

Clinical Pearls HOT SHEET

..... September 2020



Sex Hormone Binding Globulin (SHBG) is a protein produced by the liver to bind steroid hormones circulating in the blood particularly testosterone and estrogen. High levels can lower SHBG leaving too much free hormone to circulate leading to symptoms of excess to either testosterone or estrogen. High levels of SHBG can occur with liver dysfunction when the liver's ability to clear testosterone or estrogen is inhibited. Elevated levels of circulating free hormones passing through the liver increase the production of SHBG. This can occur in the presence of non-alcoholic fatty liver disease (NAFLD), alcoholism and hepatitis. Magnesium and zinc deficiency can compromise the body's ability to clear SHBG resulting in high levels with reduced free hormones to act on targeted tissues.



If low blood sugar is disrupting a person's sleep than having a healthy snack before bed can help improve the body's nighttime energy reserves. The snack should be from food that contains protein, unrefined carbohydrates, and high-quality fat such as half a slice of whole grain or gluten-free toast with nut butter or a slice of cheese on a cracker. A few slices of apple and almond butter works well too.



When it comes to a child with autism there can be confusion and concern about mixing certain supplements together. If the child has been taking calcium with zinc (these are best taken at a separate time to optimize absorption of zinc) or mixing an enzyme product with a probiotic, it does not mean that all of the supplement has been wasted or that a toxic reaction has occurred. Some of the potency of the supplement may have been diminished, but not the entire thing.



On the Organic Acids Test (OAT) from Great Plains Laboratory, there are markers linked to clostridia bacteria toxins. The two most common clostridia bacteria markers are HPHA and 4-cresol. These toxins can inhibit an enzyme called Dopamine Beta-Hydroxylase (DBH) which converts dopamine (measured as HVA on the OAT) to norepinephrine (measured as VMA on the OAT). When this enzyme is inhibited in its function the HVA levels will commonly rise. There can also be a drop in VMA. One of the main problems with too much dopamine is a toxic metabolite called dopamine-o-quinone (DOQ). Too much DOQ is toxic to the brain and nervous system.



Functional Medicine
Clinical Rounds

