

LEAKY GUT SYNDROME

A Modern Epidemic

Part 1: The Problem

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Leaky Gut Syndrome (LGS) is a major cause of disease and dysfunction in modern society, and in my practice accounts for at least 50% of chronic complaints, as confirmed by laboratory tests. In discussing LGS, I want to first describe the situation in terms of western physiology, and at the end of the article I will discuss aspects of LGS that are unique to Traditional Chinese Medicine.

In LGS, the epithelium on the villi of the small intestine becomes inflamed and irritated, which allows metabolic and microbial toxins of the small intestines to flood into the blood stream. This event compromises the liver, the lymphatic system, and the immune response including the endocrine system. It is often the primary cause of the following common conditions: asthma, food allergies, chronic sinusitis, eczema, urticaria, migraine, irritable bowel, fungal disorders, fibromyalgia, and inflammatory joint disorders including rheumatoid arthritis. It also contributes to PMS, uterine fibroid, and breast fibroid. Leaky Gut Syndrome is often the real basis for chronic fatigue syndrome and pediatric immune deficiencies.

Leaky Gut Syndrome is reaching epidemic proportions within the population. As a disease entity, it has not been discussed in classical or modern TCM literature. In fact, taking a strictly classical Chinese medicine approach to LGS is often ineffective or only partially effective, because the disease is not addressed in all of its complexity.

TCM has never addressed the issue because it is a modern phenomenon. Historically, the only way bowel toxins entered the blood stream was through trauma, for example by sword or spear. This quickly led to septicemia that might be treatable, or more probably, ended in death. Outside of trauma, the body maintained a wonderfully effective selective barrier in the small intestine, one that allowed nutrients to enter, but kept out metabolic wastes and microbial toxins rampant in the intestines.

What modern event allowed such a break-down? Primarily it has been antibiotics, secondarily non-steroidal antiinflammatory drugs (NSAIDs). The first antibiotic, penicillin, did not enter mainstream health care until 1939. Since the 50s and 60s, antibiotic use has been frantically prescribed for every infection and inflammation, particularly pediatric ear infection, bronchitis, and sore throat. It is sadly ironic that most of these infections are viral in nature, and not only are the antibiotics damaging, but they are ultimately unnecessary. Antibiotics should be considered a hospitalization level medicine, when bacteria have entered the blood, bone, or organ.

NSAIDs are commonly taken for various pains, and include ibuprofen (Motrin, Advil). They are quite damaging to the small intestine mucosa lining.

Antibiotics destroy beneficial bacteria

Antibiotics create their damage in two ways. The first is by destroying beneficial bacteria. The small intestine and large intestine host over five hundred different kinds of beneficial bacteria. These bacteria perform hundreds of functions required for healthy metabolism and immune response. Through enzyme secretions, bacteria transform metabolic and microbial wastes before they are discharged by the body. These wastes include cellular debris, hormones, chemical wastes, bile, pus accumulations, viral toxins, bacterial toxins, etc.

For example, the body creates bile not only as a lubricant to flush wastes out of the liver, but also, by its cold and bitter nature, to detoxify many of the poisons accumulating in the liver. Bile however is extremely caustic to large intestine epithelium. When bile enters the small intestine via the common bile duct, beneficial bacteria break the bile salts down into a less caustic compound, making it non-dangerous by the time it reaches the large intestine. When you take antibiotics you destroy these bacteria and the bile salts freely enter and damage the large intestine. I believe this contributes significantly to the high incidence of colon cancer plaguing today's society.

Beneficial bacteria also break down hormone secretions that are discharged from the liver to the small intestine. If you lack the bacteria to break down estrogen and the intestinal permeability has been altered, the patient is now reabsorbing estrogens in their original state. The body will deposit these in estrogen sensitive areas such as the breast, uterus, or ovaries, contributing, if not causing, fibroids and tumors. The same scenario is responsible for premenstrual syndrome as well.

Antibiotics Promote the Growth of Fungus

The second way antibiotics damage the intestines is by fostering the growth of *Candida Albicans* and other pathogenic fungi and yeast. This event, more than any other, precipitates Leaky Gut Syndrome. In a healthy situation the small intestine epithelium maintains tight cell junctions, which contributes to the physical barrier involved in intestinal absorption. In addition to the physical barrier, there is an important chemical barrier within the mucus that contains immune agents which neutralize any toxin that comes in contact.

Candida exudes an aldehyde secretion which causes small intestine epithelial cells to shrink. This allows intestinal toxins to infiltrate through the epithelium and into the blood. The secondary barrier - immune agents in the epithelial mucus - remain the sole agent for neutralization. Eventually, the immune system becomes exhausted rising to this challenge.

Many people have an erroneous belief that the *Candida* itself enters the blood stream, allowing it to be deposited elsewhere, such as the brain. Unless the immune response is completely depleted, as in AIDS, *Candida* is quickly destroyed in the blood. The real damage done by *Candida* is to the intestinal epithelial barrier, allowing the absorption of serious toxic agents and chemicals, which then enter the blood and affect numerous organs, including the brain.

Food Allergies: The Complicating Factor

When the integrity of the intestinal barrier has been compromised, intestinal toxins are not the only pathogens to be absorbed. The barrier, in a healthy state, selectively allows digested nutrients to enter the small intestine when all is ready. With leaky gut, nutrients can be absorbed before they are fully digested. The body's immune response, through specific antigen-antibody markers, will tag some of these foods as foreign irritants. Every time that particular food touches the epithelia, an inflammatory immune response is mounted which further damages the epithelial lining. What started as a *Candida* irritation with shrinking of the cells has now been complicated with active inflammation every time a particular food is eaten. Food allergies are a common secondary problem to *Candida*, and if present, will maintain the leaky gut continuously, even if the *Candida* is eradicated.

The most common food allergies are dairy, eggs, gluten grains (wheat, oats, rye), corn, beans (especially soy), and nuts. There are seldom real allergies to meat, rice, millet, vegetables, or fruit, although an allergy to garlic is not uncommon. We have to

distinguish a real allergy - that which causes a histamine inflammatory reaction at the site of the SI epithelia - from sensitivity, which may cause uncomfortable symptoms, but seldom is damaging. Sensitivities are usually due to low stomach acid or pancreatic enzyme secretion, that is, poor digestion.

In the healing of the intestinal lining, exposure to a significant allergy can sabotage the treatment. For example, one may be very good at restricting wheat, dairy and eggs, but then compromises the treatment by taking garlic tablets.

The Role of the Liver and Lymphatic System

The metabolic and microbial toxins that enter the bloodstream during leaky gut end up in the liver, which has the job of detoxifying and discharging the poisons. Under normal conditions, the liver is taxed just by processing the daily metabolic wastes created by cell and organ activity. Imagine the further load created by dumping serious intestinal toxins on a regular basis. There is a point when the liver becomes saturated; it cannot further detoxify the poisons, and they are returned to the blood circulation. The blood has sophisticated mechanisms for preserving chemical homeostasis, and will diffuse as much of the toxic chemicals and physical debris into the interstitial fluids as is possible. From here the lymphatic system will attempt to collect and neutralize the toxins, but unable to send the toxins to the liver, the body essentially becomes toxic. Microbes grow and develop, hence there can be chronic lymphatic swelling, especially in children. Over a period of time, toxins will be forced into distal connective tissue around muscles and joints, causing fibromyalgia, or into the cells, which can precipitate genetic mutation and ultimately cancer.

Stress to the Immune and Endocrine Systems

The immune system is stressed in three major ways. First is at the site of the intestinal mucosa. As toxins and food antigens brush up against the mucosa, the immune system mobilizes to neutralize the toxins. Normally, much of this work would have been done by beneficial bacteria, which have been destroyed by antibiotics. For toxins that make it to the mucosa, the body will tag them with a chemical secretory IgA (SIgA), which attracts macrophages and other white blood cells to consume the toxins. It is not long before this immune response is overwhelmed and depleted. This can be measured directly with a stool or saliva test for the intestinal SIgA level.

The second stressor happens in the liver and lymphatic system which, also overwhelmed, puts demands on the immune system. The third stressor is a consequence: as the immune response diminishes, more microbes (viruses, bacteria, and fungi)

multiply, allowing for a chronic state of infection. What might be tagged as a viral infection, such as Epstein-Barr virus for Chronic Fatigue Syndrome, is actually an opportunistic infection taking advantage of a weakened immune system .

The most important organ in the production of immune agents seems to be the adrenal gland, and Leaky Gut Syndrome slowly diminishes adrenal function. In the early and middle stages, there is actually an adrenal excess, as measured by excess cortisol output. Eventually, cortisol levels drop, and one now has exhaustion.

The Role of the Digestive Tract

Candida flourishes when the terrain in the intestines favors it. Just killing Candida is usually not successful, because the chemistry and vitality of the terrain has not been normalized, and Candida returns. Antibiotics are the original cause of the change on the terrain. By killing acid forming bacteria (Lactobacillus bacteria produce lactic acid, for example), the environment becomes alkaline, which promotes Candida. Antibiotics and chronic illness reduce stomach acid production, contributing to the alkalinity, and also allowing poor digestive absorption. In fact, many people with LGS are malnourished, no matter how healthy the food is that they eat.

The terrain of the small intestine requires proper pH and electromagnetic resonance. The idea that lactobacillus supplementation is all that is required after antibiotics is somewhat delusional; in fact most of the lactobacillus from supplementation does not survive in the intestine, due to poor terrain.

Organizing the Therapy

Leaky Gut Syndrome has various components, all of which need to be evaluated and addressed. First, ongoing irritants to the small intestine mucosal lining (fungus, food allergies, and NSAIDs) need to be identified and neutralized. Second, nutrients and herbs are required to promote healing of the epithelial lining. Third, and perhaps the key link, the liver needs to be regulated. Fourth, the lymphatics and interstitial fluids need to be detoxified. Fifth, the immune and endocrine systems need to be regulated and supported. And sixth, the stomach and pancreas needs to be regulated, if necessary.

The therapy takes between four and eight months. Patients need to be vigilant about their diet in avoiding food allergies and minimizing the growth of Candida.

Understanding Leaky Gut Syndrome in Terms of TCM.

Antibiotics introduce a very cold environment into the digestive system. It depletes spleen *yang* and disrupts spleen-stomach harmony. This impairs digestion and

absorption of food and fluids, and more important, depletes the *qi* necessary to maintain the integrity of the small intestine. The small intestine is controlled by the spleen. The spleen's function of absorption and distribution of *qi* and fluid happens in the small intestine, and the function of the SI is controlled by the Stomach and Spleen channels (not the Small Intestine channel). So, the initial damage to the integrity of the small intestine is due to damage of the spleen function.

We can understand the small intestines discharging toxins to the liver in terms of spleen insulting liver, that is, a reverse control within the *wu xing* (five phase) cycle. The liver will become excess, causing a stagnation of *qi* and blood. Its ability to store and distribute the blood (which includes the ability to cleanse the blood) becomes impaired. This is the main excess in an array of other deficiencies (spleen, kidney), and as such, becomes the pivotal key-link that needs to be addressed first. *Zang-Fu* therapy usually requires that the excess be addressed at the beginning.

When the spleen becomes depleted, the kidney will become excess, according to *wu xing* theory. Initially, the body responds with a kidney *yang* excess, to try to reinforce the *yang* that has been depleted in the spleen. This will manifest as stress, anxiety, and poor sleep. (It is directly measurable as an elevated adrenal cortisol level.) Over a period of time, kidney *yang* will begin to become depleted, leading to fatigue. Over a longer period of time, both kidney *yang* and *yin* will be come depleted, leading to a depletion of the *yuan-jing* reserves, resulting in true exhaustion.

The combined depletion of kidney and spleen, with depletion of the *yuan-jing* reserves, significantly depletes the *ying qi* flowing through the channels. *Wei qi*, being the active radiating *yang* aspect of the *ying qi*, is also depleted, diminishing an effective response to pathogenic factors. The whole stomach and intestinal tract is still considered the outside of the body, and as such, depends on *wei qi* to keep pathogenic factors from entering. As the *wei qi* is reduced, pathogenic toxins are free to enter the body and further sap its reserves of energy.

Successful rehabilitation requires that the *ying* and *wei* be restored to normal levels, through regulation of the spleen and kidney. This tonification of the *wei qi* will help regenerate tissue on the surface of the small intestine. Again, it is required that the blockage and congestion at the liver be allowed to open up again, or, in terms of TCM, dredged.

Underlying the susceptibility to Leaky Gut Syndrome is the probability that the *qi* is deficient to start with. This goes back to a modern lifestyle of poor eating habits and poor food choices which injures the spleen, and the various stresses of modern life (lifestyle, chemicals, electromagnetic) that depletes kidney *qi*. Within the acupuncture network,

this contributes to a weakened *dantian*, or *hara*. The small intestine lies over and around the *dantian*. This is one of the most important energy centers in the body, the place where food is converted to *qi* and blood. When the *dantian* becomes weakened, it creates a terrain that allows LGS to take place. And it indicates that a successful adjunct to therapy would include *dantian qi gong*.

Conclusion

People worry about many sorts of environmental toxins: vaccinations, dental amalgams, pesticides, herbicides, food additives, chlorine, etc. It is true that all of these are stressors on the body, and contribute to an overall decline in health. The worst threat, however, is an ongoing toxic intrusion from the cesspool that exists in our intestines. The body has a marvelous mechanism, a selective intestinal permeability, that allows digested nutrients in while keeping toxins meant for excretion out. Throughout history, in general, this barrier has maintained its integrity. During the last fifty years, due to the intrusive irritation of antibiotics and NSAIDs, the average person's health has been significantly challenged and weakened.

Part 2: DIAGNOSIS AND TREATMENT

Jake Paul Fratkin, OMD

In Part 1 of this article, we discussed the causes of Leaky Gut Syndrome. To review, repeated use of antibiotics create dysbiosis in the small and large intestines, allowing the proliferation of pathogenic fungi while reducing or eliminating over 500 species of beneficial bacteria. These beneficial bacteria are required for digestion and absorption of food and nutrients, and neutralization of toxic waste products. *Candida albicans*, a toxic fungus, produces a caustic aldehyde which irritates the epithelium of the small intestine, allowing absorption of microbial and metabolic toxins. These toxins overwhelm the liver, allowing toxic accumulations in the lymphatic fluids and deposits into the connective tissue, causing symptoms of fatigue, fibromyalgia, headache, poor concentration, and certain skin conditions, including eczema and urticaria. I believe that Leaky Gut accounts for 50% of chronic illness in the modern clinical practice.

The complicating factor in Leaky Gut Syndrome is that of acquired food allergies. As the intestinal mucosa is irritated by *Candida*, foods are absorbed before they are completely digested. The body can tag these as foreign by using specific antibodies. When those foods are eaten there is an inflammatory response at the intestinal epithelia, which keeps Leaky Gut going. If *Candida* is effectively eradicated but the food allergy problem is not addressed, the various illnesses will continue.

Dietary Restrictions.

The clinician is best served by utilizing laboratory tests to confirm and gauge various aspects of Leaky Gut including *Candida* levels, digestive function, food allergies, etc. Many of the tests are expensive and one needs to be prudent in what tests are absolutely required.

If testing is out of the question due to cost restrictions, certain assumptions and advice may be given to the patient. If there is a history of antibiotics (two episodes within a lifetime is enough to set up Leaky Gut Syndrome; yearly doses of antibiotics will guarantee it), assume there is *Candida*. You will need to give anti-*Candida* medicines and advise a special diet. Diet therapy alone will not eradicate high levels of *Candida*, but certain foods will sabotage successful therapy: sugars, yeasts, refined white flour products (bread, pasta, pastry), vinegar, fermented products including miso, canned fruit juice, and dried fruit. Fresh fruit may or may not be a problem, depending on the severity.

Secondly, assume there are food allergies. If any food allergy is allowed to persist, the intestinal wall will remain inflamed and toxic absorption will continue. Without testing, the best you can do is avoid completely the common allergenic foods: dairy (milk, cheese, cottage cheese, yogurt, ice cream, butter), gluten grains (wheat, rye, oats, spelt, barley); eggs; corn (including popcorn, corn syrup, corn oil); and beans (especially soy, lentil and kidney; soy includes tofu, miso, and tamari). Other foods that commonly test as allergenic are almonds, peanuts, and garlic. The most common of the allergenic foods are dairy, gluten grains, and eggs. Be careful of these ingredients in packaged foods or foods prepared in restaurants.

A non-allergenic diet can be obtained by eating meat, chicken, fish, vegetables, potatoes, rice, millet, and fruits. Many patients feel that certain foods are allergenic because of reactive symptoms. We have to distinguish sensitivity from allergy. A food that might cause sensitivity, like tomatoes or oranges, causes discomfort because of an imbalance of digestive acids and enzymes. Real allergies cause damage to the intestinal lining by initiating an inflammatory reaction, and ironically, are usually without any perceived reaction.

Diet is perhaps the hardest path for patients to follow, but this is what determines who gets better and who doesn't. Your management and encouragement here is essential to a real success. Patients need to understand that allergenic foods keep the intestines inflamed, allowing toxins to continuously enter the body.

Useful Laboratory Tests.

Most of the pertinent tests require a stool sample, and kits can be provided directly by the practitioner to the patient. Food allergy tests require a serum sample, which is performed by a registered phlebotomist or lab, who gives the spun serum back to the patient to mail.

As far as useful tests, I think it is essential to assess the level of Candida infestation. Low levels do not require aggressive anti-Candida treatment, whereas high levels do. The blood antibody test for Candida is not very useful as it tends to show only in the severely immuno-suppressed, such as AIDS patients. The better Candida tests use a stool sample, and I would recommend either Great Smokies (Asheville) or Diagnos-Techs (Seattle).

Leaky gut can also be caused or aggravated by pathogenic bacteria and protozoans, especially those acquired in the tropics, particularly India and southeast Asia. Both Great Smokies (using the CPx1) and Diagnos-Techs (using the CH panel) and do a good job here.

The next test I often order is the Chymotrypsin level. This is a digestive enzyme produced by the pancreas, and is a good global indicator for pancreatic function. Many symptoms that look like Leaky Gut may actually be stomach-pancreas deficiency, without Candida or intestinal permeability damage. Chymotrypsin deficiency indicates relative spleen *qi* deficiency. By measuring the Candida and Chymotrypsin levels first, one can infer or rule out Leaky Gut. If both tests are normal, it is an unlikely diagnosis. If they are abnormal, I usually go on to recommend food allergy testing.

There are other tests that are useful. ACHY (anti-chymotrypsin factor) is measured in the stool and is a direct marker for small intestine inflammation; it often indicates food allergies. However, in a chronic case where the immune system has plummeted, the ACHY can look normal. This means that the immune system is too depleted to mount an adequate defense at the site of the mucosal membrane.

Secretory IgA (SIgA) is a direct marker of the patient's immune system at the site of mucosal lining of the small intestine, also measured by stool. I have reduced the usage of this test, because all patients with Leaky Gut syndrome seem to have a severely low level; I have come to assume that it will be low. However, as far as educating the patient and getting compliance, this is a good test for the patient to see.

Great Smokies provides an intestinal permeability test. The patient drinks a liquid containing two measurable sugars, followed by the collection of urine for 24 hours. It accurately shows the degree of Leaky Gut. Again, it is helpful for patient education and compliance, as well as making your case with medical doctors.

The final test that is important is a good food allergy panel. The skin prick test for allergens only shows IgE levels, the immediate reactions. Most food allergies are delayed reactions, and require testing of the IgG levels through blood serum. This is a new test, about seven years old, and very few medical doctors know of it except those using natural approaches.

Currently, four labs offer a combined IgE/IgG test that I know of. (See the listing at the end of the article). For years I have successfully used the General Food Panel from National Biotech in Seattle, which returned the results within ten days. They have recently been acquired by Great Smokies, who now offer a comprehensive panel.

The advantage of a lab food allergy test is that they appear accurate based on dramatic improvements in the clinical picture. Further, seeing a paper print out of one's allergies is quite reinforcing to the patient. There are practitioners who do machine or muscle testing of food allergies, and this is quick and inexpensive. However, they do not seem to distinguish true allergens from sensitivities.

In any event, I recommend that you call the laboratories to obtain their excellent practitioner educational materials and study them carefully. They have many useful tests that can aid your clinical practice, including hormone profiles from saliva samples.

Treatment.

Treatment of Leaky Gut Syndrome is complex and multi-layered. Most acupuncturists are overwhelmed by the multiple patterns that coexist in a Leaky Gut case. They don't know where to begin or how to organize signs and symptoms. First of all, identification and elimination of Candida and food allergens is essential to any real success, and can coexist with any of the *zang fu* patterns. The next overall approach is to prioritize which *zang fu* to begin working with: liver, spleen, kidney, or heart. They may all be involved, but if you treat all simultaneously, the patient will suffer from a confused and inefficient approach. In the absence of true disturbed *shen* presentation, it is usually best to start herbal therapies with liver, then spleen, and finally, kidney.

Candida.

Treating Candida can be a big challenge. Funguses are survivors and they are very hard to get rid of. Their job is to suck the life out of decaying tissue, so a fundamental imbalance in the vitality and chemistry of the small intestines is often the root cause. Addressing proper pH and restoring vitality via herbs and *dan tian qi gong*, are useful. When the Candida levels are +4 or +5 (on a scale of 1 to 5), it may be necessary to use western prescription medicine, specifically Nystatin. When combined with an anti-Candida diet, Nystatin is usually effective but needs to be taken for four months. The recommended protocol is 500,000 unit tablets, slowly working up to 1 to 2 tablets, 3 x day. Other western medicines, such as Nizoral, Diflucan, an Sporex, are effective but can be toxic to the liver. Without western medicine, it can take up to nine months or longer to eradicate +4 Candida with natural medicines.

For levels of +3 or below, many natural products will work. The key is to change any anti-fungal product every month, to avoid tolerance and adaptation. Herbally, *Huang Lian Jie Du Pian* seems to do the trick. I can also recommend my own formula:

FRATKIN'S CANDIDA FORMULA

Atractylodes <i>Bai Zhu</i>	6 %
Codonopsis <i>Dang Shen</i>	9
Pinellia <i>Ban Xia</i>	9
Coptis <i>Huang Lian</i>	9
Phellodendron <i>Huang Bai</i>	9

Houttuynia <i>Yu Xing Cao</i>	9
Isatis <i>Ban Lan Gen</i>	6
Cinnamomum <i>Rou Gui</i>	6
Amomum <i>Sha Ren</i>	4
Coix <i>Yi Yi Ren</i>	6
Artemisia <i>Yin Chen Hao</i>	6
Poria <i>Fu Ling</i>	9
Melia <i>Chuan Lian Zi</i>	6
Mume <i>Wu Mei</i>	6

Naturopathic products that work include those made with grapefruit seed extract, oregano oil, undecylenate acid, and berberine herbs. Again, talk to the reps of the various companies (listed at the end of the article) for ideas. For children there are a number of homeopathic nosode products that are quite effective from Professional Health Products (PHP), NutriWest, and others.

Most patients will require supplementation with beneficial bacteria to restore probiosis, the healthy bacterial terrain of the small and large intestine. Supplements combining various strains of lactobacillus are helpful, although quality really can vary depending on the manufacturer. Most should be refrigerated, and taken without food. New evidence points to Lactobacillus Sporogenes as being particularly effective, and a children's chewable exists. Contact Marcopharma for information.

Liver Patterns. In Leaky Gut, the intestines have been dumping unnatural amounts of microbial or metabolic toxins into the blood, which quickly end up in the liver. This causes stagnation of *qi* and blood leading to heat with a reduced ability to clear toxins. It is ultimately the cause of fibromyalgia, because the toxins that the liver cannot neutralized are returned to the blood, then the lymph, and finally the connective tissue.

I feel that the first *zang fu* organ needing regulation in Leaky Gut is the liver, requiring formulas that move *qi*, invigorate blood, and clear heat. Try to determine if liver stagnation is affecting either the stomach or the menses. If it is affecting the stomach with symptoms of food stasis, bloating, costal distension, or poor digestion, use *Chai Hu Shu Gan Tang*, *Xiao Chai Hu Tang*, or the patent medicine *Shu Gan Wan*. If the pattern is causing gynecological symptoms including PMS, dysmenorrhea or menstrual irregularity, use *Jia Wei Xiao Yao San*. Patent medicines or American made Chinese herbal products are quite adequate here.

If the pattern indicates heat toxins in the liver, with symptoms of fatigue, lymphatic swelling, and low grade fever, it is helpful to add herbs or formulas that clear heat toxins. The patent medicine *Chuan Xin Lian* contains *Andrographis Chuan Xin Lian*, *Taraxacum Pu Gong Ying*, and *Isatis Ban Lan Gen*. It is quite effective in targeting the liver and lymphatics.

There are other naturopathic products that help clear liver congestion. Every company has their favorites, and you can read their literature or talk with their reps. My personal favorites include the following: Hepar Comp or Hepeel (Heel-BHI); Core Level Liver or Core Level Detox (NutriWest); Detoxifying Factors (Tyler); Hepatica (MarcoPharma).

Spleen Patterns. The spleen is responsible for repairing the intestinal lining of the small intestine, and prolonged Leaky Gut easily depletes spleen *qi*. This can be noticed with traditional TCM signs and symptoms, or by the Chymotrypsin enzyme test. If spleen deficiency and liver stagnation coexist, choose a formula that addresses both, such as *Chai Hu Shu Gan Tang*, Ginseng Stomachic Pills (*Zi Sheng Wan*) or *Shu Gan Wan*. In such cases, there will often be food stagnation. If all signs of excess are gone with signs of a weak or small pulse, tonifying the spleen is required. You can use *Si Jun Zi Tang*, *Xiang Sha Liu Jun Zi Tang* or *Shen Ling Bai Zhu Tang*.

Naturopathic approaches often include hydrochloric acid (HCL) and pancreatic enzyme support. HCL-pepsin capsules are good, taking one to two capsules with each meal. It will not rehabilitate the pancreas like Chinese herbs, but it can promote efficient digestion while the spleen-pancreas is recovering.

Critical to the success of a leaky gut case is repair of the intestinal mucosa. If one can stop the irritating factors, namely fungus, protozoa, food allergies, and non-steroidal antiinflammatories like ibuprofen, the intestinal lining will heal by itself, although slowly. Use of the spleen *qi* tonics mentioned above will help to repair the lining, as will certain naturopathic products including ginkgo, slippery elm, aloe vera, bioflavonoids such as quercetin, essential fatty acids, antioxidants, and the amino acid glutamine.

As for Chinese herbs to repair intestinal inflammation, I have used the following formula:

FRATKIN'S INTESTINAL INFLAMMATION FORMULA

<i>Astragalus Huang Qi</i>	12 %
<i>Dioscorea Shan Yao</i>	9
<i>Ginseng Ren Shen</i>	9
<i>Paeonia Chi Shao</i>	9

Glycerrhiza <i>Gan Cao</i>	5
Cimicifuga <i>Sheng Ma</i>	6
Coptis <i>Huang Lian</i>	9
Pulsatilla <i>Bai Tou Weng</i>	9
Benincasa <i>Dong Gua Ren</i>	9
Cyperus <i>Xiang Fu</i>	9
Sanguisorba <i>Di Yu</i>	9
Lotus <i>Lian Zi</i>	5

Kidney patterns. Prolonged or chronic Leaky Gut Syndrome invariably causes kidney deficiency, and kidney tonification is often given after excess patterns have been addressed. Kidney is responsible for the endocrine system and, along with Spleen, for the immune system. When the body needs reserves, it uses kidney energy, stored in the Eight Extraordinary Channel network. In western physiology this includes adrenal function. As adrenal energy is depleted, other endocrine glands also become depleted, especially thyroid and pituitary, causing a myriad of symptoms. The naturopathic approach is to provide glandular support of adrenal or thyroid, which often has a positive therapeutic effect. However, in early stages of Leaky Gut, adrenal supplementation is contraindicated. This is because from a TCM point of view, the kidney *yin* depletes first, and later kidney *yang*. Adrenal glandulars basically tonify kidney *yang*. It is preferable to intervene early with supplementation of kidney *yin* through formulas like *Liu Wei Di Huang Wan* or *Zhi Bai Di Huang Wan*. This is determined through pattern differentiation. Later on, kidney *yang* tonics may be needed, such as *Jin Kui Shen Qi Wan* or *You Gui Wan*. In individuals with depleted kidney *qi*, stronger tonics are needed. I have found that placenta (*Zi He Che*) is quite useful, as is Siberian ginseng (*Wu Jia Shen*), royal jelly (*Feng Wang Jiang*), Cordyceps (*Dong Chong Xia Cao*), and deer horn (*Lu Rong*).

Occasionally, there are some useful naturopathic products for adrenal deficiency due to kidney *yin* deficiency. In these cases, from a western physiological point of view, cortisol levels are elevated as confirmed by saliva tests. These products would include Core Level Auto Para and DSF Formula (NutriWest). When cortisol levels are depleted, supplementation with adrenal products is beneficial.

Heart and *Shen* Patterns.

It is not uncommon to find disturbed *shen* patterns as the predominant presentation, marked by insomnia or restless sleep, anxiety, easily frightened, or palpitations. These are the cases that are often treated with Prozac or other antianxiety or antidepressive medications. Chinese herbal medicine is quite effective here. The formulas that I use most often are the following: *Tian Wang Bu Xin Dan*, *An Mian Pian*, and *Bai Zi Yang Xin Wan*. Occasionally *Chai Hu Mu Li Long Gu Tang* is appropriate.

Acupuncture Protocols.

In Chinese acupuncture, regulation of Liver and Spleen is often the predominant protocol, and using points such as Liv 3, St 36, and Ren 12 is helpful as a foundation formula. In Japanese Meridian Therapy, liver deficiency is the most common presentation, with treatment at Liv 8 and Ren 12 being effective. Ion pumping cords for the *Chong Mai* (PC 6-SP 4) is often indicated, or at *Ren Mai* (Lu 7- Ki 6). Supportive moxibustion at Sp 3, St 36, and St 27 is potent for healing an irritated intestinal lining. I would recommend acupuncture treatments once or twice a week, especially for the first two months of treatment.

Prognosis.

If the patient can stay on an allergy free diet, recovery is possible within four or five months using the types of therapy indicated above. However, some patients may need up to nine months of treatment for complete recovery if they have depleted their energy reserves. All sources of stress must be addressed and minimized, including emotional, lifestyle, work, and climate exposure. What I have proposed here focuses on the physical stress of massive toxic overload from the intestines. Leaky Gut Syndrome at its heart is auto-toxicity. The need is to rehabilitate the selective barrier of the small intestinal wall, detoxify the body, and restore liver, spleen and kidney functions.

SOURCES FOR MEDICINES

1) Chinese Herbal Medicines

CHINESE PATENT MEDICINES

MAYWAY	(800) 262-9929
NUHERB	(800) 233-4307
GOLDEN FLOWER	(800) 729-8509
HEALTH CONCERNS	(800) 233-9355
HERBAL TIMES	(800) 233-4307
JADE PHARMACY	(800) 827-4372
K'AN HERB COMPANY	(800) 543-5233
KPC (SOUTH MOUNTAIN)	(800) 572-8188
MINTANG FORMULAS	(800)888-9998
PLUM FLOWER	(800)262-9929
QUALIHERB	(800) 533-5907
SEVEN FORESTS	(800)544-7504
SUN TEN FORMULAS	(800)333-4372
MCZAND HERBAL, INC.	(800)800- 0405

2) NATUROPATHIC PRODUCTS

AMERICA'S BIO-PLUS	(800) 498-6640
ALLERGY RESEARCH GROUP	(800) 545-9960
BIOTICS-DSD, INC.	(800) 232-3183
ECLECTIC INSTITUTE, INC.	(800) 332-4372
EMERSON ECOLOGICS	(800) 654-4432
HEEL-BHI	(800) 621-7644
INTERPLEXUS	(800) 875-0511
METAGENICS WEST, INC.	(800) 321-6382
MARCO PHARMA INT., INC.	(800) 999-3001
NATREN	(800) 992-3323
NUTR. ENZYME SUPPORT SYS.	(800) 637-7893
NUTRI-WEST	(800) 443-3333
PERQUE	(703) 758-0689
PROBIOLOGIC	(800) 678-8218
PHYTOTHERAPY RESEARCH	(800) 274-3727

RAINBOW LIGHT	(800) 227-0555
STANDARD PROCESS WEST	(800) 321-9807
THORNE RESEARCH, INC.	(800) 228-1966
TYLER ENCAPSULATIONS	(800) 869-9705
UAS LABS	(800) 422-3371

3) LABORATORIES

GREAT SMOKIES DIAG. LAB	(800) 522-4762
DIAGNOS-TECHS, INC	(800) 818-3787
SERAIMMUNE PHYSICIANS LAB	(800) 533-5472
MERIDIAN VALLEY LABS	(800) 234-6825

For a more thorough background see:

DIGESTIVE WELLNESS, Elizabeth Lipski, Keats Publishing, Inc., 1996

DETOXIFICATION & HEALING; Sidney MacDonald Baker, Keats Publishing, Inc., 1997

THE FOUR PILLARS, Leo Galland.

GREAT SMOKIES DIAGNOSTIC LAB: Physician Information

JAKE PAUL FRATKIN, OMD, R.Ac. has been in practice since 1978, treating acute and chronic problems in children and adults. He is the author of *Chinese Herbal Patent Formulas*, and the editor of the recently released *Practical Therapeutics of Traditional Chinese Medicine*, By Wu and Fischer, Paradigm Press. He practices in Boulder, Colorado, where he combines Chinese herbal medicine, Japanese meridian balancing acupuncture, and nutritional medicine.