

# The Four Horsemen of Disease

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**W**elcome to part three of my functional medicine series. In part one (June 2020), I defined and explained functional medicine. In part two (July 2020), I discussed the three major triggers of illness and the three organ systems that they affect. Today, I will be talking about the four horsemen of disease. The damage to the body caused by these four horsemen, is what drives us toward a diagnosis of cancer, heart disease, diabetes, Alzheimer's or any of the other diseases of our time that are killing our population.

The analogy, of course, is to the four horsemen of the apocalypse. They were a pretty notorious group of guys that mimicked the image of Christ, stimulated war, famine and death. Well, in functional medicine we have a group of four horsemen that wreak havoc on the body and lead to all types of chronic illness, diminished quality of life and eventually death.

## The 4 Horsemen in this order are:

- Inflammation
- Catabolic Physiology
- Insulin Resistance
- Oxidative Stress

The first of the horsemen is inflammation. Many things such as gut pathogens, high stress, negative thinking, the foods we eat, and nutrient deficiencies, trigger the inflammation response. When presented with a threat, the body gets ready to deal with a potential danger and triggers the release of certain chemicals of inflammation. These chemicals lead to rapid aging, metabolic acidosis, muscle pain, insulin resistance and chronic illness. Chronic illness is, by definition, an inflammatory state. The inflammation may be obvious, but lab testing can be invaluable at finding the sources of hidden inflammation, that often resides in the digestive tract.

## What are the health effects of inflammation?

- Pain
- Mental Scrambling
- Heart Disease
- Thyroid Issues
- Obesity
- Peripheral Neuropathy
- Stroke
- Cancer
- ADD/ADHD
- Diabetes
- Migraines
- Brain Fog

The second horseman is catabolic physiology. This is when our bodies go into a break down state and it literally starts to eat itself. We pull amino acids from muscle, bone and the gut so we can make quick energy. This is a built in strategy for immediate energy needs in an emergency, however, most of us are chronically in this state.

The interesting thing is that it takes more energy to create fuel for the body in this manner, ultimately leading to a net loss of ATP (energy units of the body). This eventually leads to profound fatigue in people.

## FOUR HORSEMEN OF PHYSIOLOGICAL DAMAGE



Being in an overly catabolic state is associated with stress. When we are stressed out of our minds, it modifies how we metabolize fats, carbohydrates, and proteins. All of the micronutrient levels start to shift. We get into emergency response mode. This takes up proteins and nutrients that the body would otherwise be using for normal processes like muscle building and repair.

If someone is chased by a tiger one time per year, that is not a problem. It is when we are being chased by a tiger all day every day that it starts to become a problem. This is when we break down tissues in a significant way that starts to become harmful. The systems start to fall apart.

## What are the health effects of catabolic physiology?

- Diabetes
- Immune System Issues
- Profound Fatigue
- Heart Disease
- Detoxification Problems
- Joint and Muscle Pain
- Digestive Problems
- Chemical Sensitivities
- Brain Fog and Poor Memory

The mental and emotional stressors are what is driving all of this. It might be fear, anger, a bad marriage, hating your job, working too many hours, a death in the family, eventually this all affects the HPA axis (brain and adrenals). The way the hypothalamus is talking to the pituitary gland becomes dysfunctional. The adrenal cortex begins to make too much cortisol. The feedback loops start to shut down. Eventually, the thyroid becomes affected. High cortisol, low thyroid state is where people are during a catabolic state.

The third horseman is insulin resistance. This is such a common problem in America. Many people are eating a pro-inflammatory diet. Too much refined flour, sugar, bad fats, chemicals, preservatives, etc. Eating too much of these foods lead to chronic inflammation and eventually to obesity. Obesity is a symptom of inflammation. When we are inflamed we use our vitamin D at a really rapid rate. This vitamin D deficiency makes insulin resistance worse. If you are having trouble with inflammation and insulin resistance, you will not be able to lose weight, no matter what you do.

## What are the health effects of insulin resistance?

- Type 2 Diabetes
- Stroke
- Weight Gain
- Circulation Problems
- Heart Disease
- Pain

The fourth and final horseman is oxidative stress. It is the scourge of our times. It leads to cancer, cardiovascular disease, DNA destruction and break down of the mitochondria responsible for making the energy that fuels the entire body. Oxidative stress is decimating our culture. It is indeed the last of the 4 horsemen, and leads to death.

Everyone is under oxidative stress. We are all super saturated with hundreds of toxins that are hormone or neurotransmitter disruptors. The toxins create free radicals which start to attack all of the healthy cells.

## What are the effects of oxidative stress?

- Free Radical Damage
- Cancer
- Compulsive Over Eating
- Heart Disease
- Depression
- Sleep Problems
- Vascular Diseases
- Anxiety
- Joint and Muscle Pain

The four horsemen are happening in all of us, all of the time. We can actually measure the degree to which these four horsemen have affected you by performing three functional medicine tests. 8OHDG is a very accurate marker for measuring oxidative stress. This marker in and of itself makes this test panel worth doing for every person on this planet. If you can see the oxidative stress load, we know precisely how to treat and prevent severe illness.

Once we test, we design a unique program to reduce inflammation, prevent catabolic physiology from worsening, deal with insulin resistance and reduce oxidative stress. This program will include lifestyle suggestions and supplements to restore and correct the dysfunction. Be sure to check out the next few articles in my functional medicine series. I will go into more depth on each of the three functional medicine tests that I use in my office and the treatment model that I have successfully used to help many people reclaim their health.

Currently, I am offering telemedicine functional medicine visits. I am happy to offer a free 15 minutes consultation to see if functional medicine is a good fit for you. Schedule your appointment today, 239-260-4566 or online, [www.AcupunctureSolutionsOnline.com](http://www.AcupunctureSolutionsOnline.com). Now, while we are encouraged to stay home and social distance, is the perfect time to focus on your health, reversing chronic illness and regaining your quality of life.

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