

# Healing the Gastro-Intestinal Tract: Using the Four “R’s”

by Charles Gant, MD, Ph.D.

Five thousand years ago, Chinese physicians declared, “Health begins at the mouth.” A century ago the work of colonic therapists echoed their insight. Healing the GI tract is a major factor in both recovery from health problems and maintaining wellness. If we can begin to understand what our GI tract is, where it comes from and what it does, its critical role in health and wellness is obvious. Over 500 million years ago, the first ocean animals funneled seawater through a tube. This filtering system for extracting nutrients later evolved into the first digestive system. Instead of extending roots into the soil to extract nutrients as plants do, these early life forms essentially picked up their roots and carried them around. Today, our GI tracts are highly evolved, complex “root systems” too, extracting nutrients from the food passing through our bodies—our “soil.”

## The Human “Root System”

The lining of your GI tract even looks and acts like a root system. Its surface is enormous, equal in area to a tennis court or two, because of numerous finger-like projections (called villi) and hair-like projections covering the villi (called microvilli). Like the bumps on a bath towel, these increase absorption. Damage and inflammation wearing down the villi and microvilli can greatly diminish the GI tract’s surface area—from two tennis courts to an average bedroom closet!

If a plant’s root system is damaged, other sites far from the roots—such as the leaves or stems—will also suffer, compromising the plant’s ability to extract nutrients. The human “root system” and other parts of the body are similarly compromised if the GI tract is injured.

A healthy GI tract also depends on having the proper bacteria in the “soil” for the “roots” to work properly. Gardeners know that putting decaying fertilizer (full of bacteria) into the soil helps the root system flourish. In fact, our “roots” completely depend on a mutually beneficial relationship with the healthy

bacterial flora in our intestines. Mold and parasites in our “soil” also adversely affect our health, just as unhealthy organisms in the soil damage the roots of plants.

Understanding the basics about growing healthy plants and gardens helps us appreciate how the GI tract heals. Adapted from the work of Dr. Jeffrey Bland\* and others, the strategy is simple.

## “The Four R’s”

- **Remove** offending organisms that damage our “roots”—fungus, unhealthy bacteria, and parasites
- **Reinnoculate** the GI tract with healthy flora to assist our “roots” in extracting nutrients and protecting us from toxins in our “soil”
- **Repair** the “roots” themselves, the cells lining the GI tract (enterocytes), with specific nutrients these cells need
- **Restore** a healthy, non-toxic environment and improve the detoxification process.

\* *Dr. Jeffrey Bland, Preventative Medicine Update, Healthcomm Inc., Gig Harbor, Washington, 800- 843-9660.*

To proceed intelligently, we need to find out if there are any unhealthy flora in our GI tract to *remove*, determine if there are sufficient healthy flora present that may need to be *reinnoculated*, judge how damaged the cells lining the GI tract are that may need *repair*, and assess damage to supportive organs like the liver to *restore* a viable detoxification process. Several laboratories (such as Great Smokies Diagnostic Laboratory in Charlotte, North Carolina) now provide specialized testing procedures to assist practitioners in proceeding with the Four “R’s.” Sometimes, insurance or financial constraints force clinicians to intervene without using these powerful diagnostic tools. But having the scientific data prior to making these decisions is a great advantage. As with plants, when our “root system” heals, interventions for health problems in other parts of the body are much more likely to succeed.

One of the most important tests that I order on my patients is called a CDSA (Comprehensive Diagnostic Stool Analysis). Patients can collect stool samples privately at home and mail them to the lab with a testing kit that I provide at the office visit. Cultures are done for both healthy and unhealthy organisms. Both “good” and “bad” critters are grown out on culture medium to identify their species. (The GI tract has over 200 species of microorganisms, and most are not too friendly! About 90% of the cells in our bodies are actually these critters and not our “own” body, in fact.)

Those organisms identified from the cultures as unfriendly are then re-grown in the presence of various herbs and antibiotics to determine their sensitivities. This allows us to effectively *remove* the unhealthy organisms in a logical and scientific way, instead of guessing or assuming what will work. For instance, I get testing results every week on some patients who are infected with certain yeast strains that are totally resistant to substances commonly

used to inhibit mold such as garlic and nystatin (a conventional yeast antibiotic). The motto of my medical practice is, “**If you don’t test, you have guessed!**”

### **This is War**

*Removing* unhealthy flora is like a military mission. To regain territorial control, you must remove an enemy who is entrenched and well hidden. Remember, all the nooks and crannies in our GI tract are like thousands of miles of coastline that used to provide safe havens for pirates and smugglers. Once the bad guys are chased out or executed for their crimes, and our law-abiding settlers (the friendly flora) again occupy the territory, it is much harder for the enemy to find a safe haven.

This process can take several weeks or even months. Afterward, you’ll need relatively few nutritional supplements to maintain control of the turf. But initially, you may need to take handfuls of supplements every day, plus anti-yeast or anti-parasitic antibiotics, and spend up to a several hundred dollars a month. War is expensive! Extensive battles may be needed to finally bring peace and harmony to the territory. Even then, some of the bad guys will still be skulking in the shadows. You will need some continuous reinforcements (daily supplements) to “hold the fort” or just maintain a diplomatic stalemate.

Because most of these critters are minuscule—that’s why they so outnumber our larger mammalian cells—the flow of the “soil” going by them (called peristalsis) makes inhabiting our intestines something like setting up house in a constant 300 M.P.H. wind. They hold on for dear life, literally using hooks, glue and suckers to dig in. Competing flora make enzymes to dissolve their neighbor’s glue and retaliatory enzymes in turn are made to counter such threats. In this chemical warfare, these bugs have weapons of mass destruction at their disposal. Should your healthy flora regain control, there will still always be low-grade guerrilla war going on in your gut. Using the

Four R's is actually a lifelong strategy to hold that turf captured in the initial engagements.

Due to our bizarre, modern, processed diet, toxins in our food and water, stress, antibiotics, alcohol, drugs and many other factors (even mercury from decomposing dental fillings), many people's GI tract flora are losing the war. That is why a billion-dollar industry flourishes, marketing remedies for GI tract distress. Your local pharmacist has all kinds of prescriptions and over-the-counter chemicals to medicate your "battle fatigue" (GI tract symptoms). And notice the advertising flooding the media for GI remedies.

Almost none of these remedies do anything to truly heal the gut at all! In fact, many drugs generally interfere with healing. And ironically—given that the average lecture time on nutrition is 30–45 minutes for the entire four years of medical school—many conventional medical practitioners know less than the general public on this subject.

### **The Healing Crisis: Detoxifying and Bloating**

**Removing** unhealthy flora such as yeast, "bad" bacteria and parasites generates casualties, much like a company of marines taking a hill to dislodge the enemy from foxholes. Unhealthy flora holds its position by periodically releasing salvos of toxins—any organism assumes a defensive posture when threatened. Then, in a natural counter-maneuver, our intestines accelerate expelling their contents (called diarrhea or loose stools), in order to minimize injury from the relatively huge load of toxins.

This process is variously called a "die-off," "healing crisis," or Herxheimer reaction. One experiences this as gas, cramping, bloating, and diarrhea. Even other, distant organ systems, such as lungs and joints, can suffer worsening symptoms. Remember, unhealthy flora respond exactly as any organism does when its survival is threatened. *We* only call them "bad" because

they injure our immune system, cause cancer and destroy other natural defenses to improve their own chances of survival.

Most people experiencing "die-off"—especially for the first time—misinterpret "detoxifying" and getting well as symptoms of "getting sicker." In past eras, such fear was justified. Diarrhea meant you could have typhoid fever; a cough implied diphtheria, and you were not long for this world. But symptoms such as cough, runny nose, urgency of urination, watery eyes, vomiting and diarrhea are defensive tactics of the body to quickly remove toxins. Suppressing such symptoms actually impedes the healing process. The vast array of pharmaceutical "remedies," besides some being toxins in their own right, frustrate the body's attempts to heal by interrupting such protective activities. On the other hand, there are practical and potentially dangerous limits to excessive detoxification, such as severe diarrhea, which can cause dehydration. Every day, I repeat this general rule to my patients: **"Start low (with supplements) and go slow."**

Bloating, or fluid retention, is a symptom that is somewhat different. Environmentalists say, "The solution to pollution is dilution." For example, if there is a localized, toxic spill, water is used to dilute the poisons so that the toxin is less concentrated and therefore less likely to cause harm. The same principle applies with any toxic build-up in the body.

Bloating is usually caused by undigested food putrefying in the large intestine (the colon), just as garbage rots if left around too long! My usual treatment is to supplement with digestive enzymes. This helps break down undigested food before it gets to the colon. Avoiding unhealthy, hard-to-digest foods helps too. But when bloating occurs during a "die-off," the culprits are toxins generated by killing enemy inhabitants. Here, rather than assisting with digestive enzymes, it is preferable to use

extra fiber and drink more water to get toxins out of the intestines as soon as possible.

### **Restraining Change: Gradual Die-off**

For practical purposes, “die-off” should occur gradually. The loose stools, bloating, cramping and gas can be a nuisance and interfere with daily living. And often GI pathology causes other systemic problems such as asthma, depression, and migraines. Making these symptoms worse by a “die-off” can be serious or even life threatening. You may need to take precautions to “batten down the hatches for a storm” if you have some other conditions.

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For instance, yeast toxins are related to bronchospasm. I usually make sure that my yeast-infected asthma patients have injectable adrenaline (a bee-sting kit) *and* a bronchodilator inhaler on hand before attempting the “die-off.” Then they can respond quickly to a severe attack. People with autoimmune disorders should proceed cautiously, since even a little extra challenge from the toxins to one’s immune system can cause a “flare-up” of symptoms. Sometimes inexperienced doctors are over-aggressive in the *removal* stage with GI tract pathology, a potentially dangerous practice. Despite good intentions, such a practitioner can propel patients into more problems than they started with. For example, many reported adverse reactions to antibiotics (anti-yeast, anti-parasite or even anti-bacterial) may be due to the toxins unleashed by the threatened and dying flora.

Remember, it probably took years for the overgrowth of nasty critters in your GI tract. You usually don’t need to remove them overnight. On the other hand, people must endure some unpleasant symptoms for a while, even for months. Everybody must find a pace that suits him or her. Like taking off a band-aid, dragging it out may hurt more than ripping it off quickly.

### **Inducing “Rapid “Die-off”**

Sometimes one should proceed rapidly with the “die-off.” My cancer and HIV patients are running out of time. The burden on their immune systems should be removed quickly, so their defenses can focus on identifying and killing cancer cells or opportunistic invaders. Between 60–80% of the immunological activity (white blood cells, lymphatic tissue and antibodies) in humans occurs in and around the GI tract, so it is plain that any health problem involving the immune system must fundamentally be addressed at the level of the gut. This means that diseases and conditions as diverse as cancer, lupus, arthritis, allergies, depression, ADD/ADHD, HIV/AIDS, CFIDS (chronic fatigue immune-deficiency disease) or low resistance to infections all have a common root cause and pathway of healing. “Die-offs” proceed at different rates for everyone, depending on how they handle the unpleasant symptoms, their motivation for recovery, the genuine risk of harm from “die-off” symptoms, and the priority of rapid results.

Colonic hydrotherapy can help most people get through the “die-off” period more quickly and with fewer symptoms. Colon bacteria, yeast, worms or parasites are flushed out with this procedure, so the “die-off” happens *outside the body* and the immune system does not have to deal with so many of the defensive toxins. After a “colonic” you generally have a few days to reinnoculate the niches vacated by the nasty critters before they return. This is the best time to take extra doses of reinnoculating supplements if you can tolerate them.

Again, if a rapid “die-off” is necessary because of serious, progressive illness, you can arrange for it to happen outside your body, instead of inside where your immune system has to deal with the toxic load and excrete it in some way. This has diagnostic advantages too, since a colonic therapist can see the milky yeast (actually pus)—or even some interesting and impressive parasites. They are dislodged with this procedure because the colon’s normal peristalsis (that 300 M.P.H. “wind”) becomes a relative tornado during colon therapy. This is also why fiber and extra water help scrape these creatures loose by increasing the flow of stool through the GI tract.

You should start with the gentlest agents to remove the flora and proceed to the more intensive, so that you have time to adapt to the “die-off” symptoms. If “die-off” is too fast, simply cut down the supplements and find a rate that works for you and your lifestyle. You may want to spread them throughout the day instead of taking them all at once. As you remove unhealthy flora, you will tolerate higher doses and more aggressive supplements, so gradually increase the nutrients to accelerate the process. This is like initially attacking with light artillery and guerrilla warfare to weaken an enemy’s resolve. Later, move in with the heavy artillery and large divisions of troops.

### **Starving the Enemy: Yeast and Alcohol**

Another important aspect of *removal* (which probably accounts for why most yeast control programs fail) involves starving the enemy. If yeast is the main culprit, you must limit your intake of as many carbohydrates as possible. This is like blockading the enemy to prevent supplies from getting in. Alcohol is one toxin that yeast makes for its survival (commercial alcoholic beverages are made by fermenting yeast with carbohydrates). If you have yeast overgrowth and eat fruit, you make wine in your intestines. This is called the “auto-brewery syndrome.” Rice makes you saki, grains make you whiskey and potatoes make you vodka. In studies with breathalyzers, people with GI

symptoms register positive blood alcohol levels after they ingest carbohydrates.

Medically, alcohol is used to disinfect the skin—by killing bacteria—which is why the yeast bug is so intent on synthesizing it. Healthy flora compete with the yeast. Yeast make other toxins besides alcohol to injure competitive flora and your immune system’s cellular machinery. These toxins can travel quite far, with numerous and diverse systemic effects called the “yeast syndrome.” Some toxins paralyze the muscles in the intestines (called constipation) so that the peristalsis is slowed down and the critters are less likely to get swept away. Healthy flora wage war against the alien invaders in your gut in many ways. *Acidophilus* (literally “lovers of acid”) turns the alcohol into acetic acid and throws it back on the yeast. When a commercial brew spoils and turns into vinegar, this is really a successful campaign waged against yeast.

### **More on Carbohydrates**

I want to be clear about carbohydrates. The yeast in your intestines isn’t politically correct! It doesn’t really care if you eat a candy bar instead of organic whole wheat bread. The only advantage to eating whole, unrefined, especially uncooked foods that are laced with carbohydrates (grains, fruits, beans and starchy veggies) is that they often have anti-yeast and anti-parasite bioflavonoids and other phytochemicals in their skins and protective coatings. For this reason some of these foods, especially onions and garlic, can remain mold-free for a long time on the counter. But once the skin is disrupted, yeast, bacteria or parasites rapidly invade the carbohydrate innards, and food spoils quickly. Hence, what is really garbage rotting in your intestines—unrestrained by healthy flora or the protective substances from fresh fruits and vegetables—adds immensely to the immune system’s toxic overload. Initially you need to restrict sweets, junk food, fruits, grains and starchy vegetables until GI healing progresses to a certain point.

Change your attitude about carbohydrates. Anthropologists now agree that, for most of human history, people did not have carbohydrate-laden foods around much except for a few months during the summer growing season. Our ancestors developed agriculture a mere 7,000 years ago, when they also began storing grain for off-seasons and herding animals to have a steady supply of milk. But for at least two million years before that, human ancestry generally congregated around waterways, lakes and rivers. Their diet was mostly fish, small game, roots and other fiber. Our ancestors performed an annual “die-off” when the growing season ended!

There are indeed “essential” nutrients like proteins, fats, minerals and vitamins, but there is no such thing as an “essential carbohydrate.” Our ancestors’ diet—to which we are physiologically and evolutionarily adapted best—is a high protein, high fiber, moderate fat (including essential fatty acids), high mineral, high phytonutrient (roots and herbs), *low carbohydrate* diet.

Carbohydrates also cause hyperinsulinism (insulin resistance), which is a pre-diabetic, pro-inflammatory condition with toxic implications for anyone with health problems. Refined carbohydrates contribute to an acidic biochemistry, which is also problematic. These are complex topics for other discussions, but in general we can say that refined carbohydrates can be deadly and, specifically, consuming any carbohydrates during a GI “die-off” is self-defeating. The well-known “food pyramid,” which recommends gobs of grains, milk products (lactose = milk sugar) and fruit, is one health myth promoted by segments of the agricultural industry and our government, largely for economic reasons. The food pyramid’s diet proportions practically guarantee escalating rates of chronic illness by damaging the GI tracts of Americans.

#### **Reinnoculation: The Second “R”**

The second “R” stands for *reinnoculation* and is relatively simple in theory if the *removal*

process is well on its way. But the main practical problem here is that some commercial “health food” manufacturers have convinced consumers that just taking supplements containing only healthy flora (like acidophilus or bifidus) actually works! Unfortunately, research shows little change in test subjects’ flora when they take such supplements.

What does work is also feeding your intestines the selective growth substances—food that the healthy flora can eat but the yeast cannot—such as FOS (fructo-oligosaccharides) or pantethine. The flora *alone* does not inoculate well because much of it dies in the stomach acid before it ever reaches the intestines (one protective purpose of stomach acid is killing bacteria in our food). We now have available new, acid-resistant forms of healthy bacteria, and there are ways to protect the healthy flora in its perilous journey through the stomach. Of course, it’s also better to take the non-acid resistant strains of healthy flora than none at all, since some may survive.

Heavy metals, especially mercury, are particularly worrisome for your intestinal health. Yeast and other unhealthy flora flourish more readily than bacteria in the presence of mercury. Mercury also poisons the nervous system. Most dental fillings contain mercury, long used to inhibit the growth of bacteria that infect cavities in teeth. Unfortunately, even small amounts of mercury leaking from a filling can injure healthy flora. It’s like fighting with one hand tied behind the back when there’s mercury toxicity present. A simple, inexpensive hair test can rule out this potential complication to gut healing.

#### **Repairing “Leaky Gut”: The Third “R”**

The third “R” stands for *repair*. This means assisting the cells lining the GI tract (called enterocytes) in becoming as healthy as possible again. Toxins from yeast, unhealthy bacteria, viruses and parasites, damage the enterocytes, impairing their ability to absorb certain essential nutrients.

In November 1997, *Newsweek* reported on another aspect of this problem called “leaky gut syndrome.” This occurs when toxins and undigested food proteins break through a compromised intestinal barrier and contaminate the lymphatics and bloodstream. Leaky gut often causes food allergies, because the body responds to undigested, large food proteins as foreign invaders. This challenge to the immune system increases the toxic burden on the body. If food allergies are present, as determined by testing for antibodies in the bloodstream, the foods with the highest reactivity should be eliminated for a few months to allow the immune system to settle down.

Once in place, food allergies can be self-perpetuating. Here’s how it works. The immune system releases inflammatory toxins to “injure” the protein perceived as threatening. The healthy cells lining our intestines gets hit by “friendly fire” in the same way that soldiers are accidentally shot by their comrades. This pokes *more* holes in the intestinal barrier, allowing more large proteins to leak across and challenge the immune system. This process cycles endlessly, unless the offending proteins are eliminated to allow a cooling down period. Allergic foods are not broken down or absorbed in a normal way — in essence, the immune system must finish the digestion that the GI tract couldn’t complete! Once the GI barrier is repaired and resealed, most people can again eat those foods that they were allergic to—*with discretion*.

The “friendly fire” analogy also explains autoimmune disorders such as lupus, rheumatoid arthritis and so on. With 80% of the immune system’s activity focused on the GI tract, once it has been thoroughly challenged with allergic food proteins and toxins from unhealthy flora, the immune system goes on a rampage everywhere in the body. Pro-inflammatory substances (cytokines, thromboxanes, leukotrienes, and so on) are circulated everywhere, and the immune system

takes a “shoot first, ask questions later” attitude. Any tissue in the body that looks the least bit suspicious can get hit with “friendly fire.” Thus all 300-plus autoimmune disorders are really the same problem, just *symptomatically* different. Restoring the GI tract allows the immune system to stand down from “red alert.” Autoimmune “disease” is nothing more than a perfectly healthy immune system with a bad attitude. Like an anti-social kid, the last thing the immune system needs is more punishment with toxins—it needs nurturing and support by removing the abuse that makes it so aggressive.

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Our ancestral diet had relatively small amounts of carbohydrates to stimulate the growth of toxin-releasing, leaky gut-causing critters. Our forebears ate a rotated food diet of whatever seasonal foods could be hunted, scavenged or fished at the time. Even if an ancestor had a tendency toward leaky-gut, his or her immune system never got much chance to over-react to any one or two food proteins before another new protein was introduced.

That is mostly why many commonly consumed, perfectly nutritious foods—like eggs, milk products, wheat products and peanuts—show up so often as offenders during food allergy testing. So, if or when you reintroduce allergic foods into your diet again, don’t start eating them every day again! Use extra enzymes to help break down potentially meddlesome proteins into smaller, less challenging fragments. Rotate the allergic foods with several days between exposures, and increase your selections and variety of foods.

For the first six months of life, infants have a natural “leaky gut syndrome” that allows the antibodies (proteins) from breast milk to leak

into a baby's body and confer some passive immunity. This is probably the main reason why breast-fed babies have fewer allergies and illnesses than those who are bottle-fed. If an infant is given foreign protein—cow's milk, soy, rice—during this time, the immune system can be damaged. Human breast milk is also higher in bifidus, growth factors for the healthy GI flora, phospholipids and other nutrients that essentially accomplish the Four R's of GI healing. (The Nutrient Transfer™ tableting base used in many NSR products was designed around the scientific information discovered about breast milk, and I generally make sure that all my patients ingest some product with this constituent.)

The main substances that repair the cells lining the intestines are essential fatty acids (Omega-3 and 6), phospholipids (lecithin) and glutamine (an amino acid). These cells are unique, as they require glutamine for energy instead of glucose (as with cells elsewhere in the body). Sugar may be too dangerous a nutrient for these cells, since it's what unhealthy flora prefer.

#### **The Fourth “R” Restores**

Digestive enzymes help to break down foods. By chopping-up potentially allergic and toxic proteins, digestive enzymes are considered part of the “Fourth R,” since this helps *restore* a nontoxic environment for healing to proceed unimpeded. If testing either suggests or confirms leaky gut syndrome, digestive enzymes help the pancreas to slice up protein into smaller chunks (called peptides) or amino acids, so there is less of the original protein leaking and less to challenge the immune system. Digestive enzymes are usually mandatory for teenagers who are unlikely to follow a careful diet. Sometimes I recommend detoxification nutrients, especially those containing sulfur (for example, MSM, glutathione, lipoic acid, cysteine, and taurine). These break down or help package for removal (called “conjugating”) petrochemicals and other toxins. Some labs, such Great Smokies,

also test to determine which enzymatic, detoxification pathways are working.

#### **Recommended Tests to Assess GI Problems**

Below are the tests I recommended to assess GI problems. Any physician can order these tests and, in some states, other holistic health-care practitioners can order them too. Depending on the insurance coverage and the clinical situation, one may do them all or only a few. By far, a comprehensive battery of tests for a GI healing program is more expensive than either the physician's office appointment or subsequent nutritional supplements. I list these tests in the usual order of importance.

- A comprehensive digestive stool analysis (CDSA) — the most important
- Serum antibody tests (IgG, IgA, IgM)—for candida, helicobacter pylori (causes ulcers in the stomach) and other parasites
- Food allergy (IgG, especially) or Elisa Act testing (blood)
- Detoxification profile, with acetaminophen (Tylenol), caffeine and aspirin—helps determine which detoxification pathways are compromised
- Organic acids (urine) to determine levels of toxic chemicals and metabolites
- Tests for leaky gut syndrome
- Test for malabsorption of nutrients (minerals, fatty acids amino acids)

Once there is some diagnostic understanding of the range of problems associated with an injured GI tract, the **Four R's** (*remove, re-innoculate, repair, restore*) can proceed. While I am waiting for the lab results to return, I usually like to start the process slowly by provoking mild “die-off” symptoms. And sometimes the initial response to treatment expands our understanding about the diagnosis — the extent of initial “die-off” symptoms tells me how serious the leaky gut actually is. After initial “die-off,” when the first round of supplements is well tolerated, I usually recommend more aggressive supplements. If

these amounts were used to begin with, serious symptoms could result and I would hear from unhappy, fearful and even angry patients. You can start the process with one of the more intensive products. Just **start low and go slow** to get the same good results outlined here.

### **Products & Procedures Used to Accomplish the Four R's (\* = in Nutrient Transfer™)**

**Removal—Globulin Proteins\*** (Lactoferrin, Lactoperoxidase and others)—the antibodies in milk that the lactating cow gives the calf to control its yeast

#### **Caprylic acid and potassium sorbate**

**Various herbal remedies** as tested for on the CDSA.

#### **Homeopathic remedies**

- **Bio-oxidative therapies** such as intravenous hydrogen peroxide.
- **Colon Hydrotherapy**, especially when done with ozone insufflation

**Reinnoculate—Various combination of healthy bacteria.** Flora strains with FOS to help them grow is the most gentle, because most bacterial supplements don't survive well in the stomach acid.

- **\*Pantethine**—vitamin B5 is a selective, important growth factor for the flora
- **\*FOS** (fructo-oligosaccharides)—a growth factor
- Any product with **\*phospholipids**, which coats and protects the flora
- **Laterosporus (BOD Strain)**—a spore-forming bacteria, very resistive to the stomach acid

**Repair—Essential fatty acids**, preferably higher in Omega-3, lower in Omega-6, are immediately anti-inflammatory and help in the repair of membranes of cells.

**Highly purified phospholipids** are immediately able to help in repair; also aid in the delivery of other nutrients to cells

**Glutamine**—supplies energy to the cells lining the GI tract and also helps the immune system in other ways

**Aloe**—soothing to a damaged GI tract

**Restore—Organic sulfur compounds** (e.g., MSM, Lipoic acid, N-acetyl cysteine, glutathione) for detoxification and to help with chelation of heavy metals in case they are a problem

**Digestive enzymes** help to break down potential food allergic proteins

**General correction of nutrient deficiencies**

**Chelation of heavy metals**

The stool testing will indicate which of the various herbal substances should be used, such as uva ursi or berberine, as indicated from the cultures and sensitivities. Herbal supplements are simply products derived from plants that have extraordinary defenses against their own invaders (yeast, bacteria, parasites, and viruses) and over ages have been well tolerated. Herbs for GI healing are not nutrients—they are antibiotics and they can have serious (though rare) side effects. They should only be used with the assistance of a holistic health practitioner. Parasites should be suspected in some people when there is more pathology indicated on the testing than can otherwise be accounted for by the cultures for yeast or bacteria. There are some exciting technologies that have recently emerged to help deal with parasites.

### **Deficiency-Specific Remedies**

If bifidus is deficient, I like to use **NT Express** (by NSR) because the bifidus is protected from the stomach acid by the phospholipid tableting base. If the lactobacillus is deficient, I like to add plenty of acidophilus. If more lactoglobulin is needed, I prefer **Probioplex Intensive Care** (by Metagenics). A broad-spectrum herbal for the smaller parasites is **Parex** (by Metagenics) and **Wormwood Combination** (by Kroeger) is excellent for the larger varieties. When systemic allergies are present, **Aller Avert** (by NTI) is very helpful. Microhydrin (by Royal Body Care) appears to be a new, powerful tool to fight unhealthy

critters, and helps with allergies. If mood problems, ADD or other systemic disorders are present, or you simply want the best multivitamin/mineral supplements in the world, all of the products by **NSR** (Natural Solution Research) possess an excellent tableting base that continually heals the GI tract. These products, and in general those from **NTI**, **Metagenics** and **Douglas Labs**, are assayed and proven to actually be in the supplement, which is more than you can say about most products now available on the shelves of nutrition stores! **Aloe Vera** products (by **Golden Ray**) are often very useful to soothe the gut. Anti-yeast, prescription antibiotics are sometimes needed for total candida removal, as well as antibiotics for unhealthy bacteria or parasites as indicated by the clinical presentation or by the cultures and microscopic exam of the stool.

### **Food Allergies**

Food allergies are handled by elimination. I usually start with an **Atkins** (low carbohydrate) plan if yeast is cultured or suspected, except that I encourage a much greater intake of leafy green vegetables (also fairly low in carbohydrates) for added minerals, phytonutrients and roughage. Those foods that came up positive on the allergy testing have to be crossed out of the **Atkins** plan. Over time, as

the “die-off” is well on its way, I prefer to begin moving to a more alkaline diet for long-term wellness. It is the melding of these three diet plans, sequentially, that seems to work the best. Much larger amount of essential fatty acids, phosphatidyl choline and glutamine may be needed for repair in some people. Generally I prefer the **Douglas Lab**, **NTI** and **NSR** products because of their quality controls and assays. You do not know what you are actually getting in cut-rate supplements, and I always encourage consumers to buy the most expensive brands that can be found. Much larger amount s of enzymes, antioxidants and sulfur-related detoxification substances may be needed for very toxic individuals, depending on the testing results. If heavy metal poisoning is a problem, intravenous (**EDTA**) or oral chelation medication (**Chemet**) may be indicated.

### **Conclusion**

In summary, almost all patients proceed to get well if they follow through on this regimen. Of course, other testing may be indicated for special kinds of problems. However, all healing in the mind or body fundamentally hinges on **GI** healing, therefore it is important to stress that this aspect of treatment is of critical importance for any recovery or wellness plan.

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## **Recommended Reading:**

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