

Building Immune Function and Rejuvenating Bone Marrow Following Medical Intervention

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The class focuses on enhancing immune function and bone marrow health following Western medical interventions with Chinese herbal formulas. Adverse medical interventions include chemotherapy, radiation, medications following organ transplant, and medications for autoimmune disease that impact marrow health.

Discussion will include diagnosis and treatment according to Western medicine and how these interventions affect health according to the TCM model. Successful herbal strategies from China will be analyzed, and both custom formulas and available herbal products will be discussed. It is particularly applicable for patients receiving or finishing chemotherapy and radiation therapy.

INDEX

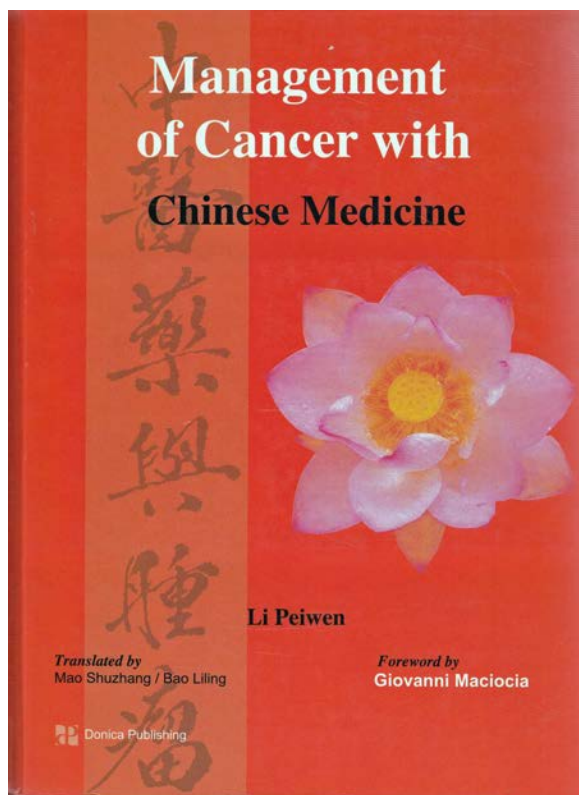
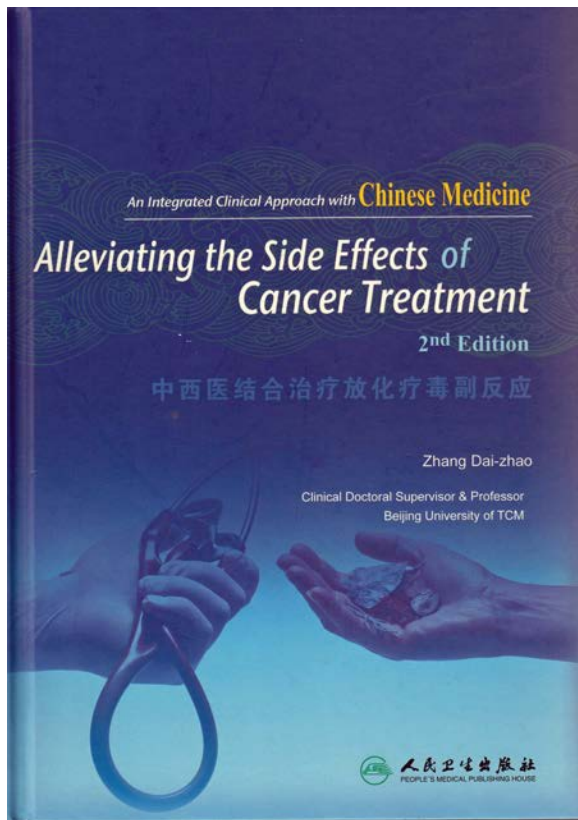
Recommended Textbooks	p. 2
PART 1: OVERVIEW	
A. Demographics of Cancer	6
B. Western Therapies in Cancer Treatment (in China)	7
PART 2: FUNCTIONAL MEDICINE	
A. Criticism of Chemotherapy	11
B. Diet and Nutrition	14
C. Antioxidants Enhance Chemo and Radiation Therapy	16

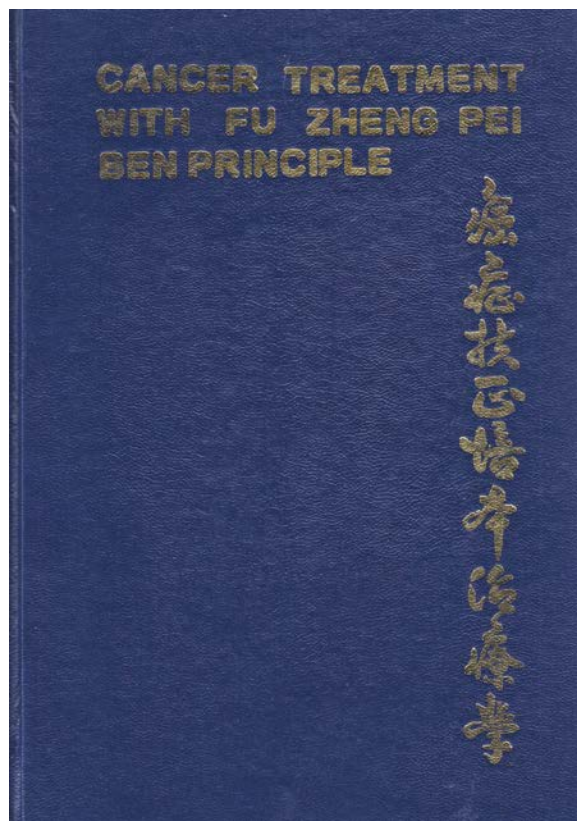
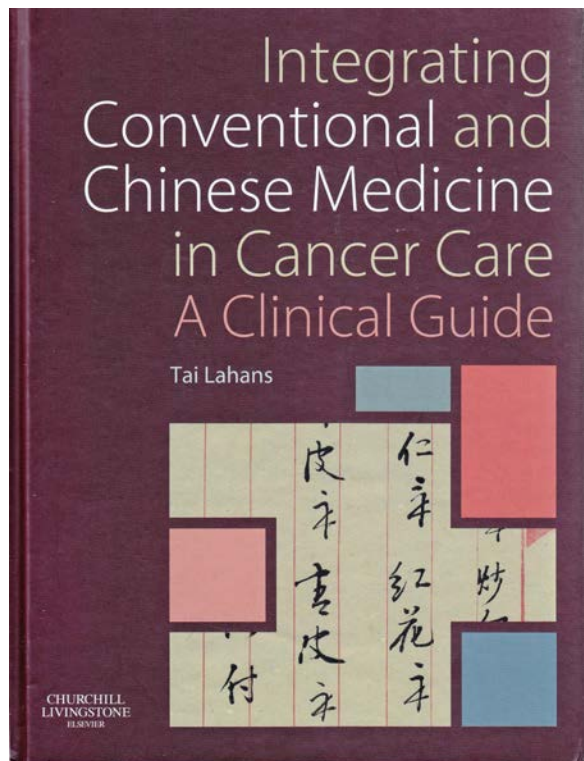
PART III: USING TRADITIONAL CHINESE MEDICINE

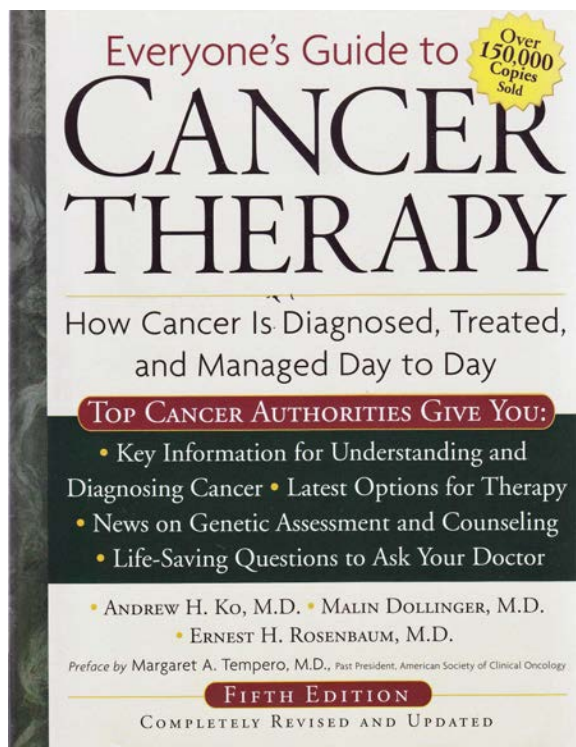
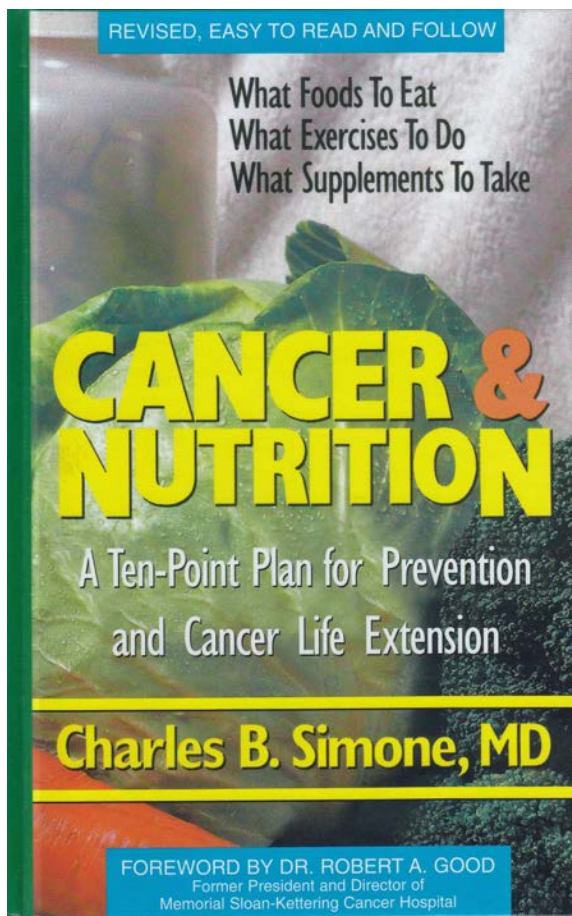
A. Combined TCM-Western Approach	17
B. TCM Principles For Treating Side Effects	18
C. Basic Treatment: Chemotherapy, Radiation	21
D. Bone Marrow Suppression (Radiation or Chemotherapy)	24
E. Immunosuppression (Due to Radiation or Chemotherapy)	31
F. Side Effects of Radiation	36
G. Side Effects of Chemotherapy	39
H. Toxic reaction in Liver	40
Further Resources	42
Biography	43
Code Letters of Herbal Companies	44
Code Letters for the Herbal Categories	45

Recommended Textbooks:

1. *Alleviating the Side Effects of Cancer Treatment, 2nd Edition*, Zhang Dai-zhao etc, People's Medical Publishing House, Beijing, 2007
2. *Cancer Treatment with Fu Zheng Pei Ben Principle*, Pan Mingji, Fujian Science, 1992
3. *Cancer & Nutrition*, Charles B. Simone, MD, Princeton Institute, Third Revision, 2005
4. *Everyone's Guide to Cancer Therapy*, Ko, Dollinger and Rosenbaum, Fifth Edition, Andrews McNeel Publishing, 2008
5. *Integrating Conventional and Chinese Medicine in Cancer Care, A Clinical Guide*, Tai Lahans, Churchill Livingstone, 2007
6. *Management of Cancer with Chinese Medicine*, Li Pewen, Donica Publishing, 2003







PART 1: OVERVIEW

A. DEMOGRAPHICS OF CANCER

1. In 2011, cancer replaced heart disease as the #1 cause of death in the Western world, and #2 in developing countries
 - a. 68% increase in the use of chemotherapy drugs since 2003
 - b. 2 out of 5 people (USA) will develop cancer
 1. This does not include non-melanoma skin cancer (squamous and basal)
2. Cancer is the fastest growing disease on earth
 - a. Cancer has been increasing over last century
 1. In 1900, 47 out of 100,000 died of cancer
 - a. 6th leading cause of death
 2. In 2005, 212 people died, making it #2 (after heart disease/stroke)
 3. Today (2015) it is number one
 - b. The reason is not because of increased lifespans
 1. Lifespans have remained constant since 1930
3. Since 1930 cancer death rates have remained constant
 - a. Despite chemo, radiation surgery
 - b. Despite CT scans, MRIs, etc
 - c. Only cervix and lung cancer have improved
4. Causes
 - a. Oncogenes
 1. These exist in every animal cell and cause cancer
 2. Oncogenes cause cancer once triggered
 3. Triggers
 - a. Biological (including virus)
 - b. Environmental (chemical and metal toxins, radiation, smoking, etc)
 - c. Hereditary proclivity
 1. Hereditary proclivity accounts for only 7% of cancers

5. Causes and rate increases are due to: (Dr. Charles Simone, p. 5)
 - a. Dietary and nutritional factors
 1. Overeating
 2. Blood sugar elevation
 3. Malnourishment (of essential nutrients)
 4. Low Vitamin D
 - b. Lifestyle
 1. Smoking
 2. Alcohol
 3. Lack of exercise
 - c. Hereditary proclivity accounts for only 7% of cancers
 - d. The key is prevention, not cure
 1. Cure is not happening
 2. Prevention is easier
 - a. See Simone, *Cancer & Nutrition*
 - b. Key is boosting the immune system

B. WESTERN THERAPIES IN CANCER TREATMENT (IN CHINA)

1. Radiation Therapy

- a. Best for small and isolated tumors
 3. Also used to support surgery to get beyond the margins
- b. Examples
 4. Head and neck tumors
 - a. Therapy of choice in Stage 1
 1. Tongue, 86% success` `
 2. Nasopharyngeal, 94%
 3. Larynx, 81-97%
 4. Thyroid
 5. Parotid gland
 5. Breast cancer
 - a. Early stage, lumpectomy and radiation are combined
 - b. Middle and late stage, mastectomy and radiation are combined
 1. 1/3 experience long-term survival
 - c. Chemo with metastasis

6. Lung Cancer
 - a. Small cell (SCLC)
 1. Systemic chemotherapy combined with radiation
 - b. Non-small cell (NSCLC)
 1. Early stage, surgery only
 - a. Don't use radiation if lymph nodes are ok
 - b. If malignancy into lymph nodes, use radiation following surgery
7. Prostate
 - a. Radiation has higher cure rate and fewer complications than surgery
8. Lymphoma
 - a. Early and middle stage, radiation alone
9. Intestine
 - a. Surgery is best choice
 - b. Radiation alone is effective for rectum and anus

2. Combined Radiation and Surgery

- a. Radiation supplements surgery in following
 1. Breast
 2. Testicular
 3. Kidney
 4. Brain

3. Combined Radiation and Chemotherapy

- a. Malignant lymphoma
- b. Small lung cell with metastasis
- c. Breast with metastasis
- d. Kidney with metastasis

4. Chemotherapy

- a. Modern use of chemotherapy is about 40 years

1. History

- a. Follows use of mustard gas in WWI
- b. 1942, nitrogen mustard applied to malignant lymphoma
- c. 1948, infantile leukemia treated with aminopterin
 - 1. Increased survival from 2 months to 5 years
- d. Cytotoxic approach continues to this day
- e. In 1980s, tumor DNA was targeted

b. Molecular oncology is trying to make more targeted and less toxic drugs

Mechanisms of specific chemo-agents

- 1. Block synthesis of, or reduce deoxyguanosine or deoxycytidine to interfere with DNA synthesis
 - a. MTX Methotrexate
 - b. 6-MP 6-mercaptopurine
 - c. 5-Fu 5-fluorouracil
 - d. HN2 Nitrogen mustard, Mechlorethamine
 - e. Ara-c Cytarabine
 - f. DTIC Dacarbazine
- 2. Injure cell wall to inhibit mitosis
 - a. VLB Vinblastine
 - b. VCR Vincristine
 - c. COL Colchicine
- 3. Damage DNA
 - a. HN2 Nitrogen mustard, Mechlorethamine
 - b. CTX Cyclophosphamide
 - c. TSPA Thiophosphoramidate
 - d. PCB Procarbazine
 - e. MMC Mitomycin
 - f. DDP Cisplatin
- 4. Interfere with RNA synthesis
 - a. ACD Actinomycin D
 - b. ADM Adriamycin
 - c. DNR Daunorubicin

- c. Problems with chemo agents
 - 1. Proliferation ratio (PR)
 - a. Ratio of tumor cells in proliferation cycle and the total of tumor cells
 - 1. Malignant lymphoma can have a proliferation ratio as high as 90%
 - 2. Adenoma, PR is < 6%
 - b. Chemo agents have good effect on high PR tumors
 - 1. Uterus; Leukemia; Lymphoma
 - c. No effect or very short-term effect on tumors with low PR
 - 1. Lung; Liver; GI tract
 - 2. Damage to normal tissue
 - a. Marrow stem cells
 - b. Destruction of WBC
 - c. Mucus membrane of GI tract
- d. Drug Resistance
 - 1. Causes
 - a. The tumor cell's uptake of chemo is reduced
 - b. The activity of the drug-activating enzyme is lowered
 - c. An active P53 gene mutation
 - 1. This relates to repairing DNA
 - 2. A mutation can cause drug resistance
 - 2. Fighting drug resistance
 - a. Applying multiple drugs simultaneously
 - b. Biochemical modulation to reinforce chemo
- e. Side effects of chemotherapy
 - 1. Bone marrow suppression
 - 2. Nausea and vomiting
 - 3. Hair loss
 - 4. Skin irritation at site
 - 5. Peripheral nerve degeneration

PART 2: FUNCTIONAL MEDICINE

A. CRITICISM OF CHEMOTHERAPY (from the website of Bradford Weeks, MD)

1. Cancer diagnosis and stage is made on examination of small clusters of cells
 - a. Does not take into account the vitality or general health of patient
 - b. Boosting general vitality and immune function increases likelihood of recovery

2. Chemotherapy is ineffective

- a. The five year survival rate for most cancers has remained unchanged for 40 years
- b. Only 3% of cancer are cured by chemotherapy
 1. Clin Oncol (R Coll Radiol). 2004 Dec;16(8):549-60.)
 2. <http://weeksmd.com/2009/01/success-rate-of-chemotherapy-21-hunh/>
 3. "Cures" claimed by oncologists only indicate 5 year survival rates
 - a. Most cancers return
- c. Cancers that respond to chemo
 1. Leukemia
 2. Lymphomas
- d. Cancers become resistant to chemotherapy by mutating
 1. Chemo agents are then rotated around
- e. "Most patients in this country die of chemotherapy. It does not eliminate breast, colon or lung cancer. This fact has been documented for over a decade, yet doctors still use chemotherapy for these tumors". - Dr. Allen Levin, UCSF
- f. Dr. Ulrich Abel, German epidemiologist, did a comprehensive review of every major study and clinical trial of chemotherapy (*Lancet* 10 Aug '91),
 1. "No scientific evidence available anywhere that chemotherapy can extend in any appreciable way the lives of patients suffering from the most common organic cancers"
 2. "80 percent of chemotherapy administered throughout the world is worthless"

- g. “Chemotherapy does not target cancer cells, cure cancer, or address the underlying causes or the root of the problem”
 - 1. Does not decrease morbidity, mortality or specific cancer rates
 - 2. The actual failure rate in treating long-term metastatic cancers is 97%
 - b. Peter Glidden, in a 12-year meta-analysis published in the *Journal of Clinical Oncology*

3. Chemotherapy is expensive

- a. NIH stated that overall costs of cancer (2007) was \$226.8 billion
- b. Before the year 2000, the average cost of a cancer drug was \$5000-\$10,000 a year
 - 1. In 2012, 12 of the 13 new drugs were priced at \$100,000 per year
 - 2. Two new immunotherapy drugs (2014) – Opdivo and Keytruda - cost the patient \$150,000 per year
- c. Oncologists are only medical specialty that sets the price and profits from cost of pharmaceutical to the patient
- d. Chemotherapy generates \$100 billion annually for pharmaceutical industry

4. Chemotherapy is harmful

- a. Targets “active” cells
 - 1. Cancer cells
 - 2. Epithelia of stomach and intestines
 - 3. Immune agents
- b. Damages brain neurons
 - 1. Many people lose cognitive function
 - 2. Can’t return to work even if they survive the treatment
- c. “Instead of helping to treat cancer, chemotherapy destroys the only thing that even has a chance at preventing it: the immune system.” – Robert Rowan, MD
- d. Side effects of chemotherapy
 - 1. Dizziness
 - 2. Skin discoloration
 - 3. Skin rash

4. Audio-visual impairment
5. Extreme nausea and vomiting
6. Diarrhea
7. Loss of hair
8. Loss of appetite (leading to malnutrition)
9. Loss of sex drive
10. Loss of white blood cells
11. Anemia
12. Internal bleeding
13. Arterial deterioration)
14. Weight loss
15. Mouth sores
16. Rapid heart-beat
17. Difficulty breathing
18. Fever and chills
19. Infection
20. Bruising
21. Abdominal and stomach cramps
22. Spasms, fits, seizures, convulsions
23. Liver failure

e. **Chemotherapy is carcinogenic** (from Dr. Weeks)

1. Damages healthy DNA
2. Cancer drugs were found to make tumors metastasize and grow massively in size
 - a. Irwin Bross, a biostatistician for the National Cancer Institute:
 - b. “Many people who’ve been diagnosed with metastatic cancer did not have metastatic cancer until they got their chemotherapy”
3. Destroys cells, including healthy cells, and disrupts their ability to divide properly
 - a. It promotes growth and spread of cancer cells by damaging the healthy tissue that surrounds tumors while destroying the immune system

4. "Patients who underwent chemo were 14 times more likely to develop leukemia and 6 times more likely to develop cancers of the bones, joints, and soft tissues than those patients who did not undergo chemo-therapy"

B. DIET AND NUTRITION

1. Nutrition affects cancer (Dr. Simone, p. chapter 3)
2. Deficiencies decrease capability of immune system
3. Factors that helps immune system
 - a. Low fat, high fiber diet
 - b. Antioxidants
 1. Beta carotene (Vitamin A)
 2. Vit E, C
 3. Selenium
 4. Cysteine
 5. Copper, Zinc
 6. B vitamins
 7. Calcium, magnesium, iron
 8. Alpha lipoic acid
 - c. Exercise
 - d. Low stress lifestyle
 - e. Clean air and water
4. Factors that suppress immune system
 - a. High-fat diet
 - b. High sugar diet
 - c. High protein diet
 - d. Obesity
 - e. Oxidized oils
 1. Soy, corn, canola
 - f. Tobacco
 - g. Alcohol
 - h. Radiation
 - i. Heavy metals
 - j. Certain medications
 - k. Environmental pollutants and toxins

- l. Stress
 - m. Sedentary lifestyle
 - n. Exhaustive exercise

- 5. The China Study (Colin Cambell and Thomas Cambell, 2006)
 - a. Joint study between Cornell University, Oxford University, and Chinese Academy of Preventative Medicine of thousands of Chinese participants
 - b. Conclusions
 - 1. High animal protein diet promotes cancer

- 6. USC Study (3/2014)
 - a. High level of animal protein associated with four-fold increase of risk of death from cancer then low-protein diet
 - b. Recommendations
 - 1. Zero animal protein
 - 2. Plant-based diet
 - a. Fruits, grains, beans, vegetables, fermented foods
 - 3. No animal protein, no dairy
 - 4. No alcohol, drugs, sugar, artificial sweeteners, food dyes

- 7. Physical exercise (National Cancer Institute)
 - a. Physical exercise reduces risks of many types of cancer
 - b. Recommendations
 - 1. 30 minutes of moderate-intensity exercise, 5 days a week
 - 2. 20 minutes of vigorous-intensity exercise, 3 days a week

C. ANTIOXIDANTS ENHANCE CHEMO AND RADIATION THERAPY

1. Antioxidants are listed above
2. Dr. Simone mentions 280 peer-review studies on combining antioxidants with chemotherapy (Dr. Simone, Chapter 5, p. 61 and following)
 - a. They do not reduce the efficacy of chemotherapy
 - b. In fact, they enhance its killing abilities
 - c. Decrease side effects
 - d. Protects normal tissues
 - e. Prolong survival rate
3. Antioxidants neutralize free radicals
 - a. Cancer cells kill by generating and releasing free radicals
 - b. Cancer cells accumulate excessive amounts of free radicals
 1. They lose homeostasis control for uptake of these nutrients
 - c. Accumulation of antioxidants in a cancer cell:
 1. Shuts down oxidative reactions require for cancer cell production
 2. Inhibits protein C activity so as to inhibit cell proliferation
 3. Inhibits oncogene (carcinogenic genetic) expression
 4. Increases growth inhibitory growth factors
 - d. Antioxidants enhance effect of chemo agents

PART III: USING TRADITIONAL CHINESE MEDICINE

A. COMBINED TCM-WESTERN APPROACH

1. Effectiveness of combined approach

- a. The combined (chemo/radiation plus Chinese herbs) approach in China has been extensively studied for 30 years
 1. Combining the two is customary in Chinese medical hospitals
 2. Enhances immune function
 3. Protects organs from toxic effects
 - a. Bone marrow
 - b. Lung
 - c. Anus
 - d. Bladder
 4. Enhances Western approach
 - a. Prolongs survival period
 - b. Help increase completion rate, short-term effective rate, and long-term effective rate
 5. Improves patient's quality of life

- b. Markedly reduces toxic side effects in radiation
 1. Study, Chinese Academy of Medical Sciences (p. 22)
 - a. 197 cases of nasopharyngeal carcinoma
 - b. Control group treated with radiation alone
 - c. Other group combined same radiation protocol with Chinese herbs to move blood
 - d. Disappearance of tumors
 1. Radiation alone: 88.6 %
 2. Combined group: 95.7 %
 - e. Survival rates, 1, 2 and 5 years
 1. Radiation alone: 80%, 33%, 24%
 2. Combined group: 91%, 67%, 52%
 - f. Death due to reoccurrence or metastasis
 1. Radiation alone: 55 cases (52%)
 2. Combined group: 32 cases (34%)

3. This also shows that herbs enhance radiosensitivity of tumors
2. Study, esophageal cancer (p. 49)
 - a. 32 patients, radiation alone
30 patients, combined radiation and TCM herbal medicine
 - b. Results
 1. Total effective rate of tumor regression
 - a. Radiation alone: 46.9%
 - b. Combined: 76.5%
 2. The combined group needed a lower dose of radiation to reduce metastasis to lymph nodes
- c. Increases efficacy of conventional chemotherapy
 1. Study, Lung cancer (NSCLC) (p. 45)
 - a. 54 patients chemotherapy only
52 patients with same chemo plus TCM herbal medicine
 - b. TCM applied by syndrome differentiation
 1. Lung-spleen deficiency
 2. Lung phlegm-heat with dampness
 3. Lung-stomach *yin* deficiency
 4. Qi and blood stagnation
 - c. Results
 1. Two year survival rate
 - a. Regular group: 16%
 - b. Combined group: 44%

B. TCM PRINCIPLES FOR TREATING SIDE EFFECTS

1. General Principles for treating side effects of radiation

- a. Clear toxic heat
- b. Nourish *yin* to generate fluid
- c. Cool and replenish *qi* and blood
- d. Invigorate spleen and harmonize stomach
- e. Nourish liver and kidney

2. General Principles for treating side effects of chemotherapy

- a. Chemo agents are gradually increased, increasing systemic toxicity
- b. Therapeutic principles
 1. Replenish *qi* and blood
 2. Invigorate and harmonize spleen and stomach
 3. Nourish liver and kidney
 4. Clear toxic heat, if present

3. Frequently Used Herbs

- a. Clearing toxic heat
 1. Indicated throughout radiation treatment
 2. Indicated for both radiation and chemotherapy with fever or any sign of inflammation
 3. Herbs
 - a. *Lonicera Jin Yin Hua* DD
 - b. *Sophora Shan Dou Gen* DD
 - c. *Belamcanda She Gan* DD
 - d. *Isatis Ban Lan Gen* DD
 - e. *Taraxacum Pu Gong Ying* DD
 - f. *Coptis Huang Lian* DB
- b. Nourishing *yin* and generating fluids
 1. Indicated throughout radiation treatment
 2. Usually stomach and lung *yin* are damaged
 3. Symptoms include dryness of throat, mouth and tongue
 4. Herbs
 - a. *Rehmannia Sheng Di Huang* DC
 - b. *Scrophularia Xuan Shen* DC
 - c. *Ophiopogon Mai Men Dong* AD
 - d. *Dendrobium Shih Hu* AD
 - e. *Trichosanthes Tian Hua Fen* CB
 - f. *Phragmites Lu Gen* DA

c. Tonifying *qi* and blood1. Cooling herbs for *qi* and blood

a. Choose herbs that are cool or cold if *qi* and blood deficiency is accompanied by heat

b. This occurs with radiation

c. Herbs

- | | | |
|----|-----------------------------------|----|
| 1. | <i>Glehnia Sha Shen</i> | AD |
| 2. | <i>Quinquefolium Xi Yang Shen</i> | AA |
| 3. | <i>Rehmannia Sheng Di Huang</i> | DC |
| 4. | <i>Salvia Dan Shen</i> | K |

2. Warming herbs for *qi* and blood

a. Use for fatigue and *yang* deficiency

b. Herbs

- | | | |
|-----|-------------------------------|----|
| 1. | <i>Astragalus Huang Qi</i> | AA |
| 2. | <i>Codonopsis Dang Shen</i> | AA |
| 3. | <i>Ginseng Ren Shen</i> | AA |
| 4. | <i>Angelica Dang Gui</i> | AB |
| 5. | <i>Rehmannia Shu Di Huang</i> | AB |
| 6. | <i>Millettia Ji Xue Teng</i> | K |
| 7. | <i>Asinum E Jiao</i> | AB |
| 8. | <i>Notoginseng San Qi</i> | J |
| 9. | <i>Polygonum Huang Jing</i> | AA |
| 10. | <i>Longan Long Yan Rou</i> | N |
| 11. | <i>Jujube Da Zao</i> | AA |

3. Nourishing and replenishing liver and kidney

a. Herbs

- | | | |
|----|-------------------------------|----|
| 1. | <i>Lycium Gou Qi Zi</i> | AB |
| 2. | <i>Ligustrum Nu Zhen Zi</i> | AD |
| 3. | <i>Polygonatum He Shou Wu</i> | AB |
| 4. | <i>Cornus Shan Yu Rou</i> | L |
| 5. | <i>Cuscuta Tu Si Zi</i> | AC |
| 6. | <i>Psoralea Bu Gu Zhi</i> | AC |

C. BASIC TREATMENT: CHEMOTHERAPY AND RADIATION

1. Start the formula 1 week before treatment begins, and continue 1 week after course is completed
2. It's much more effective to start the formula before side effects begin
3. These formulas can prevent many side effects

CHEMOTHERAPY BASIC FORMULA

<i>huáng qí</i> (黄芪), Radix Astragali	12.1 %/g.	AA
<i>dǎng shēn</i> (党参), Radix Codonopsis	12.1	AA
<i>bái zhú</i> (白术), Rhizoma Atractylodis Macro.	9.5	AA
<i>nǚ zhēn zǐ</i> (女贞子), Fructus Ligustri Lucidi	8.1	AD
<i>gǒu qǐ zǐ</i> (枸杞子), Fructus Lycii	8.1	AD
<i>tù sī zǐ</i> (菟丝子), Semen Cuscutae	8.1	AC
<i>bàn xià</i> (半夏), Rhizoma Pinelliae	8.1	CA
<i>fú líng</i> (茯苓), Poria	9.5	FC
<i>chén pí</i> (陈皮), Pericarpium Citri Reticulatae	8.1	G
<i>jī nèi jīn</i> (鸡内金), Endothelium Corneum Gigeriae Galli	8.1	H
<i>shén qū</i> (神曲), Massa Medicata Fermentata	8.1	H

Modifications:

1. In cases accompanied by nausea or vomiting

Delete: Astragalus *Huang Qi*

Add:

<i>Coptis Huang Lian</i>	DB
<i>Bambusa Zhu Ru</i>	CB
<i>Eriobotrya Pi Pa Ye</i>	CC

2. In serious vomiting with inability to take the basic formula, give the following in small doses throughout the day

XUAN FU DAI ZHE SHI TANG
Inula & Hematite Combination

Zingiberis <i>Sheng Jiang</i>	26.3 %	BA
Inula <i>Xuan Fu Hua</i>	15.8	CA
Pinellia <i>Ban Xia</i>	15.8	CA
Glycyrrhiza <i>Gan Cao</i>	15.8	AA
Codonopsis <i>Dang Shen</i>	10.5	AA
Zizyphus Jujube <i>Da Zao</i>	10.5	AA
Hematite <i>Dai Zhe Shi</i>	5.3	N

3. Following chemotherapy, the basic formula (above) is modified to reestablish bone marrow integrity. Choose and add from:

<i>hé shǒu wū</i> (何首乌), Radix Polygoni Multiflori	AB
<i>shú dì huáng</i> (熟地黄), Radix Rehmanniae Praep.	AB
<i>dāng guī</i> (当归), Radix Angelicae Sinensis	AB
<i>ròu cōng róng</i> (肉苁蓉), Herba Cistanches	
<i>bǔ gǔ zhī</i> (补骨脂), Fructus Psoraleae	AC
<i>ē jiāo</i> (阿胶), Colla Corii Asini	AB
<i>guī bǎn</i> (龟板), Plastrum Testudinis/Chinemys	AD

RADIATION THERAPY BASIC FORMULA

<i>huáng qí</i> (黄芪), Radix Astragali	10.8	AA
<i>shēng dì huáng</i> (生地黄), Radix Rehmanniae	10.8	AD
<i>jīn yín huā</i> (金银花), Flos Lonicerae Japonicae	7.1	DD
<i>huáng lián</i> (黄连), Rhizoma Coptidis	6.0	DB
(or <i>huáng qín</i> (黄芩), Radix Scutellariae)		DB
<i>mài mén dōng</i> (麦门冬), Radix Ophiopogonis	7.1	AD
<i>shí hú</i> (石斛), Caulis Dendrobii	7.1	AD
<i>chén pí</i> (陈皮), Pericarpium Citri Reticulatae	7.1	G
<i>bàn xià</i> (半夏), Rhizoma Pinelliae	7.1	CA
<i>bái zhú</i> (白术), Rhizoma Atractylodis Macro.	7.1	AA
<i>fú líng</i> (茯苓), Poria	8.5	FC
<i>zhú rú</i> (竹茹), Caulis Bambusae in Taenia	7.1	CB
<i>jī nèi jīn</i> (鸡内金), Endothelium Corneum Gigeriae Galli	7.1	H
<i>nǚ zhēn zǐ</i> (女贞子), Fructus Ligustri Lucidi	7.1	AD

Following radiation therapy, the basic formula is modified to reestablish bone marrow integrity. Choose and add from:

<i>hé shǒu wū</i> (何首乌), Radix Polygoni Multiflori		AB
<i>shú dì huáng</i> (熟地黄), Radix Rehmanniae Praep.		AB
<i>dāng guī</i> (当归), Radix Angelicae Sinensis		AB
<i>ròu cōng róng</i> (肉苁蓉), Herba Cistanches		
<i>bǔ gǔ zhī</i> (补骨脂), Fructus Psoraleae		AC
<i>ē jiāo</i> (阿胶), Colla Corii Asini		AB
<i>guī bǎn</i> (龟板), Plastrum Testudinis/Chinemys		AD

D. BONE MARROW SUPPRESSION (RADIATION OR CHEMO)

1. Radiation and chemotherapy lowers WBC, platelets

- a. WBC reduction is principal effect
 1. Mainly neutrophil granulocytes
 2. When WBC go to low, risk of infection is high
- b. WBC reduction is usually accompanied by decrease of platelets
- c. In more severe cases, lowers RBC
- d. With radiation
 1. WBC are universally lowered in radiation therapy
 - a. Counts can go as low as $.6 \times 10^9/L$
 - b. Normal is 3.8 - 10.8 with optimal at 5.0 - 7.5 $\times 10^9/L$
 - c. Radiation is less destructive than chemotherapy
 2. Radiation is less destructive than chemotherapy
 3. Degree of damage is dependent on size of radiation field and radiation dosage, or type and duration of chemotherapy agents
- e. With Chemotherapy
 1. Dependent on agents that are used
 - a. See *Alleviating Side Effects*, p. 208
 2. Bone marrow suppression occurs 1-3 weeks after onset of chemotherapy
 3. Continues 2-4 weeks following completion of chemotherapy
- f. In China, it is recommended that radiation/chemo treatment be discontinued with following:
 1. WBC: < 3.0
 2. Platelets: $< 80 \times 10^9/L$
- g. The chance of secondary infection is markedly reduced by taking Chinese herbs before, during and after administration of therapy

2. Clinical symptoms

- a. General lassitude and fatigue
- b. Dizziness
- c. Weakness of the limbs
- d. Susceptibility to viral infection
 1. Respiratory
 2. Urinary
 3. Mouth sores
- e. Low grade fever
- f. Poor appetite
- g. WBC < 4.0
- h. Granulocytopenia
 1. Dangerously low levels of WBC
 - a. Total WBC < $2.0 \times 10^9/L$
 - b. Neutrophils < $0.5 \times 10^9/L$
 2. Symptoms
 - a. High fever
 - b. Chills, sweats
 - c. Headache, weakness, etc
 3. Risks
 - a. Bacterial septicemia
 1. Can reach 28% of patients with neutrophils < $0.1 \times 10^9/L$
 - b. Toxic hepatitis
 - c. Necrotic ulcerations on mucus membranes

2. Treatment Principles

- a. Tonify *qi* and blood
- b. Nourish kidney and liver *yin* and *jing*
- c. Clear toxic heat
- d. Boost *yang* in *yang* deficient patients

3. Herbs

a. Herbs that can raise WBC and platelet counts

1. Tonify *Qi* (AA)
 - a. Ginseng *Ren Shen*
 - b. Codonopsis *Dang Shen*
 - c. Quinquefolium *Xi Yang Shen*
 - d. Astragalus *Huang Qi*
 - e. Ganoderma *Ling Zhi*
2. Tonify Blood (AB)
 - a. Rehmannia *Shu Di Huang*
 - b. Angelica *Dang Gui*
 - c. Asinum *E Jiao*
 - d. Lycium *Gou Qi Zi*
3. Tonify *Yang* (AC)
 - a. Cervus *Lu Jiao Jiao*
 - b. Psoralea *Bu Gu Zhi*
 - c. Cistanche *Rou Cong Rong*
4. Invigorate Blood, Dissolve Stasis (K)
 - a. Millettia *Ji Xue Teng*
 - b. Trogopteris *Wu Ling Zhi*

b. Herbs that can raise RBC

1. Tonify *Qi* (AA)
 - a. Pseudostellaria *Tai Zi Shen*
 - b. Ginseng *Ren Shen*
 - c. Codonopsis *Dang Shen*
 - d. Atractylodes *Bai Zhu*
 - e. Astragalus *Huang Qi*
2. Tonify Blood (AB)
 - a. Rehmannia *Shu Di Huang*
 - b. Angelica *Dang Gui*
 - c. Asinum *E Jiao*
 - d. Lycium *Gou Qi Zi*

3. Tonify *Yang* (AC)
 - a. Cervus *Lu Rong*
 - b. Psoralea *Bu Gu Zhi*
 - c. Cistanche *Rou Cong Rong*
 - d. Morinda *Ba Ji Tian*
 - e. Cynomorium *Suo Yang*

4. Other
 - a. Notoginseng *San Qi* J
 - b. Longan *Long Yan Rou* N
 - c. Millettia *Ji Xue Teng* K

4. Basic Formula

- a. Use *Chemotherapy Therapy Basic Formula* (p. 21) or *Radiation Basic Formula* (p. 23) with the following additions:

Glehnia <i>Sha Shen</i>	AD
Quinquefolium <i>Xi Yang Shen</i>	AA
Salvia <i>Dan Shen</i>	K
Astragalus <i>Huang Qi</i> (boost dosage)	AA

5. For patients without heat signs, use the following formulas to boost *qi*, blood, *yang* and *jing*
 - a. Custom Formula
 - b. *Wei Xue Ning Wan* (TL)
 - c. Millettia 9 (SF)
 - d. Nourish Essence Formula (GF)

BONE MARROW SUPPRESSION FORMULA

<i>dǎng shēn</i> (党参), Radix Codonopsis	AA
<i>tài zǐ shēn</i> (太子参), Radix Pseudostellariae	AA
<i>rén shēn</i> (人参), Radix Ginseng	AA
<i>dāng guī</i> (当归), Radix Angelicae Sinensis	AB
<i>shú dì huáng</i> (熟地黄), Radix Rehmanniae Praep.	AB
<i>ē jiāo</i> (阿胶), Colla Corii Asini	AB
<i>huáng jīng</i> (黄精), Rhizoma Polygonati	AA
<i>jī xuè téng</i> (鸡血藤), Caulis Spatholobi/Millettia	K
<i>hé shǒu wū</i> (何首乌), Radix Polygoni Multiflori	AB
<i>guī bǎn</i> (龟板), Plastrum Testudinis/Chinemys	AD

WEI XUE NING WAN (Blood Platelet Tonic)

Tang Long Brand

<i>xiān hè cǎo</i> (仙鹤草), Herba Agrimoniae	17.86 %	J
<i>jī xuè téng</i> (鸡血藤), Caulis Spatholobi/Millettia	17.86	K
<i>hǔ zhàng</i> (虎杖), Rhizoma Polygoni Cuspidati	14.29	K
<i>shēng dì huáng</i> (生地黄), Radix Rehmanniae <i>g</i>	14.29	DC
<i>shú dì huáng</i> (熟地黄), Radix Rehmanniae Praep.	14.29	AB
<i>bái sháo</i> (白芍), Radix Paeoniae Alba	8.92	AB
<i>tài zǐ shēn</i> (太子参), Radix Pseudostellariae	7.14	AA
<i>hàn lián cǎo</i> (旱莲草), Herba Ecliptae	5.35	AD

MILLETTIA 9**Seven Forest**

<i>Millettia Ji Xue Teng</i>	25%	K
<i>Salvia Dan Shen</i>	18	K
<i>Morus Sang Shen</i>	10	AB
<i>Polygonum Ye Jiao Teng</i>	10	N
<i>Astragalus Huang Qi</i>	10	AA
<i>Ligusticum Chuan Xiong</i>	9	K
<i>Rehmannia Shu Di Huang</i>	6	AB
<i>Dipsacus Xu Duan</i>	6	AC
<i>Aucklandia Mu Xiang</i>	6	G

NOURISH ESSENCE FORMULA**Golden Flower**

<i>Rehmannia Shu Di Huang</i>	14.7 %	AB
<i>Dioscorea Shan Yao</i>	8.9	AA
<i>Polygonum He Shou Wu</i>	8.9	AB
<i>Cornus Shan Zhu Yu</i>	7.05	L
<i>Poria Fu Ling</i>	7.05	FC
<i>Rubus Fu Pen Zi</i>	7.0	L
<i>Cuscuta Tu Si Zi</i>	7.0	AC
<i>Lycium Gou Qi Zi</i>	7.0	AB
<i>Moutan Mu Dan Pi</i>	5.9	DC
<i>Schisandra Wu Wei Zi</i>	5.9	L
<i>Cistanche Rou Cong Rong</i>	5.9	AC
<i>Alisma Ze Xie</i>	5.3	FC
<i>Cynomorium Suo Yang</i>	4.7	AC
<i>Mel Feng Mi</i>	4.7	PB

e. For patients with deficiency of liver and kidney *yin* and *jing*

1. Symptoms

- a. Fatigue
- b. Soreness or weakness in lower back and knees
- c. Listlessness
- d. Palpitations
- e. Shortness of breath
- f. Leukopenia (low WBC)
- g. Thrombocytopenia (low platelets)

2. Formulas

1. Combine

- a. *Yi Guan Jian* (*Essential Chinese Formulas*, p. 290)
- b. *Liu Wei Di Huang Wan* (*Essential Chinese Formulas*, p. 550)
- c. *Zuo Gui Wan* (*Essential Chinese Formulas*, p. 554)

2. Custom Formula

LIVER-KIDNEY YIN FORMULA

Lycium <i>Gou Qi Zi</i>	AB
Ligustrum <i>Nu Zhen Zi</i>	AD
Cornus <i>Shan Yu Rou</i>	L
Psoralea <i>Bu Gu Zhi</i>	AC
Cuscuta <i>Tu Si Zi</i>	AC
Eucommia <i>Du Zhong</i>	AC
Eclipta <i>Han Lian Cao</i>	AD

E. IMMUNOSUPPRESSION (DUE TO RADIATION OR CHEMO)

1. General

- a. Radiation impact on immunity is less severe than chemotherapy
- b. Symptoms
 1. Lassitude or fatigue
 2. Low resistance to colds
 3. Flare-up of herpes simplex or varicella zoster
- c. Lab tests
 1. Rosette test (Erythrocyte rosetting)
 2. NK cell activity
 3. Lymphocyte subset determination
- d. *Nei jing*: “When internal vitality is present, evil cannot invade. When evil invades, the *qi* must be deficient.”

2. Herbs with evidence confirmation for promoting immunity

- a. Cited in *Alleviating the Side Effects*, p. 223-227
- b. Effects
 1. Enhancing cellular immunity
 2. Promoting lymphoblast transformation and E-rosette formation
 3. Enhancing function of macrophage/monocyte cell system
 4. Enhancing humoral immunity
 5. Restoring host’s anti-tumor immunity
 6. Scavenge antigens in body

c. Herbs

1. Tonify *Qi* (AA)

- a. *Astragalus Huang Qi*
- b. *Codonopsis Dang Shen*
- c. *Dioscorea Shan Yao*
- d. *Ganoderma Ling Zhi*
- e. *Ginseng Ren Shen*
- f. *Polygonatum Huang Jing*
- g. *Quinquefolium Xi Yang Shen*
- h. *Atractylodes Bai Zhu*

2. Tonify Blood (AB)

- a. *Angelica Dang Gui*
- b. *Asinum E Jiao*
- c. *Lycium Gou Qi Zi*
- d. *Morus Sang Shen*
- e. *Polygonum He Shou Wu*
- f. *Rehmannia Shu Di Huang*

3. Tonify *Yang* (AC)

- a. *Cervus Lu Jiao Jiao*
- b. *Cervus Lu Rong*
- c. *Cinnamomum Rou Gui*
- d. *Cistanche Rou Cong Rong*
- e. *Curculigo Xian Mao*
- f. *Cuscuta Tu Si Zi*
- g. *Epimedium Yin Yang Huo*
- h. *Eucommia Du Zhong*
- i. *Psoralea Bu Gu Zhi*

4. Tonify Yin (AD)
 - a. *Amyda Bie Jia*
 - b. *Eclipta Han Lian Cao*
 - c. *Glehnia Sha Shen*
 - d. *Ligustrum Nu Zhen Zi*
 - e. *Loranthus Sang Ji Sheng*
 - f. *Ophiopogon Mai Men Dong*
 - g. *Testudinus Gui Ban*
 - h. *Polygonatum Yu Zhu*

5. Clear Heat, Drain Dampness (DB)
 - a. *Scutellaria Huang Qin*
 - b. *Coptis Huang Lian*
 - c. *Phellodendron Huang Bai*

6. Clear Heat, Resolve Toxins (DD)
 - a. *Houttuynia Yu Xing Cao*
 - b. *Isatis Da Qing Ye*
 - c. *Lonicera Jin Yin Hua*
 - d. *Oldenlandia Bai Hua She She Cao*
 - e. *Sophora Shan Dou Gen*
 - f. *Taraxacum Pu Gong Ying*
 - g. *Viola Zi Hua Di Ding*

7. Invigorate Blood, Dissolve Stasis (K)
 - a. *Carthamus Hong Hua*
 - b. *Ligusticum Chuan Xiong*
 - c. *Millettia Ji Xue Teng*
 - d. *Paeonia Chi Shao*
 - e. *Persica Tao Ren*
 - f. *Salvia Dan Shen*
 - g. *Vaccaria Wang Bu Liu Xing*

8. Other

a. Chrysanthemum <i>Ju Hua</i>	BB
b. Rehmannia <i>Sheng Di Huang</i>	DC
c. Dolichos <i>Bai Bian Dou</i>	DF
d. Coix <i>Yi Yi Ren</i>	FC
e. Poria <i>Fu Ling</i>	FC
f. Aucklandia <i>Mu Xiang</i>	G
g. Notoginseng <i>San Qi</i>	J
h. Schisandra <i>Wu Wei Zi</i>	L
i. Cornus <i>Shan Zhu Yu</i>	L
j. Allium <i>Da Suan</i>	Q

3. Formulas

a. Reinforcing kidney

1. Effects

- a. Kidney deficiency is main reason for immune deficiency
- b. Maintains stability of immune function
 1. Through HPA axis (hypothalamus-pituitary-adrenal cortex)
 2. Through HPT axis (hypothalamus-pituitary-thyroid)
- c. Promotes DNA synthesis
- d. Governs bone and produces marrow

2. Formulas with proven scientific effect (See *Alleviating Side Effects*, p. 219)a. Kidney *yin* deficiency

1. *Liu Wei Di Huang Wan* (*Essential Chinese Formulas*, p. 550)
2. *Zhi Bai Di Huang Wan* (*Essential Chinese Formulas*, p. 384)
3. Use either formula for patients with signs of dizziness, tinnitus, 5 heart fever, tidal sweats or fever, weak lumbar and legs
4. Tongue: reddish, dry
5. Pulse: thin, may be rapid

- b. Kidney *yang* deficiency
 - 1. *You Gui Wan* (*Essential Chinese Formulas*, p. 564)
 - 2. Patients with pale complexion, coldness, soreness in back and legs, loose stool, frequent urination
 - 3. Tongue: pale, swollen
 - 4. Pulse: Thin, weak, deep

- 3. Other formulas
 - a. Nourish Essence (GF), above, p. 29
 - b. *Wu Zi Yan Zong Wan* (*Essential Chinese Formulas*, p. 562)
 - c. *Ge Jie Bu Shen Wan* (*Essential Chinese Formulas*, p. 567)
 - d. *Ge Jie Da Bu Wan* (*Essential Chinese Formulas*, p. 567)

- b. Supplement Spleen and Lungs
 - 1. Spleen and lung support immune function
 - a. Patients with spleen *yang* deficiency or lung *qi* deficiency are parasympathetic dominant
 - 1. This affects cGMP and cAMP messengers
 - 2. Dysregulation impacts immune system
 - b. Spleen organ creates immune cells
 - 1. Main site of properdin, a primary phagocytosis hormone
 - c. Lung organ is main site of synthesis, release and inactivation of prostaglandin E and F
 - 1. Also metabolizes the hormones bradykinin, thyroxin and corticosteroid
 - 2. Lung alveoli produce immunoglobulin to protect lung cellular immunity

2. Formulas with proven scientific effect (See *Alleviating Side Effects*, p. 221)
 - a. *Yu Ping Feng San* (*Essential Chinese Formulas*, p. 516)
 - b. *Si Jun Zi Tang* (*Essential Chinese Formulas*, p. 212)
 - c. *Sheng Mai Yin* (*Essential Chinese Formulas*, p. 110)
 - d. *Ba Zhen Tang* (*Essential Chinese Formulas*, p. 538)
 - e. *Dang Gui Bu Xue Tang* (*Essential Chinese Formulas*, p. 540)
 - f. Other (from *Management of Cancer*):
 1. *Bu Zhong Yi Qi Tang* (see *Essential Chinese Formulas*, p. 210)

F. SIDE EFFECTS OF RADIATION

1. RADIATION SYSTEMIC REACTION

- a. Patients with weakened constitution have more severe reactions
 1. General fatigue
 2. Weak limbs
 3. Listlessness
 4. Shortness of breath
 5. Palpitations
 6. Dry mouth and throat
 7. Deficiency sweating
 8. Insomnia
 9. Loss of hair
 10. Weight loss
 11. Abdominal distension
 12. Anemia
 13. Etc.

b. TCM

1. INJURY TO QI AND BLOOD

a. Sx:

1. Pale or yellow face
2. Palpitation
3. Dizziness
4. Fatigue
5. Weak voice
6. Poor sleep
7. Pulse: sinking and thin
8. Tongue: pale

b. Px:

1. *Ba Zhen Tang (Essential Chinese Formulas, p. 538)*
2. Custom Formula

RADIATION FORMULA: QI AND BLOOD

Rehmannia <i>Sheng Di Huang</i>	AB
Glehnia <i>Sha Shen</i>	AD
Asinum <i>E Jiao</i>	AB
Polygonatum <i>Huang Jing</i>	AA
Angelica <i>Dang Gui</i>	AB
Notoginseng <i>San Qi</i>	J
Longan <i>Long Yang Rou</i>	N
Jujube <i>Da Zao</i>	AA

2. DEFICIENCY OF LIVER AND KIDNEY YIN

a. Sx:

1. Dizziness
2. Blurred vision
3. Hearing disturbance
4. Weak legs and lower back
5. Dry mouth and throat
6. Insomnia
7. Tongue: red without coat
8. Pulse: thin and rapid

b. Px:

1. *Zhi Bai Di Huang Wan (Essential Chinese Formulas, p. 384)*
2. Custom Formula

RADIATION FORMULA: LIVER-KIDNEY YIN

Lycium <i>Gou Qi Zi</i>	AB
Ligustrum <i>Nu Zhen Zi</i>	AD
Polygonum <i>He Shou Wu</i>	AB
Cornus <i>Shan Zhu Yu</i>	L
Cuscuta <i>Tu Si Zi</i>	AC
Eclipta <i>Han Lian Cao</i>	AD
Rehmannia <i>Sheng Di Huang</i>	DC
Testudinus <i>Gui Ban</i>	AD
Amyda <i>Bie Jia</i>	AD
Asparagus <i>Tian Men Dong</i>	AD
Ophiopogon <i>Mai Men Dong</i>	AD
Achyranthes <i>Niu Xi</i>	K

G. TREATMENT OF SIDE EFFECTS OF CHEMOTHERAPY

1. General
 - a. Most common side effects due to
 1. Injury to *qi* and blood
 2. Disharmony between spleen and stomach
 3. Deficiency of liver and kidney *yin*
 - b. Formulas should be given based on presenting symptoms
 - c. Formulas should be given based stage of treatment (early, middle, late)
 - d. Most common
 1. Digestion reactions
 - a. Most occur in first week of chemo
 - b. Nausea
 - c. Vomiting
 - d. Anorexia
 - e. See discussion and formulas on p. 27
 2. Bone marrow inhibition
 - a. Appear in 2nd and 3rd week of therapy
 - b. Leucopenia (WBC reduction)
 - c. Thrombocytopenia (platelet reduction)
 - d. See discussion and formulas on p. 29
 3. Immuno-Suppression
 - a. Most chemo agents inhibit immune function
 - b. See discussion and formulas on p. 36
 4. Fever
 - e. Before and following chemotherapy
 1. Build *qi*, invigorate spleen, nourish kidney and liver
 2. Use *Chemotherapy Basic Formula* (see p. 21, above)
 3. Modify with adjustments for digestive reactions and bone marrow inhibition
 - f. Side Effects of Chemotherapy
 1. Local Reaction at site of IV needle
 2. Abdominal pain, diarrhea and constipation
 3. Alopecia

H. TOXIC REACTION IN LIVER

1. Labs

- a. Elevations of AST/SGOT, ALT/SGPT, bilirubin
- b. Hyper-proteinemia
- c. Hypercholesteremia
- d. Prolongation of blood clotting time

2. Symptoms

- a. Jaundice
- b. Irritability
- c. Fatigue
- d. Fatty degeneration of liver
- e. Edema

3. Formulas

- a. *Jia Wei Xiao Yao San* (*Essential Chinese Formulas*, p. 354)
- b. (Modified) *Chai Hu Shu Gan Wan*
- c. Liver Detox Formula (Dr.J)
- d. Liver DTX (EV)

CHAI HU SHU GAN WAN

Golden Flower

	Bupleurum <i>Chai Hu</i>	14.0 %	BB
	Paeonia <i>Bai Shao</i>	11.7	AB
	Cyperus <i>Xiang Fu</i>	10.0	G
	Aurantium <i>Zhi Ke</i>	10.0	G
*	Curcuma <i>Yu Jin</i>	10.0	K
*	Atractylodes <i>Bai Zhu</i>	10.0	AA
*	Scutellaria <i>Huang Qin</i>	10.0	DB
*	Angelica <i>Dang Gui</i>	10.0	AB
	Ligusticum <i>Chuan Xiong</i>	8.3	K
	Glycyrrhiza <i>Gan Cao</i>	6.0	AA

* = additions to original formula

LIVER DETOX FORMULA

Dr Jake Fratkin Herbal Formulas

<i>Angelica Dang Gui</i>	14	AB
<i>Atractylodes Bai Zhu</i>	13	AA
<i>Scutellaria Huang Qin</i>	13	DB
<i>Paeonia Bai Shao</i>	11	AB
<i>Cyperus Xiang Fu</i>	11	G
<i>Curcuma Yu Jin</i>	11	K
<i>Schisandra Wu Wei Zi</i>	9	J
<i>Lycium Gou Qi Zi</i>	9	AB
<i>Ophiopogon Mai Men Dong</i>	9	AD

LIVER DTX

Evergreen

<i>Bupleurum Chai Hu</i>	BB
<i>Scutellaria Huang Qin</i>	DB
Silybum (80% Silymarin)	
<i>Vitis Pu Tao Zi</i> (Grape seed)	
<i>Polygonum Hu Zhang</i>	DB
<i>Pueraria Ge Hua</i>	
<i>Paeonia Bai Shao</i>	AB
<i>Artemisia Yin Chen Hao</i>	FC
<i>Gardenia Zhi Zi</i>	DA
<i>Rheum Da Huang</i>	PA
<i>Schisandra Wu Wei Zi</i>	L
<i>Verbena Ma Bian Cao</i>	K
<i>Poria Fu Ling</i>	FC
<i>Curcuma Yu Jin</i>	K
<i>Citrus Qing Pi</i>	G

FURTHER RESOURCES

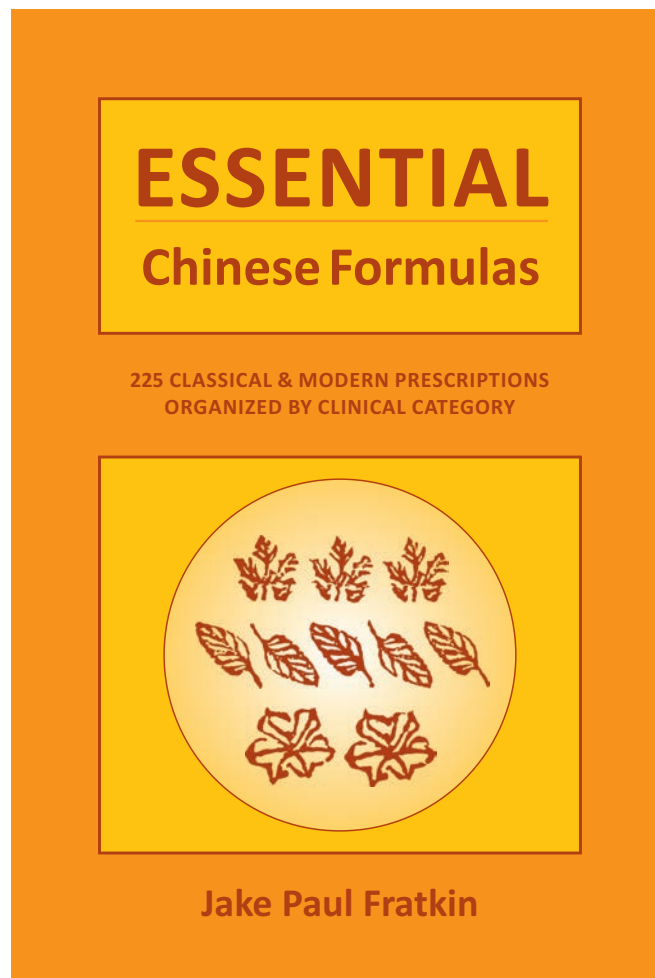
For a complete listing of herbal products by therapeutic category, see:

“WHO’S GOT WHAT”

For free download, go to: www.drjakefratkin.com/whos-got-what

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The presenter:

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Books by Jake Paul Fratkin:

Case Studies in Autoimmune Disorders. Zeng Shengping and Jake Fratkin, People's Medical Publishing House, 2014.

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A collection of various articles on TCM can be found at:

<http://drjakefratkin.com/articles>

CODE LETTERS OF HERBAL COMPANIES

AL	Alembic (Kan)
BP	Blue Poppy
CC	Chinese Classics
CMS	Chinese Modular Solutions (Kan)
CS	Cardioshen (TCM Zone)
CP	Classical Pearls
DrJ	Dr. Jake Fratkin's Herbal Formulas
DS	Dr. Shen's
EG	"Standardized" extract granules or capsules from Taiwan and China: Acuherb, E-Fong, Evergreen, Guang Ci Tang, Herbal Times, KPC, Legendary, Mintong, Nong's, Qualiherb, Sunten, etc.
EV	Evergreen
GC	Guang Ci Tang (Active Herb)
GF	Golden Flower
GN	Great Nature (People's Herbs)
GW	Gentle Warrior (Kan)
HC	Health Concerns
HS	Honso
HT	Herbal Times (Nuherbs)
JD	Jade Dragon (Nuherbs)
JW	Jade Woman's Herbals
K	Kan Herbals and Traditionals
KN	Kanion (TCMZone)
KPC	Kaiser Pharmaceutical (Taiwan)
MS	Minshan (China)
PF	Plum Flower (Mayway)
PH	People's Herbs
PiM	Pine Mountain (Institute of Traditional Medicine)
PM	Patent Medicine (various manufacturers, China)
PX	Panaxea
SF	Seven Forest (Institute of Traditional Medicine)
TL	Tanglong (China)
TT	Three Treasures
TZ	TCMZone

CODE LETTERS FOR THE HERBAL CATEGORIES

AA	Tonify <i>Qi</i>	<i>bǔ qì</i> (补气)
AB	Tonify Blood	<i>bǔ xuè</i> (补血)
AC	Tonify <i>Yang</i>	<i>bǔ yáng</i> (补阳)
AD	Tonify <i>Yin</i>	<i>bǔ yīn</i> (补阴)
BA	Acrid-Warm Release Exterior	<i>xīn wēn jiě biǎo</i> (辛温解表)
BB	Acrid-Cool Release Exterior	<i>xīn liáng jiě biǎo</i> (辛凉解表)
CA	Dry Dampness, Dissolve Phlegm	<i>zào shī huà tán</i> (燥湿化痰)
CB	Clear Heat, Dissolve Phlegm	<i>qīng rè huà tán</i> (清热化痰)
CC	Relieve Cough, Panting	<i>zhǐ ké píng chuǎn</i> (止咳平喘)
DA	Clear Heat, Drain Fire	<i>qīng rè xiè huǒ</i> (清热泻火)
DB	Clear Heat, Drain Dampness	<i>qīng rè lì shī</i> (清热利湿)
DC	Clear Heat, Cool Blood	<i>qīng rè liáng xuè</i> (清热凉血)
DD	Clear Heat, Resolve Toxins	<i>qīng rè jiě dú</i> (清热解毒)
DE	Clear Heat, Nourish <i>Yin</i>	<i>qīng rè yǎng yīn</i> (清热养阴)
DF	Clear Heat, Resolve Summer-Heat	<i>qīng rè jiě shǔ</i> (清热解暑)
E	Warm Interior	<i>wēn lǐ</i> (温里)
FA	Dispel Wind, Overcome Dampness	<i>qū fēng shèng shī</i> (祛风胜湿)
FB	Dispel Dampness	<i>qū shī</i> (祛湿)
FC	Drain Dampness	<i>lì shī</i> (利湿)
G	Rectify <i>Qi</i>	<i>lǐ qì</i> (理气)
H	Remove Food-Stasis	<i>dǎo zhì</i> (导滞)
J	Stop Bleeding	<i>zhǐ xuè</i> (止血)
K	Invigorate Blood, Dissolve Stasis	<i>huó xuè huà yū</i> (活血化痰)
L	Consolidate, Astringe	<i>gù sè</i> (固涩)
M	Open Orifices	<i>kāi qiào</i> (开窍)
N	Tranquilize Heart, Calm <i>Shen</i>	<i>zhèn xīn ān shén</i> (镇心安神)
O	Extinguish Wind, Stop Tremors	<i>xī fēng zhǐ chōu</i> (熄风止抽)
PA	Purgatives	<i>xià fǎ</i> (下法)
PB	Moistening Purgatives	<i>rùn xià</i> (润下)
PC	Purgation by Expelling Water	<i>gōng xià zhú shuǐ</i> (攻下逐水)
Q	Kill Worms	<i>shā chóng</i> (杀虫)
R	External Application	<i>wài zhì fǎ</i> (外治法)