

THE
**ULTRAWELLNESS
CENTER**

THE RIGHT ORDER OF THINGS:

PEELING THE ONION OF CHRONIC DISEASE

In the practice of medicine, healing depends not only on doing the right things, but also doing them in the right order.

Illness is never simply one discrete process or dysfunction. It is a bundle of the patient's whole life – their genetics, early influences, environment, diet, lifestyle, habits, travel, relationships, beliefs – and how those influences are layered and woven to create the thing we call disease. Rooting out the original causes from the downstream effects is the essential task of the healing process. Our job is determining how the illness is layered or woven into your story and your biology. This helps us know where to start first, which layer to peel away, or which knot to untangle in the web of physiologic dysfunction.

Doing the right thing in the wrong order will often result in failure or worsening of the illness. Finding the one medication or surgical procedure, or the right herb or alternative modality, to treat a "disease" may fail, even if it is the right thing to do, when it is done in the wrong order.

More importantly, there are often many things to do, and it is difficult to choose which to do first. But after 20 years of thinking, sorting, trying, failing, succeeding, a few things seem apparent, and here we offer them humbly to those who struggle to hold and make sense of the infinitely variable threads of human story and disease.

Fortunately, though human biology is infinitely complex and beyond anyone's capacity to fully grasp, there are some principles and well-traveled routes to healing that are straightforward and accessible for healing. In fact, I believe, this map and methodology are our best hope. This is the map of Functional Medicine, or whole systems medicine.

BEFORE YOU BEGIN

Our first task in the patient-healer partnership is to persistently seek the cause (or causes) of the illness. Thankfully, there are only a few root causes for all illness: infections, allergens, toxins, stress (physical or psychological), poor diet, and genetics. That's it, just 6 things to think about. But we must become an expert in identifying and treating these underlying causes of disease.

The second task is to identify the 7 "ingredients" needed for optimal biologic function:

1. Real food
2. Nutrients and hormones
3. A healthy environment (water, air, light)
4. Deep relaxation, rhythm (including sleep)
5. Movement
6. Love, community
7. Meaning and purpose

We must also become experts in assessing deficiency of these "ingredients" and helping provide the necessary conditions for thriving.

The presence of any of the 6 root causes of disease, and the absence of any of the 7 essential ingredients, creates imbalance in the basic biologic-web like systems and processes of the body:

1. Hormonal/Neurotransmitters
2. Immune
3. Digestive
4. Detoxification
5. Energy metabolism
6. Structural
7. Mind-body

Any imbalances in any one or combination of these systems results in the manifestation of disease, as we know it. With this map and process of thinking, the *name* of your “disease” becomes increasingly meaningless.

So first we *must seek the cause*. When faced with multiple causes of disease – toxins, infections, allergens, poor diet and stress, which often occur together in varying patterns and degrees – the question is what to do first, and then next, and so on.

The trick lies in having a place to start, and understanding how to unpeel the layers of dysfunction and in what order. Fortunately, the body knows how to heal if we remove the impediments and provide the proper conditions in the right order. This takes time, patience and persistence.

WHAT IS THE RIGHT ORDER?

These steps are listed in order of priority for peeling the onion of chronic illness. This is how we practice Functional Medicine, and what we have found leads to the most success in healing. Sometimes we will do multiple things at once, for example, start hormone therapy along with immediate dietary changes and treatments to heal the gut.

Healing is a process and not always linear. It is more like tailoring—making adjustments each step along the way until we get it just right.

Here are the steps we usually follow:

1. Start with food
2. Remove food allergens or sensitivities
3. Fix the gut
4. Optimize nutrient status
5. Balance hormones
6. Support energy metabolism
7. Enhance detoxification
8. Mind-body balance
9. Look for hidden infections

START WITH FOOD

Whole, real foods. As Michael Pollan writes, “Eat food. Not too much. Mostly plants.” A refinement is what I have termed the “Nutrigenomic Index” (see Table 1). Food is by far the most powerful clinical intervention in chronic disease. You will learn to apply it, and use it skillfully, with our guidance.

TABLE 1: NUTRIGENOMIC INDEX

Plant-based diet: a whole, unprocessed predominately plant based diet provides the highest Nutrigenomic Index based on the following properties:

- **Low-Glycemic Load** – the overall balance of the meal
- **Proper Fatty-Acid Composition** – high level of healthy omega-3 fats vs. omega-6 fats, low in saturated fats and no trans fats
- **High-Phytonutrient Density** – high level of phytonutrients and antioxidants
- **Healthy Protein** – lean, healthy predominately plant based proteins, or pasture-raised animal products
- **High-Micronutrient Density** – contains high amounts of vitamins and minerals
- **Low-Allergenic Burden** – low in foods that are highly allergenic (gluten, dairy and others based on personalized prescription)
- **Low Toxic Burden** – minimizes toxic burden of food, e.g. no/low added hormones, pesticides, antibiotics or any other artificial additives
- **Healthy pH Balance** – provides proper balance between acidity and alkalinity
- **Healthy Salt-Potassium Ratio** – low in salt and high in potassium
- **High Fiber Content** – high in fiber to help slow the insulin response and optimize digestive health

REMOVE FOOD ALLERGENS OR SENSITIVITIES

Delayed food sensitivities are among the most potent triggers for chronic symptoms and an inflamed immune system. A trial of a comprehensive elimination diet for 2-3 weeks with systematic food reintroduction is a powerful therapeutic and diagnostic tool. The closer you follow this, the faster you will know how much food is playing a role in your illness. Sometimes we just recommend elimination of the most common triggers of symptoms – gluten and dairy, and sometimes we recommend a more comprehensive program.

After introducing a whole foods, low-glycemic load (low sugar/flour), phytonutrient dense diet, food elimination/reintroduction is the least expensive and most powerful diagnostic and therapeutic tool available. For example, gluten elimination can be one of the most powerful treatment methods for chronic illness of many types.

FIX THE GUT

Health starts in the gut. The digestive tract has an independent nervous system, and contains 60% of our immune system. We will assess your gut through history and appropriate diagnostic tests (for gluten sensitivities, inflammation in the gut, unwanted bugs like parasites or yeast). Then we will aggressively treat the causes of gut dysfunction, including leaky gut, delayed food allergies, small intestinal bacterial overgrowth (SIBO), yeast overgrowth, parasites, and worms.

We may use herbs, botanicals or antibiotics, anti-fungal, anti-parasitic, and anti-worm medications to eradicate the triggers of intestinal dysfunction. Healing of the gut requires use of digestive enzymes, pre-biotics (food for healthy bacteria), probiotics (healthy bacteria), and nutrients needed for repair of your gut lining including zinc, omega 3 fats, GLA, glutamine and anti-inflammatory botanicals such as quercetin and curcumin.

OPTIMIZE NUTRIENT STATUS

Nutrient deficiencies affect up to 92% of Americans. Vitamins and minerals are necessary for every biochemical reaction in your body. Without adequate amounts for optimal health your biochemistry gets stuck and you get sick. However, the most clinically relevant and effective nutrient therapies are few.

The most common are **magnesium** (think anything that is tight, irritable or crampy – muscles, bowels, lungs, moods), **zinc** (for immune function), **vitamin D**, methylation (**B6, folic acid, B12**) necessary for detoxification, cognitive function and DNA repair among hundreds of other essential biologic functions, and **omega 3 fatty acids** (EPA and DHA) the stuff of which we are (or are supposed to be) made. Depending on testing, other deficiencies may be found and treated.

BALANCE HORMONES

Hormonal and neurotransmitter dysfunction is rampant because of dietary influences on hormones (sugar and refined flour), endocrine disruptors or xenobiotics (petrochemicals and heavy metals) and chronic stress.

The delicate balance of hormones is essential for health and understanding the factors that cause disruption and restore balance of hormones is essential. Of the dozens of hormones, four categories are the most important for treatment of chronic disease: insulin resistance, the stress response and adrenal insufficiency, thyroid dysfunction and sex hormone dysfunction. Diet, exercise, stress management, bio-identical hormone replacement, nutrient support and herbal therapies are among the most effective tools we use, along with complementary or alternative therapies including acupuncture and Traditional Chinese medicine.

SUPPORT ENERGY METABOLISM

The end result of many nutritional, toxic, allergic, infectious and dietary insults is injury to the mitochondria, (our body's energy factories), unchecked oxidative stress and the loss of energy and ultimately cell death.

This has led to epidemics of obesity, diabetes, fatigue, developmental and neurodegenerative disorders, and accelerated aging. We assess mitochondrial dysfunction using organic acid analysis, and support and protect mitochondrial function through the use of phospholipids, essential fatty acids, acetyl-L-carnitine, coenzyme Q10, D-ribose, magnesium/potassium aspartate, arginine, resveratrol, alpha lipoic acid, NADH, riboflavin, niacin, n-acetyl-cysteine (NAC). This is often an important step in supporting health and recovery from chronic illness.

ENHANCE DETOXIFICATION

Detoxification is one of the most important and metabolically demanding functions of our physiology, and one that health professionals learn little about. Just ask anyone with renal or liver failure or chronic constipation. The toxic burden of 2.9 billion pounds of petrochemical toxins and 6 million pounds of mercury unloaded into our environment every year has put an undue stress on our capacity for detoxification.

Identifying heavy metal toxicity, particularly mercury and lead through provocation challenge testing, is an important part of diagnosing and treating chronic disease. We may also look for pesticides, solvents and various toxins.

We often test for heavy metals at the first visit, but do not usually treat this until 3-6 months later, once we have normalized your digestion, immune function, hormones and nutritional status as much as possible. Then we can safely begin the detoxification and chelation of heavy metals.

We support your body's own detoxification enzymes through phytonutrients, amino acids, vitamins and minerals. However, mobilizing toxins must be done after all other aspects of your biologic systems have been optimized and pathways for detoxification are working full speed.

MIND-BODY BALANCE

Finding meaning and connection in the context of your illness and within the tapestry of your life, relationships and beliefs is indeed, an essential pillar of the healing process. We support you to develop skills in self-care, nourishment and stress management, such as exercise, yoga, meditation, or other ways to balance your mind and body. These are actually both the first and the last step in healing. Learning to deeply relax, let go of worry, and build trust in life and the healing process, is a necessary ingredient for becoming well.

LOOK FOR HIDDEN INFECTIONS

If we find you don't respond fully to treatment of the basic systems outlined so far, or if you have an elevated high sensitivity C-reactive protein, testing for hidden infections often identifies unsuspected triggers: viruses, atypical bacteria, tick-borne illness, and dental infections (root canals).

THE RIGHT ORDER OF THINGS

Despite the exceedingly complex world of systems biology and medicine, the way into the web of dysfunction and healing is actually quite simple and effective for most patients with chronic disease. The puzzle of chronic illness is not so difficult if we start with food, address food allergens, fix the gut, optimize nutrient status, balance hormones, support energy metabolism, enhance detoxification, teach self-care and nourishment of mind and soul, and if we get stuck dig around for hidden bugs. Slowly progressing along this road into the web of chronic disease works for most patients, most of the time. It is based on a clear framework for understanding the impediments for optimal function, the necessary conditions for thriving, and an understanding of the essential physiologic systems that are at the root of the more than 12,000 different "diseases" that, indeed, are only the effects of these causes. Keeping in mind the right order of things will get us from effect to cause, from illness to health.

Thank you for your trust in partnering with us on your healing journey.

Mark Hyman, MD

