The Tuesday Minute

METABOLIC MANAGEMENT

Nutritional Information...One Byte At A Time

This Week's Topic

Some Sugars Are Getting A Bad Rap

You'll be surprised to hear me say this but "some sugars are getting a bad rap". There are many reasons why sugar is bad for you. The underlying reason is that refined sugars have been stripped of nutrients and actually cause a biochemical stress or physiological drain on the body's nutrient reserves.

Let's talk about those sugars that are getting the bad rap, glyconutrients. Glyconutrients are food sources that provide some or all of the eight essential saccharides. These saccharides or sugars are necessary for proper communication between the cells and optimal immune response. **There are 8 categories**. They are mannose, fucose, galactose, glucose, xylose, N-Acetylgalactosamine, N-Acetylglucosamine, and N-Acetylneuraminic acid. We humans can't create these sugars on our own; thus they have to come from outside food or supplement sources.

Mannose inhibits tumor growth, prevents bacterial, viral, parasitic, and fungal infections. It lowers blood sugar and triglyceride levels in diabetics as well as eases inflammation in rheumatoid arthritis.

Fucose is found in human breast milk and certain mushrooms, fucose influences brain development. It is an immune modulator which inhibits tumor growth and enhances cellular communication.

Galactose is abundant in dairy products. This sugar enhances wound healing, decreases inflammation, enhances cellular communication, and increases calcium absorption. This sugar triggers long-term memory formation.

Glucose is in almost everything we eat. It is a potent fast-energy source that can be released directly into the bloodstream. Glucose enhances memory, stimulates calcium absorption, and enhances cellular communication. Too much can raise insulin levels, leading to obesity and diabetes. Too little glucose can be problematic as well. Glucose metabolism is disturbed in depression, manic-depression, anorexia, and bulimia.

Xylose is antibacterial and antifungal. It may help prevent cancer of the digestive tract. This is often substituted for sucrose and corn sweeteners in gum and toothpaste.

N-Acetylgalactosamine: This saccharide inhibits tumor spread and also enhances cellular communication. Abnormal levels are found in patients with heart disease. N-Acetylglucosamine also is an immune modulator that has anti-tumor properties and is active against HIV.

N-Acetylglucosamine, a metabolic product of this saccharide, helps repair cartilage, decreases pain and inflammation and increases range of motion in osteoarthritis. It has been shown to help repair the mucosal lining defensive barrier, or the GAG layer.

N-Acetylneuraminic acid is important for brain development, learning, memory and cognitive performance.

Good Sugars

Just reviewing to this list of complex sugars, it is obvious how important it is that we consume these nutrients that improve cellular communication. Unwise food choices like fast foods, microwave and boxed food etc. make it difficult to get these from our diets. Since only glucose and galactose are plentiful in the foods we typically eat, it is imperative that we make an effort to include other sources of saccharide rich foods.

As a rule increasing the % of the food we consume from plants and natural sources will be helpful. The following are food sources and supplements that supply these glyconutrients. Aloe Vera gel within the fleshy leaves contains polysaccharides. Aloe is used for wound and burn healing as well as lowering blood sugar and improving food absorption.

Arabinogalactans are complex polysaccharides. They are found in corn, wheat, leeks, carrots, radishes, pears, red wine, coconut meat, and tomatoes. Herbs such as curcumin and echinacea also contain these complex sugars. They are important for optimal immune function and are effective to correct digestive problems, and encourage healthy bacteria in the gut. The larch tree is the most important commercial source; IAG, (BRC) is a supplement that supplies 2gm per tsp of arabinogalactans.

Brans are found in brown rice, slow-cooked oatmeal, and whole barley. Breast milk contains 3-6 monosaccharides. It's important to immune functioning, proper brain development and helpful in preventing allergies and infections.

Mushrooms have been used for years in the Orient. They have been found to improve overall health and extend life spans. Reishi mushrooms improve memory, mood, and enhance vital energy. Maitake mushrooms have been used to treat spleen and stomach problems, hemorrhoids and anxiety. Cordyceps are used for auto immune disorders and high blood pressure. Shitake mushrooms, (BRC) are used as adjuctive nutrients in the treatment of cancer and general immune support.

Pectin is found in apples, oranges and grapefruit. Colon Plus, (BRC) contains pectin which is helpful in lowering cholesterol.

Bovine Tracheal Cartilage, (BRC) has antitumor properties, supports immune function, and provides joint support.

Inulin is found in onions and garlic as well as Jerusalem artichoke which is found in IPS, (BRC). It is fiber rich and helps keep the colon healthy.

Remember the 3 basic "Food for Life" rules: 1) eat food that will rot or spoil but eat it before it spoils, 2) eat food with as much color and variety as possible and 3) eat food as close to the way it was processed 100 years ago. If you follow those basic rules your patients will fill a lot of nutritional holes in their diet. Please feel free to use the "Food for Life" CD with your patients as a tool to educate them on the need to eat real food.

With all your patients, I encourage you to ask questions, stimulate dialogue with them about the foods they eat. Even if briefly, you can begin to impart to them a nutritional mentality. It builds the trust and patient confidence…and that's what people want from their clinician. See you next Tuesday.