



Nutrients are things that are needed to promote growth and healing. These not only come from food, but include oxygen and water, movement, stimulation, love and touch, and perhaps music, spirituality, and justice.

Anti-nutrients (ANs) prevent growth and healing, and come in food and non-food varieties. This article will focus on nutritional ANs. Nutritional ANs can block the absorption of nutrients and/or act as toxins, exerting a negative effect on our body.

Public awareness of certain ANs is increasing. Gluten, a protein found in most grains, is an AN protein that can wreak subtle or huge havoc on multiple systems of the body, even without celiac disease. Pesticides and genetically modified foods can in many ways be considered ANs, since their toxic effects essentially alter our hormonal and other biochemical processes. Alcohol, made by yeast, is in some ways an AN due to its effect on the liver and brain; however, for most of us, the effects are short-lasting and have some pleasurable aspects.

The purpose of ANs is relatively simple: plants needed to protect their seeds from consumption and destruction by other organisms. So the ANs evolved as poisons making the ingestor sick, or block the digestion of the seeds so they are excreted undamaged, in which case the animal has helped spread the seeds!

Many ANs are contained in grains, legumes (including soy) and white potatoes. Some of these foods can kill us if eaten raw. We must use heat to destroy some or all of these ANs in the foods. Other methods of de-activating ANs include fermenting, sprouting and soaking. Individual ability to tolerate and digest these ANs is based on a host of factors including genetics, dose, other toxins, age, digestion and other factors.

**Craving Toxic Foods**

If bit by a lion, we need to keep running. In response to trauma, the body produces hormones like adrenaline and morphine-like molecules to enable us to escape and survive. By similar mechanisms, we get high by eating bad food!

Many ANs such as casein protein from dairy and gluten from wheat (even without celiac disease), by virtue of their toxicity, can activate pleasure circuits in our brain. Morphine-like molecules are created, which, like heroin, can cause short-term pleasure at the risk of long-term dysfunction. Many of us become addicted to such foods (bread, cheese, ice cream).

**Analyzing Foods**

This new information places past nutritional analysis and value of many “healthy” foods in question. For example, while whole grains, when analyzed in a lab, can demonstrate a high level of zinc, in real life the zinc can be bound to a compound called phytate, which renders it inabsorbable. We know there is a prevalence of zinc deficiency—partly due to the misconception that grains will provide all our dietary zinc. Soy can block absorption of iodine, necessary for thyroid, breasts and young brains.

Many ANs such saponins in white potatoes are minimally altered by heat, and then cause an inflammatory reaction in the small intestines, where the majority of nutrient absorption occurs. This inflammatory reaction not only blocks absorption, it can cause “leaky gut”, which then allows other toxic molecules to breach the intestinal barrier and enter our bloodstream. For example, wheat germ agglutinin and peanut lectins are found in

the blood unchanged after eating and can promote clotting of blood. Through such mechanisms, there can be a “perfect storm” of toxic effects causing a spiraling down of health after a single or multiple exposures to a specific food or combination of foods (pizza?) at any point in life. Such effects have not yet been fully studied.

**Vegetarianism and ANs**

If indeed, grains and legumes are toxic, then what about vegetarianism? What about all the societies whose staples are rice, beans, corn and potatoes? There seems to be significant variability between individuals. Traditional methods of preparation, such as soaking, fermentation and sprouting may be essential. Depending upon several factors including how often it is eaten, in what combinations, and genetics, certain AN foods (such as soy) can be tolerated and even nutritious. In general, greens, nuts and seeds are considered safe.

**Evaluation and Protection from ANs**

Intolerance to certain foods can be obvious or completely obscure. Use of probiotics, enzymes, acid, and other gut-healing compounds, and specific preparation methods can eventually enable the re-addition of previously toxic foods on a rotational basis. The avoidance of certain foods for periods of time may be

necessary to enable healing (elimination diets). A knowledgeable practitioner can help with the design of an exploratory process and optimal food plan.

**IMPORTANT NOTE: This general information should not be used to make decisions about medical care without the involvement of a knowledgeable practitioner.** The contents of this article are copyright 2012 by Michael Cheikin MD and may not be reproduced without express written permission.

Anti-Nutrient Characteristics <sup>1</sup>				
Anti-Nutrient	Contained in	Effect	Deactivated by Heat	Deactivated by Fermentation or Sprouting
Gluten (gliadin)	Grains including corn, rice, quinoa	Triggers inflammatory reaction	No	Some
Lectin	Grains, Legumes, Peanuts	Binds to sugars and cell nuclei, blocks processes	No	Some
Phytates, Genistein	Grains, Legumes, Soy	Binds minerals: Zn, Iodine, other	Some	Some
Saponin	White Potato, Grains, Quinoa,	Weakens gut lining	Few	Some
Protease Inhibitors	Beans, Soy, Peanut	Blocks digestion of protein	Up to 80%	Some

**Footnotes and Reading Materials (Books followed by ISBN number)**

1. See Dr. Cheikin's website, www.cheikin.com, for related articles and expanded bibliographies and tables
2. Cordain, Loren: Paleo Answer. 2012. 978-1118-016-084
3. Ballentine, Rudolph: Radical Healing: Integrating the World's Greatest Therapeutic Traditions... 2000. 0609-804-847
4. Moritz, Andreas: Timeless Secrets of Health and Rejuvenation. 2007. 9780-9792-75753

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