QUESTIONS ABOUT IMMUNOCAL

What is Immunocal?

Immunocal® (what was also called HMS90® in Canada) from Immunotec Research is not a prescription drug, but a powerful and unique patented (65 Patents in North America and worldwide) un-denatured and highly bioactive whey protein dietary supplement that is loaded with glutathione precursors. Immunocal® took $10 million and 18 years of research to perfect. The primary researcher involved in the discovery of Immunocal® is Gustavo Bounous, MD.

Immunocal® is a highly concentrated milk serum isolate which is high in protein (90% protein by weight) and is lactose-free and fat-free. Immunocal® shares many of the same immune promoting and enhancing properties of Mother's milk. Immunocal® has been clinically proven to increase serum and tissue glutathione levels, and its efficacy is validated by extensive research, including over 390 published scientific studies and review articles which appear in the medical literature and are available for you to examine through our MEDLINE (National Library of medicine) link.

Immunocal® increases glutathione, which is your cells' own natural antioxidant and most potent detoxifier. Immunocal® has been demonstrated to enhance both healthy and deficient immune systems, and is validated as an effective nutritional supplement by the medical community. Immunocal® is the only non-prescription dietary supplement to appear in the year 2000 Physician's Desk Reference (PDR) for Prescription Drugs, although it is available without prescription! It has it's own NDC (National Drug Control) number, and is reimbursable under Medicaid, Medicare, and by private insurance in many states.

Can a person who is lactose intolerant take Immunocal®?

Yes, Immunocal® has less than 1% lactose which should not cause any ill effect even in the most severe case of lactose intolerance.

Can a person who is intolerant of Monosodium Glutamate (MSG) take Immunocal®?

Yes, Immunocal® has NO added MSG which should not cause any ill effect even in the most severe case of MSG intolerance. Immunocal® contains the following amount of glutamic acid by weight: 180 mg/gram. There is therefore 1.8 grams of glutamic acid in a 10 gram packet of Immunocal. Every single protein on the earth contains glutamic acid, and glutamic acid is required for good health. Glutamic acid is an amino acid formed in the digestion of ALL proteins (including wheat gluten and meat). It is the only amino acid metabolized by the brain. Glutamic acid is necessary in human nutrition but can usually be manufactured by the body in adequate amounts. That means that our own body produces it. In certain disease states, deficient diet, malnutrition, and in certain metabolic abnormalities this amino acid becomes conditionally essential. Glutamic Acid's sodium salt, is monosodium glutamate, and ALL proteins may contain naturally occurring trace amounts of MSG. In summary, Immunocal would not supply any more glutamic acid than a serving of steak or other similar protein. There is NO added MSG in Immunocal, and Immunocal should not cause a medical problem in a person highly sensitive to MSG.

How does Immunocal® compare to other supplements that are labeled as "glutathione" or "cystine"?

Glutathione is produced within the cells (intra-cellularly). When taking a pill labeled "glutathione", clinical and laboratory studies demonstrate that oral glutathione is NOT absorbed but will be eliminated by the liver through the bile before ever reaching the systemic circulation (blood stream). Cystine is not well
absorbed when taken by mouth. Injectable glutathione also has limited benefits. It is unstable in the bloodstream. By the time it gets to the cell, much of it gets degraded, and much of this remaining glutathione cannot effectively pass through the cell membrane.

Clinical studies have demonstrated that oral cystine supplementation (NAC or N Acetyl L-Cysteine) is NOT effective in increasing cystine levels within the cell, and has also not been associated with significant increases in glutathione levels within the cell. The three bioactive proteins supplied by Immunocal constitute a "natural delivery system" from these cystine precursors to the cell (in order to facilitate clinically and statistically significant increases in glutathione levels in BOTH the extracellular serum and intracellular tissues). Because Immunocal® provides the building blocks for cystine, and these building blocks for cystine are easily transported inside the cell where they can be quickly synthesized into glutathione, Immunocal® is therefore ideally suited to increase glutathione levels within the cell.

What is the difference in taking Immunocal® as opposed to taking other antioxidants?

Immunocal® is not an antioxidant per se, but provides the building blocks for the synthesis of glutathione, which is THE principle intra-cellular antioxidant. Glutathione is the most potent cellular antioxidant known to man, and is hundreds of times more potent than vitamin C or vitamin E. For this reason, glutathione has been called the "Master Antioxidant". It is called this because it does three important things that no other antioxidant can do. It is an Antioxidant, Immune Booster and a Detoxifying agent all in one. Research has shown that by raising the glutathione level within our bodies we provide for the optimum functioning of other lesser antioxidants such as vitamins C and E. More importantly, glutathione serves as a detoxifying agent for multiple toxins that we encounter on a daily basis through the environment and medications we are exposed to. Glutathione has been demonstrated to act as an effective protectant against ultraviolet radiation, which is important in view of the continued loss of the ozone layer.

What are the diseases or conditions that have been associated with low Glutathione (GSH) levels?

Most of the autoimmune and degenerative diseases of aging including:

- Acetaminophen poisoning, ADD, Addison's Disease, aging, AIDS, Alopecia Areata, ALS, Alzheimers’ Disease, anemia (hemolytic), Ankylosing Spondylitis, Arteriosclerosis (hardening of the arteries), arthritis (rheumatoid), asthma, autism, autoimmune disease, Behcet's Disease, burns, cachexia, cancer, candida infection, cardiomyopathy (idiopathic), Chronic Fatigue Syndrome, colitis, coronary artery disease, cystic fibrosis, diabetes, Crohn's disease, eczema, emphysema, Epstein Barr Viral (EBV) syndrome, fibromyalgia, free radical overload, Goodpasture Syndrome, Graves' Disease, hepatic dysfunction (liver disease), hepatitis B, hepatitis C, hypercholesterolemia (high blood cholesterol), herpes, infections (viral, bacterial and fungal), inflammatory bowel disease (IBD), lupus, macular degeneration (diabetic macular degeneration), malnutrition, Meniere's disease, multiple sclerosis, Myasthenia Gravis, neurodegenerative diseases, nutritional disorders, Parkinson's disease, Pemphigus Vulgaris, Primary Biliary Cirrhosis, progeria, psoriasis, Rheumatic Fever, Sarcoidosis, scleroderma, shingles, stroke, surgery, toxic poisoning, trauma, vasculitis, vitiligo, and Wegener's Granulomatosis.

Are there any interactions known between prescription medications, supplements such as coenzyme Q-10, antioxidant vitamins, herbs and Immunocal®?

No, there are no known potential or reported interactions between Immunocal® prescription medications or nutritional supplements. In fact, Immunocal® increases glutathione levels, which helps to improve the action of antioxidant vitamins (which are less effective if your glutathione levels are impaired). For this reason, mega-doses of antioxidant vitamins (i.e.doses in excess of 10 times the RDA of these vitamins) are not required if you are supplementing with Immunocal®. As we age, our glutathione levels fall precipitously like a down-hill ski-slope. Low levels of glutathione are associated with a host of
degenerative diseases, and critically low levels of serum and tissue glutathione often predict that death is imminent. Supplementation with Immunocal® helps restore these precious glutathione levels, and helps the supplemental vitamins we are taking to work more effectively to maintain optimum health!

Are there any interactions known between prescription medications and Immunocal®?
No, there are no known interactions between Immunocal and prescription drugs. Immunocal is composed of the same basic proteins which are found in human breast milk, and should be considered to be as safe to take as mothers' breast milk. Furthermore, Immunocal® is 90% protein, and is one of the best sources of highly-absorbable protein on the planet. Patients taking immunosuppressant drugs such as Cyclosporin® should consult their physician before taking Immunocal®. The simple answer is NO. The body can only absorb so much whey protein in one day. So if you take more than your body needs, it will just pass it out of your body. It won!!! Not only that Glutathione has been proven to enhance to effects of the medication that you have been prescribed to use by your doctor. People have reported that over time they have been able to reduce their dependency on certain prescribed medications as a result of them taking daily doses of Immunocal® as part of their health regiment.

Are there any side effects associated with Immunocal®?
Immunocal® increases serum and liver glutathione levels. When liver glutathione levels rise, the liver is able to more effectively detoxify the body (which is a beneficial function of Immunocal®). Some patients (especially those who have been exposed to high levels of environmental toxins) may have a mild temporary reaction to these mobilized toxins as the liver is removing them from storage in body fat. Typically, reducing the dose of Immunocal® will allow these temporary side effects to quickly disappear. Immunocal is composed of the same basic proteins that are found in human breast milk, and has the same side effect profile as mothers' breast milk. Because Immunocal® is a milk protein, persons who are mildly allergic to milk proteins may experience minor gastric distress from Immunocal®. This gastric distress usually disappears if you reduce the dose of Immunocal®. Persons with serious milk-protein allergies should not take Immunocal®.

Can you overdose Immunocal? Is there any potential for toxicity if you take too much?
The simple answer to this question is NO! You have a greater risking of going broke from buying too much Immunocal® than you do of taking “too much” Immunocal®. Clinical data seems to indicate there is limited benefit from exceeding 3 grams per day (3 packets per day) of Immunocal®. Because our cells have an innate mechanism of “feed-back inhibition” with respect to the glutathione synthesis precursors (building blocks) provided by Immunocal®, there is no potential for making “too much glutathione” within the cell if large quantities of Immunocal® are consumed. Immunocal® supplementation will result in establishment of normal glutathione levels, (NOT excessive glutathione levels) within the cell. Excess Immunocal® would be metabolized as protein (Immunocal® is an excellent source of protein, containing 90% protein by dry weight).

Who should not take the product?
People with an allergy specifically to milk protein, (which is very rare). NOTE: Please understand that lactose intolerance is NOT a milk allergy. Also, anyone who has had an organ transplant and is receiving immunosuppressant therapy should not take Immunocal unless instructed to do so by his or her physician or another health care professional. The immune system needs to be suppressed in order to
prevent organ rejection, and Immunocal® may counteract immunosuppressant medicines such as cyclosporin®.

**What are some of the critical ingredients in a daily amount of Immunocal (1 pouch)?**

9 grams or 90% Protein, 0 Fat, less than 0% Lactose, 60 mg of Calcium, 4 micrograms of Selenium, 30 Mg of Potassium, 4 mg of Iron, and approximately 40 Calories.

**What is the recommended dose for taking Immunocal?**

Check with your physician or health care professional. If you do not have a documented glutathione deficiency and are taking Immunocal for good health, one pack per day is not unreasonable. Generally, most studies conducted using Immunocal in patients with glutathione deficiencies used at least 20 grams per day (2 pouches), and some studies showed increased effectiveness using up to 30 grams (3 pouches) per day. Most of our customers use 2 boxes per month (this provides 2 pouches, or 20 grams per day per month).

**What is the recommended intake of protein for an average adult per day?**

50-60 grams of protein. Three packets of Immunocal would provide 50% of this recommended daily intake.

**Milk products produce mucus, a substance that cancer cells thrive on. Please explain.**

The anti-tumor/anti-cancer effect of Immunocal has been demonstrated in vitro/in vivo and in human experiment. Mucus build up has nothing to do with the pathogenesis of cancer.

**What is the difference between colostrums and Immunocal?**

As you are aware, Immunocal is derived from whey components of bovine milk, which is not colostrums. Colostrums is made up primarily of immunoglobulins which are specific to the calve and not humans. This brings up the question of "mechanism of action" as these immunoglobulins are not absorbed but merely digested. There is no link between taking these immunoglobulins and increasing the human's immunity. In Immunocal these proteins are found in cow's milk which are the same as those found in human milk. By taking Immunocal the cysteine is released in the blood stream and absorbed as this is the "mechanism of action".

**People are concerned about taking Immunocal due to some articles that they've read that suggests protein will hinder calcium absorption.**

Taking Immunocal will not impair calcium absorption. Protein consumption is primordial to your health. If they are concerned about consuming to much protein they can substitute some forms of protein in their diet for Immunocal.

**When Phase II and III studies are being carried out?**

The information on our clinical studies under way is confidential. We release data upon completion of the study. However, Phase II studies are under way with a placebo control randomized protocol: its objective is to statistically demonstrate the effectiveness of Immunocal. If results are positive we will proceed to phase III which involves a placebo control multicenter large group of patients. Although it does not mention that we will be conducting a Phase III study in the near future as Phase III studies are very much reserved for large multinational pharmaceutical companies and cost millions of dollars with a minimum of a hundred patients to say nothing of the length of time so maybe in the not too distant future. (Phase I study is necessary to demonstrate that the product is non toxic; This is not necessary for Immunocal because its lack of toxicity is already demonstrated.)
Is Immunocal in any way associated with SRC molecule?
The SRC molecule is redox regulated. As such, its function is impaired if the redox set points shift as is seen before the onset of major disease. Immunocal helps to maintain the redox state of the plasma and the cell in homeostasis thus is theory preventing this from occurring.

What is the protocol of the clinical trial of Immunocal on vitiligo?
No tests and or studies were ever conducted on vitiligo and Immunocal.

Would Immunocal remain effective after being added into fermented milk products and being homogenized (140kg/cm2)?
Yes, Immunocal would remain effective, providing that the mechanical stress of homogenization is not excessive.

What is the minimum effective dosage to increase cellular GSH content?
Proven 20 g a day but effective at 10 g a day.

Would Immunocal remain effective in such fermented milk products? Would the pH, existence of Bifidus affect the effectiveness?
No but kept cool.

After Immunocal powder is rehydrated in such milk, how long could it last before the biological activity starts degrade?
No problems if it is kept in a dry and cool environment.

What happens to the product Immunocal when it is subjected to heat? It crystallizes, but is the substance still a protein or amino acid, and if so, what sort of protein or amino acid?
It may crystallize but the only thing that will change is the conformation or tertiary structure of the proteins which will become denatured by unfolding. Amino acids are not affected.

Information on Multiple Sclerosis, Osteoarthritis and Immunocal?
To summarize, increased free radical activity can be seen in both conditions. By increasing glutathione status you can presumably mediate this. Minimum of two envelopes of Immunocal per day is recommended.

Can Immunocal/GSH help people with “Myopia”?
Muscular mass (Muscular Cell) may help to reconstitute the muscular mass, however Myopia is very broad.

What is the difference between cow’s milk and human milk? Is the casein protein in cow’s milk the answer?
The major difference is the casein whey protein ratio. In cows milk casein is 80% of protein, whey is 20% of protein. In human milk it is mostly whey and almost the reverse of the above.

Is Immunocal safe for Leukemia patients?
Immunocal is generally considered safe for cancer patients which would include Leukemia patients.

There is concern that Immunocal may increase the white blood cells. Can this happen?
This is highly unlikely.

What would be the recommended dosage for children?
The dose for children is 0.5 grams of Immunocal for every 2.2 pounds of body weight.

What are the mechanisms of action Immunocal exerts in cancer?
There are 5 separate mechanisms of action this product exerts in cancer – as outlined in Dr. Bounous’s paper but the basis is one of promoting the cell mediated immune response or TH1 response. This involves the NK cells and CTL cells.

A lady with allergy to sodium had serious reaction to Immunocal for 3 days (1 pouch a day) where she experienced upset stomach, nausea and one swollen eye with numbness. She has since stopped taking Immunocal. She is not aware of any milk protein allergy. However similar experience happened after childbirth many years ago. Have you had anyone with such strange story? Could this be a milk protein allergic reaction?

The lady you refer to that developed those symptoms after consuming Immunocal. This is just coincidence as the product would not cause this type of reaction. You cannot have a reaction like this caused by sodium as it does not react with the immune system.

Can the following patients take Immunocal?
- Young children with G6BD – glucose (enzyme) deficiency. Typically new born are tested for this deficiency shortly after birth.
Yes, the young children with G6BD – glucose (enzyme) deficiency can take Immunocal.

- Young child (4 years old) with epilepsy – (seizures)?
Yes young child of 4 years old with epilepsy can take Immunocal.

What is the definition of “Nutraceutical”?
In recent years, the agri-food sector and consumers have begun to look at food not only for basic nutrition, but for health benefits. The market for nutraceuticals and functional foods (which is large, global and growing), is being driven by a growing consumer understanding of diet/disease links, aging populations, rising health care costs, and advances in food technology and nutrition.

What is the best explanation of “Bonded Cysteine Dietary Supplement”?
The term “Bonded Cystein Dietary Supplement” gets right to the root of our science, and gets right to the root of why Immunocal is physically different from other whey protein supplements. Whey protein supplements in any form are usually excellent sources of protein nutrition. What the Immunocal has been designed to do goes far beyond that. We intended to develop a protein source that would be the ultimate way for the body to raise glutathione, which is the reason why the product has so many critical health applications. The way to accomplish the tricky task of raising glutathione is to deliver your cells specificundenatured proteins. An undenatured protein is a protein that has not been broken down in any way and is in essentially the same form as when it was collected. This is extremely difficult and expensive to do. Extracting, processing, refining, packaging, even heating are steps that break down proteins. In the case of proteins that raise glutathione, the most important part of the protein that must remain intact, is a very sensitive double-bond that normally exists between pairs of cysteine molecules. These are extremely fragile and are easily destroyed by most manufacturing processes. We’ve spent over 20 years working out the science.

Only Immunocal can guarantee a protein that remains biologically active.
Only Immunocal can guarantee that the bonded cysteine system is intact.
Only Immunocal can make the statement that it actually raises glutathione.

Can Immunocal help eliminate or shrink the cysts that are found around the liver area? If so what is the recommended dosage?
As such under the scenario that the liver and kidney function is normal, there is nothing to worry about. If on the other hand the patient has polycystic kidney disease, then Immunocal may help. The recommended dosage would be 20 grams per day.

Is Immunocal lactose free and fat free?
Packaging laws permit us to say that a product that contains less than 1% fat is actually fat free. The same can be said about Lactose free. It is really up to the company to decide if they want to say fat free or contains less than 1%. However, official documentation certificates etc., must be very precise and those will continue to say less than 1%. As well, please know that Immunocal is a non-fat, spray dried protein powder containing premium quality whey proteins derived from sweet dairy whey. The whey proteins have been extracted in a highly purified, undenatured form using membrane technology. Immunocal nutritional properties combined with its high solubility, improved flavor and unique functionality makes it the ingredient of choice for a variety of applications.

**Few distributors who have been on Immunocal for a few months all experienced diarrhea. Do you have any explanations for that?**

When people are experiencing diarrhea when consuming Immunocal – and there is no conclusive proof of this – the best and only solution is to increase there consumption of liquids, suggest to them to drink at least 8 glasses of 8 oz of water per day.

**Can it be taken by pregnant women?**

Pregnant women can take Immunocal, however, it is important to note that they should consult first with their doctor.

**What is the recommended dosage for an adult with cancer?**

For adults the recommended dose in cancer is 2 to 4 packs per day.

**Can a person, who had an organ or bone marrow transplant operation, take Immunocal?**

Immunocal should not be taken while someone is on anti-rejection therapy for an organ or bone marrow transplant. Once the anti-rejection therapy has been terminated they may take Immunocal. If the bone marrow transplant comes from somebody else, the patient cannot take Immunocal. However, if the bone marrow transplant comes from the patient himself, he can take Immunocal.

**If a person suffers of “hypothyroid” and another suffers of “hyperthyroïdie”, can Immunocal help them? What would be the suggested dosage in the two cases?**

Three or four pouches of Immunocal is recommended during 1 month and a half. At the end of that period we will re-evaluate.

**Does Immunocal contain Lactoferrin?**

Yes Immunocal does contain Lactoferrin.

**What is the ideal time to consume Immunocal?**

The ideal time to consume Immunocal is first thing in the morning on an empty stomach. This is when you get the maximum uptake of cysteine.

**How do I know if I need to take one or two pouch?**

A minimum of 2 pouches per day is recommended. There is a dose response associated with the product. As such we use higher doses in our clinical studies, 2 – 4 packs. However, the maintenance dose of 1 pack per day is for someone in generally good health.

**How many liters of raw milk do we need to make 1 kg of Immunocal?**

We need three hundred (300) liters of fresh, raw milk to produce one (1) kilogram of Immunocal. It is produced using a gentle process and low temperatures to preserve the biological activity of the proteins.

**Could we use Immunocal for Thalassemia and Autism treatment?**

Immunocal may be consumed in both cases. The glutathione synthesis is negatively affected in both Thalassemia and Autism. Consuming Immunocal may restore or normalize this activity which in turn may affect the disease process itself.

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Direct 416-305-3544, office.647-476-6888, immuno-press@3web.com or www.immunotec.com/maktek
Cystine content in one pouch (10 grams) of Immunocal?
This information is confidential

What is the difference of detoxification between taking Glutathione by oral as a medicine (as an antidiote) and taking Immunocal to produce cellular Glutathione?
Glutathione is not absorbed intact by the human intestine and/or human cells.

How much cystine can be absorbed into a cell?
Absorption of cystine is tightly regulated by the GSH cell content.

Can cystine be surely absorbed even in weakened cell?
Low intracellular cystine level can enhance penetration of cystine into the cells.

What is the longevity of Glutathione in the cell?
Minutes to hours depending on the cell type.

How long should the consumer keep taking Immunocal?
For the duration of one’s life.

At about what temperature would Cystine be decomposed without being absorbed into the cell?
The excessive heating causes whey proteins to unfold, this is called denaturing. This occurs during the production process not in the body. The rate of denaturing is of course dependent on two variables, temperature and time. The proteins in all cheese whey-derived ingredients have been submitted at a temperature range of 72-75° C.

What is the quantity of Selenium in one pouch of Immunocal?
Immunocal has very low levels of Selenium, < 0.001 mg per 10 g serving.

How many pouches of Immunocal a person who has a disease such as AIDS or Cancer? And what will be the first feeling in the body after taking Immunocal?
The maintenance dose of Immunocal for a healthy, young (< 45 years old) individual is 1 pouch (10 grams/day). In our trials with AIDS patients and Cancer patients we used 30-40 grams per day. Some illnesses like Chronic Fatigue Syndrome seem to often require even higher doses than that. Moderately healthy or aging individuals should take at least 2 pouches per day. There is no risk of overdosing, since Immunocal is a glutathione precursor rather than glutathione itself. The cell will only manufacture its optimal glutathione level and no more (due to down-regulation/negative feedback inhibition). If too much is ingested, the rest of the product is just metabolized like any other high-quality protein. Time to response is very variable and depends on the disease in question as well as age, severity and base-line glutathione status. Many infectious diseases such as a common rhinovirus can see improvement in hours, other problems like osteoarthritis may take months. One of the first effects after taking Immunocal will be an increased energy level.

What is the difference between Double bounded cysteine with whey protein in Immunocal?
Immunocal contains undenatured cystine rich proteins. This is the form they have to be in to exhibit the biological property. When the proteins are denatured - they unravel much like a ball of wool. This results in the disulfide bond being split and the cystine transforming to cysteine. This form of the amino acid and is much less effective in raising glutathione. Most conventional whey proteins contain cysteine and not the cystine.

What role does Immunocal or how can it help in the context of In-vitro fertilization process?
Someone is at the stage of egg retrieval and then embryo transfer. After the embryo transfer and if pregnancy occurs, could Immunocal harm in any way the process or the child? Any research in this field?
Animal studies have focused on the ability of glutathione elevation to aid in IVF. The majority of these studies have demonstrated both a higher rate of fertilization and enhanced embryogenesis and development. No human studies have investigated this to date.

During the process, the Doctors are strongly recommending to stop the intake of vitamins except for prenatal and folic acids. Any comments on including Immunocal in this process? My personal opinion is that I don’t see any downside, especially considering the studies mentioned above.

Could Immunocal have any effect on male infertility? Ei sperm count, sperm motility and morphology?
Raising glutathione clearly helps in aiding male infertility. Much of a sperm cell is made up of lipids and hence, is prone to lipid peroxidation. The major defense we have here is the enzyme glutathione peroxidase. There is in fact a patent out for raising glutathione for male infertility. Sperm count, sperm motility and morphology all can be favorably affected.

We have been recommending patients to take 3-4 pouches of Immunocal for such cases. However, I hope to know what happens if the dosage is not enough for the inhibition mechanism to take place as patients may choose to take 1 pouch instead of 3. One pouch may not be enough to achieve a negative feedback inhibition and if so does it cause adversity instead ie. Causing the cancer cells to proliferate more since the optimal point of production is not met with just 1 pouch and GSH actually cause proliferation in cancer cells production?
No this would not be the case. You would still achieve the effect.

When recommending 3 pouches for cancer patients, should we recommend them to take the 3 pouches all at one go to ensure the achievement of the negative feedback inhibition mechanism since most of the studies showed that 3 pouches usually is sufficient to result in this mechanism. Or should we recommend split dose ie: 1 pouch 3 times a day?
Split the dose 3 pouches per day.

My personal experience several years ago with taking 3 pouches at one go for a period of a week to take care of a polyp problem in my sinus was that I developed a lot of mouth ulcers, causing pain and discomfort. But the result was good as the symptoms such as persistent blockage of my sinus, cough, voice change, post nasal drip and sense of smell all went back to normal after 7 days at this dose. I suffered from all these symptoms for a year prior to taking Immunocal and was due to go for an operation. Now, even several years later, I am still symptom free. However, one of my sisters had the same problem of ulcer when she took 2 pouches of Immunocal and that put her off. Any reason why the multiple mouth ulcers?
It is highly doubtful that Immunocal would cause mouth ulcers.

How Immunocal or GSH can help in patients with G6PD deficiency. G6PD is responsible for maintaining adequate levels of NADPH inside the cells. Since NADPH is used to keep GSH in its reduced form, what is the role of Immunocal in G6PD deficient patients?
In the case of orphan diseases such as this the effect is unknown.

What is your advice on the use of Immunocal for a boy four years old suffering from `hole in the heart`?
`Hole in the heart` can be several possibilities. Most likely a ventricular septal defect (persistant communication between the two ventricles) or a prolapsed valve. In either case there are many physiologic changes that can take place, mostly relating to inadequate oxygen getting to the tissues. As you know, there are also advantages of raising GSH in the peri-operative period. The dose would be 0.5 gm of product per kilo of body weight.
How can Immunocal help a person who is diagnosed with Hepatitis C? Immunocal will increase glutathione levels and this will help prevent viral replication. Additionally if the patient has to go on drug therapy, Immunocal will prevent hemolysis and lessen the side effects of the drug therapy.

A person has Lupico Anticoagulant and Hemofilia but the Hemofilia is controlled, he has hematomas in several parts of his body and he is losing too much blood due to high haemorrhage levels, can this person can take Immunocal? What would be the dosage? This person can take Immunocal and we would suggest 2 pouches per day.

Do we have any information on Raynaud’s syndrome? Can Immunocal help? There are only a few articles that suggest that glutathione is important in reducing the potential damage done in Raynaud’s syndrome. However, it is unlikely that it can prevent any further attacks.

Would Immunocal help with anemia? Yes Immunocal will help any type of anemia. It should be beneficial.

Do Immunocal contain chrome? There is no chrome in the product Immunocal.

Does Immunocal cause weight gain? Immunocal will not add body fat as it is only 40 calories per pack. There are approximately 3000 calories per pound of fat. It may help someone retain muscle mass which is lost during the aging process.

A 37 year old man who is asthmatic and currently uses the inhalator (salbutamol) once before exercising and sometimes sporadically during the day when he has a crisis. During spring and summer he takes 1 pill (desloratadina) a day. He is very allergic in general to different foods. How many pouches of Immunocal should he take? We would suggest that he starts with 1 pouch per day and gradually increase. If he tolerates the product, increase by 1 pouch per day to a total of 3 to 4 pouches.

A plastic surgeon wants to know the benefit that a patient would receive if after a liposuction, takes Immunocal and what should be the dosage? The benefits include faster healing and lower rate of infectious complications.