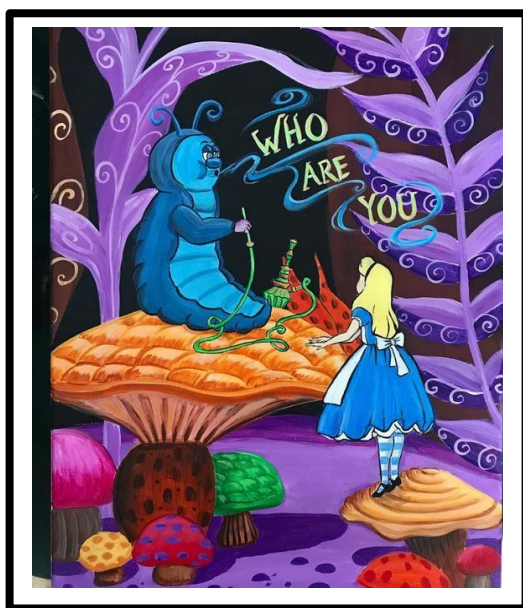


As you begin to read this, you may be wondering why do I need to go through this many pages of complex explanations to find out how to get well? Why can't my doctor just tell me what I need to eat, and what I need to do to feel better?

An in-depth view of the human microbiome and its foundational importance can be found in the book, "Fiber Fueled" by Will Bulsiewicz, M.D.

The following explanation may provide you with a new perspective of who you are as a human being, and what it may take to improve your state of wellbeing.

WHO ARE YOU?



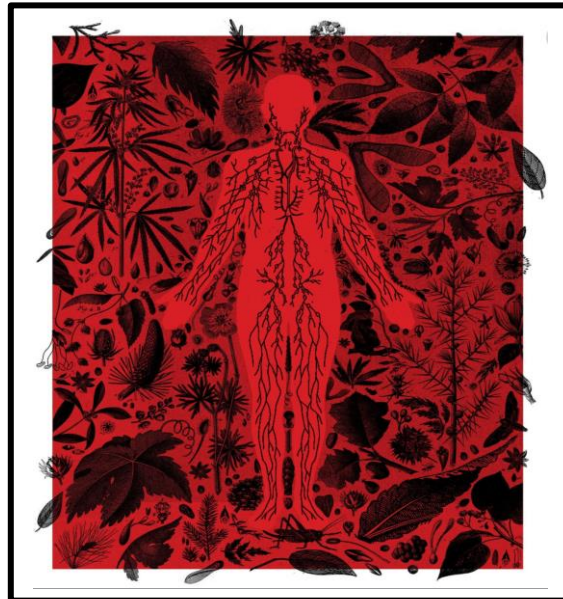
(Alice in Wonderland)

Who are YOU?" said the Caterpillar. Alice replied, rather shyly, "I-I hardly know, sir, just at present- at least I know who I WAS when I got up this morning, but I think I must have changed several times since then."

Your state of wellness or illness can never be understood without first knowing who you are as a human. At first, the answer to who you are may seem intuitive, but modern scientific discoveries might change your perspective.

There is irrefutable evidence that you are part of a larger universe of living organisms existing together in your body. You and your cohabiting microorganisms, two distinctly different sets of DNA, exist together with the common purpose of surviving, thriving and replicating.

Every surface on earth, as well as the earth's atmosphere, is filled with microscopic life forms--bacteria, viruses, fungi, protists and archaea. Likewise, every surface in and on your body is home to trillions of these same microorganisms. Microscopic life exists everywhere.

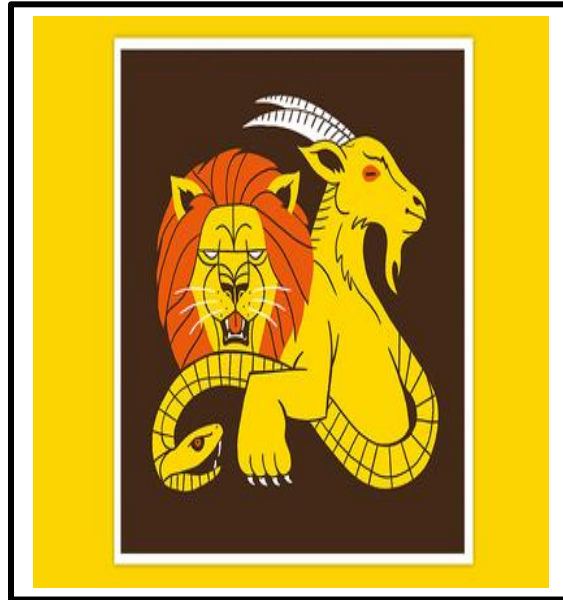


There are more microorganisms in and on your body than there are body cells. It is eye opening to realize that less than half of you is human!

You are dependent on many of your microbes for your survival. They control large numbers of bodily functions that you are unable to do for yourself. Ninety-nine percent of gene activity that goes on in your body is controlled by your microbes.



Much like the Greek mythological creature, the Chimea, who was made up of multiple different kingdoms of life (a lion, a ram, and a serpent) combined in a single body, you too are a compilation of life forms—both body cells and microorganisms within a single body.



Most of your microbes coexist with you in a mutualistic relationship. You provide them with an environment that is warm and moist with a constant supply of nutrients. They, in turn, help digest your food, supply you with energy, modulate your immune system, help protect your intestinal lining barriers, manufacture vitamins, help regulate fat, sugar and protein metabolism, activate, and deactivate drugs, moderate the production and release of hormones, communicate with your brain, and even affect the proliferation of cancer cells.

FEED YOUR MICROBES, OR ELSE

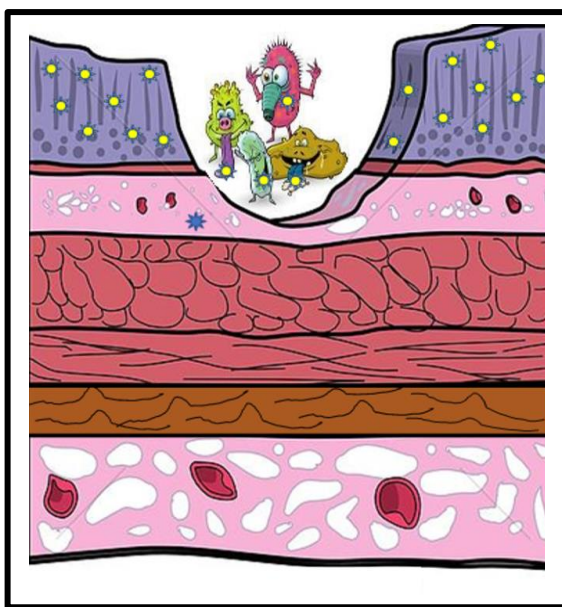
To survive, your microbes, like your body cells, must have a source of energy. In your body the primary source of energy for your microbes comes from sugars (carbohydrates).

All sugars do not provide energy for your microbes. Some are rapidly metabolized and absorbed in your small intestine long before they can reach 95% of your microbes which exist in your colon. These sugars are labelled simple or refined sugars like sucrose, the sugar contained in confections, desserts, and sugary beverages.

There are other sugars, however, that are locked away in food items that your body cannot digest and, therefore, pass undigested into your colon. It's here that microorganisms exist that contain a large repertoire of enzymes capable of chemically harvesting these food stuffs to supply energy. These undigested sugars are called dietary fiber, and it's these foods that nourish your microbes.

THE CONSEQUENCES OF FAILURE TO PROVIDE YOUR MICROBES WITH ENERGY

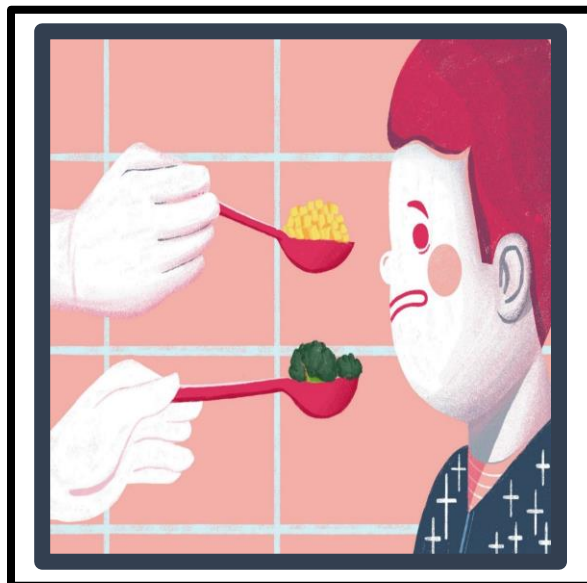
When digestive tract microbes face conditions of famine, i.e. an absence of dietary fiber, they initiate a search for alternative sources of energy. Some species of microbes are capable of metabolizing the sugar and protein rich layers of the protective mucus that coats the interior of the digestive tract. As the mucus barrier is used up as a source of energy by those microorganisms, the mucus layer becomes progressively more permeable allowing the penetration of toxins, microbes, and food antigens into body tissues.



The body responds to unrecognized foreign invasion by activating its protective immune system resulting in inflammation. Chemical byproducts of inflammation not only affect local tissues but may also spread to other organs throughout the body resulting in extraintestinal symptoms that may eventually prove to be the origin of illnesses like arthritis, heart disease, endocrine abnormalities and the neurodegenerative disorders Alzheimers and Parkinsons disease. Most of these studies have been done in experimental animals and, therefore, may not translate to the human body.

It's appropriate, therefore, to caution that associations are not the same as causation. Further studies in humans are still needed to prove these associations.

EATING IS A "JOINT VENTURE"



Every time you eat or drink, you are eating for two--your body and your microbes. As you take nutrients into your body, you are either feeding disease or fighting it. Only 5% of people in the U.S. meet the Institute of Medicine's daily target of fiber intake, 25 grams for women and 38 grams for men. There appears to be a population-wide deficiency of eating recommended amounts of dietary fiber of epidemic proportions.

Since it is unknown which fiber products are required at any specific time by which intestinal microbe, the best eating strategy is to incorporate a wide selection of fiber products and vary their frequency in your diet. Nutritional scientists endorse this idea with the statement, "eat the rainbow."



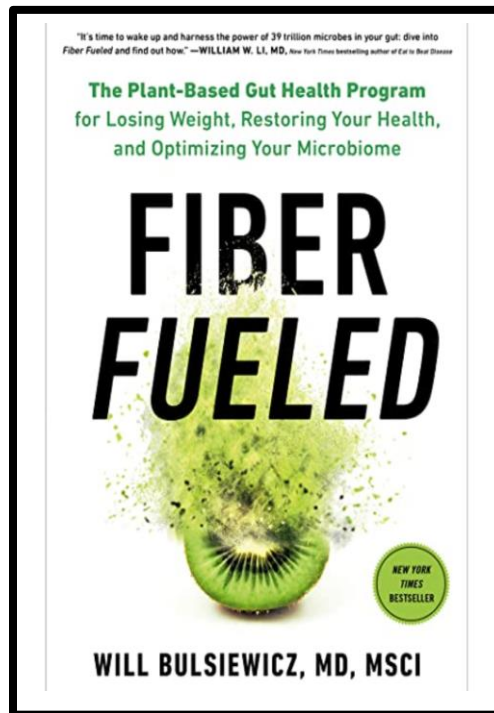
SLOW AND STEADY WINS THE RACE

The intake of dietary fiber must be done slowly. Microbial metabolites produced by intestinal microbes when dietary fiber is introduced or added include hydrogen, carbon dioxide, hydrogen sulfide, and methane gases. These gases may put pressure on the interior wall of the digestive tract comparable to the pressures exerted on the walls of a balloon or tire when inflated. Pressure on the wall may result in symptoms of abdominal bloating, distention, and flatulence.



Success in introducing dietary fibers requires time, patience, perseverance and frequent adjustments of types and quantities of fibers.

After reading this introduction, you may begin to appreciate that your wellbeing depends, in large part, on your dietary choices for both you and your microbes. A list of foods that are high in dietary fiber that support your intestinal microbes can be found at this website. Go to the topic “The Importance of Fiber”, and refer to reading # 3.



Other reading references are posted on the website (kramermedicalclinic.com) and may provide you with additional guidance on your quest for good health.

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