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"START"
Self Treatment Arrest Reversal Therapy

How Do We Get A Leaky Gut ?

Can We Arrest & Reverse The Condition?

To answer these questions we have put together excerpts from several different articles provided by different doctors and lay people alike. We start with :

Michael A. Klaper, M.D.

Arthritis and Autoimmune Diseases, Nutrition, And (Un?)Common Sense

Question: "Could what I eat be making my arthritis worse? Is there any kind of diet or supplement that might help my joint pain?"

Answer:

Ask these two questions to most physicians in practice today and the likely answer you'll receive is, "The cause of arthritis and autoimmune diseases is unknown, and nothing that you eat or any supplement that you take will make any difference at all."

Yet, it has long been known that many factors can affect arthritis - physical activity, emotions, even the weather. However, prevailing medical thought still holds that food has little or no effect upon joint pain. The diet-arthritis connection is often disdainfully dismissed as "unscientific" or as "magical thinking." **Fortunately for the millions who suffer from arthritic pain, recent medical studies indicate that relief can be as close as their dinner plate.**

Numerous articles published in prominent medical journals confirm what I have witnessed for years in my medical practice: many people with rheumatoid arthritis and other forms of inflammatory joint disease really are reacting to substances in their food. The **studies also demonstrate that identification and elimination of the offending foods - a therapy completely free of cost and risk - often provides dramatic improvement, or complete remission of joint pain and disability.**

Why are physicians so reluctant to consider the possible connections between painful joints and what the owner of the joints has been eating for breakfast, lunch and dinner? A major reason is that in medical school, **most physicians-to-be learn that fragments of food proteins are simply too large to be absorbed from the intestine into the bloodstream,** and thus cannot be involved in inflammatory reactions in distant organs, like the joints. Consequently, the patient's diet as a causative factor is usually discounted and instead, powerful (and expensive) anti-inflammatory medications are prescribed as the foundation of therapy. **Both physician and patient then settle for mere suppression of inflammatory symptoms instead of effective treatment.** This "relief" often inflicts severe side effects, like intestinal bleeding, inflammation of the liver, and/or depression of bone marrow function, where new blood is made.

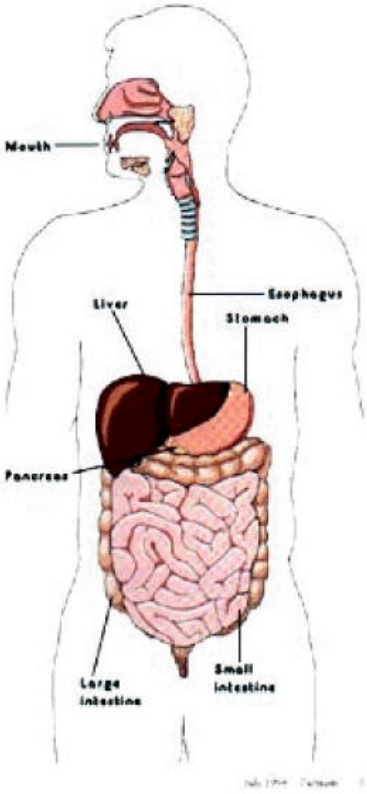
Let's Explain The Digestive Process

Most people do not fully understand the digestive process. Not much time is focused on the importance of properly chewing the food, and even less to the quality of the food selected for consumption. This is unfortunate, as both are critical to good health and long life.

In order for food to be easily absorbed into the system, it must be completely broken down. The first phase of breakdown is mechanical that of using the teeth to chew the small chunks of food placed into the mouth. After swallowing, the food travels down the esophagus and arrives in the

cardiac portion of the stomach.

It is here that the food sits for approximately one half to one hour waiting for the hydrochloric acid to begin to come into the lower part of the stomach to further help in the breakdown of the food mass for proper aabsorption of nutrient content. During this time, the naturally occurring enzymes in food (as long as the food has not been over cooked above 105° F, micro-waved, or irradiated), begin the predigesting process. In about an hour, the food begins to work its way to the lower part of the stomach, and is mixed with acids and other digestive juices which are manufactured in the stomach lining.



Finally, the food moves into the small intestine where food enzymes reactivate and digestive enzymes produced by glands in the intestinal lining complete the process. As the food passes through the small intestine there are various nutrient receptor sites through which vitamins, minerals, and enzymes are absorbed into the bloodstream and eventually into the lymphatic system. Finally, the food mass passes into the large intestine where most of the water is absorbed through the lining of the colon. All undigested matter is then eliminated from the body.

Enzymes are extremely fragile, and any processing destroys them to some degree. Enzyme quantities are also determined by the conditions the plants are grown in. Food grown on stressed, poor soil conditions produce lower quality food.

While it is true that our bodies can produce digestive enzymes, when we eat enzyme deficient foods, our bodies have to manufacturer a higher quantity of digestive enzymes. This causes a corresponding decrease or drain of metabolic enzyme potential. Over time, this constant depletion of enzyme can affect the body's ability to maintain optimum organ function, and can lead to degenerative processes.

SO HOW DO WE GET LEAKY GUT?

Ignoring the diet of the arthritis patient is scientifically short-sighted; it is now clear that in most people, fragments of protein from foods certainly do leak into the bloodstream after most every meal. In reaction to these foreign substances, antibodies in the blood are commonly detected against pieces of egg protein, chicken protein, milk protein, and wheat protein within hours after eating these foods.

This phenomenon of the "leaky gut" is present in everyone to some degree, but is far more pronounced in those whose intestinal walls are inflamed for any reason, such as in people with chronic parasite infestation, diarrhea of bacterial or viral origin, colitis or enteritis (Crohn's disease) or other form of inflammatory bowel disease and in many allergic conditions, like asthma and eczema.

Once in the bloodstream, these ragged chunks of irritating, foreign proteins can lodge in sensitive tissues - like the delicate synovial membranes lining the joints. There, they can incite severe inflammatory reactions, ranging from subtle swelling of connective fibers to hot, painful distention of the joints, as in rheumatoid arthritis. Chronic inflammation of the joints over the years can result in tissue scarring, contracture, loss of function and ultimately, destruction of the joint. (Many other organs in the body - heart, lung, eye, kidney, muscle - can also suffer damage from repeated inflammation: failing "rheumatoid heart," fibrous "rheumatoid lung," bleeding kidneys in lupus nephritis, etc.)

Various kinds of joint inflammations, including some forms of rheumatoid arthritis, systemic lupus erythematosus, ankylosing spondylitis and others, may have nutritional components and may

improve when offending foods are eliminated from the diet. Other inflammatory conditions including asthma, psoriasis, eczema, and related disorders, also can involve the so-called "leaky gut syndrome," and can respond to the same therapies outlined below.

THE MOST LIKELY CULPRITS

Almost any protein or other food substance can set off adverse reactions in the joints; however, in my clinical experience, the foods most likely to trigger joint inflammation are (in order):

?1. Milk proteins (especially casein and lactalbumin) in dairy products - including whey, buttermilk solids, skim milk solids, "calcium caseinate," "sodium caseinate," all milk-derived cheeses, yogurt, ice cream, chocolate, etc.

2. Chicken protein - including the "light meat" and "dark meat," as well as egg whites.

3. Wheat protein - including breads, pastas, wheat cereals, etc.

4. Beef and other bovine-derived meats.

5. Soy protein - including tofu, tempeh, etc.

6. Corn protein.

7. "Nightshade" vegetables - tomatoes, potatoes, eggplants, green (bell) peppers.

Three Foods

We all know that human food comes in three varieties:

fats
protein
carbohydrates

Each is a large molecule made of smaller units. Since the body prefers the smaller units, these large fat, protein, and carbohydrate chains must be broken down. Fats are broken down to **fatty acids**; proteins are broken down to **amino acids**; carbohydrates are broken down to glucose-molecules. The process of breaking it down is called **digestion**.

Each food type has a special enzyme to make this breakdown happen:

Lipase is the enzyme that breaks down fat.
Protease breaks down protein.
Amylase breaks down carbohydrates.

Many doctors without a proper background in nutrition say that man can eat anything they want because the body's digestive enzymes are designed to break the food down. This would be true if we were eating an 80% raw plant food diet. By that I mean a diet in which most plant foods contain within them the enzymes necessary to completely breakdown, without placing a burden on the body's own enzyme reserves. **The raw plant food diet leaves behind no residue from the digestive activity. That is normal digestion.**

But we don't eat a raw plant food diet. Most of us have a SAD diet—the Standard American Diet. You know – burgers, fries, pizza, beer, chips, donuts, coke – etc. These are nonfoods, new to the human species in the past century. Our digestive systems were never designed to break these chemical so called foods down. **So the body can not digest all of it and - it just sits there, rotting. Abnormal diet = abnormal digestion.**

There are three primary groups of enzymes:

1. Food enzymes.
2. Digestive enzymes
3. Metabolic enzymes

Food Enzymes...What are they?

Food enzymes are naturally present in all raw foods, providing an external source of digestive enzymes when ingested.

There are only enough enzymes in the raw food we eat to break down that particular food. Enzymes are very specific.

Food enzymes **start to be killed when over cooked above 105° F and all the plant food enzymes are completely dead when they reach**

126° F . The same is true for micro-waving and processing foods. Remember 118° F is about the temperature of the hot water we wash our hands in or the hot water that comes out of most of our water faucets.

We can eat all the "so called" healthy food and take all the enzymes, vitamins and mineral supplements you want but unless the enzymes are alive in the whole foods or the supplements you ingest, those foods or supplements will not be effective in maintaining a healthy body. Almost all degenerative diseases stem from a lack of complete digestion and improper elimination of what we ingest into our bodies.

Why plant-derived enzymes?

Food enzymes derived from plants and not supplements are more precious than gold or diamonds. Your body requires enzymes to regulate every biochemical and metabolic process.

Why plant-derived food enzymes versus animal or fruit-derived enzymes? First of all, plant enzymes are active in a broad pH range of 2 to 12 and temperature ranges of 75 to 126º F, most of which is well within the human body's normal temperature and pH ranges.

Animal enzymes do not activate until they reach the higher pH of the small intestinal tract so they are not going to be very effective in aiding the human body in pre-digestion in the upper cardiac **portion of the stomach.** *Animal enzymes optimum temperature of activity is between 140ºF and 158ºF*, way above the human body's temperature and humans can not utilized meat enzymes in the aiding of digestion.

In other words, if you eat a raw salad there would not be any protein enzymes from the salad to digest the protein in your steak or chicken you might be eating with the salad.

Specific Shapes

Enzymes are known to have very specific jobs to do. Their activity is compared to keys that must fit certain locks.

Enzymes are long-chain proteins held together in very specific shapes by hydrogen bonds. Think of a ball of string, which is held in a very weird shape by tiny strips of Velcro. If anything happens to the Velcro-like bonds, the enzyme protein unravels, losing its shape. Then it's no longer an enzyme – just another foreign protein. And what do foreign proteins cause in our body? Right inflammation. Immune response. And that's exactly the meaning of **auto-immune**. The body attacks itself because it senses there's an alien on board.

If the bonds are broken, the enzyme collapses, and can no longer do its specific job. A collapsed enzyme is said to be **denatured**. Several things cause an enzyme to become denatured:

heating above 105° F (cooking)
drugs
food processing
alcohol
genetic engineering
fluoride
free radicals
canning
irradiation

Digestive Enzymes… What are they?

The class of enzymes you're probably most familiar with is the one that involves digestion. The mouth, the stomach, the pancreas, the liver, and the intestine produce digestive enzymes whose job is to break down any food we eat into usable components. They break down protein, carbohydrates, fats, and cellulose for fiber. Digestive enzymes are secreted from the pancreas into the stomach and small intestine.

No matter how greasy, no matter how much extra cheese, or how much white sugar, how many chemicals, no matter how indigestible a food is, your body will "**try**" to break it down by means of enzymes.

Some foods are very easy on the body. Turns out,

those are the ones which contain within them all the enzymes necessary for complete digestion. Examples: apples, corn, watermelon, green peppers, pears, celery, get the idea? **Raw fruits and vegetables.** These foods don't require that the body waste energy producing a lot of powerful digestive juices in order to change them into a usable form.

Enzymes are delicate life-like substances found in all living cells whether animal or vegetable. **Enzymes are energized protein molecules necessary for life. "In fact the life force".** They catalyze and regulate nearly all biochemical reactions that occur within the human body. In other words, enzymes unlock the energy in the body and turn the food we eat into energy.

Enzymes digest all our food and make it small enough to pass through the intestine into the blood. They are the energy used to rebuild muscle, cell, nerve, tissue, bone, and gland. Enzymes assist in storing nutrients and glucose in the liver and muscles for future energy use. **Our living and being is enzyme dependent.**

Now where at the heart of the matter:

When your digestive enzymes fail to break down the food particles small enough to pass through the intestine into the blood larger particles force their way are Leak through the wall into the blood system creating the leaky gut syndrome.

Metabolic Enzymes...What are they?

Metabolic enzymes run the body's system and are connected to every working organ in the body. Metabolic means having to do with operating the body's specific systems. Cell life, nerve transmission, brain signals, hormone distribution, oxygen exchange, liver function, acid-base balance in the blood, stuff like that. All these jobs require specific enzymes in order to happen, on a second-by-second basis. Metabolic enzymes are the worker protein molecules that keep this whole biochemical circus going all day long.

Metabolic enzymes are what actually utilizes the nutrients that have been broken down by the food and digestive enzymes, provided that normal digestion has taken place. So the direct interrelationship between the three types of enzymes - food, digestive and metabolic - is not really a big subject for debate.

Since many foods can trigger joint inflammation, the following method can help you identify problem foods:

"THE BASELINE SAFETY DIET"

For 7 to 14 days, the diet should consist (in unlimited amounts) of only the following five simple foods, least likely to incite inflammatory reactions in the body:

1) Brown rice and 2) Sweet Potatoes	For energy starch and protein
3) Green leafy vegetables- kale, collards, swiss chard, etc (raw or slightly steamed)	For vitamins and minerals
4) Yellow vegetables– carrots, yams, sweet potatoes, squash, etc. (raw or slightly steamed)	
5) Non-citrus fruit	For energy and vitamins

During this time of diagnosis through dietary simplicity, it is best to minimize confounding factors by keeping seasonings to a minimum, as some spices like cayenne can incite inflammatory reactions in susceptible people. Each seasoning and spice should eventually be re-tested individually. One of the benefits gained through this is increased appreciation for the natural taste of fresh fruits, vegetables and other whole foods.

After following this regimen for five to fourteen days, many, if not most, people will find their joints much improved or completely free of pain and stiffness, perhaps for the first time in years.

Two maneuvers will increase the natural anti-inflammatory effect of the above dietary therapy and often provide even faster relief:

1. A brief period (24 to 72-hours) consuming only pure water or vegetable broth (a 6-ounce glass of water or broth hourly) allows all potentially inflammatory proteins to be cleared from the bloodstream, and is thus extremely effective in "cooling off" inflamed joints. Marked improvement of arthritic joints is often observed within 48 hours; however, such a "washout period" is not absolutely necessary.

2. Flaxseed oil, hemp seed oil, or evening primrose oil, available in the refrigerator case at the natural food store, are rich in linolenic acid (an "omega 3" fatty acid), from which the body makes a potent, natural anti-inflammatory substance, prostaglandin E-1 . Two teaspoons of flaxseed oil or hemp seed oil, or one teaspoon of evening primrose oil, consumed daily, combined with the "Baseline Safety Diet" foods above, often act as a "fire extinguisher" for inflamed tissues.

Flaxseed oil or hemp seed oil can be drizzled over a baked potato (instead of melted butter), brushed onto corn on the cob or onto bread, mixed with salad dressing, or taken "straight" from a spoon - but don't cook with it, as it is quite fragile and breaks down at high temperatures. (Flaxseed oil also comes in capsules, for those who prefer not to ingest it in liquid form.) All delicate "medicinal" oils should be taken together with 200-400 I.U. of Vitamin E to prevent oxidation in the body.

Other oils with natural anti-inflammatory properties include soybean, pumpkin, and walnut, and may be used sparingly, e.g. 1 - 3 ounces tofu, a daily handful of raw walnuts or pumpkin seeds, etc.

START representatives will be able to tell you of methods to make this diet even easier with guaranteed nutrition, vitamins, minerals and amino acids. Ask them how they can help you simplify this.

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?**GUT LINING REPAIR**

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?The "leaky gut" can be made less permeable by addition of the following supplements for 60 days - all help restore normal tissue integrity and balance of intestinal microflora:

Glutamine - 250-500 mg. 3x/day Acidophilus (non-dairy) - 1/2 teaspoon of powder or 2 tablets between meals

Incidentally, the gut is made *more leaky by non-steroidal anti-inflammatory drugs, like ibuprofen, aspirin, and similar substances.*

Assuming a favorable joint response to the above, "new" foods (really, the foods previously eaten) can be added back into the diet as desired, in a controlled manner:

(a) one food at a time,
(b) every 48 hours (to allow sufficient time for any possible reaction),
(c) while keeping a careful food diary.

Try the food raw for a short period of time, then try it cooked for a short period of time the same as you previously cooked it. You would then have a full picture of the food cooked and uncooked and the different reactions on your body. (raw, not heated above 105 degrees F.)

In this diary, record each new food introduced, the time and date eaten, and very importantly, how the joints feel several hours later, and on the following day. The joints usually "speak" quite clearly - with pain, redness, warmth, swelling, and/or stiffness - usually within 48 hours of eating an offending food. On a separate sheet with a vertical line down the center - the "Score Sheet" - record on the left "Safe Foods," that do not adversely affect the joints, and in the right column, "Problem Foods," that make the joints react in any way.

Over several weeks, the diet is reconstructed using only the "Safe Foods" demonstrated not to inflame the joints. Any (and all) meats, dairy products, and other animal-based foods, as well as any individual grain, legume, fruit or vegetable, can be eliminated without fear of deficiency of protein, calcium, or other nutrients. "Nutritional insurance" during this time can be provided by daily high-potency multivitamin and mineral

supplements, containing at least 2 mcg. of Vitamin B-12, 500-1000 mg. each of calcium and magnesium, and U. S. Recommended Daily Allowance amounts of zinc, copper and other trace minerals.

Again ask your START Representative.

Some types of fats can make inflammatory arthritis flare, especially saturated animal fats and hydrogenated vegetable oils. The person with arthritis must be aware as "fast foods" and processed foods are added back into the diet, and it pays for her or him to become a skillful reader of labels to detect offending substances hidden in packaged foods.

Meals that are gentle on the joints do not have to be boring to the tongue. Non-dairy versions of sour cream, cheeses, yogurts, and "cream cheese" spreads, as well as soy milks, rice milks and almond milks are found in the refrigerator case of most natural food stores, while the freezer cases now offer delicious non-dairy "ice creams." **(Most current brands of soy-based "cheeses" contain casein or caseinates, proteins derived from cow's milk.) Be sure to read labels!**

If wheat or other plant protein is found to cause adverse reactions, there are breads, pastas and cereals made of rice, oats, barley, soy, buckwheat, spelt, kamut, and other non-wheat grains, also widely available at natural food stores. Test each of these new foods individually, by introducing them separately at 48-hour intervals, to assure that they create no adverse effects in the body.

If desired, foods that triggered joint inflammation at one time can be tested again several months later to see if they still cause adverse reactions. The body can be quite forgiving if given a rest from repeated exposure to offending proteins. Such simple, but effective food strategies can produce dramatic improvements or, often, complete resolution of arthritis and other autoimmune diseases like lupus, ankylosing spondylitis, etc.

For the life of me I have a hard time understanding why the good doctor would tell anyone to go back to food that caused the leaky gut syndrome in the first place. You do as you think best because altimately it is your choice.

Toxicity, What Is It?

Evidence that has been available for over 75 years is now being brought forth and substantiated that the determining factor of health and long life may correspond to one simple condition: blood toxicity. Toxicity means poison.

You may think of poisons as things like arsenic, or cyanide, or rat poison, or things that secret agents in James Bond movies bite in capsules just before they're captured. As every good ninja knows, there are many levels and types of poisons. The best ones kill you the slowest and are undetectable. So let's consider the slowest poisons of all: **"The food we eat and can not properly digest".**

Most modern food of which the Standard American Diet (SAD) comprises, is poison to our system. Why do I say that?

A good poison will:

1. block the flow of blood
2. decrease the amount of oxygen to the tissues
3. interfere with one or more major systems of the body
4. actually cause addiction to the poison itself
5. eventually kill the subject without ever being revealed.

No poison in history has achieved these goals on the scale that undigested food has.

What causes the food to be undigested? Mainly the lack of food enzymes.

"Without enzymes, seeds would not sprout, fruit would not ripen, leaves would not change color,

and you would not exist."

Very simply, enzymes are properties of all living cells that bring about changes. Enzymes are active in every cell of your body every second. Enzymes change things into usable forms.

As Dr. Royal Lee said long ago, ***enzymes "…are the most important unit in the human body, because every chemical change that takes place to repair tissue or to assimilate food involves the activity of enzymes. Without enzyme activity there is no life. No plant or animal can live without the activity of its enzymes."*** - *Conversations*, 1955

Toxemia and Vicarious Elimination

Toxemia means **blood poisoning**. What causes that? Food particles not fully digested and leaking into the gut.

Way back in 1926, a famous Colorado healer, JH Tilden MD, wrote a book, which was the culmination of a lifetime of clinical experience, Toxemia Explained. Dr. Tilden was radical. He didn't believe drugs cured disease. He had one simple thesis:

"…every so-called disease is a crisis of toxemia, which means that toxin has accumulated in the blood above the toleration point. …the crisis, the so-called disease - call it cold, flu, pneumonia, headache, or typhoid fever - is a vicarious elimination method. Nature is endeavoring to rid the body of toxin." Toxemia Explained

A disease is named for where the toxins accumulate and the body part start to fail. Hearth disease– bad heart.

This concept of disease known as vicarious elimination has never been disproved. What happens in the body is, a survival instinct, various organs of the body take desperate measures to expel the rotting poisons of undigested foods, becoming inflamed in the process. This happens because the normal avenues for expelling toxins – liver, kidneys, colon - are overwhelmed by the amount of poisons (undigested foods) being accumulated. So in desperation, other organs that weren't originally designed for waste removal get into the act.

One obvious example of this idea is **acne**. Acne is not a skin problem. It is a vicarious elimination: the blood is so toxic with poisons that are accumulating faster than they can escape that the body tries an extreme solution: expel the poisons through the body's largest organ: the skin. As the poisons leave, they irritate the normal skin and cause postulated eruptions, like pimples or boils. This is why skin creams and lotions don't work in such a scenario. It's not a skin problem. It's a problem of chronic blood poisoning by means of an indigestible diet. Third World people rarely get acne. Acne is a disease of the fast food lifestyle.

Chronic "incurable" eczema and psoriasis often fall into the same category. People suffer needlessly for years with these diseases, under the direction of their well-intentioned but clueless dermatologist who has convinced them that their only hope is to find the right medication for their "skin disease."

Same with the kidneys. Their original job was simply to maintain water balance within the blood. But with the advent of the modern foods of commerce, suddenly the kidneys find themselves spending all their energy trying to filter out these new manmade chemicals from the blood. – a function for which they were never designed. Result: **kidney disease today is the #9 cause of death in the US.** (Historical Statistics)

Dr. Bieler offers another example of vicarious elimination: the lungs take over for the kidneys. When the level of toxins in the blood exceed the kidneys' capacity to eliminate them via the urine, the lungs try to take up some of the slack, sort of in desperation. The lungs secrete some of the blood's toxins through their mucous membranes. Such toxicity irritates and inflames the lung tissue, and can be the cause of pneumonia, bronchitis, edema or any other lung problem. (p 164 of his book)

Same with a cold. A cold is simply the body's way

of saying that the level of toxicity has now surpassed the body's ability to get rid of wastes through the normal avenues: colon, kidneys, and liver. So it will try alternative or vicarious routes: nose, mouth, throat, eyes, lungs.

Bieler uses this same model to explain dysmenorrheal and pelvic inflammatory disease: irritation of female organs when they are used as alternate routes of toxin removal from the blood, every month. At menopause, when this avenue of detox falls into disuse, various new problems may occur as a result. (page 172) Vicarious elimination: an organ of reproduction being used as an emergency organ of detoxification.

Again, Tilden's theory of vicarious elimination is that **many diseases are really just an organ's emergency attempt to discharge excess poisons because the primary avenues are overloaded**. If that body part is overwhelmed in the process, it becomes diseased and we pretend that that organ, in isolation from the rest of the body, is the problem.

Such thinking is more than just simplistic; **if medical decisions are based on false perceptions characterizing the diseased organ as the disease, the results can range from ineffective to fatal.**

Cooked VS Raw

Edward Howell MD, a world class authority on enzymes and human nutrition, talks about how enzymes are denatured above 105ºF to 118ºF. Since water boils at 212º, you can see how cooking is detrimental to most foods.

Savings Account

In Dr. Edward Howell's book "Enzyme Nutrition" he states that it's as though we are given a bank account of enzyme energy at the beginning of our lives. This bank account contains two types of enzyme currency:

· **metabolic** enzymes (cell functions, body systems)
· **digestive** enzymes (catalyst)

The more of that bank account we have to use for digestion, the less is left over for the thousands of other tasks which enzymes have to perform in our bodies. Minor details like thinking, breathing, walking, seeing, cell life, etc. - all depend on enzymes. So think of someone grossly overweight. Do they perform all these other functions well, or do they seem impaired? Obvious. Reason: they have to expend too much of their enzyme bank account trying to digest all the heaps of indigestible food that keeps coming down the hatch. So there's not much left over for basic life functions.

What creates enzyme deficiency?

Digestion of food takes a higher priority and acts as a powerful stimulus in the demand for enzymes. **When you habitually eat food deficient in enzymes, your digestive organs become exhausted.** The body puts a higher priority on digestion than on maintaining health, so it will call enzymes from other parts of the body to finish the digestion job, thereby depleting the immune system. The pancreas sends out these messages looking for enzymes it can reprocess into digestive enzymes. **When it finds them it has to change metabolic enzymes into digestive enzymes** this means extra work and leads to the **enlargement of the pancreas**. It takes three metabolic enzymes to create one digestive enzyme.

Poorly Digested Food Pulls On Our Immune System

When food is not properly digested, we create "digestive luekocytosis" in which the white blood cell count increases after a meal. These incompletely digested food molecules are absorbed into the blood system (Leaky Gut)but they are unable to be absimulated into the cells and the body then identifies this particulate matter as foreign objects and forms circulating immune complexes. The immune system then mobilizes white blood cells to finish the digesting of this food, pulling on the body's energy and immune system.

The Sad American Diet uses 80% of our body's energy to digest the undigestible food we insist on eating. When food enzymes are present to pre-digest the food, digestive luekocytosis does not occur. Proper digestion allows the immune system to focus on disease prevention rather than digestion.

Researches believe that our enzymes has a limit and we must help to maintain them as much as possible in order to have a longer life.

"**The Food Enzyme Concept**" written by Dr. Edward Howell states that after 30 years of research he feels that medical science should take a different approach when looking at disease. **He states that when ingesting, the enzymes in raw plant food the result is a significant degree of digestion, lowering the drain on the organisms own enzyme potential.**

Dr. Edward Howell was one of America's pioneering biochemists and nutrition researchers and he stated: **"Enzymes are the most vital nutritional discovery since that of vitamins and minerals".**

He felt that by eating raw food the work of the enzymes is less and the result is a healthy body.

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WARNING: The Information in this article is not intended to replace medical advice or treatment. Questions about symptoms, specific dietary needs and medications, general or specific, should be discussed with your physician. The information in this article is for informational purposes only, and is not medical advice or a substitute for a physician's consultation and/or examination.

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