

FUNCTIONAL MEDICINE – CORE PHYSIOLOGIC PROCESS #1

Written by David G. Schwartz, M.D.

This presentation is an in-depth exploration of the Core Physiologic Process #1, Assimilation and Elimination, from The Disease Delusion, by Jeffrey S. Bland, Ph.D., introduced in last month's article. Some of this is also from the Textbook of Functional Medicine, the textbook Nutritional Medicine, by Alan Gaby, M.D., and Principles and Practice of Phytotherapy, by Simon Mills and Kerry Bone.

This process of assimilation and elimination, which involves mainly the digestive system, is vital and basic to many other functions in the body. Problems starting there can wreak havoc in other systems, and bringing balance to this area can help normalize problems elsewhere. Correcting imbalances in this process early even when there are few symptoms can proactively stop the development of much chronic illness in the G.I. tract and elsewhere.

Before working on the 7 core processes, Dr. Bland recommends doing the baseline program explained in Chapter 12. The baseline program is based on food, exercise, stress management, environment, and supplements.

The food plan is primarily Mediterranean diet, which contains a variety of vegetables, fruits, legumes, and spices. It has plenty of fiber and omega-3 oils, is low in starches, sugars, processed foods, has no trans fats (hydrogenated oils), and no empty calories (junk foods).

Exercise includes strength, endurance, and flexibility, and uses 10,000 steps per day.

Stress management is largely doing something about the things about which you have some control, and letting go of the things you can't control.

Environment control includes designing your space to be safe, clean, and supportive of good health habits; consuming organic foods and purified water; avoiding synthetic personal care products, using headsets with cell phones, and planting a garden.

Daily supplements: multivitamin-mineral supplement, 1000 to 2000mg Vitamin C, at least 1000 units Vitamin D3, 2-3 grams omega-3 oils, and probiotics with 3 billion live organisms.

More details on the Baseline Program can be found by reading Chapters 11 and 12 of the book, The Disease Delusion, for an expanded description too large for this article.

Whatever the health problem, it would be good to take the General Health Assessment Questionnaire on page 293:

1. Health deteriorating over past 2 years?
2. Gained or lost 10% of weight in last 5 yrs without dieting?
3. Trouble sleeping?

4. Joint or muscle pain limiting activity?
5. Fatigue for no apparent reason?
6. Depressed or anxious?
7. Memory problems?
8. Consistent ringing in ears?
9. Losing strength?
10. More than 2 prescription medications?
11. Over-the-counter meds: antacids, analgesics, anti-inflammatories, and for sleep?
12. Allergies?
13. Poor concentration or confusion?
14. Short of breath or winded?
15. Loss of taste or smell over last few years?
16. Lost muscle mass in past few years?
17. Has your doctor said you have high glucose, cholesterol or BP?
18. Has your dentist said you have gum or periodontal disease?
19. Alternating constipation and diarrhea or abdominal discomfort?
20. Have you been told you have bad breath?
21. Shorter than you used to be?
22. Do catch every cold that goes around?

If 1, 2, 3, 10, 11, 17, & 22 are yes, usually multiple core processes are involved, but the first core physiologic process, assimilation and elimination is the best place with which to start because it is the most basic to all of them and very likely the most important. The historical naturopathic approach is, “start with the gut.” Even if not many questions are positive, it is still good to do the first core process questionnaire on page 296:

1. Alternate between constipation and urgency?
2. Indigestion?
3. Oily stool?
4. Bloating or intestinal gas?
5. Abdominal pain frequently?
6. Reflux?
7. Headaches?
8. Allergic or sensitive to many foods?
9. Joint or muscle pain after eating?
10. Bad Breath?
11. Depressed or mood swings?
12. Trouble keeping weight under control in spite of watching your diet?
13. Blood sugar elevated?
14. Kidney stones?
15. High blood pressure?

If 5 or more of these questions have yes answers, it would be good to do the whole 4 R program. If only 1 or 2 of them are positive, it may make sense to just take probiotics

or check for food sensitivities. The 4R program is Remove, Replace, Re-inoculate, and Repair.

For the Remove phase, first eliminate all substances known or suspected to be toxic such as tobacco, recreational drugs, unfiltered city water, GMO's, and toxic dining environments. Remove all foods known to cause symptoms. Dr. Bland suggests doing an elimination diet for 2 wks, removing commonly sensitive foods: gluten (from grains), casein (from dairy), soy, citrus, eggs, peanuts, and shellfish. The Functional Medicine textbook also eliminates pork, beef, corn products, food additives, alcohol, caffeine, and refined sugar.

Dr. Alan Gaby in his textbook, Nutritional Medicine, describes the details on pages 1323-6 for how to use an elimination diet to discover which foods are reactive. He recommends eliminating these foods for 2 weeks, see what symptoms disappear, then start re-introducing the eliminated foods one food one day at a time to see if a symptom occurs. That tells you that this particular substance has to be removed for the long term. The 1st 7-10 days of the elimination period may produce withdrawal symptoms from certain things, (such as caffeine or sugar), and you may temporarily feel worse. If you suspect other substances that are not on the above list, exclude them also in the elimination phase. Also any food for which you crave should also be eliminated, and probably any food that you have every day.

If you don't know where to begin, if you already don't eat most of the foods on the list, then eliminate those foods that you commonly eat more than 3x/wk. Blood tests, while often lacking in reliability, can help to identify foods likely to be reactive, and then you can use the most highly reactive foods to exclude in the elimination diet.

Since gluten sensitivity has become more common, checking for that with a blood test could be helpful. This is a little different from wheat sensitivity, which could be tested for in the elimination diet. Gluten is present in several grains, and for some people it can result in severe health problems. "Celiac disease" is when the immune system makes antibodies against enzymes and other substances in the intestinal lining. The antibodies can attack several systems in the body and can result in cancer of the lymphatic system, a major part of which is positioned around the gut. Non-celiac gluten sensitivity is a milder condition, which can also cause inflammation in several areas of the body, but does not produce the destructive antibodies. Most primary care providers can order blood tests for a celiac screen and for deaminated gliadin antibodies. For the most thorough tests for gluten sensitivity, Dr. Aristo Vojdani's Lab, Cyrex Laboratories, will do panel of 24 antibody tests, called Array 3. You can go to www.CyrexLaboratories.com and order the test kit to take to your local laboratory for blood draw. Some people choose to limit their grains altogether since the grains tend to be difficult to digest and are high in starch. Refer to Wheat Belly, by William Davis, M.D. and Grain Brain, by David Perlmutter, M.D.

You may want to see a practitioner of functional medicine or a nutritionist, a naturopath, a homeopath, or an herbalist who can order a stool test that can indicate

adequacy of digestive enzymes and stomach acid, adequacy of symbiotic or “friendly” bacteria, presence of parasitic (unfriendly) bacteria, pathogenic organisms, parasitic yeast, or intestinal parasites such as giardia, amoeba, etc. Some laboratories can also give a diversity index, a measure of the complexity of the bacterial flora, the gut “microbiome.” The degree of complexity and diversity of the microbiome correlates with digestive and general health.

If parasitic or unfriendly organisms are found, then natural agents active against these organisms can be used, such as garlic, ginger, oregano, peppermint, thyme, tannins, myrrh, grape seed extract, and green tea. Stronger botanicals such as golden seal, barberry, black walnut hulls, or wormwood should be used under the supervision of an herbalist or a similar practitioner.

The second R, “Replace,” is the replenishing of missing or deficient digestive agents. If the stool has visible undigested food materials or fat (assuming the food was chewed well), stomach hydrochloric acid and/or digestive enzymes or bile may be deficient. Also the stool test may show these deficits. Digestive enzyme supplements, bile salts, and hydrochloric acid capsules (the last under the supervision of a health practitioner) may be taken with meals. The most potent enzymes from animal sources are pancreatin, proteases, lipases, and amylases. Vegetarian sources are bromelains, and enzymes from aspergillus, a fungus, which is OK if no allergies to fungus, yeast, or mold are an issue. Lemon juice or vinegar can be used instead of hydrochloric acid capsules, one ounce with meals, and that can often relieve symptoms. Digestive bitters stimulate the production of digestive enzymes. These can include dandelion, artichoke, gentian, angelica, fennel, and cardamom.

The third R is re-inoculate. A stool test can reveal deficiencies of beneficial bacteria, but they are so commonly deficient with many digestive problems that it may be almost always assumed that they need to be replenished. A variety of probiotics are available to re-inoculate the symbiotic bacteria such as lactobacillus (several species), Bifidobacter, and saccharomyces boulardii. A supplement should either be freeze-dried or kept refrigerated and should contain at least 2 billion organisms per gram, with an expiration date stated. All supplements need to have a seal of purity such as GMP (Good Manufacturing Practices) or NSF (Nutriceutical Science Foundation), or similar standard of purity. Fermented foods such as yoghurt, kefir, raw sauerkraut, pickled vegetables (raw), etc. provide more diversity of bacteria. To provide nutrients to encourage the bacteria to grow, prebiotics containing inulin or fructooligosaccharides can be taken as a supplement. Mucilaginous herbs such as marshmallow root, aloe, and plantain also provide prebiotic substances. If you raise your own vegetables with organic soil, not using cow or pig manure, you can add more diversity to the gut microbiome by getting soil bacteria, if you do not wash the vegetables excessively.

The fourth R is Repair. The stool test may show inflammation and intestinal permeability (leaky gut), but these conditions are often present anyway with assimilation problems. Supplements that help in healing of inflamed gut linings are zinc 15mg/day, pantothenic acid 500mg/day, omega-3 oils 2-3 grams/day, L-glutamine 1 gram 3x/day,

chelated magnesium 200mg/day, and B-complex. Herbal mucilagenous substances such as de-glycerrhizinated licorice (DGL), aloe, marshmallow root, and plantain leaves as well as tannins from grape seed extract can be healing.

A very important part of digestion is the environment and circumstances for eating. Quiet, pleasant surroundings and people, in an unhurried manner, allowing time for thorough chewing, swallowing when food has been liquefied, and with an attitude of appreciation for the food and its origins, with a prayer of thanks, all contribute to more normal assimilative function.

Elimination is a vital part of this process. Too slow transit time can allow build up of toxins from and time for absorption of toxins. Optimal elimination is 2 soft bowel movements per day. Fiber from abundant vegetable matter and supplemented if necessary with soluble fiber (with plenty water) and insoluble fiber can promote good elimination and can provide food for beneficial bacteria. Abundant filtered water helps excretion through the kidneys. Exercise with perspiration helps purification through the skin, and deep breathing of fresh air helps elimination through the lungs.

Supporting this core process of assimilation and elimination can have a profound effect on the health and optimal function of multiple systems of the body and on the disappearance of many symptoms and "diseases."

A reminder: This core process and its function or dysfunction has effects not limited to minor symptoms and annoying ailments. Life-threatening and disabling conditions centered not only in the digestive system but other areas of the body can result. Celiac disease mentioned earlier, autoimmune arthritis, and other systemic inflammatory conditions can ensue. Inflammatory Bowel Disease, including Chron's, and Ulcerative Colitis, can be disabling, and the colitis is correlated with colon cancer.

It is vital to keep this fundamental core process of assimilation and elimination in good working order, and to pay attention to healthful lifestyle habits and nutrition even when symptoms have not occurred. Especially before symptoms develop, a main purpose for this endeavor of functional medicine is to be proactive and to prevent or reduce the risk of illness occurring, and to save us all a lot of trouble as well as to have vibrant, happy, productive, well people.