

Honoring Defenses: Nasal, GI & Oral Rehydration

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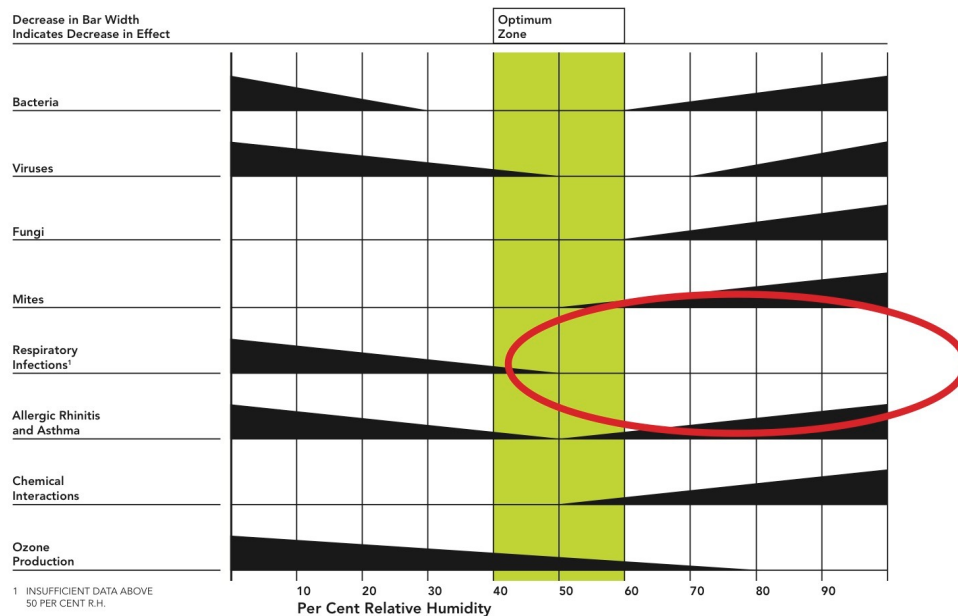
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Common Sense Medicine looks at our body's defenses, those functions of our body that protect us from insults in our environments. These functions have developed over the years by natural selection and are the best that are available to us. They are strongest where we are most vulnerable—at the openings to our bodies where we eat and breathe. They need to be honored and supported, just like the defense of your favorite athletic team. But that is not how most see them at this time.

Current medical thinking is based on the Centuries old notion that health is when the body is in balance and harmony; and treatments are designed to renew that balance when it is seen to be out. It's a holdover from humoral medicine, the idea that dominated medical thinking for over two thousand years. Today's humors are not the blood, bile, and phlegm of the humoral system; they are more scientifically based, but the thinking is the same—they need to be in balance. Often, however, the symptoms we see and interpret as out-of-balance illness are in fact back up defenses. When we get infected with something the inflammatory reaction is the first defense, and part of it promotes a fever, which makes it harder for the germs to spread and stimulates the immune system to better fight them. But we take aspirin or acetaminophen to fight the fever, ignoring the fact that doing so hobbles the defense and increases our risk of dying from the infection. Experimentally infected rabbits are more likely to die if they are given the drugs we use to control fevers and it's the same with us. Most back-up defenses can hurt us. A fever can cause seizures; nausea, vomiting and diarrhea can kill us with dehydration (as it commonly does in cholera epidemics); and asthma, a defense that shuts down the airway to protect the more vulnerable lungs from dangerous substances in the upper airway, can kill us just as easily. The way to deal with these problems is make the primary defenses optimal.

The xylitol containing nasal spray that we developed does this for the upper airway. The primary defense here is the combination of the mucus—which holds on to all of the pollutants in the airway—and the microscopic hairs (cilia)—that sweep it to the back of the nose where we swallow it. When there is enough humidity in the air this process works quite well. The chart below is from a study by environmentally interested physicians many years ago and shows the effect of humidity on upper respiratory problems. Of interest is the fact that there was not enough information on respiratory infections when humidity was high, which is most likely because the humidity helps keep enough water in the nose for the primary defense to work well. There is also a good demonstration of this on Youtube by a company that makes humidifiers for CPAP machines.

Indirect Health Effects of Humidity in Indoor Environments



Optimum relative humidity range for minimizing adverse health effects.

A. V. Arundel, E. M. Sterling, J. H. Biggin, and T. D. Sterling
Environmental Health Perspectives. 1986 March; 65: 351-361.

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If the airway is kept clean by an optimal cleaning process the bothersome back-up cleaning, of which the bronchospasm (asthma) is a part, will not be needed. My experience is that asthma goes away when the nose is clean. And so do most of the infectious problems we see commonly in the ears, sinuses, and bronchi; they all begin with bacteria and viruses in the nose, and they are all better if the nose is clean. You can learn more about why xylitol works to optimize our nasal cleaning by reading *No More Allergies Asthma or Sinus Infections*, available at your local book dealer or [here](#).

Back-up GI defenses are bothersome too. No one likes to suffer from nausea, vomiting and diarrhea and there are lots of drugs to stop them, but we have learned from cholera, the illness representing the worst case scenario, that treating these symptoms does not help the problem. Doing so makes it more likely that you will become a carrier of the bug, like Typhoid Mary, the early 20th Century New York cook who passed the bacteria to so many of the families she cooked for that she finally was put in protective custody. The largest parts of the primary GI defense are the acid and enzymes in our stomach that break down everything we swallow, and the friendly bacteria in our GI tracts that prevent hostile bacteria from gaining a foothold. Antacids handicap the acid and antibiotics kill off many of the friendly bacteria. Probiotics are likely the biggest help in maintaining a well functioning GI defense. But there is also help that dramatically reduces the problems associated with the back up defense.

Fifty years ago researchers developed oral rehydration, the safest and most effective way we have to get water into the body; it's like drinking an IV. The balance of salt, sugar and water in this fluid turns on what is called the sodium-glucose transport system in the stomach, which actively pumps water into the body. This was first

developed as a treatment for cholera, but is now recommended by the World Health Organization as the first line treatment for all cases of GI disorders. Pedialyte is the closest product in the U.S. to what is available around the world as Oral Rehydration packets. These packets are made in every country we have ever visited and cost about a quarter for a quart of fluid, a far better deal than Pedialyte. They are also made in the U.S. by a firm, Jianis Bros., in Kansas City, and sold at a cost higher than the rest of the world, but competitive with what is available here. Another option is to make it yourself, which is what I do whenever I am in need of extra fluid. 1 quart of water ¼ tsp of baking soda (for the sodium) 3 Tbs (tablespoons) sugar (old fashioned corn syrup, NOT High fructose corn syrup, is a better choice as it has more unbound glucose) If diarrhea is a part of the problem add 1 tsp of salt substitute (read the ingredients and make sure KCl (potassium chloride) is the major ingredient). This is to replace the loss of potassium that is common with diarrhea. Sip frequently, try to replace twice what is lost, but don't challenge your system. If vomiting continues and you can't keep up by drinking you need an IV. Go the the ER.

My experience is that honoring our defenses can make us all healthier. If the defense of your football team is optimal you don't need much of an offense to win, and it's the same with us. Optimizing our defenses is what "Defense Medicine" is all about.