Immune-Tree®
1163 South 1680 West
Orem, UT 84058
1-888-484-8671

The Cause of Diseases

Colostrum's many antibodies focus their energies where an overwhelming majority of diseases and infections enter the body– the mucosal surfaces. The largest of these is the gastro-intestinal (GI) tract. In healthy conditions, the antibodies along with many varieties of helpful bacteria produced and located in the intestinal tract, destroy pathogens and stop disease. However, as we've mentioned before, years of antibiotic use combined with additive-filled diets have weakened the defenses in the intestines, thereby allowing pathogens to enter the body and cause disease. This condition that precedes most other conditions is known as leaky gut syndrome.

Leaky Gut Syndrome (LGS)

Leaky gut syndrome is the name given to a very common health disorder in which the intestinal lining is more permeable than normal. The abnormally large spaces present between the cells of the gut wall allow the entry of viruses, bacteria, fungi and other toxic material into the bloodstream. Leaky gut syndrome is at least as common as all the immune system diseases put together. Basically, it is caused by inflammation of the gut lining. This inflammation can be brought about by any of the following:

-Antibiotic use– leads to the overgrowth of abnormal bacteria in the gastrointestinal tract
-Alcohol and caffeine– these can irritate the gut wall
-Foods contaminated by parasites
-Foods contaminated by bacteria such as e-coli
-Chemicals (including dyes and preservatives) in fermented and processed foods
-Prescription corticosteroids
-An abundance of highly refined sugars and other carbohydrates in your diet (e.g. candy bars, cookies, soft drinks, white bread)

LGS damages the protective coating of antibodies of the IgA family normally present in a healthy gut. Since IgA helps us ward off infections, leaky gut problems make us less resistant to viruses, bacteria, parasites and candida. These microbes are then able to invade the bloodstream and colonize almost any body tissue or organ, thereby causing disease.

LGS also creates a long list of mineral deficiencies because the various carrier proteins needed to transport minerals from the intestine to the blood are damage by the inflammation process. For example, magnesium deficiency is a very common finding in conditions like fibromyalgia, despite high magnesium intake through diet and supplementation. If the carrier protein for magnesium is damaged, it doesn't matter how much of the mineral you take, it will not get into the body where it is needed. Similarly, the body can be deprived of zinc because of poor intestinal absorption, often resulting in hair loss. Copper deficiency can occur in an identical way, leading to high blood cholesterol levels and osteoarthritis. In addition, when

calcium, boron, silicon and manganese are not absorbed into the bloodstream, bone problems develop. Bloating, cramps and gas are common ailments associated with a leaky gut. Eventually, however, nutritional deficiencies can also lead to systemic complaints like fatigue, headaches, memory loss, poor concentration or irritability.

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Auto-Immune Diseases

As we explained earlier, auto-immune diseases are caused by the damage done by the immune system when it cannot turn itself off. The substances that trigger this hyper-response of the immune system are known as allergens. Leaky gut syndrome is almost always associated with auto-immune disease and reversing the direction of the disease depends on healing the lining of the gastrointestinal tract. Any other treatment is just symptom suppression.

Auto-immune diseases include lupus, rheumatoid arthritis, multiple sclerosis, Addison's disease, childhood asthma, fibromyalgia, chronic fatigue syndrome, thyroiditis, vasculitis, Chrohn's disease, colitis, and Raynaud's disease.

The connection between colostrum, leaky gut and allergic responses is most promising in regards to the most severe allergic reactions, the auto-immune diseases. In cases of auto-immune disease, some allergen triggers a severe allergic response that in turn damages the body tissue. For example, multiple sclerosis is an auto-immune disease that affects different parts of the nervous system through the destruction of the myelin sheaths, the membrane that protects the body's nerves. This destruction produces any number of symptoms, including blurred vision, staggering gait, numbness, dizziness, slurred speech and even paralysis. In short, the results can be devastating.

In 1983, Polish researchers discovered a small protein chain called Polyprotein-rich Peptide (PRP) in colostrum. This immune factor was found to have the same ability to regulate the immune system as the hormones of the thymus gland. PRP is able to stimulate T-cell precursors to form helper T-cells, thereby prompting the immune system into action against pathogens. More impressive, however, in relation to auto-immune disease, is PRP's ability to "turn off" the immune system. It does this by telling the T-cell precursors to produce T-suppressor cells. These are the cells that slow down an overactive immune response, thereby stopping the attack on the body's own tissue.

Further studies showed that PRP was not species specific, meaning that PRP in bovine colostrum could be used very effectively to combat a multitude of auto-immune diseases. The growth factors also found in colostrum can then come in and repair any damage already done by an auto-immune disease. These factors, combined with transforming growth factors A and B, work to stimulate tissue repair in the skin, the myelin sheath and other connective tissues throughout the body, reducing pain and swelling, and increasing mobility and freedom.

Other Diseases

Unfortunately, we do not have the time or space to show you all of the research or explain all of the disease-specific benefits that colostrum can provide.

In addition to the diseases and infections we have outlined, many other illnesses have also been shown to respond favorably to colostrum treatment. They include, Alzheimer's disease, anemia, Attention Deficit Disorder, autism, brain injury, Bullous Pamphigoid, chicken pox, Cystic Fibrosis, decreased mental alertness, depression, Diabetes Mellitus, Diverticulitis, drug allergies or sensitivity, endometriosis, emphysema, gout, Grave's Disease, Guillian Barre Syndrome, Hashimoto's Thyroiditis, hepatitis, herpes, Juvenile Rheumatoid Arthritis, menstrual irregularities, Myasthenia Gravis, Neutropenia, ocular disturbances, Pernicious Anemia, premenstrual syndrome (PMS), Rheumatic Fever, Scleroderma, stress, and stroke. And, as more and more research comes in, the list continues to grow.

Diabetes

Type I, or juvenile onset diabetes, can also be considered an auto-immune disease. Tests at UCLA and Stanford University showed that a protein called GAD, found in cow's milk, can trigger an allergic response that damages the insulin-producing cells of the pancreas. Without insulin, the body is unable to use glucose for energy, so is forced to burn fat instead. This severe metabolic imbalance can lead to a dangerous condition called diabetic coma.

This type of diabetes seems to occur most often in children who did not receive colostrum at birth, or were not breast fed for long. The immune factors in colostrum increased the tolerance for GAD, preventing the allergic response.

But, once an individual has developed Type I diabetes, the treatment options are very few. Generally, the condition is controlled with a combination of dietary restrictions, and daily insulin injections. A 1990 study suggested that colostrum supplementation would be a very beneficial treatment for diabetics, based on the fact that a key growth factor, IGF-1, can stimulate glucose utilization. Researchers found that plasma levels of IGF-1 were lower in diabetic patients than in healthy individuals. After administering IGF-1 to patients, the doctors noticed a two-fold increase in glucose transport to the muscles. The IGF-1 in colostrum could painlessly do the job of the daily insulin injections most diabetics now have to endure. Do be aware, however, that any change in insulin medication should only be made under a doctor's supervision.

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Heart Disease

We have heard so much in recent years about heart disease and what we can do to prevent it. Diet and exercise are some of the best weapons we can use to fight this killer, but, for many, the immune and growth factors found in colostrum may be what’s needed to win the war.

Altered immunity may be the hidden cause of arteriosclerosis and cardiovascular disease. For example, the American College of Cardiology recently reported that a common type of Chlamydia bacteria has been associated with arterial plaque formation in over 79% of patients with heart disease. Also, a recent *New England Journal of Medicine* article concluded that heart disease is the result of immune sensitization to cardiac antigens. In other words, once heart tissue is damaged, the immune system begins creating antibodies which then cause more harm.

Because heart disease resembles an auto-immune response in this way, colostrum’s PRP can help limit the severity of the disease by toning down the immune system’s attack on damaged heart tissue. In addition, the other immune factors found in colostrum can directly combat the Chlamydia bacteria. Finally, IGF-1 and GH in colostrum can lower LDL-cholesterol while increasing HDL-cholesterol concentrations. Colostrum growth factors promote the repair and regeneration of heart muscle and the regeneration of new blood vessels for collateral coronary circulation.

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Cancer

It has been estimated that one in three people living in Canada and the U.S. will get some form of cancer during their lifetime. The causes of cancer (or cancers) are multiple. There are, of course, the well known carcinogens like nitrates, hydrogenated oils, cigarette smoke, and radiation. Cancerous cells are continuously being formed and destroyed in almost every human body. The problem comes when a weakened immune system allows for the cancerous cells to spread and destroy other healthy tissues. Ironically, chemotherapy, the treatment of choice for many cancers, compromises the body’s natural immune function, leaving patients susceptible to even more infection.

The benefits of natural immune boosters in the treatment of cancer was first popularized by the 1985 Steven Rosenberg Book, *Quiet Strides in the War on Cancer*. Rosenberg had great success with cancer patients, including one complete cure, by using a treatment that flooded the body with killer immune cells, as well as chemical messengers called cytokines. Since

Rosenberg's time, the same cytokines found uniquely in colostrum (Interleukins 1, 6, 10, Interferon G, and Lymphokines) have been the single most researched elements in the search for the cure for cancer.

Colostral lactalbumin has been found to cause the selective death of cancer cells, leaving the surrounding non-cancerous tissues unaffected. Lactoferrin has similarly been reported to possess anti-cancer activity. The incredible mix of immune and growth factors in colostrum can inhibit the spread of cancer cells. And, if viruses are involved in either the initiation or the spread of cancer, colostrum could prove to be one of the best ways to prevent the disease in the first place.

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AIDS (HIV Virus)

A couple of features make the HIV virus one of the most frightening bugs to catch. First of all, the virus mutates so quickly that the body cannot produce an antibody to destroy it. Secondly, how can we fight off a virus that directly targets the body's main defense– the immune system? In fact, it is not finally the HIV virus itself that poses the deadly threat associated with the AIDS disease. Instead, the HIV virus attacks the immune system, rendering it extremely vulnerable to other invaders. In cases of severe immune damage, a simple cold or flu can be deadly.

In a 1995 study in *Scientific American*, researchers concluded that "traditional" disease fighting methods (the vaccine, for example) are just not effective in fighting the HIV virus. Instead, they recommend reducing the viral level in the body and stimulating he body's natural immune response to have the best chance against the tricky virus.

Another study from 1995, this one by Martin C. Harmsen and associates from the Netherlands, indicates that the colostral immune factor lactoferrin is one of the best ways to reduce viral levels in the body. For example, lactoferrin inhibited HIV infection of certain body cells. In addition, the immune factor was able to completely block Cytomegalovirus infection. The Harmsen study also concluded that bovine lactoferrin was up to 2.5 times more potent than human lactoferrin.

Many of the immune factors in colostrum also help to stimulate or "jump start" a weakened immune system. Lactoferrin, for example, is responsible for "turning on" the immune system in newborn babies, and has been proven to do the same thing for adult AIDS patients. In addition, colostrum's growth factors also boost the body's immune function. Clinical studies have shown that HIV positive patients who are treated with certain growth factors (in particular

growth hormone or IGF-1) were much less likely to develop full-blown AIDS than were patients who received different treatments.

The growth factors also play an important role in preventing AIDS associated wasting, or severe weight loss. Wasting occurs when the AIDS-infected body begins using muscle for energy. Treatment with growth hormone and IGF-1 showed an increase in lean muscle mass among AIDS patients. This increase in muscle mass is one of the main keys to improving the quality of life of AIDS sufferers.

Mass wasting is most often brought about by severe, chronic diarrhea, one of the first symptoms of AIDS. Cryptosporidia and rotavirus take advantage of the weakened immune system, causing acute diarrhea. This results in a loss of vital nutrients and fluids and also depletes much of the supply of intestinal antibodies leaving the sufferer even more susceptible to dangerous pathogens.

Because this is one of the most serious problems that AIDS sufferers face (even leading to death in the absence of other infections), much of the research thus far has focused on finding a way to prevent diarrhea. A 1992 study by Rump and associates, showed that, out of 37 immuno deficient patients with chronic diarrhea, 72.4 % experienced a significant improvement with the use of immunoglobulins from colostrum. Over half of the patients remained diarrhea free for at least four weeks after the treatment. A 1992 study said that colostrum immunoglobulins have been able to treat opportunistic, diarrhea-causing infections in AIDS patients, where no other treatment was effective.

At the very least, colostrum will benefit the AIDS patient by prolonging and greatly improving the quality of life.

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