



The Great Plains Laboratory, LLC

Cholesterol Deficiency:

A Major Factor in Autism and Other Chronic Disorders

GENERAL DESCRIPTION

Cholesterol is an essential sterol to life, found in every animal cell, which helps protect human tissues. Many people fear and focus on high cholesterol levels, as they are statistically associated with a greater risk of cardiovascular disease (CVD), yet little attention is paid to low cholesterol levels, which also can have serious health consequences. Although very high blood serum cholesterol values are associated with heart disease, values that are low (below 160 mg/dL [4.14 mmol/L – unit of measure used in Europe and Canada]) are associated with autism, increased violent behavior, suicide, depression, anxiety, bipolar disease, Parkinson's disease, and increased mortality from cancer. Most significantly, the death rate is doubled in older adults with lower total cholesterol, and stroke and cataract rates are higher.

Benefits of Cholesterol

Cholesterol serves several important roles in metabolism: It is a key constituent of all cell membranes and provides the structural framework for vitamin D, adrenal and sex hormones, and brain myelin, as well as for bile acids which help digest fat and increase absorption of fat soluble vitamins. Cholesterol synthesized in the brain is the primary component of the myelin that surrounds each nerve cell as a protective sheath. Loss of myelin inevitably causes neurological damage. Both neurons and glial (support) cells in the central nervous system (CNS) require sufficient amounts of unbound cholesterol as an integral part of their cell membranes.

Cholesterol: The Good and The Bad

The type of cholesterol that is associated with high density lipoproteins (HDL) is termed "good cholesterol". The type of cholesterol associated with low density lipoproteins (LDL) is designated as "bad cholesterol". If, however, the tissues of a certain person have a significant overall deficiency of needed cholesterol, then both LDL and HDL cholesterol can be good for that person. LDL cholesterol actually protects humans against infection. A study at the University of Pittsburgh found that in young and middle aged men, those that had LDL cholesterol below 160 mg/dL (4.14 mmol/L) had a significantly lower number of white blood cells than men with LDL cholesterol above 160 mg/dL (4.14 mmol/L).

DISORDERS ASSOCIATED WITH LOW CHOLESTEROL

- Alcoholism
- Lung Cancer
- Suicide
- Obesity Associated with Human Adenovirus-36 Infection
- Alzheimer's Disease
- Crohn's Disease
- Rheumatoid Arthritis
- Autism Spectrum Disorders
- Depression
- Anxiety
- Hyperthyroidism
- Liver Disease
- Celiac Disease
- Bipolar Disease



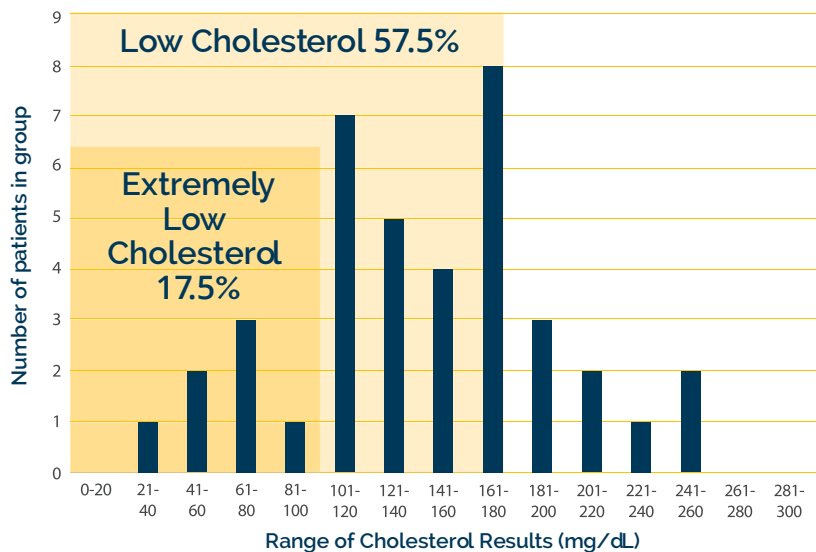
Cholesterol and Autism

Cholesterol Deficiency In Autism Spectrum Disorders: Relevant Studies

Dr. Richard Kelly, a research physician at John Hopkins University and his colleagues found that Autistic symptoms prevalent in the genetic disorder SLOS (Smith-Lemli-Opitz Syndrome) quickly reversed after supplementation with dietary cholesterol. Some of the many improvements included sleeping through the night, overcoming aberrant behaviors, learning to walk, speaking for the first time, and becoming more responsive and social with family members, all within days of taking cholesterol supplements.

Dr. Elaine Tierney, Director of the Autism Metabolic Research Program at the Kennedy Krieger Institute and her colleagues involved in SLOS research investigated the incidence of cholesterol deficiency in blood samples from a group of subjects with Autism Spectrum Disorders (ASD). Although no sample had values consistent with SLOS, 19 samples (19%) had total cholesterol levels lower than 100 mg/dL (2.59 mmol/L), values that are much lower than those found in normal children of the same age.

Cholesterol in Children with Autism Spectrum Disorders



Advanced Cholesterol Panel

The Advanced Cholesterol Panel includes the following markers: Total cholesterol, apolipoprotein A-1, apolipoprotein B, Lipoprotein (a), and homocysteine. Lipoproteins are involved in cholesterol, lipid, and vitamin E transport. Each of these markers, indicated in high or low levels, has been associated with a variety of genetic diseases of cholesterol metabolism including SLOS, Tangier's disease, and abetalipoproteinemia, as well as other chronic health conditions.

The Great Plains Laboratory performed cholesterol testing on 40 children with autism (see the above graph). The results of this and the Tierney study were similar, with The Great Plains Laboratory percentage of extremely low values being 17.5% versus 19% of values being low for the Tierney study. In addition, 57.5% had cholesterol values less than 160 mg/dL (4.14 mmol/L).

Cholesterol Supplementation

Everyday supplementation with high cholesterol foods such as egg yolks, might prove to be a useful therapy to try for a few months for children with Autism who have cholesterol values that are low. Unfortunately egg allergy is common in Autism and may increase with a steady egg diet and compliance may be difficult for children who dislike eggs.

For more information about cholesterol supplementation, contact New Beginnings Nutritional at (913) 754-0458 or online at www.NBNUS.com.

Contact Us

GP-Labs.com
913.341.8949
sales@gp-labs.com



Address

11813 West 77th St.
Lenexa, KS 66214
United States