

Nutritional Therapy

The latest advances in the basic science of diseases are shedding new light on the origin of dysfunction starting INSIDE the cell, rather than at the organ level where most people are used to looking for causes. Thousands of chemical reactions happening inside the cell must work together, just as many instruments are necessary to produce the great music of a symphony. And, just as a band may be able to produce the melody and a little rhythm if all the players don't show up, your cells may limp along with some pieces missing, but symptoms will begin to be apparent at the organ level when several reactions go awry. And these myriad chemical reactions (the sum total of which constitutes *metabolism*) are all dependent of various co-factors, most of which are familiar to us as "vitamins and minerals". Others, such as glutathione are among the body's most powerful antioxidants and detoxifiers, while still others such as NADH are intimately involved in the production of energy in the intracellular powerhouse known as the mitochondrion.

At Whole Health Solutions, we place a great deal of emphasis on condition-specific nutrition because this can influence more disease factors than almost any other therapy. Not only must a person eat the foods necessary for their particular condition, but the body must be able to absorb these from the intestinal tract, *and* get the nutrients into the cell. Our diagnostic and treatment recommendations are based upon assessing and correcting these links in the production of health. While it may be obvious that someone who has a poor diet, food sensitivities or poor gut function would have problems absorbing adequate and condition-specific nutrients, sometimes the diagnosis itself is the clue to inadequate intracellular biochemistry. For instance, conditions as seemingly diverse as fibromyalgia, chronic fatigue, "brain fog", chronic infections and autoimmune disorders share the common denominator of dysfunctional intracellular nutrition. Therefore, these and certain other conditions may benefit from targeted nutrient therapies.

Oral supplementation is limited in the dose received by the cells because of the technical aspects of how the body absorbs different nutrients. For instance, vitamin C and magnesium have limited absorption because they can cause diarrhea in very high amounts. For this reason, certain conditions, such as those mentioned above can be greatly improved by intravenous delivery of the nutrients. This guarantees that nutrients such as vitamins (B complex, & C), minerals (i.e. magnesium & calcium), amino acids (i.e. tyrosine), and mitochondrial co-factors (i.e. NADH, D-ribose, and acetyl-l-carnitine) are delivered directly to the blood stream, bypassing gut absorption issues. It also delivers doses much higher than are possible via oral absorption. These higher doses often have different physiologic effects, for instance, greater immune enhancement, or more effective detoxification.

Only a trained physician can determine if IV nutrient therapy would benefit your condition. Ask Dr. Pizzino for more information about this at your next visit. See the next page for FAQs about Nutritional IV Therapies.

FAQS ABOUT NUTRITIONAL IV THERAPIES

What is the therapeutic basis of nutritional IVs used at Whole Health Solutions?

Some individuals diagnosed with fibromyalgia, chronic fatigue/immune deficiency syndrome, autoimmune or other chronic conditions, such as chronic infections, or post therapeutic treatments such as chemotherapy suffer unrelenting fatigue, pain and/or cognitive dysfunction. Often these symptoms can result from nutritional deficiencies. These deficiencies may result from many causes including poor diet, increased needs because of illness, or infections in the gastrointestinal tract that can lead to dietary intolerance and poor absorption of essential vitamins and minerals. When nutrients and medication that reduce pain and inflammation are given intravenously, the digestive system is bypassed and a much higher level of nutrition, analgesia, and anti-inflammatory medications can be delivered directly to the cells via the bloodstream. Intravenous administration of nutrients, analgesics, and anti-inflammatory agents can achieve serum concentrations not obtainable with oral, or even intramuscular (IM) administration.

What are the components of the IVs and what are their functions?

These intravenous solutions include essential vitamins and minerals like magnesium, calcium, ascorbic acid (vitamin C), methylcobalamin (vitamin B12), thiamin, riboflavin, niacinamide, dexpanthanol (vitamin B5), pyroxidine (vitamin B6). These vitamins and minerals are essential components of human cells and often function as co-factors for enzymes necessary for building new tissues, detoxification, or immune function. Acetyl-L-Carnitine, Nicotinamide Adenine Dinucleotide (NADH), and D-ribose function to assist the mitochondria (intracellular “powerhouses” which help to convert food to energy). Tyrosine is an amino acid necessary for building neurotransmitters. Glutathione is one of the most powerful antioxidants in the body, and is essential for removing wastes and toxins.

These components facilitate nutrition and healing on a cellular level while the additional component of lidocaine offers pain-relieving benefits. For instance, Acetyl-L-Carnitine may enhance cellular energy in the brain to improve mental performance, aid in energy production, and decrease symptoms of depression. Methylcobalamin (vitamin B12) is essential for many critical functions including: metabolism, iron absorption, formation of new cells, and reduction in body fatigue. Methylcobalamin works most efficiently crossing into the cells of the brain. NADH acts in the formation of ATP, stimulating energy production at the cellular level. Dimethylaminoethanol (DMAE) can enhance cognitive ability by supporting neurotransmitters in the brain. Vinpocetine can enhance cognitive ability and protect neurons in the brain. D-ribose facilitates energy production at the cellular level. Piracetam is thought to facilitate learning and memory. Tyrosine can enhance cognitive ability and has anti-depressant effects. Tyrosine is a precursor to many neurotransmitters in the brain. Ginkgo Biloba can improve short term memory by increasing blood flow to the brain.

What symptoms can nutritional IVs benefit?

Through the administration of an intravenous solution that includes essential vitamins, minerals, energy co-factors and pain medications, an individual may experience marked improvement in the energy

capacity and function of cells as well as a significant reduction in muscle pain and stiffness. It has been observed that some patients who receive a series of IV infusions for fatigue and pain become progressively healthier exhibiting reductions in painful symptoms and increased ability to perform daily activities. Immune function is improved, enhancing ability to recover from infections. At the early stages of treatment, high-dose nutrient therapy can afford the patient with time and/or “gut rest” to allow improvement in nutritional absorption as the gut heals and intracellular function improves. In these patients, the interval between treatments can be gradually increased, and eventually the infusions are no longer necessary.

Why has my doctor recommended nutritional IVs in addition to proper diet and oral supplementation?

Many people suffer from undiagnosed nutritional deficiencies. These may result from many causes including: poor diet, increased needs because of illness, medications that interfere with absorption of nutrients, infections in the gastrointestinal tract, or food intolerance causing gut inflammation and poor absorption of essential vitamins and minerals. By bypassing the gut, essential nutrients can be delivered intravenously in high concentration directly to the tissues where they are utilized. This can rapidly start the healing process while additional therapies work on other aspects of the illness.

What are the risks of nutritional IVs?

Discomfort at the infusion site or in the arm where the solution is infused may occur. Transient dizziness, headache, nausea, or vomiting are less frequent, but may occur. Fluid overload or electrolyte imbalances rarely occur, especially in individuals with renal impairment. As with any intravenous therapy, the risks of venous infiltration and or cellulitis at or near the infusion site exist. Although the risk of kidney stones from Vitamin C has been raised, this has not been proven. IV Lidocaine could trigger life threatening abnormal heart rhythms and can cause life threatening allergic reactions just as penicillin could. All potential complications are very rare.

How often is it necessary to receive an IV treatment?

This depends on the condition. Initially, it is often recommended to receive weekly treatments for four to eight weeks. Treatment may be sufficient at this point and can therefore be stopped, or occasionally reduced in frequency to every two to four weeks. Sometimes treatment can be beneficial on an as-needed basis to assist healing from surgery, serious infections or other major physiologic stressors.

How are the nutritional IVs at Whole Health Solutions different from Vitamin C IVs or “Myer’s Cocktail”?

Vitamin C IVs are used for many purposes and contain only high doses of this one vitamin. Myer’s Cocktail contains additional B vitamins and minerals such as calcium and magnesium. These can benefit general nutritional deficiencies. The nutritional IVs utilized at Whole Health Solutions have specifically

been studied to benefit people with certain chronic pain and fatigue conditions. They contain additional ingredients described above for more specific therapeutic impact.

What is the cost of the different IVs? Will insurance cover this cost?

The Energy and Back & Muscle Relief IVs are priced at \$175 for each administration. This includes all of the components, administration and monitoring by a registered nurse. Whole Health Solutions accepts cash, checks and credit cards to pay for these services. We will provide you with an itemized statement that can be submitted for possible insurance reimbursement. Please check with your individual insurance policy to find out what may be covered as an out-of-network service.