was conducted at the Affiliated Hospital of Nanjing University of Traditional Chinese Medicine. Thirty breast cancer survivors meeting stringent inclusion criteria were randomly separated into experimental and control groups. The experimental group received acupuncture treatment for 30 minutes every other day for 30 consecutive days. The acupuncture points used in the investigation were the following:

- LI10 (Shousanli)
- LI11 (Quchi)
- LI14 (Binao)
- LI15 (Jianyu)
- TB5 (Waiguan)
- TB14 (Jianliao)

Notably, the acupuncture points are located locally to the areas where the lymphedema is present. Additionally, warm needle acupuncture treatment was applied to TB5, LI15, and TB14. At needle handles, 3 cm moxa pieces were burned to provide heat through the needle shaft. The control group received 900mg of diosmin (a bioflavonoid complex), three times a day, for 30 days. The results of the treatments were measured using 4 factors:

- *index of effectiveness calculated using arm circumferences*
- *shoulder range of motion (measuring angular changes at 6 directions of movement (anteflexion, rear protraction, adduction, abduction, intorsion, extorsion))*
- *self-reported quality of life*

- *clinical safety and adverse events*

At the end of the 30 day treatment regimen, the researchers note that “the overall effective index reached 51.46% in the experimental (acupuncture) group and 26.27% in the control group ($p < 0.00001$).” Another set of measurements referenced specific regions of the body. The researchers note, “the effective index in the experimental (acupuncture) group increased to 65.67% at the wrist and to 44.71% at 10 cm above the elbow, which was significantly higher than in the control group, where those indexes had increased to 34.17% and 17.30% respectively ($p < 0.05$).”

Shoulder range of motion improved significantly in all 6 directions measured in the acupuncture treatment group. Self-reported quality of life scores were significantly better for the acupuncture group than the control group. There were no reported adverse effects during treatment and all clinical safety exams were within normal ranges. The researchers conclude, “Compared with diosmin, warm acupuncture treatment can effectively reduce the degree of BCRL at the specific acupoints treated and can promote quality of life. Warm acupuncture showed good clinical safety, without any adverse effects on blood or the cardiovascular system.”

In an independent investigation, Cassileth et al. find acupuncture effective for the treatment of breast cancer related lymphedema. Cassileth et al. note that a “mean reduction in arm circumference difference of 0.9cm (95% CI, 0.72-1.07cm; $p < .0005$),” with 33% of the patients showing a reduction of more than 30% in arm circumference. In the study, 33 patients with BCRL (duration of illness ranging 0.5–5 years) received acupuncture treatments twice a week for four weeks. Treatment duration was 30 minutes per acupuncture session. Filiform acupuncture needles were inserted to a depth of 5–10mm. The acupoints selected are listed below:

- TB14 (Jianliao)

- LI15 (Jianyu)
- LU5 (Chize)
- CV12 (Zhongguan)
- CV3 (Zhongji)
- LI4 (Hegu)
- ST36 (Zusanli)
- SP6 (Sanyinjiao)



A similar study was conducted at the Daegu Catholic University Medical Center in Daegu (Korea) and suggests that acupuncture alleviates BCRL symptoms and improves the quality of life. Saam acupuncture was used 3 times per week (30 minute sessions) for 6 consecutive weeks on nine BCRL patients. “Saam acupuncture treats illness by tracing the fundamental cause of the disease. It follows the Yin-Yang theory and the Five Element theory, and Saam’s principles involve supplementing deficiency and draining excess.” Consistent with traditional acupuncture theory, Saam acupuncture selects standard acupoints based on diagnostics. The researchers note, “The basic strategy of treating illness with Saam acupuncture is to harmonize these interruptions manifested by Stagnation and irregularities, or imbalances caused by Deficiency and Excess.”

The needles were inserted 5–20mm into the skin and then manipulated gently to obtain deqi. Acupuncture points were selected dependent upon traditional Chinese medicine pattern differentiation (e.g., deficiency, excess, cold, heat). The following are examples of acupoints selected for use in the study:

- SP2 (Dadu)
- LU10 (Yuji)
- BL60 (Kunlun)
- GB38 (Yangfu)
- SI5 (Yanggu)
- ST41 (Jiexi)
- LI5 (Yangxi)

The results of the investigation quantified a significant reduction in the average circumferences of the upper arms, elbow, and forearms. Using a visual analogue scale (VAS), there were significant reductions in stages of lymphedema and improvements were noted in the self-reported quality of life scores and reports.

References:

C. Yao, Y. Xu, L. Chen, et al (2016). *Effects of warm acupuncture on breast cancer-related chronic lymphedema: a randomized controlled trial. Curr Oncol. 2016 Feb; 23(1): e27-e34.*

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Barrie R. Cassileth, Kimberly J. Van Zee, et al (2013). *Acupuncture in the treatment of upper-limb lymphedema. Cancer, 119: 2455–2461.*

Chinese Herbal Injection Of Tian Hua Fen

Researchers indicate that a Traditional Chinese Medicine (TCM) herbal medicine may prevent the proliferation of tumors and causes the elimination of tumors comprised of breast cancer cells. A chromatographically purified form of the herb Tian Hua Fen was injected into laboratory mice with tumors caused by estrogen dependent and non-estrogen dependent breast cancer cells. Sterilized Tian Hua Fen, (*Trichosanthes Kirilowii Maximowicz*) was injected intraperitoneally and was reported to cause significant reductions in both tumor weight and volume within 16 days of treatment. Immunohistochemistry corroborated the findings.



Tian Hua Fen

The dose had no detectable toxicity. Analysis revealed that Tian Hua Fen effectively induces apoptosis, cell death, in both estrogen dependent and non-estrogen dependent breast cancer cells both in

vitro and in vivo. The researchers note that the herbal medicine's ability to eradicate breast cancer cells without toxicity warrants further clinical trials to confirm the preliminary findings.

The researchers note that mature Tian Hua Fen contains 247 amino acids and "shares remarkable sequence similarity with other antitumor proteins in plant genera *Trichosanthes* and *Momordica*." The study cited prior research demonstrating Tian Hua Fen's "ability to ablate the replication of human immunodeficiency virus (HIV) and herpes simplex virus type 1 (HSV-1)."

They suggested that Tian Hua Fen is a "potential antidote against some tumors" because it interferes with tumor growth through varying molecular mechanisms. The pathways that block tumor growth were outlined in detail. Notably, the researchers cited that Tian Hua Fen has "specific tumor cell recognition as well as binding and cellular entry characteristics" and that Tian Hua Fen does so based on its "binding on different membrane proteins" including those of human carcinoma cells.

In this investigation, Tian Hua Fen is sterilized and injected directly into the laboratory mice. As a result, the effective action and medicinal function varies greatly between the oral and injection applications of Tian Hua Fen. This herb lends great hope in the development of cures for breast cancer but this is not to suggest that the oral ingestion of this herb has the ability to eradicate breast cancer. That said, we can only hope that funding for future research will help develop the full potential of Tian Hua Fen in the fight against breast cancer.

Reference:

Fang, Evandro Fei, Chris Zhi Yi Zhang, Lin Zhang, Jack Ho Wong, Yau Sang Chan, Wen Liang Pan, Xiu Li Dan, Cui Ming Yin, Chi Hin Cho, and Tzi Bun Ng. "Trichosanthin inhibits breast cancer cell proliferation in both cell lines and nude mice by promotion of apoptosis." PloS One 7, no. 9 (2012): e41592.

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