



Pittsburgh Partnership

Specialists in Prader-Willi Syndrome

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Essential Fatty Acid Supplementation in PWS

Omega-3 Fatty Acids, EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) have beneficial effects among typical persons related to the prevention and management of depression, bipolar disorder, self injurious behavior and dementia, in addition to the positive effects on immune function, diabetes management, cardiovascular health and cancer. In the central nervous system, the mode of action appears to be on brain cell membranes in nerves, synaptosomes, myelin and supportive structures such as mitochondria.

There is a well established tendency toward inflammatory conditions when omega-6 fatty acids are in excessive supply and omega-3 fatty acids are deficient. Deficiencies of EFA have been identified in Prader-Willi syndrome (unpublished data) mood disorders (published), inflammatory diseases (well established), ADHD (published), Autistic spectrum disorders (published) arthritis (published) and many other conditions. The estimated desirable balance is 1:1 to 1:4 ratio of omega-3 to omega-6 fatty acids in our diets. Most American diets contain a ratio of 1:30 or worse.

Persons on the low fat diet of PWS are most likely to be deficient in both omega-3 and omega-6 essential fatty acids. What little fat they get (from margarine or other vegetable sources or from corn fed meat and dairy sources) is more likely to contain Omega-6 fatty acids. Therefore we strongly recommend that supplementation with essential fatty acids be part of the diet of every person with PWS once they enter the stage of calorie restriction. Infants may also have deficiencies as they are less likely to be breast fed and supplementation should be discussed with your nutritionist. Persons on anticoagulation therapy or with bleeding problems should consult with their physician before beginning supplementation. There are other precautions noted at the links at the bottom of this page.

The most cost effective way to supplement these molecules appears to be using a liquid preparation of fish oil (for omega-3) and plant seed oil (omega 6's). (This is not the old fashioned cod liver oil or our youth which provided high concentrations of vitamin A and would be unsuitable for fatty acid supplementation) You are looking for high quality products purified by *molecular distillation* which contain mostly EPA and DHA for omega-3 supplementation and GLA (gamma-linolenic acid) for omega-6 supplementation. "Fish Oil" from grocery stores or commercial pharmacies (in USA) is relatively low in the desired compounds and has other undesirable qualities.

We have tested only 1 brand for taste and can recommend Nordic Naturals liquid oils or capsules. See www.nordicnaturals.com. Their product, ProEFA liquid taken 1-1 ½ teaspoons per day is a reasonable dose for adults. Your target dose is 1-2 grams of EFA taken with food for general supplementation and 3 grams or more per day with meals for mood stabilization. Other reliable brands include CorOmega. www.coromega.com.

More information on this topic is not difficult to find. You can begin at <http://www.umm.edu/altmed/articles/omega-3-000316.htm> and <http://www.umm.edu/altmed/articles/omega-6-000317.htm>