

# THE BETTER HEALTH NEWS

June, 2012

SPECIAL HEART HEALTH ISSUE

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## Sugar, Insulin and Your Heart

Many of your health problems are due to excess insulin and to insulin insensitivity. Insulin insensitivity is responsible for obesity—and all of its associated health problems.

Insulin insensitivity encompasses three conditions: metabolic syndrome (sometimes called syndrome X), adult onset diabetes and people who are insulin insensitive, but have not developed these conditions yet. Insulin has a lot to do with weight gain and so many other common health problems. Sugar and insulin are involved with high blood pressure, high cholesterol, high triglycerides, and type 2 diabetes. With simple lifestyle changes and some good nutritional products people can easily lose weight and a lot of other health problems begin to improve. This is easy and it works.

Symptoms of insulin resistance include fatigue, weight gain, brain fog, carbohydrate craving, and needing a nap after eating (from low blood sugar after meals). Approximately 50% of patients with high blood pressure are insulin insensitive. Approximately 30% of American adults are insulin insensitive and 25% have Syndrome X.

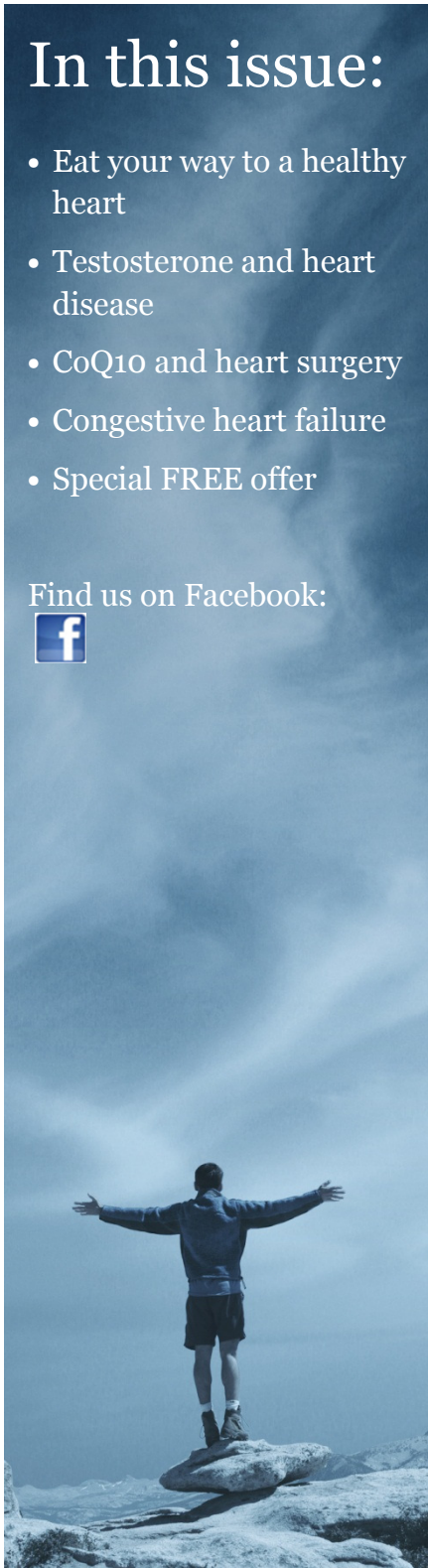
Problems with sugar and insulin cause weight gain, along with a variety of other health problems. In general, these patients carry weight around their abdominal area and crave sugar and starch. Getting insulin production under control is the key to weight loss, and more importantly, heart health.

Dietary changes are, of course,



necessary. You need to go on a low glycemic diet—avoiding high glycemic foods like refined carbohydrates (sweets, refined white bread, noodles, etc.). Follow a low glycemic diet; avoid refined foods, hydrogenated oils and additives. Eat a large breakfast—with protein. Eat a lot of fresh produce. Supplementation sometimes helps with cravings, contact our office and schedule a nutritional consultation. Eat slowly and eat until you are full. Ideally, only eat three meals per day.

Exercise regularly and stop snacking. The snacking issue is a tough one; many patients are labeled as hypoglycemic. Some feel weak or shaky if meals are delayed or feel the need to snack every two hours (or have been told to do so). You need to wean from this by increasing the time between snacks. When you first eat, you produce insulin which helps to store the calories of the meal. As time goes on, you produce glucagon, which helps to burn the stored calories. The first three hours after eating, insulin is dominant; after three hours glucagon becomes dominant. You cannot lose weight if you keep producing insulin and snacking makes you produce insulin. It is especially



## Eat Your Way to a Healthy Heart

Often we are told what not to eat in order to protect us from cardiovascular disease. It is nice when a study tells us how to protect the heart, and enjoy the process by eating a treat.

A recent study published in the *American Journal of Clinical Nutrition* (February 2008, Volume 87, Number 2, Pages 323-331) looked at the health benefits of berries; 72 middle aged subjects were divided into two groups. One group was used as a control, and was given sugar water, sweet rice porridge, marmalade sweets or sweet semolina porridge. The test group was given 100 grams of whole bilberries, and 50 grams of nectar from lingo berries every other day. On the days they did not consume the nectar and

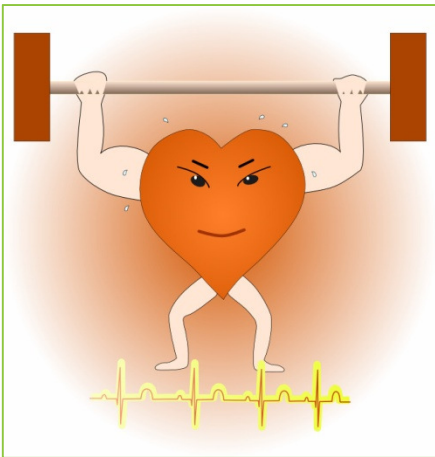
the bilberries, they received 100 grams of a puree made from black currants or strawberries.

The study lasted for eight weeks. The group receiving the berries enjoyed a 5.2% increase in HDL (the “good” cholesterol), improvements in blood pressure and improvements in platelet function (ie, less likely to form clots).

Learn more about nutrition, natural health care and how to improve the length and quality of your life. Contact our office for more information.

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## Testosterone and Heart Disease



The word endothelium refers to cells that line an organ or blood vessel. The health of the endothelium of blood vessels is pertinent to heart disease. If it is easily damaged, it sets the stage for the formation of plaques and coronary artery disease. Heart disease begins when the endothelium lining the coronary arteries is damaged and the body attempts to repair it by forming plaque.

Research published in *Hypertension Research* (2007 Nov 30(11):1029-34) looked at 187 men averaging 47 years of age and at risk for heart disease. The researchers correlated the health of the endothelium and the elasticity of the blood vessels to the testosterone levels. The men with low levels of testosterone tended to have poor endothelial function.

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## Heart Surgery and CoQ10

Bypass surgery produces oxidative stress, so it stands to reason that supplementing with antioxidants may improve surgical outcomes. Taking CoQ10 may be beneficial to coronary bypass patients, according to research appearing in the *Journal of Cardiothoracic and Vascular Anesthesia* (2008 Dec;22(6):832-9). The subjects of the study were scheduled for CABG surgery. The 30 patients were randomly assigned to receive either a placebo or between 150 -180 mg of CoQ10 per day for seven to ten days prior to the surgery. The group receiving the supplement has shorter hospital stays, fewer reperfusion arrhythmias, less need for blood product (and less mediastinal drainage) and less myocardial dysfunction than the control group.

Other research appearing in the *Journal of Thoracic and Cardiovascular Surgery* (January 2005;129(1):25-32) 62 coronary bypass surgery patients received 300 mg/day of CoQ10 for two weeks before surgery. Another group of 59 subjects received a placebo. In the group receiving the supplement, mitochondrial respiration was more efficient and mitochondrial tissue from the supplement group recovered from hypoxia more quickly than it did for the control group. In short, CoQ10 protected from oxidative stress.

### Heart Failure

Heart failure exists when the heart cannot pump enough blood to meet the body's needs. It develops over time as the heart's ability to pump grows weaker. In some cases the heart cannot fill with enough blood; in other cases the heart lacks the force to pump blood to the rest of the body. It is a very common condition, with 4.8 million cases in the United States, with an estimated 400,000 new cases being reported each year (according to the National Heart, Lung and Blood Institute)

Heart failure can affect both sides of the heart, or affect the right side only. Right-sided heart failure occurs when the heart is unable to pump enough blood to the lungs to oxygenate the blood. It may cause fluid accumulate in the lower extremity, the liver, the abdomen or in the veins of the neck. Left sided heart failure occurs when the heart cannot pump enough oxygen-rich blood to the rest of the body. Patients with heart failure that involves both sides of the heart often experience fatigue and shortness of breath.

Causes of heart failure include diabetes, high blood pressure and coronary artery disease. There may be an additional cause--prescription medication, especially the drugs we use to lower cholesterol and the drugs we use to treat heart failure.

Most cholesterol-lowering drugs work by inhibiting the enzyme methylglutaryl coenzyme A (HMG-CoA) reductase. They prevent the production of mevalonate from HMG-CoA. The body converts mevalonate to cholesterol and a variety of other products. One of the things that mevalonate produces is Coenzyme Q10; so these drugs ultimately prevent the production of coenzyme Q10. Patients taking these drugs

commonly experience exercise intolerance, muscle pain and myoglobin in the urine. Studies show that these drugs have the potential to cause muscle pain and muscle cell destruction as well as kidney failure. The FDA has warned about liver failure in conjunction with these drugs. These more serious side effects occur in about 1% of the population taking the drugs.

The heart contains high levels of coenzyme Q10 and these levels are found to be lower in people suffering from congestive heart failure. According to an article appearing in *The Lancet* (1998;352(Suppl. 1):39-41) notes that the incidence of heart failure has dramatically increased in the last three or four decades. The prevalence of heart failure has increased by 70% between 1990 and 2000. This corresponds with the increase in the use of cholesterol medication. Supplementing with coenzyme Q10 may be a good idea.

Drugs that are used by heart patients may deplete magnesium. Research appearing in *Magnesium Bulletin* (1994;16(3):98-100) demonstrated that treatment with ACE inhibitors deplete magnesium. Patients with congestive heart failure seem to benefit from magnesium supplementation. A double-blind, placebo-controlled study appeared in the *International Journal of Cardiology* (2009; 134(1): 145-7) that involved 79 patients with severe congestive heart failure. The subjects were randomly selected to receive either magnesium orotate or a placebo for one year. The survival rate was higher in the magnesium group (75.7% compared to 51.6% in the placebo group). Also, symptoms improved in 38.5% of the patients receiving magnesium. In 56.3% of the placebo group symptoms became more severe.

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### Is Onion Soup Good for the Heart?

Platelets in the blood are responsible for clotting. When we speak of platelet aggregation we mean the tendency of the platelets to clump together, forming a clot. Increased platelet aggregation can be a problem because clotting occurs too easily and it can create a tendency to develop atherosclerosis. A study that was published in the *British Journal of Clinical Nutrition* (2006; 96(3): 482-8) that looked at the effect consuming onion soup that was high in quercetin had on platelet aggregation. In the study, subjects consumed onion soup that was either high in quercetin (69 mg.) or low in quercetin (5 mg.). In the subjects consuming the high quercetin soup, platelet aggregation was inhibited.

Quercetin is a bioflavonoid. Bioflavonoids are a class of water-soluble plant pigments found in fruits, vegetables, and certain beverages that have antioxidant effects. Antioxidants are compounds that protect cells against the damaging effects of reactive chemicals known as free radicals. Free radicals can cause oxidative stress, leading to cellular damage. Oxidative stress has been linked to cancer, aging, atherosclerosis, ischemic injury, inflammation and neurodegenerative diseases (Parkinson's and Alzheimer's). Flavonoids may help provide protection against these diseases by contributing to the total antioxidant defense system of the human body.

## Diet and Lifestyle can Help Prevent Heart Disease

The chances of getting heart disease, to a large degree, can be reduced by paying attention to diet and lifestyle. Dietary changes, like avoiding trans fats and refined carbohydrate, can improve cardiovascular health.

Exercise and stress reduction are also very important. Supplements, like fish oil and CoQ10 can reduce the risk for a heart attack. CoQ10 is an especially important supplement for people who are taking cholesterol-lowering medication because the drugs deplete CoQ10.

Even if you do not have great dietary discipline, fish oil can be beneficial. Heart attacks commonly happen after high-fat meals because of the negative effect such a meal has on the vascular system. Research appearing in the *Journal of Nutrition* (February 2008, Volume 138, Pages 287-291) showed that EPA from fish oil may be able to affect blood vessel function after a fatty meal. It was a small study, with 17 healthy men as volunteers. They were given two test meals (51 g fat), 1 wk apart, in random order. They were supplemented with 5 g EPA plus high-oleic sunflower oil (HOS) vs. HOS only. A second high-fat meal (44 g fat), the same on both study days, was provided 4 hours later. Blood pressure and arterial function were measured using digital volume pulse to derive as “stiffness index”. This was measured in fasting subjects at three and six hours following the test meal. They found that taking the EPA improved the tone of the blood vessels following a high-fat meal.

The study about fish oil shows us something very important. We all know the kind of lifestyle changes that are necessary to help prevent heart disease, but very often it is hard to have the necessary discipline. Supplements, like fish oil, can still be beneficial, even when our diets are not ideal.

Fish oil also can help to bring food cravings under control. In fact, if your dietary discipline is not all that it should be, there are things you can do to help to get it under control. There are certain foods that are not hard to avoid, that actually cause you to lose control of your diet. Certain high calorie and high fat foods are actually less harmful than others.

Many people do not realize that most health problems are under our control. Of course genetics and the environment play a large role in our health, but so does our lifestyle choices. Many diseases and health issues, like type 2 diabetes, high cholesterol, high blood pressure and heart disease can often be prevented by wise lifestyle choices.

A good nutritional consultation can start you on the road to good health. Once you are armed with the necessary information and the necessary supplements, you can develop the habits to keep yourself healthy.

## Are You Doing Everything Possible for a Healthy Heart?

To a large extent, heart disease is preventable. Ask yourself the following questions and see if you are doing everything possible to have a healthy heart:

- Do you avoid refined sugar?
- Do you avoid trans fats?
- Do you exercise regularly?
- Does fresh, brightly colored produce dominate your diet?
- Do you keep stress under control, or do you have a strategy that reduces stress?