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THE ROAD TO HEALTH & WELLNESS

News and advice courtesy of

ELITE

PERSONAL TRAINING AND FITNESS SOLUTIONS

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Inflammation Series

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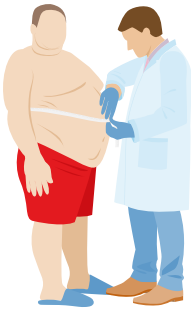
SCAN ME

Inflammation and Metabolic Disease

We are in the midst of an obesity epidemic. World-wide, more than 1.9 billion people are considered overweight, and more than 650 million are obese. The prevalence of obesity has doubled since 1980. And with it, complications like type 2 diabetes and metabolic syndrome (which sets the stage for heart disease) have become common. These conditions take a devastating toll.



Both type 2 diabetes and metabolic syndrome involve the dysregulation of metabolism. Metabolism is the cellular processes of converting protein, carbohydrates, and fats into energy and then converting stored energy into growth. Because these processes occur throughout the body, metabolic problems can affect multiple organs, including the pancreas, liver, heart, muscles, and brain.

Researchers have begun to draw a clear line connecting excess weight with metabolic dysregulation and inflammation—specifically, a special kind of constant, low-grade inflammation that scientists call meta-inflammation. It plays a role in both type 2 diabetes and metabolic syndrome.

Elite Personal Training and Fitness Solutions does not provide medical treatment or intervention. We acknowledge scientific evidence that appropriately intensive exercise and sustainable nutritional intervention can have significant impact on chronic health disorders and obesity, dramatically improving symptoms when recommendations are followed. Please visit us at Eliteptf.com for more information and to schedule your evaluation.

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What Is Diabetes?

Diabetes is a disease marked by high blood sugar. Normally when you eat, your blood sugar level rises as your body breaks down carbohydrates from food into sugar (glucose). In response, the pancreas releases the hormone insulin, which enables muscle, fat, and liver cells to take up sugar from the bloodstream to use for energy or to store for future use. Diabetes disrupts this cycle.

Two different forms of the disease exist. Type 1 diabetes is an autoimmune disease. The immune system attacks and destroys insulin-producing cells in the pancreas. The resulting lack of insulin eventually leads to high blood sugar.

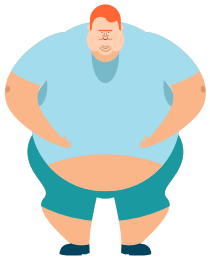
Type 2 diabetes, which account for 95% of diabetes cases, also results in high blood sugar, but the underlying disease process is different. In type 2 diabetes, the body still makes insulin, but cells throughout the body don't respond appropriately to it. This problem is known as insulin resistance. The pancreas produces more insulin in an attempt to overcome the resistance. After a few years of struggling to keep up with the body's ever-increasing insulin demand, the pancreatic cells become exhausted. At that point, in addition to insulin resistance, there is also too little insulin. This combination leads to the consistently elevated blood sugar that is characteristic of diabetes.

Because diabetes affects levels of glucose in the bloodstream, complications may develop throughout the body if blood sugar isn't controlled. Diabetes can damage the eyes and increase the risk for retinal disease, cataracts, and glaucoma. It can lead to kidney disease. It can damage nerves (a condition called neuropathy), causing pain, numbness, and tingling. And it can damage blood vessels that feed the heart and brain, increasing the risk for heart disease and strokes. People with type 2 diabetes develop cardiovascular disease earlier (as much as a decade earlier) and more severely than people without diabetes.

Our newsletters present overviews of highly complex topics. For more in-depth discussion of vitamins, minerals, supplements, weight loss or ANY health-related topic, please contact our office.

The Role Of Fat And Inflammation

People tend to think of fat cells as inert storage depots for calories. Not so. Fat cells that collect in the belly (visceral adiposity) are metabolically active. This belly fat produces a variety of pro-inflammatory substances that interfere with the functioning of insulin, which contributes to insulin resistance.



Because the fat that accumulates around your middle is the most metabolically active, having an “apple” shape (in which you carry extra fat around your waist) is more dangerous than having a “pear” shape (in which excess fat settles around your hips).

That’s not the only problem with excess weight. When you put on pounds, fat accumulates in the liver, muscles, and other organs. In the liver, the storage of excess fat can lead to inflammation and cause non-alcoholic fatty liver disease (NAFLD). NAFLD has become the most common cause of cirrhosis and liver failure requiring transplants.

A similar process is at play elsewhere in the body, contributing to some of the complications of type 2 diabetes. For example, in the arteries, the release of pro-inflammatory substances helps set the stage for cardiovascular disease, which we know is linked to obesity and type 2 diabetes.

Diabetes is also associated with a higher risk of several cancers, including those of the liver, pancreas, ovary, colon, lung, bladder, and breast.

Metabolic Syndrome

Metabolic syndrome is a combination of conditions that increase the risk of heart disease, type 2 diabetes, stroke, and cancer. These conditions include abdominal obesity, high blood pressure, abnormal cholesterol and triglyceride levels, and impaired glucose tolerance (difficulty controlling blood sugar levels). In recent years, researchers have discovered that inflammation contributes to the complications of metabolic syndrome. Metabolic syndrome, obesity, and type 2 diabetes are interconnected. All three are linked by genetics, overeating, unhealthy diet, and lack of exercise. All three involve chronic inflammation. Scientists do not understand all of the factors involved in metabolic syndrome, but they do have some theories.

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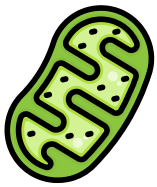
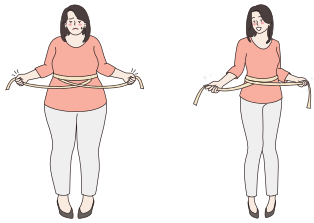


One area of focus is mitochondria—the energy-producing organelles in each of our cells. Mitochondria do more than just generate energy. They also play an important role in many cellular functions, including helping cells multiply when they are needed, and die when they aren't needed. Mitochondrial dysfunction has been linked to insulin resistance. The dysfunction damages the cells and organs in which they reside.

Chronic low-grade inflammation has been identified as both a cause and a consequence of metabolic syndrome. People with metabolic syndrome have higher-than-normal levels of inflammatory markers, particularly in the liver, intestines, and adipose tissue. These markers are also predictors of insulin resistance, type 2 diabetes, and cardiovascular disease.

Combating Inflammation In Metabolic Disease



Today, the first-line treatments for metabolic syndrome and type 2 diabetes are lifestyle interventions directed at weight loss. The problem is that while individuals are told that they need to lose body fat, the number of people who can actually do this on their own are few and far between. Lifestyles that gradually cause weight gain, inflammation and metabolic disorders are not easily overcome. Weight management is complex and needs to be individualized. It's not as simple as googling a few exercises and starting a diet plan. If that were the case, very few individuals would find themselves with metabolic disorders.

If you are overweight, have inflammation or a metabolic disorder, let us help you make positive lifestyle changes. Each member of the EPT team is highly credentialed in personal training and nutrition. Check out the testimonials and success stories on our website.

https://www.elitepersonaltrainingandfitnesssolutions.com/personal-training-testimonials

https://www.elitepersonaltrainingandfitnesssolutions.com/weight-management-and-nutrition

We have seen tremendous improvement in clients with diabetes and metabolic syndrome. Many have reduced their need for medication or have been able to stop it entirely.

Give us a call!

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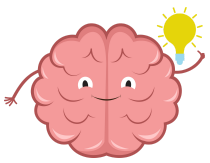
Health Topic of the Month

This month's health topic is magnesium. Magnesium is a mineral required for the function of hundreds of enzymes throughout the body. Magnesium is absolutely essential for bone health and heart function. In the brain, it is needed for critical brain cell communication, which is linked to cognitive functions like learning and memory. Unfortunately, approximately 65% of US adults consume inadequate amounts of magnesium in their diet.

Did You Know...

Scientists at the Massachusetts Institute of Technology (MIT) developed a form of magnesium called magnesium L-Threonate that boosts brain levels quickly and efficiently.



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Research Shows

In human studies of adults with cognitive impairment, magnesium L-Threonate reversed measures of brain aging by an astonishing nine years.

1. Li W, Yu J, Liu Y, et al. Elevation of brain magnesium prevents synaptic loss and reverses cognitive deficits in Alzheimer's disease mouse model. Mol Brain. 2014 Sep 13;7:65.
2. Liu G, Weinger JG, Lu ZL, et al. Efficacy and Safety of MMFS-01, a Synapse Density Enhancer, for Treating Cognitive Impairment in Older Adults: A Randomized, Double-Blind, Placebo-Controlled Trial. J Alzheimers Dis. 2016;49(4):971-90.

Food Facts

You might want to pass on egg-based fast-food breakfasts when hunger hits in the morning. To reduce production costs, many fast-food chains use an egg substitute known as "Premium Egg Blend" which has been proven to contain glycerine.

You might not be familiar with the name of this material, but chances are good you've come in contact with it. This solvent is regularly used in soap and shaving cream. Consuming glycerine in small doses won't kill you, but larger amounts are certainly unhealthy and who wants it in a breakfast meal!

Which fast-food chain is the worst egg manipulator? It's not McDonald's or Burger King. It's Subway. Subway's premium egg blend contains the most additives & preservatives of all the fast-food chains.