

## WHAT IS THE BEST KEPT SECRET TO OPTIMUM HEALTH?

Given the over-abundance of information on health available on modern media, you might think that matching your diagnosis to just the right medication, supplement, or surgical technique will lead you solving your medical problems and feeling vibrant well-being. Unfortunately, despite the trillions of dollars that are being poured into research, diagnostics and treatments, the most advanced healthcare knowledge shows that just seven essential functions control virtually every aspect of health, including mental, physical, and that all-elusive *wellness*. This is the basis of the most progressive health science known as Functional Medicine. It is not just about how your organs function, but what is taking place inside each cell, and even at the genetic level. When you study over three decades of healthcare data, as we have at Whole Health Solutions, you learn that most diagnoses describe *effects* of imbalances instead of the following seven *root causes*.

1. **ASSIMILATION:** This describes how we take in everything we need for life, process it and dispose of the waste. It encompasses how we breathe, digest, absorb nutrients, and interact with our gastrointestinal flora collectively called the *microbiome*. **Systems affected: Respiratory and Gastrointestinal.**
2. **DEFENSE AND REPAIR:** In charge of determining what is you or not-you, the immune system is intimately involved in every other system. Through its chief tool, inflammation, it can help you overcome infections and repair physical traumas. But inflammation is a two-edged sword. Helpful in the short run for acute problems, over the long-term, it becomes a time bomb leading to heart disease, cancer, dementia, and many other diseases of aging. **System affected: Immune.**
3. **ENERGY:** Energy regulation means much more than just your “get-up-and-go.” All bodily processes need energy to happen, including making hormones, neurotransmitters and enzymes, as well as getting rid of wastes, and defending against external threats. Energy production depends on thousands of tiny structures within cells called mitochondria. These are the miniature powerplants that turn your food and oxygen into energy. Inefficient mitochondria mean less fuel for all your other activities. Not a single system, all cells depend on energy currency, called *ATP*, but muscle cells, such as heart and skeletal muscle have the most mitochondria.
4. **BIOTRANSFORMATION AND ELIMINATION:** More popularly referenced by the ideas of toxins and detoxification, the biotransformation of your own wastes as well as external poisons is essential for all organs and cells. Think of the idea of a car’s exhaust system. If you put a rag in the tailpipe so that waste gases cannot escape, the engine will not run very long. It is the same with our bodies. Detoxification is vital to every cell, and certain organs are most important to these processes, including **Liver and Large Intestine, Kidney/Urinary tract, and the Skin.**
5. **TRANSPORT:** You may not have thought of your arteries, veins and lymph vessels as transportation, but that is their main function. Like the highways of the body, they shuttle vital components, carrying oxygen and carbon dioxide, nutrients and wastes. Just as a traffic jam can halt your plans, transport problems can literally stop you dead in your tracks. **Systems affected: cardiovascular and lymphatic.**

6. **COMMUNICATION:** All the different types of cells must be able to exchange information to work as a coordinated whole. This is done through hormones, neurotransmitters and neuropeptides, as well as a vast army of immune messengers. Although we have thought of these as belonging to separate organs in the past, the new science of *psychoneuroimmunology* shows that receptors for these various molecules are spread throughout the body, creating much cross-talk.  
**Systems involved: Endocrine, Brain/Nerves, Immune system.**
7. **STRUCTURAL INTEGRITY:** In the past, when we thought about structure, we concentrated on the musculoskeletal support of our frame. Now we also include cellular and subcellular membranes which are the actual “brains” of the cells. Before any gene can be turned on or off, chemical messengers must find a membrane receptor, activate it and gain access to the cell’s interior. We may lack receptors, or they may be blocked, or they may be “leaky”, but ultimately, these play an important role in *epigenetic* (meaning “above the genes”) control of our DNA.