



STAPH Meal: Society To Always Procure Healthfully Newsletter

OFFICIAL NEWSLETTER OF DR. MIKE: AMERICA'S CULINARY INTERVENTIONALIST

IN THIS ISSUE: GUT MICROBIOME

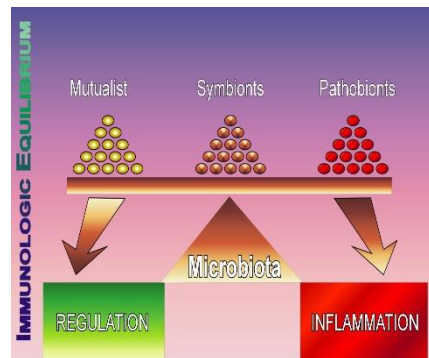
Gut Check

***"All disease begins in the gut."
-Hippocrates***

Short of ecological catastrophe, our diet is the most important environmental interaction we experience. We are quite literally bringing the outside environment into our own bodies. As we ingest food, the only thing running interference for us is the razor thin layer of the gut microbiome.

This remarkable collection of commensal organisms has evolved over the millennia as humankind has evolved. While the human body is composed of approximately 10 trillion cells, the gut microbiome consists of approximately 100 trillion cells. That means that 90% of the cells that make up your body are not you! There are approximately 1000 more bacteria in your gut than there are stars in our galaxy. This does not even begin to account for the fungi, protozoa, viruses that inhabit our inner nooks and crannies.

The human gut is among the most



A Healthy Gut Microbiome is in balance

concentrated ecosystems on the planet. Right now, there is 1-2 kg of bacteria inside you that is producing ~30% of your daily energy. There is more bacterial DNA in our metagenome than human DNA.

The human genome project identified 20-25,000 genes for human genome. The study of the bacterial metagenome from our gut, revealed 100,000 billion bacterial genes. It is now hypothesized that human beings could not even survive if it were not for the existence of our gut microbiome.

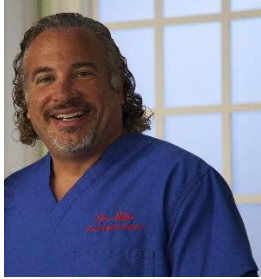
These bacteria are in constant communication with our gastrointestinal tract. The gastrointestinal tract functions like our second brain. It contains over 200 million neurons; which is roughly equivalent to the brain of a dog or cat.

The gut communicates to the rest of our body not only through the nervous system, but through the use of hormones and neurotransmitters. The gut microbiome is in constant contact and communication with our gut through similar chemical messengers.



(Continued on page 2)

IT'S A CODE DELICIOUS!

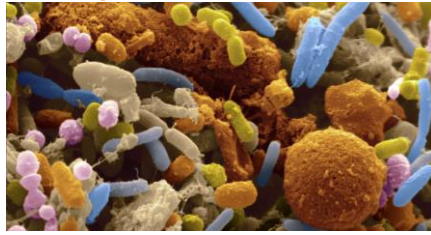


The Gut Microbiome (continued from Page 1)

For example, the gut microbiome can produce serotonin. In the brain, serotonin is associated with the production of a positive mood in the sense of well-being.

In the gut, about 95% of the serotonin is associated with gastric transit. However, it is also associated with setting immune function and serotonin from the gut can reach our brain and quite literally affect our mood.

Over a 1000 different types of bacteria can be found in the human gut microbiome



Because the gut microbiome is not only populous, but active it plays a very important role in regulating our immune function. Roughly 70% of your entire immune system is located within the gastrointestinal tract. A healthy functioning gut microbiome helps keep our immune system in perfect balance.

However, there are many things that can upset that balance. Stress, antibiotics, and particularly the food we eat can all cause unwanted changes in the character and composition of our gut microbiome.

A recently completed study demonstrated that a fast food breakfast sandwich can cause an alteration of the healthy bacteria in your gut that can last for almost a week.

Such artificial and highly processed foods are relatively new additions to our diet. The effects of these comestibles appear to be an unfavorable one.

Our inner gut microbiome is not unlike growing a garden outside. When we consume the foods of the modern Western diet we change our inner soil from a rich patch of heartland loam into a plot from Fukushima.

Probiotics are collections of presumed beneficial gut bacteria. The idea is that by taking them we can help maintain a healthy composition within our gut microbiome and thus a healthy gut.

Even when taking probiotics, however, it is important to consume healthful foods so that your inner garden can continue to grow.

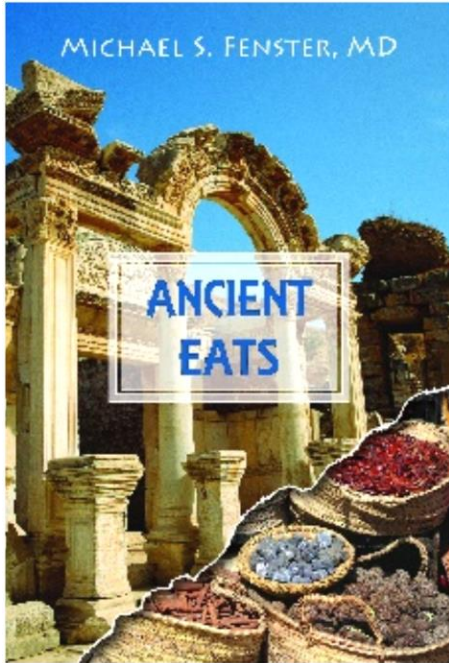
HEALTHY BYTES BY THE NUMBERS

70%

The percent of your immune system located in the gastrointestinal tract

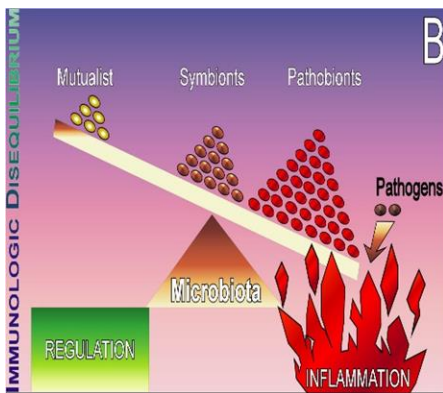
90%

The percentage of cells in your body that are not yours, but come from the gut microbiome



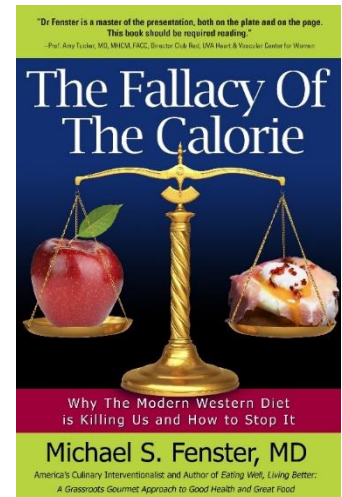
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An unhealthy gut microbiome is out of balance and leads to inflammation

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