

Understanding Autoimmune Diseases

by Robert Harrison

In this report you will learn what an autoimmune disease does in the body. What the underlying causes of autoimmune diseases are and what is important to consider in dealing with it. So that you may have a better understanding of how to get healthy again.

All autoimmune diseases share much in common. Research on any particular one can often apply to the understanding of other autoimmune diseases. They all have similar underlying causes and conditions. This report will give you an understanding of them and how they effect your body. Depending on your symptoms and the type you have, some information will apply to you more than other information will. You will end up with a much better understanding of what is going on in your body than you probably have obtained from your doctor. And if you read the health report that follows this report, you will learn even more information that could be of help.

Let's start with a brief description of the symptoms common to autoimmune diseases. Then I will attempt to explain in as comprehensive and understandable a way as possible, the various possible causes of them, the vast number of problems that develop in your body when you have them, and what to consider in deciding how to combat them.

Symptoms of Autoimmune Diseases

Spouses and family members, even though someone may look perfectly healthy, if they have an autoimmune diseases, they are truly ill. It is not in their head.

The following symptoms are common in many, if not all, autoimmune diseases.

Fatigue: It's not a good fatigue, from working hard, but an anxious, uncomfortable fatigue related to lack of sleep. Or a disruption of the energy production mechanism in cells, either from lack of oxygen, increased toxicity, infections or a malfunction of the mitochondria.

Sleep Disturbance: About 80% may wake up three or four times a night, or in some cases you don't wake up, but in the morning you still feel like a truck ran over you. The reason for this is that subliminal seizures kick you out of stage 4, Delta sleep, to stage 1 sleep so you can't sleep deeply and wake up not rested.

Short Term Memory Loss: Because of the low thyroid and heart complications typical in autoimmune diseases, there is a decrease in blood flow to the left lobe of the brain causing an oxygen deficiency in the brain. This can lead to the memory loss and forgetfulness that is common in autoimmune diseases.

Emotional Liability: Someone may cry more easily, be more anxious and fearful. This is caused by the illness, and is not a psychological reaction!

Depression: As with the emotional symptoms, the hypothalamus is involved. This is not clinical depression, but literally has a physical cause that is sometimes experienced as a deep depression right in the heart.

Low Thyroid Function. About 85% have this symptom, but only about 10% of the time does it show up on a typical thyroid test. If you get tested, have both a T3 and T4 done. About 10% have excessive hair loss. For most everyone, a poorly performing thyroid will show up as subnormal temperatures.

Gastrointestinal Problems: About 75% have this symptom. Can be anything from gas, bloating, cramps, diarrhea or constipation to hiatal hernia, irritable bowel syndrome or Crohn's Disease. Sometimes taking a simple homeopathic remedy like arsenicum album, 6x or 6c and make a difference with this.

Swollen Glands, Chemical Sensitivity, Headaches: Allergies often develop, usually after 3 to 5 years. Eyes can be light sensitive for 6 months or longer. Dry eyes can develop. About 20% experience a very uncomfortable disequilibrium of vertigo, almost an out of body feeling that can be most disconcerting.

Pain and Fibromyalgia: Often diagnosed as a separate illness, fibromyalgia is basically a symptom that can occur with any autoimmune disease. If you have it, you've got pain. Often in the neck and in shoulder muscles extending down the back. Can be in the joints and muscles also.

Low Blood Sugar.

Candida Yeast Infections: These are very common. Check your tongue. If it has a white coating, you have it. Or take the spit test you will read about later. Women may get vaginal yeast infections caused by candida overgrowth. A candida infection on its own can cause a number of autoimmune type symptoms. Sinus infections often are caused by candida.

Tingling hands. Ringing ears. Cold toes. Cold fingers. Metallic taste in mouth. Caused by poor circulation and who knows what.

Overdoing: You overexercise or overwork when your are feeling good, and then feel worse for days afterward. This can cause serious problems. In healthy people the body shuts down when the anaerobic threshold is reached as a lot of pain is experienced. This warning does not occur if you have an autoimmune disease. Instead, the body continues to exercise and experiences no pain as the lactic acid builds up, and the body ends up recirculating carbon dioxide. This is *not* a healthy thing to have happen to you. It is important not to push too hard when you start recovering, or this will set you back and wipe you out.

Fluttering Heart. Panic Attacks. Rapid Heartbeat. Mitral Valve Prolapse. Usually blood pressure is low, though it can get high later on. The heart underpumps blood because it is getting incorrect messages from the autonomous nervous system. The body's feedback loop picks this up and over-reacts. And you get these symptoms.

If you have autoimmune illness, it is not likely you have all these symptoms. However, you will have many of them to one degree or another.

This information is for educational purposes only. I am not a doctor. This is not medical advice on how to treat autoimmune conditions, but information to help you understand them.

Immune System Malfunction

The malfunctioning immune system is a major problem in autoimmune diseases so let's first look at why the immune system starts having problems and what those problems are.

One point. Some researchers feel that sometimes an autoimmune illness (and Parkinson's disease) may be caused by consumption of aspartame (in diet drinks, Equal, Nutrasweet) and/or MSG. If you drink diet sodas or commonly consume either of these two chemical excito-toxins, Stop. They may be a major cause of your problems.

There are two general immune system issues in an autoimmune disease. Poor cellular communication because there is a lack of cell markers on the cell walls. And an over-activated, out of balance immune system that attacks those cells.

Lack Of Cellular Communication

So why does the immune system attack the body? After all, the immune system is supposed to attack pathogens that are “non-self”. Not the body’s own cells. Even when mycoplasma and viral infections deliberately confuse and overactivate the immune system, which may happen quite often, the question remains as to why the immune cells attack cells they are supposed to be protecting.

It wasn’t till I learned about the role of long chain carbohydrates in cellular communication that I understood one reason why this may happen. Here’s the story.

Different types of long chain carbohydrates reside on the surface of cells. Communicating information about that cell, and allowing it to interact and exchange information with other cells. One thing they communicate is that they are a part of the body. When cells have these markers, they won’t be attacked. Any cell that doesn’t have these cell markers is treated as “non-self” by the immune system. And can be attacked.

The essential heavy molecular weight carbohydrates that make cell markers aren’t commonly in our diet. With healthy individuals, this is not a problem because they can be made from ordinary carbohydrates. However, the process required to do this is enzyme intensive. And as an autoimmune disease develops, enzymes are destroyed throughout the body. (You’ll read more about this in a few minutes.) So you become enzyme deficient and unable to produce adequate amounts of long chain cell markers.

This may be why some cells can’t communicate that they are part of the body. If the immune system is overactivated, it may attack those cells. Causing inflammatory damage, and ultimately organ and joint damage.

There has been much positive research into the value of these long chain carbohydrate molecules.

Acta Anatomica, a European journal, states that long chain carbohydrate molecules have a coding capacity surpassing that of amino acids.

In March, 2001, Science Magazine dedicated virtually the entire magazine to the essential saccharides that make up these cellular communication keys.

The University of California, San Diego, announced the establishment of a Center for the further research and development of the Science of Glycobiology. And the President of the Royal Academy of Medicine in London, Dr. John Asford, said that "Sugars are going to be the molecules of the next decade."

Clearly, increasing levels of these long chain carbohydrate molecules may have a beneficial effect on the immune system.

An Out Of Balance Immune System

To put it simply, your immune system has two different modes or sides. Th-1 or T helper-1 cells fight pathogens like viruses, mycoplasma and bacteria that are inside the cells. Th-2 or T helper-2 cells fight pathogens outside the cells. When the immune system is healthy, these two modes function together, supporting

each other in keeping the body healthy. But if they get out of balance, if the Th-1 side becomes weak and the Th-2 side over-activated, or the reverse, serious problems develop.

If you suffer from an autoimmune condition, in some way or another part of your immune system is worn out. The Wall Street Journal, August 2nd, 2000, reported that a team of researchers lead by Dr. Weyand studied patients with an autoimmune disease and compared them with people of similar age without the condition. They found that patients 20 to 30 years old had a collection of immune cells that looked as though they belonged to 50 to 60 year olds.

Worn out Th-1 cells can result in an elevated, overactive Th-2 immune response because they help control Th-2 cell activity. Or the opposite can happen. The immune system must be in balance to operate efficiently. If it is not, it needs to be modulated back into balance.

Besides this, several things may also cause Th-2 cell overactivation. Stress for one. Stress produces cortisol. Cortisol stimulates the production of Interleukin 6 and other Th-2 cells. For this reason autoimmune diseases may manifest after a stressful event. A divorce, an accident, a death in the family.

Exposure to toxins wears out the immune system, and thus may cause Th-2 cell overactivation. In addition to the vast number of toxins in our food, water and environment, toxins come from poor digestion, leaky gut syndrome (usually caused by candida), toxins in drugs and medicine like mercury in vaccines, and mycoplasma bacteria, fungi that produce mycotoxins, and other infectious pathogens that excrete toxins as a byproduct of their metabolism. This can get pretty insidious.

One study by Dr. Dunstan concluded that a pesticide mutated bacteria in the guts was producing a potent pesticide-like toxin which literally was poisoning the body. It's like having a miniature Raids factory in your guts. He found in a study done in Australia in the early 90's that *everyone* with chronic fatigue had this toxin in them to some degree.

The worse the symptoms, the higher the levels. There was a direct connection between the quantity of this toxin and the severity of the disease. Even in the healthy control group, Dr. Dunstan found that 40% had this toxic chemical present in very small amounts. Obviously not enough to cause an illness, but setting those people up for the possibility of developing an autoimmune illness in the future.

This is one reason why it makes sense to take top quality probiotics (friendly intestinal bacteria) that help keep bad bacteria under control.

Ritchie Shoemaker, M.D. reports on his investigations which lead to a somewhat similar conclusion.

“The invisible link was "biotoxins" - poisonous chemical compounds that travel with impunity through the human body. These tiny molecules shuttle from nerve to muscle to brain to sinus to G.I. tract and other organs in a continual circuit, while triggering the symptoms we define as ‘biotxin-related illness.’

“As recent research clearly demonstrates, the compounds are manufactured by a growing number of microorganisms that have begun thriving in our ecosystem.They tell us, quite simply, that toxin-forming microorganisms have brought a new kind of disease into our world - a pathology in which bacteria, fungi, algae and other tiny organisms have "learned" how to manufacture toxins that linger on in the human body, long after the organisms themselves are dead. ...

“The pathogens may differ, but the biotoxins they produce all do their damage by setting off an "exaggerated inflammatory response" in humans. While hiding out in fatty tissues where blood-borne disease-fighters can't get at them, they ‘trick’ the body's immune system for fighting germs into launching attacks of inflammation in many organ systems, including joints, muscles, nerves and brain.”

To make it worse, some of these organisms apparently are manmade, as part of germ warfare, and their form has been altered to make them more difficult for the body to defend against.

According to Dr. Paul Cheney, one of the top autoimmune doctors in the world, viruses, especially the herpes viruses, and some bacteria and mycoplasma, make proteins that mimic IL-10. This tricks the immune system into activating Th-2 cells instead of the Th-1 cells that are supposed to activate and kill these viruses. They trick the immune system into thinking that the threat is coming from the Th-2 side. So the immune system shifts from the Th-1 mode that would attack the viruses or mycoplasma, to the Th-2 mode that does not. They increase their chances of survival by diverting the immune system. And literally initiate an autoimmune condition.

Infections are found in a very high percentage of people with autoimmune diseases. Often more than one type. The infections are bacterial, viral and/or from various types of mycoplasma. In some cases these infections are opportunistic. In other words they occur because the immune system has been wiped out and can't fight these infections off. (The Th-1 side is worn out.) Or they may be the underlying cause of the malfunctioning immune system.

Donald Scott, based on historical research of government records, reports that a biological weapon, a mycoplasma disease agent, was tested years ago on unknowing US and Canadian populations. Including the Lake Tahoe area where Dr. Cheney first reported cases of CFS. Donald says he has been told by ex-servicemen who were working with this biological weapon during the Korean War that they were told it caused multiple sclerosis in a percentage of people. And he says that records show it was given to Iraq during the 80s to support their war against Iran, and was most likely used against US troops at the end of the Gulf War, perhaps causing the Gulf War Syndrome. Because it spreads through the air, he says everyone has been exposed to it.

Noted microbiologist, Garth Nicolson, who is said to be among the 100 most cited researchers in the world, found mycoplasma in approximately 50% of the people he tested who had Gulf War Syndrome. Including his daughter. She came back with Gulf War Syndrome and both he and his wife also got it from her. Quick use of antibiotics got them over it. He found that some of the mycoplasma contained an unusual gene sequence probably inserted by a laboratory. Which would imply a biological weapon so perhaps Donald Scott is right. Read more about this at: www.whale.to/m/scott7.html.

Garth found that the mycoplasma do activate an immune response. They then hide from the immune system inside the immune system itself, in white blood cells. Making them very hard to get rid of. They can cause infections deep within any organ.

The immune system ends up attacking cells which have mycoplasma in them, and can get "turned on" to attacking the host cells.

In further testing on other autoimmune diseases, Garth found similar levels of viral, bacterial and mycoplasma infections. These (and perhaps the fungi and other organisms Dr. Shoemaker speaks of) likely initiate the autoimmune response in many cases of CFS.

Mycoplasma can cause fatigue, pain and over-toxicity as they poison and disrupt the cells they have invaded. They produce potent toxins inside the cells they reside in. These toxins disrupt the energy production pathways so that infected cells cannot produce energy.

Mycoplasma also damage the immune system when they invade Natural Killer cells. This destruction renders the body susceptible to viruses.

High doses of antibiotics used for long periods of time, commonly a year or more, have had some success against mycoplasma, and some of the other bacteria and organisms that produce these toxins. But they have to be rotated to be successful and the longer you have had an illness, the less likely they will be successful. Antibiotics aren't perfect for killing mycoplasma because they can't get into cells, which is where the

mycoplasma reside. They can only kill mycoplasma after the cell bursts open, and the mycoplasma must find another cell. Antibiotics are *unable* to fight the numerous viral infections found in autoimmune conditions.

Let's continue on with what happens in your body when you have an autoimmune situation.

What happens when Th-2 cells are activated and Th-1 cells are worn out, is this...

Dr. Cheney explains that your body's only defense against pathogens (like viruses and mycoplasma) ends up being Th-2 side RNase L activity.

He explains that RNase L cannot kill pathogens. It can only stop them from reproducing. According to Cheney, "It's a line in the sand saying 'No more replication', and it waits for Th-1 to come and kill them. But Th-1 never comes. RNase L sits there and grinds away, possibly going up and down as the pathogens activate and reactivate. But they never get wiped out. RNase L holds the line, waiting for the cavalry that never arrives."

This RNase L activity causes big problems because...

While it is trying to hold the line, it is, according to Cheney, inhibiting *all* the enzymes in the body, disrupting protein synthesis, and generally making you miserable.

Even worse, as RNase L grinds away, it eventually shifts into "afterburner" desperation mode - a more powerful and deadly low molecular weight form. Research indicates that this form of RNase L is up to six times more destructive to enzymes and protein synthesis than the typical form.

What is supposed to happen when a healthy person encounters a virus or mycoplasma? The regular form of RNase L inhibits replication, then the immune system revs up and wipes them out. After that everything down-regulates, and they recover.

In an autoimmune situation, the RNase L activity shifts to a more destructive lower weight form, and does not shut off. It stays activated much longer, resulting in *pronounced* cellular metabolic dysfunction. This overactivation of RNase L also effects the liver. Liver function declines because the enzymes used by the liver to detoxify toxins are being creamed by the activity of the aberrant RNase L.

When this happens, a person become susceptible to toxins. This happens because RNase L has wiped out the enzymes the liver needs to detoxify the body. This leads to high levels of toxicity. Wrecking havoc in the body.

Liver dysfunction may also cause a Th-2 flare-up...

Antibodies are produced by the Th-2 side to attack pathogens in the blood. Normally, excess antibodies are removed by the liver. However, when liver enzymes have been destroyed by RNase L activity, the liver may not be able to remove the excess antibodies. They then might attack cells in an autoimmune response.

Steroids and the immune response...

As you can see, balancing the immune system so that it works the way it is supposed to is a fundamental need when you have an autoimmune condition. When a doctor gives a person suffering from an autoimmune disease prednisone or another steroid, which most do, they are trying to turn off the immune system. Unfortunately, the success rate is low because they are using a poor tool. Because steroids don't just turn down the Th-2 side, but they also wipe out the Th-1 side. This side needs to be boosted, not depressed. For unless it can be brought up to normal, it will allow the Th-2 side to overactivate. Both sides are always in a balance. If one is too low, the other will naturally be too high. Like a teeter-totter.

Clearly, putting the immune system back in balance, turning off the Th-2 activity and strengthening the Th-1 side is of primary importance. To do this you have to deal with the mycoplasma or viral or fungal or bacterial

infections which may cause it. You have to deal with the depleted enzyme levels caused by excess RNase L activity. And with the toxicity that builds up in cells when the liver and the cells themselves can no longer get rid of toxins.

The body is a remarkable machine. If you can support and balance your immune system adequately, your body may be able to start healing itself and start taking care of the other problems. Generally, however, you have to deal with all the issues in order to get healthy again. So with that in mind, let's learn a little more about enzymes and their role in your health.

Digestive and Metabolic Enzymes

Digestive enzymes break down food food, and metabolic enzymes are involved in virtually every interaction in the body. When RNase L destroys enzymes and reduces protein digestion, the consequent lack of enzymes affects digestion and just about everything else too.

When you eat cooked and processed foods, the enzymes in the food are destroyed. The digestive process needs those now dead enzymes to break down food in the upper stomach. It naturally produces only enough enzymes to finish breaking down the food in the lower stomach. So when you eat foods which no longer have live enzymes, the food doesn't break down in the upper stomach. And the body has to produce *extra* enzymes to try and break down the food in the lower stomach. And if you have an autoimmune disease and don't have many enzymes, how are you going to produce extra enzymes? You can't easily do so and digestion may suffer.

Something else happens. Enzymes are proteins. When you aren't able to digest the proteins in your food because you don't have enough enzymes, your body won't be able to make as many enzymes as it should. So will have an even harder time digesting proteins.

By the way, most people, especially those with acid reflux, do *not* produce enough acid in the stomach to digest protein. As a consequence, the stomach churns up the food, working hard to try and break it down. And splashes this mixture up the throat, causing acid reflux. Taking additional Betaine HCL and digestive enzymes, not anti-acids, are the combination which can take care of this problem.

Which is why it makes sense to use good digestive enzymes with meals, with betaine for more acidity, and take an amino acid blend that can help the body can make more enzymes.

Hypercoagulation, Enzymes and Autoimmune Conditions

Dr. Cheney says that Immune System Activation of Coagulation, called hypercoagulation, needs to be dealt with early on or other treatments may not be effective. In hypercoagulation, pathogens and/or toxins activate the immune system to lay down fibrin in blood vessels. The fibrin coats the walls, blocking oxygen and nutrients from getting to nearby tissues. Researchers found that 80% of patients with an autoimmune illness had this coagulation. So this condition undoubtedly is common in chronic fatigue.

Pathogens that activate this include viruses, bacteria (mycoplasma, chlamydia, etc.) and fungi (such as candida). These pathogens are anaerobes, they live in an oxygen deprived environment. Fibrination helps them survive because it causes decreased oxygen. The less oxygen the better for them. Unfortunately, this can cause a great deal of damage. Everything from decreased energy to a buildup of toxins and lactic acid in cells.

Hypercoagulation is not an accurate name for this condition as it is not that the blood is too thick. It is that the capillaries become coated with fibrin and the blood cannot flow freely. Fortunately, fibrin can be cleaned off artery walls. Using, of all things, digestive enzymes.

Here's why they may help. If you take a digestive enzyme on an empty stomach, so that it has nothing to digest in the stomach, the enzymes get into the bloodstream. (Many studies prove enzyme supplements do this.) Once there, they do several things, break down partially digested food, kill pathogens, and clean up the blood in general. Including toxins produced by mycoplasma or any of the other toxin producing micro-organisms.

More important for hypercoagulation, enzymes clean the walls of the blood vessels. Digesting and breaking down fats, and in the case of hypercoagulation, the fibrin (a protein) that coats the walls.

There is another aspect to this. Mycoplasma and viral infections may cause blood cells to stick together. Called cold agglutination. Sticky clumps of red blood cells cause problems. Oxygen and nutrients can't get to cells efficiently when red blood cells are clumped up. The cells get stuck in small capillaries and clog them up. Seriously reducing oxygenation to cells. Taking a good quality enzyme high in protease and lipase on an empty stomach will work to unstick those red blood cells within a short period of time.

So take digestive enzymes between meals and with meals. They help take a strain off the immune system because fewer partially digested food particles will enter the bloodstream. When you can't digest food completely, *partially* digested food can make its way into the bloodstream. Once there, it acts as a toxin and literally causes the immune system to devote energy and resources to getting rid of it. In addition this can cause food allergies to develop. This is especially true if you have a candida infection that is eating holes in your intestinal walls, thereby allowing even more partially digested food to enter the bloodstream. Enzymes between meals may help clean up this mess.

Lack Of Oxygen Common in Autoimmune Conditions

Oxygen, or rather the lack of it at the cellular level, may cause many problems in autoimmune diseases. Decreased oxygen to the left side of the brain can result in the short term memory loss. And may be a factor in the long term malfunctioning of glandular and hormonal systems in the brain.

In addition, buildup of fibrin on the walls of the blood vessels creates low oxygen areas where cells *cannot* produce an adequate amount of energy. And may be the reason a common symptom in autoimmune diseases is cold fingers or feet, tingly legs and that type of thing. Oxygen is also needed to oxidize and detoxify toxins. When cells don't have enough oxygen, they are not be able to detoxify themselves adequately. And they won't be able to produce adequate amounts of energy, which may be a major cause of fatigue.

Oxygen kills anaerobic bacteria, mycoplasma and viruses. It works so well it is used to purify water in many cities. (Ozonation.) Why isn't it used more often with autoimmune diseases?

First breathing it in, you are limited by the amount of oxygen that can be picked up by the hemoglobin in the blood. So it may be difficult to increase oxygen levels dramatically that way. And the drawback to oxygen supplements, the reason they have proven *not* to be very effective, is that your typical liquid oxygen supplements such as hydrogen peroxide or Vitamin O or whatever, have no way to get oxygen *into* the cells. The delivery system is lacking. And as the mycoplasma and viruses reside primarily inside cells, and as it is cells that need the extra oxygen the most, these products are limited in their capacity to help.

If you want to fight mycoplasmas and viruses with oxygen, you need to produce oxygen *inside* the cells. Get enough oxygen into the cells, and it may help with the whole range of oxygen deficiencies.

Candida Yeast Infections Major Issue In Autoimmune Diseases

Many people suffer from candida yeast overgrowth. Estimates are that 80% of the population does. If you have an autoimmune disease, your likelihood of having yeast infections is even higher as your immune system is damaged and probably your intestinal flora too. A major candida yeast infection can produce similar symptoms to those produced by autoimmune diseases. Extreme fatigue, food sensitivities, allergies, etc.

The intestinal tract in general has problems when you have an autoimmune disease. Anything from the common intestinal disorders to the pesticide mutated bacteria and other organisms that could be spewing toxic chemicals in your guts. If you want to get healthy, your gastrointestinal disorders have to be dealt with. Naturally. Creating an intestinal environment with the right pH, eliminating the candida overgrowth and bad bacteria poisoning your body. And repopulating the intestines with the friendly healthy aerobic bacteria your body needs. That can help keep the “bad” bacteria under control and help to digest food and eliminate waste.

The reason candida causes so many problems is this. If your body loses its proper immune protection and its friendly intestinal bacteria have been destroyed by antibiotics or whatever, candida can overgrow as it is not killed by antibiotics and “morph” from being a beneficial yeast into a harmful fungus. In its fungal form it develops rhizoids (long root-like structures that are invasive and penetrate the mucosa. Once this happens, the boundary between the intestinal tract and the rest of the circulatory system breaks down, and this allows partially digested proteins to travel into the bloodstream where they become toxins.

There are many theories why this happens. Most naturopaths concur that the conversion happens due to some sort of attack on our immune systems – either prolonged antibiotic use, taking steroids or oral contraceptives on a regular basis, or a high sugar diet. It could be a combination of these. It is also conjectured that candida increases its numbers during periods of stress and lowered immune states.

Candida thrives on the foods that are a large part of the typical American diet, which in addition, alters intestinal pH unfavorably. Stress contributes to its proliferation. And, because of its adaptability, it is easily transmitted from person to person in a family.

Simple Home Candida Test:

Try this simple test to see if you have candida. First thing in the morning, before you put ANYTHING in your mouth, get a clear glass. Fill with water and work up a bit of saliva, then spit it into the glass of water. Check the water every 15 minutes or so for up to one hour. If you have a candida yeast infection, you will see strings (like legs) traveling down into the water from the saliva floating on the top, or “cloudy” saliva will sink to the bottom of the glass, or cloudy specks will seem to be suspended in the water. If there are no stings and the saliva is still floating after at least one hour, you are probably candida yeast free.

If you have a bunch of threads or cloudiness, and especially if it develops quickly, you can be pretty darn sure you have a serious case of candida. A few threads or light cloudiness indicate not as serious an infestation.

Detoxification and Free Radical Damage in Autoimmune Diseases

The problems in autoimmune conditions run much deeper than a messed up immune system, wiped out enzymes, oxygen depleted cells and pathogens making a comfortable home in your guts.

When your liver can't effectively detoxify your body because its enzymes have been wiped out, toxins build up in your cells. Especially so if mycoplasma are also producing toxins in them. So toxins build up in them. This toxic buildup causes much damage. Damage that can persist even if the autoimmune response is turned off.

Dr. Cheney explains that once the toxicity begins, the toxins themselves inhibit and injure the very enzymes needed to detoxify them. Plus, the cells' principle detoxification agent and a major viral inhibitor, glutathione, gets used up early on. Making it difficult for cells to detoxify, and inhibiting their ability to kill the pathogens infecting them.

Glutathione deficiency has been found to be virtually universal in autoimmune diseases. This deficiency has two major implications: detox failure and viral/microbial activation. Glutathione plays a major role in detoxification. This deficiency impairs the body's ability to get rid of toxins.

Consequently, people slowly become toxic, storing away poisons in fatty tissue, muscles, organs and the brain. This cellular detox failure can make people canaries to their environment.

To detoxify successfully, this glutathione deficiency must be addressed.

Because glutathione is a potent antiviral and anti-microbial weapon, glutathione deficiency compromises antiviral and anti-microbial defenses, and actually stimulates viral replication. Raising glutathione levels inside the cells can stop the replication of almost any pathogen.

A glutathione deficiency compromises our ability to keep old viruses dormant and fight off bacteria. This is why so many people test positive for EBV, CMV, HHV6, Mycoplasma, and Chlamydia Pneumoniae, etc.

Indications are that glutathione can stop the replication of any intracellular microbe, including HHV6, Chlamydia Pneumoniae, and mycoplasma. Dr. Cheney found that some of his patients were becoming virus free after using a glutathione-creating undenatured whey protein for approximately 6 months. Showing that the increased levels of glutathione were indeed able to handle the viral infections.

There has been a good deal of research that show how important glutathione is.

Immune depressed individuals have lower glutathione levels when fighting disease. Lymphocytes, cells vital for your immune response, depend on glutathione for their proper function and replication. Immunology 61: 503-508 1987.

Cellular depletion of Glutathione has been implicated as a causative, or contributory factor in many pathologies including Parkinson's, Alzheimer's, cataracts, arteriosclerosis, cystic fibrosis, malnutrition, aging, and AIDS (Bounous et al., 1991).

In addition, Glutathione is essential in supporting the immune system, including natural killer cells (Droege et al., 1997) and in the maintenance of T-lymphocytes (Gutman, 1998).

It is known that as we age, there is a precipitous drop in glutathione levels. Lower Glutathione levels are implicated in many diseases associated with aging, including Cataracts, Alzheimer's disease, Parkinson's, atherosclerosis and others. Journal of Clinical Epidemiology 47: 1021-28 1994

Antioxidants are well documented to play vital roles in health maintenance and disease prevention. Glutathione is our cell's own major antioxidant. Why not use what is natural? Biochemical Pharmacology 47:2113-2123 1994

Low glutathione has been demonstrated in neurodegenerative diseases such as MS (Multiple Sclerosis), ALS (Lou Gehrig's Disease), Alzheimer's, and Parkinson's, among others. The Lancet 344: 796-798 1994

Glutathione detoxifies many pollutants, carcinogens and poisons, including many in fuel exhaust and cigarette smoke. It retards damage from radiation such as seen with loss of the ozone. Annual Review of Biochemistry 52 : 711-780 1983.

The liver is the main detoxification organ of the body. In the liver we find very high concentrations of glutathione, as it is a major factor in numerous biochemical detoxification pathways. Numerous studies have demonstrated that patients with compromised liver function due to alcohol abuse have significant reduction of glutathione in the liver. (Lamestro, 1995)

Glutathione is essential for the maintenance of Vitamin C and vitamin E levels according to Mrtensson. He found that as glutathione levels decreased, a corresponding decrease in ascorbic acid and vitamin E followed, which led to systematic mitochondrial death, which in turn leads to a cessation of cellular metabolism.

(It is this mitochondrial death, at first just a dysfunction, that may cause the fatigue found in autoimmune illnesses.)

The over-toxicity causes extensive free radical damage. Inhibits cellular function. Disrupts energy production by the mitochondria. Consequently the primary energy the cells produce is anaerobic which leads to extensive lactic acid buildup in the cells. And more toxicity.

Cheney explains that fatigue becomes worse. Pain increases. You feel sicker. Memory suffers as the brain is damaged by toxins and free radicals, and not enough oxygen gets into the brain. Deep brain structures like the hypothalamus eventually are injured and cause problems with virtually every hormone in your body. They lose their ability to rise and fall according to signals or demands from the body making it harder to respond to changing situations. Actual damage to the DNA of the energy producing mitochondria can occur. Further limiting energy.

As toxins cause free radical damage, you end up with low levels of all the free radical scavengers. They get used up dealing with excessive free radicals produced by the excessive toxins.

Heavy Metal Toxicity

Excessive levels of heavy metals may also be common in autoimmune diseases. One doctor who tested all his patients found that over 80% of them with an autoimmune disease had excessive mercury levels. They are difficult to get rid of, and are especially harmful as they disrupt cell metabolism. Heavy metals slowly collect in your body, irritate cells and literally can wipe out the immune system. For some people, this could be a major cause of their fatigue.

Most of us have somewhat elevated levels of heavy metals in our system. And it looks like this will get worse. I don't know if this is true, but read that in the spring of '98, Canadians found that their rainfall, "contained concentrations of aluminum particles seven times higher than permitted by Canadian health safety laws.....residents began complaining about severe headaches, chronic joint pain, dizziness, sudden extreme fatigue, acute asthma attacks and feverless 'flu-like symptoms." [Earth Island Journal, Summer 2002, pages 34-35]

Don't those symptoms sound a lot like common autoimmne symptoms?

The article talks about how western governments have been seeding the upper atmosphere with superfine heavy metals like aluminum. Called chemtrails, these are an attempt to reflect sunlight and reduce global warming. Unfortunately, they gradually fall to earth.

A Harvard School of Public Health study found that particulates with a diameter less than 10 microns.....pose a serious threat to public health. On April 21, 2001, the New York Times warned: "These microscopic molecules are able to infiltrate the tiniest compartments in the lungs and pass readily into the bloodstream, and have been most strongly tied to illness and early death, particularly in people who are already susceptible to respiratory problems."

Michael Biamonte, at his health clinic, tested the mercury levels in his patients with various illnesses. He found that 84% of his clients with candida had elevated mercury levels, and that they were 60% higher than normal. The exact same numbers held for clients with parasites. 86% of clients with Epstein Barr Virus had mercury levels elevated by 68%. For those with chemical sensitivities 85% were 70% elevated and found similar numbers for autoimmune diseases. Most other conditions were much lower.

This really opened my eyes to the damage high mercury levels can cause. And to the fact that if you have a chronic fatigue, you have a very good chance of having elevated levels of mercury in your body.

Getting rid of mercury is confounded by the bile loop. The liver picks up mercury from the bloodstream where cells have put it to be detoxified. However, rather than getting eliminated something else happens. The liver puts it into the bile in the intestines. Unfortunately, this mercury is rapidly absorbed once again into the blood stream with other fluids. So instead of the liver being able to get rid of the mercury it detoxifies, the mercury gets routed back into the body. This is also what happens with the biotoxins produced by micro-organisms in the body. They continually get routed back into the blood from the bile.

Methyl mercury binds anywhere and everywhere, in genetic dependent proportions. Females retain methyl mercury 2:1 over males. It accumulates in the central nervous system, the endocrine system, and every major organ, as well as the body at large. (They may well do the same for these other biotoxins.)

Perhaps the most devastating are the pituitary, thyroid, hippocampus and adrenal gland methyl mercury accumulations. These disruptions help bring on fatigue, mind fog, short term memory loss, concentration problems, and headaches. People can lose their sense of balance. Women can develop early menopause and endometriosis from loss of proper hormone regulation.

If the mercury accumulation is in the immune system, the immune system can suffer severe damage. If the brain is the focus, all sorts of mental disorders can occur. If it happens in the liver or kidneys, acute diseases can attack those organs. In muscles, pain. In joints, arthritis.

A natural approach to dealing with this would be using something that contains high levels of alginates. Alginates absorb heavy metals like mercury and other toxins in the intestines where they have been secreted by the bile. As these alginates cannot be absorbed, they are excreted from the body, taking the mercury and other toxins they have absorbed with them.

Organ, Brain and Glandular Damage in Autoimmune Diseases

Long term overtoxicity, free radical damage, lack of oxygen and nutrients eventually may harm organs, including the brain, and disrupt the hormonal system. Unless this damage can be repaired, a person might forever be physically limited. No matter how complete the detoxification.

The keys to body initiated repair are Growth Hormones (GH) and bovine Growth Factors (GF). Growth hormone acts as the "construction workers" who implement the "blueprints" provided by the bovine growth factors. Together they may be able to repair the damage done to the brain and organ systems.

People with autoimmune illnesses are very deficient in growth hormones. Greta Moorken's Ph.D. thesis, published in May 2000, showed that people with chronic fatigue for 18 months had a 50% reduction in growth hormones. When Dr. Cheney tests patients himself, he finds patients who have *no* growth hormones. He feels that the longer you are ill, the greater the reduction.

He also noted that 9 out of 10 patients who were under 20 got well. While only 1 out of 10 patients over 20 did. And attributed this difference to the fact that people under 20 have a lot more growth hormones so even if they lose some, they have enough to recover.

Lack of growth hormones means serious trouble. GH and stage 4 sleep are interdependent. No growth hormone - no stage 4 sleep; no stage 4 sleep - no growth hormone. And no stage 4 sleep and you wake up in the morning tired and worn out.

Cheney stated that, "At 3 AM the liver comes up and maximally detoxifies. Isn't it interesting that the body spikes growth hormone production not long before the liver needs it? It primes the liver. If you don't get the priming with growth hormones at midnight, then your liver doesn't work and you become more toxic."

Growth hormone deficiency may be related to the symptom of overexercising and not being able to recover for days. If the body is unable to produce growth hormone in response to exercise, serious problems result when you exercise hard.

Growth hormone deficiency is related to a host of other hormone deficiencies as your hormonal system starts to fall apart. The hypothalamus goes, the thyroid too.

Autoimmune Disease Wrap-up

I am not a doctor, nor am I a health care practitioner. I am a compiler. Taking information on Autoimmune Diseases and putting it in a form that makes sense to me, and that, I hope, has made them a little more understandable to you. I am sure there are aspects I have not covered. Hopefully this report has given you enough information about autoimmune diseases so you can make more informed decisions about the best way of dealing with one, and take charge of your health.

I know a bit about supplements, diet and health, or ill-health for that matter. And can give you some good pointers on what types of foods and supplements are especially good for dealing with an autoimmune condition. A number of the supplements I find most powerful and health giving are not the usual ones you commonly hear touted. This next report is an important extension of this information on autoimmune diseases.