



# IMAGE AWARENESS WELLNESS INSTITUTE

## *The Stages of Nutrition: Part 2*

1271 HIGH STREET, AUBURN, CA 95603 • PHONE (530) 823-7092 • ORDER LINE (800) 359-6091  
HOURS: TUES. – FRI. 10 A.M. – 4 P.M. • E-MAIL: MAIL@IMAGEAWARENESS.COM WEB: [WWW.IMAGEAWARENESS.COM](http://WWW.IMAGEAWARENESS.COM)

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### ABSORPTION

Absorption is the process of moving food which has been sufficiently broken down from the inside of the digestive tract to the blood stream. Absorption can either be passive requiring no work on the part of the body, or active requiring special transport mechanisms.

#### Minerals

Absorption of minerals can pose a considerable problem for the body. Inorganic minerals have a positive charge while the lining of the digestive tract has a negative charge. The result is that minerals ingested in the wrong forms may not only fail to be absorbed, but they can also produce undesirable side-effects.

Examples abound. Iron in the typical ferrous sulfate form is notorious for creating indigestion and a black stool. Some supplements dissolve very readily, but absorb poorly. Calcium carbonate, for example, may have excellent dissolution. Absorption, however, tends to be poor because the calcium has a positive charge and also because calcium carbonate tends to act as an antacid. Hydrochloric acid is important for absorption of calcium.

GNLD wraps two specific amino acids around each mineral molecule to improve absorption. This process is called “chelation.” The word is derived from the Greek word for “claw.” Chelated minerals no longer have a

positive charge and absorb 2-6 times better than non-chelated minerals. Some companies chelate minerals with compounds other than amino acids, but amino acid chelates are capable of withstanding stomach acid while this is not true with most other compounds.

Chelation is a rather complex process requiring variations in concentrations of amino acids and minerals, alterations in pH and temperature over a period of time. I learned from chelation pioneer Dr. Arthur Furst many years ago that many supplements labelled as chelated are simply a mixture of amino acids and minerals with the minerals never having been bound to the amino acids.

#### Fatty Acids

Fats and fat soluble vitamins are dependent upon the action of the bile acids stored in the gall bladder for effective absorption. Surgical removal of the gall bladder can contribute to essential fatty acid deficiencies and also deficiencies of fat soluble vitamins A, D, E, K and carotenoids. The best

means of avoiding this problem is the regular use with meals of an enzyme supplement which includes bile acids.

#### Amino Acids

Protein can exist as intact protein, like a steak, as free form amino acids, or as hydrolysates midway between intact and free form amino acids. The normal tendency is to think that the more broken down a protein product, the better it is digested. Thus the steak would be inferior to amino acids.

Research suggests that the hydrolysate or partially broken down forms of protein are superior. Hydrolysates absorb better because the body has special transport for small chains of amino acids (dipeptides and tripeptides). These same small chains of amino acids signal the liver to produce a compound called somatomedin C which stimulates muscle growth. Information in dipeptides also signals the body to accept protein into its store.

#### REFERENCES:

Colgan, Michael, *Optimum Sports Nutrition*, New York: Advanced Research Press, 1993, 150-161.

### CIRCULATION

Circulation refers to the ability to move nutrients from the point of absorption to the tissue sites where they are needed. Nutrients move through both the blood and the lymph systems.

Exercise is essential for maintenance of a healthy circulatory system. The kind of exercise is important.



Exercise expert Dr. Kenneth Cooper writes, “lower-intensity, regular, long-term activity may enhance the antioxidant defense system, whereas a high-intensity, short period of activity may actually decrease the body’s defenses.”

Insufficient iron robs the body of oxygen which is necessary for the production of energy. Thus low iron and poor oxygen carrying capacity of the blood has an impact on all nutrients involved with energy production.

Fat intake plays a significant role in healthy circulation. High intake of highly inflammatory omega-6 fatty acids and oxidized cholesterol thicken the blood and damage artery walls impeding circulation. Omega-3 fatty acids reduce inflammation and make the blood flow more easily.

#### REFERENCE:

Cooper, Kenneth, H., *Dr. Kenneth H. Cooper's Antioxidant Revolution*, Nashville, TN: Thomas Nelson Publishers, 1994, 56.

## ASSIMILATION

Assimilation is the process of the movement of nutrients through the cell wall or cell membrane into the cell. Failure here brings to naught the entire nutritional process. Bruce Lipton points out that if the membrane of the cell were an impenetrable wall the cell would die because it could get no nutrients.

Lipton wrote, “This chapter puts forth my nominee for the true brain that controls cellular life--the membrane. I believe that when you understand how the chemical and physical structure of the cell’s membrane works, you’ll start calling it, as I do, the magical membrane. Or alternatively, capitalizing on the fact that part of the word is a homophone for brain, I refer to it in my lectures as the magical mem-Brain....The true secret of life does not lie in the famed double helix. The true secret of life lies in understanding the elegantly simple biological mechanisms of the magical membrane...”

Patricia Kane and associates ob-

serve the following: “In essence, the life of the cell is intimately tied to membrane health and the health of the entire organism. The membrane, in essence...is everything.” Elsewhere they write, “The lipid membrane through its fluid motion controls all activity that occurs in the body. It is the heart of the health of the cell and is crucial in addressing the systemic health of the patient.”

Kane also observes, “The membrane is one of the most elegant structures in the universe. The lipids themselves are one of the smallest molecules in biochemistry, which may contribute to their mystery, and possibly the reason for their late prominence in biochemistry.”

The story of assimilation of nutrients through the cell wall is intimately involved with the story of GNLD’s Tre-en-en concentrates. Researchers learned that the cells of the body were being malnourished because nutrient delivery was being hindered at the site of the cell membrane. Vitamins, minerals, and amino acids alone proved ineffective in correcting cell membrane function.

As researchers studied the dietary changes which had taken place in the 1880’s with the advent of the steel roller mill for processing wheat and the development of polished white rice they came to understand that the lipids and sterols in these whole grains made a major contribution to the proper structure and functioning of the cell membrane.

Concentrates of the lipids and sterols from wheat, rice, and soybeans were developed. Animal studies have shown that these concentrates have the ability to improve nutrient utilization by 50%. This is a dramatic improvement in nutrient utilization and represents the difference between vibrant health and a constant sense of fatigue.

#### REFERENCE:

Lipton, Bruce, *The Biology of Belief*, Santa Rosa: Elite Books, 2005, 75-79.

Kane, Patricia C., et al., *The Detox Book*, 2007, 10, 20, 37.

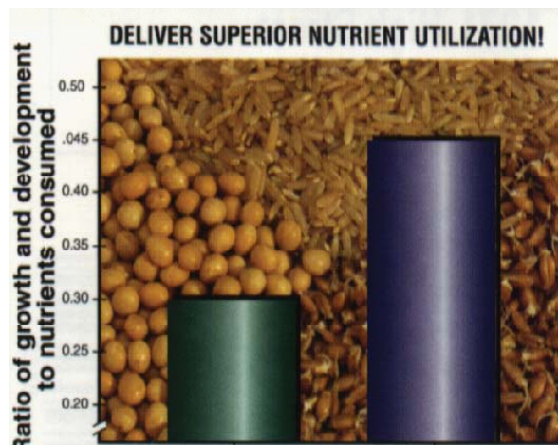
## ELIMINATION

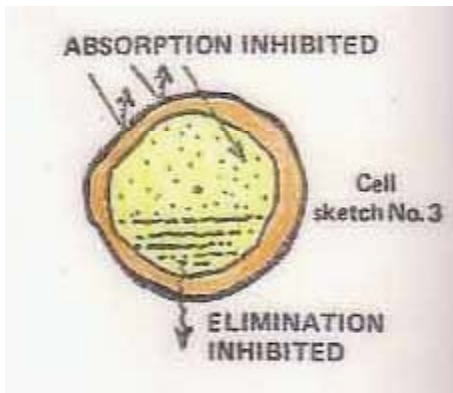
The waste products of a living organism are toxic to that organism. The health of the cell membrane plays a critical role not only in the entrance of nutrients into the cell, but also it plays a critical role in the elimination of toxins and harmful waste products.

High energy lipids fuel regeneration of the cell membrane. As the health and energy of the cell membranes increases detoxification at the cellular level is facilitated.

The early research which led to the development of the Tre-en-en grain and legume concentrates focused on the importance of the cell membrane for both assimilation of nutrients and elimination of waste products. This structure was being damaged by improper nutrition.

“Therefore right here, at the outer boundary of body cells, we discover a threat to sustained health at all ages. It should be noted that this is the kind of stealthy and hidden continuing factor easily overlooked. The cell-supporting lipids were slipped away out of the modern diet with all the eye-evading speed a magician uses with card tricks. Few modern men and women, even few physicians, realize that a profound change in diet





has taken place and that it may account in large measure for the change in the disease pattern so futilely speculated about. Both cell nutrition and cell elimination are being bottlenecked. So all life processes are being slowed down--to the danger point."

Once toxins have been removed from the cells they make their way out of the body. The most convenient routes of excretion of toxins are the urinary tract and the bowel. At times, particularly if the bowel is not functioning properly due to constipation, toxins may be excreted through the skin.

I have talked with smokers who observed a cigarette smell in the perspiration. One tire store owner-observed black deposits being excreted through the skin. A detox clinic in Sacramento routinely uses dry sauna and exercise to promote excretion of fat loving toxins through the skin by promoting sweating.

### **Bowel Function**

Someone once said that it is better to have a healthy set of bowels than a healthy brain. It is certainly true that poorly functioning bowels inflict considerable misery upon a large segment of mankind.

David Reuben begins his discussion of constipation as follows: "Constipation has the dual distinction of simultaneously being the most common and the most neglected affliction of modern times. In Western countries, nearly 100 percent of the population suffers from the condition at one time or another. Yet no

one except the victims seems to take it seriously. Even the most prestigious medical works underestimate the importance of the malfunction.' The physician must patiently explain that daily bowel movements are not essential, that no real harm comes from the bowel not moving for up to four days.' The text continues: 'A real ill often develops...based on the fatuous conviction that the body must rid itself of fecal residues in a stereotyped way and very frequently.'"

Reuben goes on to point out that we consume food daily and it only makes sense that we should eliminate waste products daily. We tend to feel better when elimination is regular. It is important to realize that "The human colon is not a stainless-steel holding tank; it is a living part of an organism which is continually absorbing a wide variety of potent chemicals from the feces it contains. The longer the feces remain putrefying in the colon, the greater the chance that serious consequences will occur."

Constipation is characterized by a slow transit time of food residues moving through the digestive tract. This can be measured by eating corn on the cobb or by swallowing tablets of charcoal or cochineal to see how long it takes for these things to move the entire length of the digestive tract. A healthy transit time is about 24 hours, but many people in the Western world have a transit time of three days or longer. It is important to realize that an individual may have a very slow transit time and still have an elimination every day.

A sluggish bowel causes several problems. Firstly, bile acids break down into two of the most potent natural carcinogens (apcholic acid and 3-methyl cholanthrene) if they remain in the colon too long.

The production of these carcinogens in the colon results from dysbiosis or an overgrowth of the wrong types of bacteria in the colon as a result

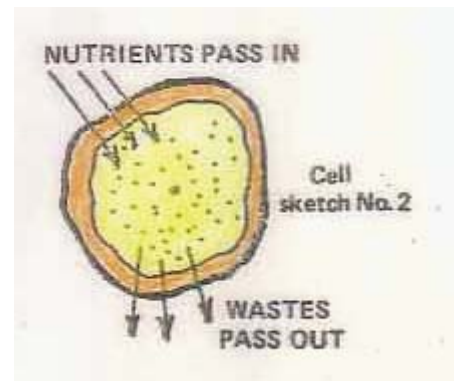
of the sluggish bowel. The colon of an individual with a normal transit time and healthy elimination of wastes will have a colon populated primarily by acidophilus and streptococcus bacteria.

By contrast, the colon of an individual with a sluggish transit time will be populated primarily by bacteroides and bifidobacteria which are more likely to attack the bile acids and convert them into carcinogens. Thus the cholic acid is converted to apcholic acid and the deoxycholic acid is changed into 3-methyl-cholanthrene.

The most common cause of a sluggish bowel is a highly processed diet with insufficient fiber. Primitive peoples on a high residue diet pass an average of 1/2 pound of stool a day, while individuals on a low residue diet tend to have a stool which weighs only *half* as much.

GNLD's Multi-Fiber Blend (#3410) is designed to provide the fiber which is often missing in modern diets. This is my favorite fiber product. It is a good tasting blend of fruit and vegetable fibers which can be mixed in beverages or added to foods without destroying the good taste. Other fiber products are also available.

Lack of fiber is not the only factor which can cause constipation. About two-thirds of the stool is fiber, and thus the most common cause of constipation is probably lack of fiber. One-third of the stool is bacteria. Exposure to antibiotics can destroy the beneficial bacteria leading to a







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variety of digestive complaints including constipation and diarrhea.

A lady once came to our office with severe, intractable constipation. She felt that her serious constipation problem had contributed to the emotional trauma which led to incarceration in a mental facility for a short period of time. Her constipation did not respond to fiber at all, but supplementation with Acidophilus Plus (#3524) resulted in regular bowel movements which she had not experienced for years.

Constipation can also result from dehydration as a result of insufficient consumption of fluids. This is a common problem in older people who often lose their sense of thirst. In addition, many medications including diuretics can result in dehydration. Typical signs of dehydration include cracked lips and a dry sensation in the mouth. An excellent natural laxative for those who are constipated due to inadequate water intake is the consumption of two glasses of room temperature water with a little added lemon juice.

Constipation can also result from muscle failure. Lack of B complex vitamins and trace minerals can re-

sult in loss of muscle tone. The regular muscle contraction of the digestive tract can then be impaired leading to chronic constipation. The most common deficiencies involved here are B Complex and Magnesium. These are best supplied by using a good multiple.

### Urine

Urine can be an important avenue for elimination of metabolic wastes. Here again dehydration can create problems. Adequate intake of water as a solvent for toxins and metabolic waste products is crucial. No other beverage functions as efficiently for dissolving and promoting elimination of metabolic wastes. Dr. F. Batmanghelidj, an expert on water, writes, "Thinking that tea, coffee, alcohol, and other manufactured beverages are desirable substitutes for the purely natural water needs of the daily 'stressed' body is an elementary mistake in advanced societies. It is true that these beverages contain water, but what else they contain are dehydrating agents. They get rid of the water they are dissolved in plus some more water from the reserves of the body!"

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Kane, Patricia C., et al., *The Detox Book*, 2007, 78.

Meynell, Paul, *Disease Starts in the Cell*, *Herald*

*of Health*.

Reuben, David, *The Save Your Life Diet*, New York: Random House, 29, 68-69.

Batmanghelidj, F., *Your Body's Many Cries for Water*, Falls Church, VA: Global Health Solutions, 10.

## WEB RESOURCES

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