

# VIS CLINIC NEWSLETTER

*The Science of Nutrition*



## IV Nutrition for Immune Support

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Your body needs a baseline of fluids just to clear out toxins and keep your organs functioning. During an illness, your body requires even more fluids to mount an immune response and maintain a higher metabolism. Whether you have a cold, the flu, or another medical condition, having an illness puts extra demands on the body during the recovery process. Your body needs more vitamins and nutrients than usual to fight off your illness. Therefore, boosting your antioxidant levels can also help accelerate the recovery process.

Drinking plenty of fluids helps your body flush out toxins, thin mucus to improve your congestion, and restores fluids lost if you have been feverish. It is not always easy, however, to drink a lot of fluids and intake antioxidants when sick, especially if you have nausea. This is where IV nutrition has an advantage. Through direct infusion, the nutrients are absorbed in a way that oral supplements cannot compete with. IV therapy for illness has the benefit of hydrating you while providing essential vitamins and antioxidants to support your immune function.

Why wait until you are sick?! The best approach is prevention. Increasing cellular levels of certain nutrients prior to illness can help the body better fight all microbial infections. Therefore, in addition to our standard nutrient drip IV's for immune health we also offer IV Nutrient "Push" treatments. These are given intravenously over a shorter period to boost your cellular reserves as best we can, in a time and cost-effective manner. These shorter infusions can be administered up 1-2 times a week or as recommended by your Vis Clinic Doctor. During the webinar this fall on "**Enhancing your Health with IV nutrition,**" we will discuss the most common nutrient deficiencies in America that can be improved with IV nutrition, its benefit over oral supplementation, and when and why to consider IV therapy.



IV therapy to boost the immune system, whether you choose the popular drip or the push will be an electrolyte fluid filled with a blend of B Vitamins, Vitamin C, magnesium, glutathione and zinc and other trace minerals - all powerful antioxidants and anti-inflammatory vitamins. While these IV infusions cannot fix everything, they can do a great job of boosting your immune system and fighting off illnesses before you even know they are there! Prevention is key to avoiding dangerous organisms, so wash your hands, take care of your health, and schedule an IV infusion today.

***To learn more about IV nutrition, sign up for Dr. Mead's webinar on "Enhancing your Health with IV Nutrition", Wednesday, August 12 from 12:00-1:00pm. Not available on Wednesday? Get the recording and watch at your leisure.***



## Vis Clinic IV Nutrient Push Therapies:

An IV Nutrient “push” is a therapy given intravenously over a short period of time, typically 15 minutes. We want to help boost everyone’s cellular reserves as best we can, in a cost-effective manner. Vis Clinic is making these IV pushes available for our current patients as well as the public, **please see restrictions below\***.

Why get IV pushes?

IV nutrients can achieve serum concentrations not obtainable with oral, or even intramuscular (IM) administration.

IV nutrient therapy is more effective than oral treatment for correcting intracellular (inside the cells) nutrient deficits.

- Some nutrients are present at much higher concentrations in the cells than in the serum.
- When we take oral supplements, they must go into the GI tract and then be absorbed into the blood (serum) and then transported into our cells.

IV nutrients allow ailing cells to take up nutrients more easily. Nutrients taken up by cells after an IV infusion stimulate a healing effect within the cell. If cells are repeatedly “flooded” with nutrients, the improvements in cell functioning can be cumulative.

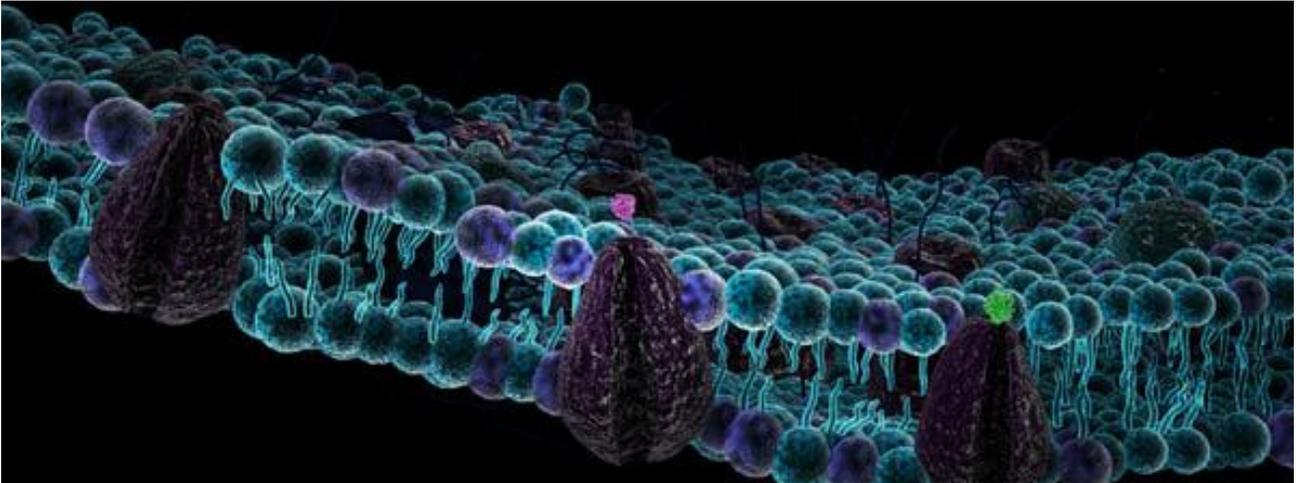
- Vis Clinic doctors have observed that patients who receive a series of IV injections over time raise their white blood cell nutrient reserves more than those who use only oral therapies.

Vitamin C contributes to immune defense by supporting and directly stimulating various cellular functions of both the innate (cellular) and adaptive (antibodies) immune system.

Vitamin C accumulates in phagocytic white blood cells that act as immune soldiers. Vitamin C can upregulate the immune system.

- Klenner,1951; Stone, 1972; Levy, 2002, Gonzalez, 2014, Gonzalez, 2016.





The Micronutrient Push which consists of magnesium, calcium, B vitamins, and vitamin C, has been found to be effective against acute asthma attacks, fatigue, acute muscle spasm, upper respiratory tract infections, chronic sinusitis, and seasonal allergic rhinitis.

- Gaby; Altern Med Rev 2002;7(5):389-403.

Glutathione (GSH) is the most commonly occurring antioxidant in all human cells. GSH is a cofactor for dozens of enzymes involved in detoxification. GSH supports liver health, pulmonary health, immune function, bowel health, cardiovascular health, and cognitive health.

- Glutathione (GSH) Your Body's Most Powerful Healing Agent. By Jimmy Gutman, MD FACEP and Stephen Schettini.

***\*Patients who have not been seen at Vis Clinic for 2 years or longer-Or -Non-Patients will require a brief visit prior to receiving the IV-Nutrient Push.***

#### **Vis Clinic IV Push Therapies and pricing:**

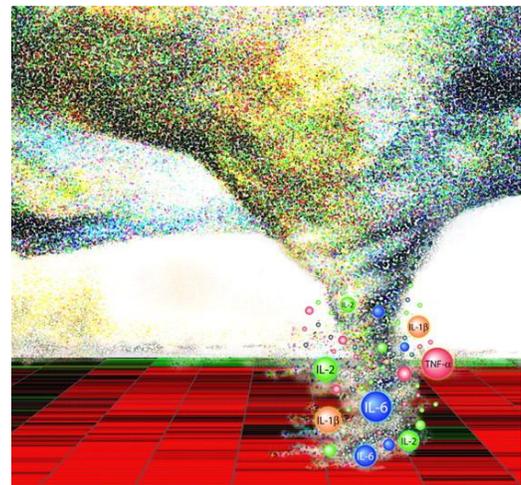
- IV Micronutrient Push (2500mg vitamin C, B complex, calcium and magnesium) 15 minutes-\$91
- IV Vitamin C Push (5000 mg) 15 minutes-\$79
- IV Glutathione Push (3cc/600mg) 10 minutes-\$61 (each additional cc is \$5)
- IV Micronutrient Push with Glutathione (3cc/600mg) Combination 20 minutes-\$122 (each additional Glutathione cc is \$5)
- IV Vitamin C Push with Glutathione (3cc/600mg) Combination 20 minutes-\$110 (each additional Glutathione cc is \$5)



## Oxidation, Inflammation, ApoE4 and Coronavirus, Oh My!!

There are now evidence-based strategies for improving clinical outcomes in COVID-19. Recommendations are based on the phases of the disease because optimal interventions for one phase may not be appropriate for a different phase. The four phases addressed in the lecture are Prevention, Infection, Inflammation and Recovery.

Emerging evidence show two different components of pathophysiology of COVID-19, early infection, and late stage severe complications. These two aspects of the disease suggest two different patterns of clinical emphasis. In the lecture we will examine tactics that address four main stages of disease progression for COVID-19.



SARS-CoV-2 virus may both evade the innate immune response and kill macrophages (white blood cells). One clinical strategy involves supporting patient innate and adaptive immune responses early in the time course of illness.

At the other end of the COVID-19 disease pathology spectrum is the risk of fatality driven by excessive and persistent upregulation of inflammatory mechanisms associated with a cytokine (inflammatory mediator) storm. The second clinical strategy is to prevent or mitigate excessive inflammatory response to prevent the cytokine storm associated with high mortality risk.

Clinical support for immune system pathogen clearance mechanisms involves the activation of immune response components that are inherently inflammatory. This puts the goals of the first clinical strategy (immune activation) potentially at odds with the goals of the second strategy (slowing or stopping proinflammatory effects). This creates a need for discernment about the time course of the illness and with that, understanding of which components of an overall strategy to apply at each phase of the time course of the illness.

In this month's webinar, "**Oxidation, Inflammation, ApoE4 and Coronavirus, Oh My!!**" we will review evidence from early observational studies and the existing literature on both outcomes and

mechanisms of disease, to inform a phased approach to support the patient at risk for infection, with infection, with escalating inflammation during infection, and at risk of negative sequelae as they move into recovery. We will also discuss measuring lab markers such as ApoE, Essential Fatty Acids, Oxidized LDL, SpectraCell intracellular antioxidant levels, and fasting Insulin so as to understand our underlying susceptibility to illness.



**EMERGING EVIDENCE SHOW TWO DIFFERENT COMPONENTS OF PATHOPHYSIOLOGY OF COVID-19, EARLY INFECTION, AND LATE STAGE SEVERE COMPLICATIONS. THESE TWO ASPECTS OF THE DISEASE SUGGEST TWO DIFFERENT PATTERNS OF CLINICAL EMPHASIS.**

*To learn more about improving clinical outcomes in COVID-19, sign up for Dr. Chad's webinar, **Oxidation, Inflammation, ApoE4 and Coronavirus, Oh my!!** on Wednesday, August 19 from 12:00-1:00pm. Not available on Wednesday? Get the recording and watch at your leisure.*



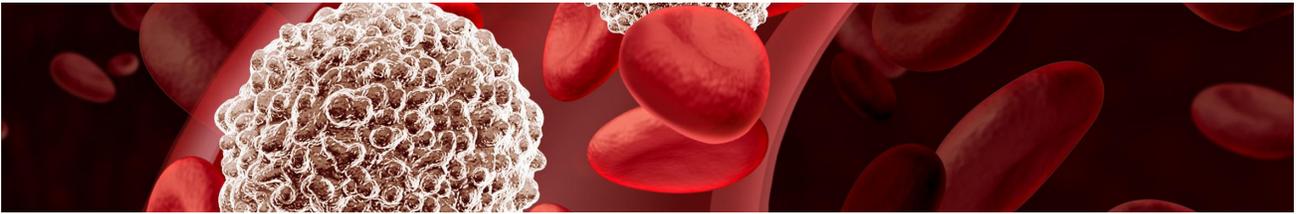
## Load Your Child's Backpack with Nutrition

Why is nutrition important for our kids? Eating a nutrient dense diet can help promote growth and development, support immune function, and set long-term healthy eating habits. Conversely, eating a diet high in sugars, trans fats and processed foods can cause a range of health issues along with behavior problems, stunted growth, and low energy. So, what is the best nutrition for children? A high nutrient, low sugar diet with plenty of water is key for overall health and well being.

Making meals that include good sources of proteins, fats and carbohydrates will help your child focus and stay energized throughout the day. Use variety when creating meals; a diverse diet ensures that your child has access to essential vitamins and minerals which promotes good health and protects against chronic disease. Variety also helps decrease the development of food allergies or sensitivities.

Providing a protein-rich breakfast will help your child start the day off right. Protein helps regulate blood sugar and mood as well as cognitive function and attention. And to keep your child's brain clear and focused throughout the day, pack a nutrient-dense lunch. Remember to include plenty of fruits and vegetables with a variety of colors as well as legumes and nuts and seeds to help ensure your child is eating plenty of phytonutrients. Phytonutrients are compounds that have been identified in foods as having positive health benefits. Studies show that people who eat more plant foods have reduced risk of chronic diseases such as diabetes, heart disease, and cancer.

***To learn more supporting your child's health, sign up for Dana's webinar, "Load Your Child's Backpack with Nutrition", Wednesday, August 26 from 12:00-1:00 pm. Not available on Wednesday? Get the recording.*** We will discuss ways to incorporate nutrient dense foods into your child's diet to help support immune function and overall well being. Learn how you can substitute processed foods with healthier options to help your child experience more energy and focus throughout the day. Healthy breakfast and lunch ideas will be included.



## Vis Clinic Lab Offerings

### SpectraCell WBC Micronutrient Test Panel:

When we eat food or take in supplements, for the most part the nutrients in the food or supplements pass thru our digestive tract where they are broken down and absorbed into our bloodstream (serum). From the bloodstream (serum); the nutrients must then make their way into our cells (tissue). Nutrients give health to our intra-cellular (inside) and cell membrane environments. Often, in disease states, it is most important to know the levels of reserve or intracellular tissue levels of nutrients to understand the health of our cells.

Vis Clinic recommends WBC (White Blood Cell) nutrient testing thru the SpectraCell Micronutrient Test Panel. The test panel helps the doctors get a visual on the overall 4-6-month average of intracellular (tissue) nutrient levels for each patient. This is especially helpful if we are also able to compare tissues levels of nutrients with the level of some of the different serum nutrients like minerals, B vitamins, and fat-soluble vitamin D.

Vis Clinic has seen numerous patient's with low serum Vitamin D3 who have adequate tissue levels of Vitamin D3. Why? Vitamin D3 is stored in the fatty tissues, not the serum. If someone has efficient cell membrane health, they can readily take vitamin D3 from the serum into their tissues making the serum level low. Increasing Vitamin D3 supplementation in a patient with a low serum but high tissue level could create toxicity to the patient. Conversely, a high serum vitamin D3 level may indicate that the patient does not adequately uptake vitamin D3 into the tissues and so it is relegated to hang out in the serum. Other times, low serum and low tissue go hand in hand and vice-versa.

The point is, we need lab data to make informed decisions about supplementation and often we need more than one set of data to really be informed. The SpectraCell Micronutrient Test Panel is an awesome evaluation tool when used by expert nutritional clinicians.

Oxidative stress affects repair mechanisms and the immune control system in our cells. This is one of the main events of the inflammatory response which allows us also to conclude that oxidative stress is a major factor in increasing the severity of COVID-19 especially in those with chronic diseases associated with a weakening of the antioxidant system. We suggest measuring tissue levels of antioxidants in order to recommend individualized antioxidant supplementation in preventative and therapeutic strategies against COVID-19.



### Essential Fatty Acids: Omega-Check and Fatty Acid Balance Test:

There are two families of essential fatty acids: Omega-3 fatty acids and Omega-6 fatty acids. They are termed “essential” because they cannot be produced by the body, and must be obtained from the diet.

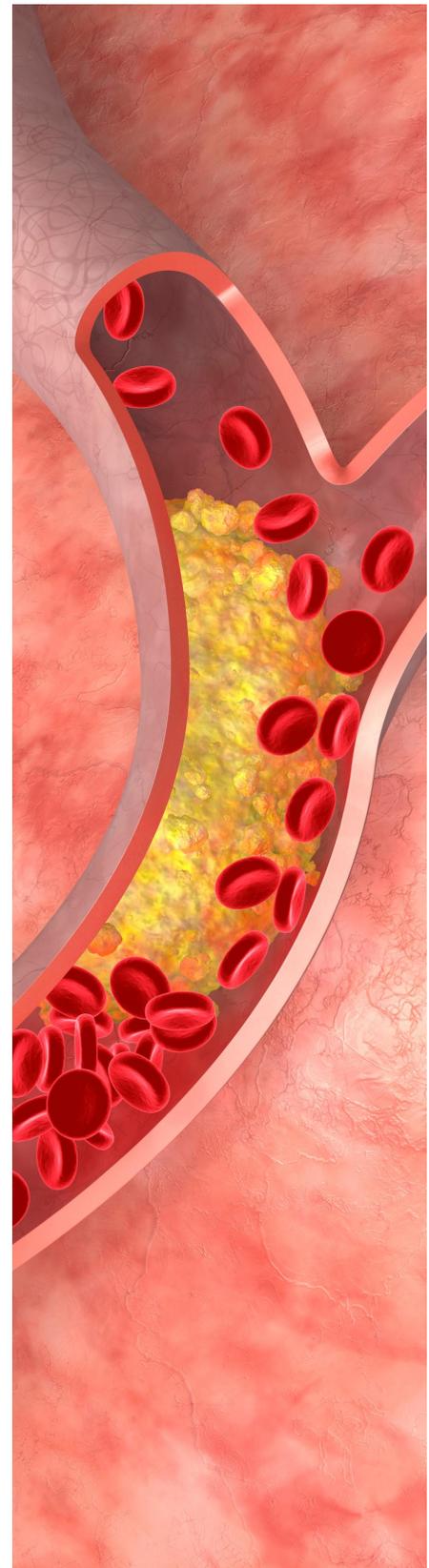
Both omega-6 and omega-3 fatty acids are stored in the cell membranes of tissues and have two primary functions. First, they are structural components of cell membranes where they ensure fluidity, stability, and act as gate-keepers in the cell. Second, both omega-6 and omega-3 fatty acids are converted into a number of important, active molecules called prostaglandins. The omega 3 fats create anti-inflammatory prostaglandins while the omega 6 family can create both inflammatory and in the right environment (omega-3 rich environment) anti-inflammatory prostaglandins.

Vis Clinic can measure your cellular levels of essential fatty acids and provide you with your Omega 3 index and fatty omega 6/3 ratios. Ideally, the percentage of omega 3 fats in the tissues (omega 3 index) should be around 6-10% for optimal brain, circulation, lipid, and anti-inflammatory support. The omega 6/3 fat ratio should be under 5:1 for optimal functioning. The average American omega 6/3 fatty acid ratio is around 20:1 or greater. Omega 6 fats tend to be from highly processed corn, soy, vegetable oils and grain-fed animal fat. Omega 3 Fats come from plant-based sources such as algae, flax, chia, and walnuts. Omega 3's also come from cold ocean fish and grass-fed and finished animals (grass-fed butter).

Remember: it is not what the animal is; it is what the animal eats that is important. Grain-fed farmed raised fish would have a poorer omega 6/3 fatty ratio than grass-fed beef. Our cell membrane health is dependent on fatty ratios. It takes 4-6 months to completely change your cell membrane fat profile so start making changes now. Have your fatty acid ratios tested to help you determine how healthy your cell membranes are. We want an abundance of healthy omega 3's in our blood to keep our inflammation patterns in check.

Researchers have discovered that chemical molecules called resolvins could help prevent the cytokine storms caused by the COVID-19 disease. Resolvins are specialized pro-resolving mediators (SPMs) derived from omega-3 fatty acids, primarily eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), as well as docosapentaenoic acid (DPA) and clupanodonic acid.

The researchers studied the human body's robust inflammatory response to the SARS-CoV-2 virus, which is now recognized as a hallmark symptom and observed that severe COVID-19 illness can result in excessive inflammation throughout the body, including the lungs, heart and brain. Rather than blocking cytokines, medical staff could turn off virus-induced inflammation by broadly activating the body's natural inflammation-clearing activities. Resolvins and other SPMs stimulate macrophage-mediated clearance of debris and counter pro-inflammatory cytokine production, a process called inflammation resolution. SPMs also promote anti-viral B cell antibodies and lymphocyte activity, highlighting their potential use in the treatment of COVID-19.



## APO-E Gene:

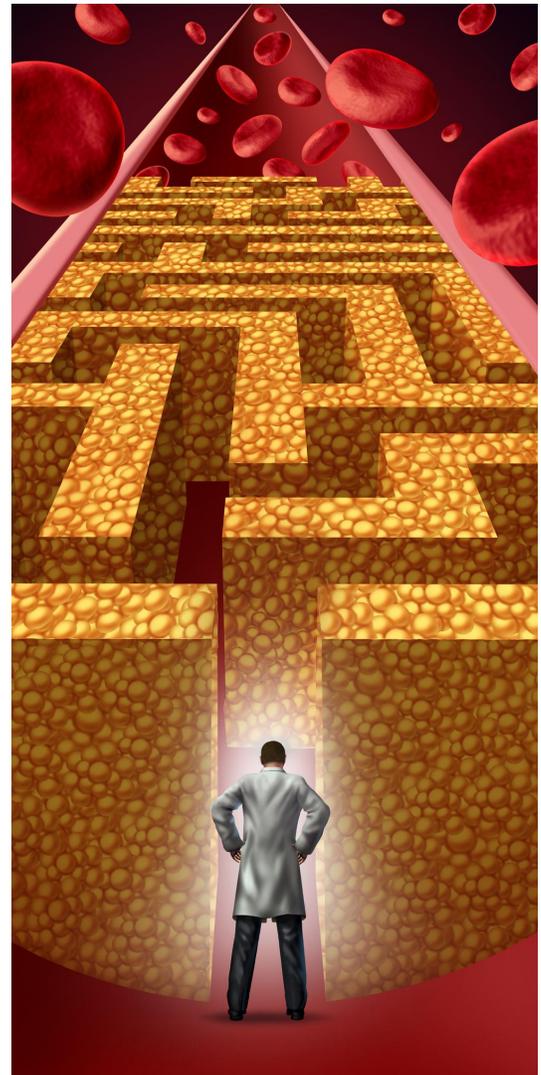
Apolipoprotein E: A type of lipoprotein (a protein connected to a fat). Apolipoprotein E is abbreviated ApoE and the gene that encodes it is known as APOE.

Lipoproteins are responsible for carrying cholesterol and other fats through the bloodstream as little packages and are essential for the normal breakdown of these molecules. Apolipoprotein E is a major component of specific lipoproteins called very low-density lipoproteins (VLDL). A major function of VLDLs is to remove excess cholesterol from the blood and carry it to the liver for processing.

There are three isoforms (slightly different forms) of the ApoE lipoprotein. These three isoforms are known as ApoE E2, E3, and E4. The most common allele is APOE e3, which is present in more than half of the population.

The Apo E4 genotype is found in around 25% of the population with 5% having the worst Apo E e4/e4 variant. The Apo E4 gene drives dietary absorption of cholesterol greater than average and has poor cholesterol clearance from the circulation. This not only increases the amount of cholesterol in the blood but increases the time that the cholesterol is in the blood. The greater the amount and time that cholesterol is in the blood the more likely it is to become oxidized. Oxidized cholesterol is like a foreign molecule to our cells and can contribute to inflammatory reactions, altered cell membranes, poor cellular communication, and poor membrane repair.

The e4 genotypes are associated with increased total cholesterol, triglycerides, and LDL cholesterol in the blood leading to increased risk of metabolic syndrome, atherosclerosis, and a 42% higher risk for CHD.





People with one copy of the e4 allele have an increased risk of developing type 2 Alzheimer disease, a familial late-onset form of the disease. People who inherit two copies of the e4 allele have a still higher chance of developing type 2 Alzheimer disease.

People with elevated E4 genes should limit their saturated fat intake from animal food sources and load up on a whole-food, plant-based diet.

ApoE4 is known for increasing the risk for dementia. New analysis of UK data suggests that it may also increase the risk for more severe outcomes from COVID-19 – double that of those with the ApoE3 gene variants. This finding held true independently of pre-existing dementia, cardiovascular disease, and type 2 diabetes.

### **Insulin Resistance Panel with Score using Fasting Insulin and C-Peptide:**

Insulin resistance (IR) is a metabolic condition that occurs when cells become less sensitive to insulin's stimulation to absorb glucose from the bloodstream. When cells become insulin resistant, pancreatic production of insulin increases to overcome IR and maintain normal blood sugars. Over time, IR may continue to increase and/or pancreatic function may decline, allowing blood glucose and HbA1c levels (3- month sugar) to elevate. This can be a gradual process and makes early identification of IR difficult.

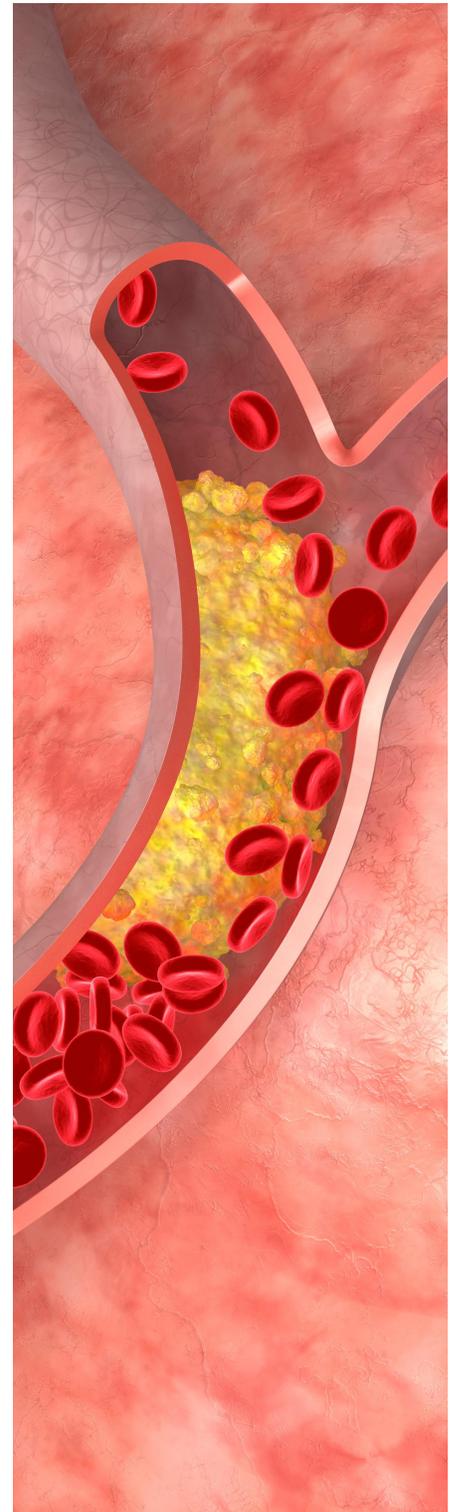
If IR is left untreated, it can lead to development of prediabetes and type 2 diabetes mellitus (T2DM). It is also associated with other clinical conditions including hypertension, cardiovascular disease, stroke, nonalcoholic fatty liver disease, polycystic ovary syndrome, and certain forms of cancer. Therefore, early identification of IR and intervention can halt or reverse progression of clinical conditions.

The Insulin Resistance Panel with Score estimates the probability that an individual currently has IR. It is based on laboratory test measurements of insulin and C-peptide, which are used in a calculation to provide a score that indicates the probability of the individual having IR. Insulin left unchecked drives inflammation and has become an important marker to look at in terms of coronavirus susceptibility.

## Oxidized LDL testing:

Oxidized LDL (OxLDL) measures damage due to oxidation of LDL cholesterol (LDL-C). In our blood, LDL-C can enter the artery wall where it can be oxidized. OxLDL is then recognized by scavenger receptors on the macrophages (white blood cells) which engulf oxLDL, resulting in foam cell formation, vascular inflammation, and initiation of atherosclerosis. Individuals with high levels of oxLDL are 3.5X more likely to develop metabolic syndrome in the next 5 years. Increased oxLDL levels are associated with the presence of coronary artery disease (CAD). OxLDL inhibits production of endothelial (arterial cell) nitric oxide which can also lead to cell death, increased endothelial dysfunction, plaque formation, and platelet aggregation. In healthy middle-aged men, high oxLDL levels are associated with a 4X greater risk of developing coronary heart disease. Levels of oxLDL increase in a stepwise fashion as the severity of CAD increases. OxLDL levels may also be elevated in patients with neurological disease, heavy metal overload, Environmental toxicity, Apo E4 genetics, kidney disease, polycystic ovary syndrome, and autoimmune disorders.

Older adults and people who have cardiovascular disorders are at higher risk for severe illness from COVID-19. Their common pathogenetic mechanism is progressive atherosclerosis in which oxLDL (oxidized LDL) plays a major role. Receptor-mediated uptake of oxLDL by the macrophages activates the long-term epigenetic reprogramming of innate immunity, which is termed "trained immunity." When oxLDL-trained macrophages encounter SARS-CoV-2 in the lung, it causes unregulated cytokine secretion, leading to alveolar damage. Nutrients that attenuate oxidative stress and inflammation work to lower oxidized LDL. IV chelation may be one of the best ways to lower oxidized LDL especially when combined with IV Phospholipid therapy and IV Glutathione (all therapies that Vis Clinic have advocated to promote overall optimal health and reduce the risk of chronic illness).



# Supplement Spotlight

## Antioxidant Activator:

A nutrient formula designed to activate the antioxidant genetic pathway (Nrf2). This pathway regulates the production of important molecules that impart antioxidant activity, such as glutathione and superoxide dismutase (SOD). It also regulates the production of detoxification enzymes, including glutathione S-transferase, and downregulates inflammatory signaling factors (NF-kB). Contains BCM-95® Turmeric Extract, Green Tea Aqueous Extract, pTeroPure® trans-Pterostilbene, and TrueBroc® Glucoraphanin. This contains many of the immune/antioxidant supporters recommended in prevention protocols by the IFM.



## Essential Fatty Acids:

Our cell membrane health is dependent on fatty ratios. It takes 4-6 months to completely change your cell membrane fat profile so start making changes now. Vis Clinic offers a wide variety of essential Fatty Acids including vegan options for individuals with fish allergies and plant based omega 6 capsules and liquids. Ask your Vis practitioner which one is right for you and your family.



# August Webinars:

To register, please click on the webinar

## Enhancing your Health with IV Nutrition

August 12, 12:00-1:00pm

No Charge

Dr. Jennifer Mead, N.D. will discuss the most common nutrient deficiencies in America that can be improved with IV nutrition, its benefit over oral supplementation, and when and why to consider IV therapy.



## Oxidation, Inflammation, ApoE and Coronavirus, Oh My!

August 19, 12:00-1:00pm

Cost: \$20.00

Dr. Chad Krier, N.D., will review evidence from early observational studies and the existing literature on both outcomes and mechanisms of disease, to inform a phased approach to support the patient at risk for infection, with infection, with escalating inflammation



during infection, and at risk of negative sequelae as they move into recovery. He will also discuss measuring lab markers such as ApoE, Essential Fatty Acids, Oxidized LDL, SpectraCell intracellular antioxidant levels, and fasting Insulin so as to understand our underlying susceptibility to illness.

## Load your Child's Backpack with Nutrition

August 26, 12:00-1:00pm

Cost: \$20.00

Join Health Coach Dana for our back to school webinar, "Load Your Child's Backpack with Nutrition". She will discuss ways to incorporate nutrient dense foods into your child's diet to help support immune function and overall well being. Learn how you can substitute processed foods with healthier options to help your child experience more energy and focus throughout the day. We will discuss the role phytonutrients play in boosting the immune system. Healthy breakfast and lunch ideas will be included.

# Vis Clinic Functional Nutrition Food Plan Webinars:

For those of you following one of our Functional Nutrition Food Plans, join Dana, Vis Clinic Health Coach for a virtual check in. Check ins are group based, safe and supportive. Individuals have time to ask questions, reflect on the process, discuss obstacles and celebrations. Tips on meal planning and goal setting are included.

Click your food plan below to register for our virtual check-in:

**RENEW FOOD PLAN CHECK IN:  
Tuesday, August 4, 12:00-  
1:00pm**

**CARDIOMETABOLIC FOOD  
PLAN CHECK IN:  
Tuesday, August 11, 12:00-  
1:00pm**

**MITO-KETO FOOD PLAN  
CHECK IN:  
Tuesday, August 18, 12:00-  
1:00pm**

**INTERESTED IN LEARNING MORE ABOUT OUR FUNCTIONAL NUTRITION FOOD  
PLANS? CALL DANA AT (316) 425-3729**

**WEBINARS COMING SOON IN SEPTEMBER...**

- **10 and 25 Day Cleanse**
- **Infrared Sauna**
- **Detox Diet**
- **Functional Nutrition Food Plan check ins**

## What's New at Vis Clinic?

### Try our new Infrared Sauna!

Perfect for individuals struggling with...

- Cardiovascular disease
- Diabetes
- High blood pressure
- Congestive heart failure
- Rheumatoid arthritis
- Chronic fatigue
- Poor digestion
- Depression and anger
- Chronic muscle and joint pains
- Mold Toxicity
- Heavy Metal Toxicity
- Cleansing



Individual sessions or packages are available. Call Vis Clinic for information and pricing. Our sauna offers 3 in 1 wavelengths, allowing you to experience a deep, detoxifying sweat. Your health is calling. Try our Infrared sauna today!



### MOBILE THERMOGRAPHY SERVICE

Available at Vis Clinic Every 3rd Friday

Call (316) 640-8933 to schedule your appointment today!

**Breast Health Screening - \$195.00 : Full Body - \$415.00 :**

**Men's or Women's Health Screening - \$295.00**



- MD Interpreted . Pain Free
- Compression Free . Radiation Free
- FDA Registered Medical Device
- Safe and Effective at Any Age

*We are happy to announce we will be providing Thermography services at Vis Clinic Every 3rd Friday. Call (316) 640-8933 to reserve your slot!*