

Biological Functional Testing

Functional testing can be helpful to gain a better understanding of where the body is struggling and what might be contributing to development, mood and behaviour concerns. The following tests are not diagnostic of medical condition or illness; they simply help us better understand what's going on in the body so we can tailor our support.

The Organic Acid Test (OAT):

The OAT is a urine test that offers a snapshot of overall health. The 70+ markers give us insight into intestinal yeast and bacteria, nutrient absorption, hormonal pathways, oxidative stress, and neurotransmitter levels. The test helps us better understand the enzymes and pathways in the body that may be struggling so we can boost the appropriate nutrients for support.

The OAT gives us insight into possible underlying contributors to symptoms like hyperactivity, movement disorders, aggression, fatigue, poor immune function, attention, sleep, pain, self injury, anxiety and depression, by helping us better understand the health and function of the pathways involved in those symptoms.

Gluten and Casein Peptide Urine Test:

Poor digestion of gluten from certain grains and casein from dairy can be a contributor to development, behaviour and mood struggles. If gluten and casein proteins are not broken down well by the digestive process, they can create opioid-like peptides. These can potentially interact with opioid receptors in the brain, altering mood and behaviour. This test gives us an idea as to whether gluten and dairy might be contributing to neurological and physical symptoms.

Food Sensitivity Testing and Zonulin:

An immune reaction to food along with poor digestive integrity can put undue stress on the body and activate chemical pathways that can influence behaviour, mood and development.

Common allergy tests, which look for IgE antibodies and diagnose a true food allergy, can be helpful. But food sensitivity tests are different because they test for IgG or IgA antibodies - other immune chemicals that can respond to food.

The presence of IgG and IgA antibodies accompanied by high zonulin levels (a protein that is involved in intestinal health and function) along with physical or neurological symptoms that have no other cause, can indicate that there is substantial work to be done to support the health of the digestive and immune systems and can give direction as to how to proceed with a systematic food elimination trial to learn what is truly bothering the body.

These tests can help clinicians to better understand what is going on in the gut and, since the connection between the gut and the brain has now been firmly established in the scientific literature, the more insight we can get about what is going on in the gut the better we can understand behaviour.

Hair Mineral and Metals Test:

Since metal and mineral levels in hair are correlated with levels in organs and other tissues, this test is a helpful tool to determine if metal toxicity or mineral deficiency might be contributing to symptoms.

The toxic elements in this test such as arsenic, aluminum, cadmium, lead, antimony, and mercury may be 200-300 times more highly concentrated in hair than in blood or urine. Therefore, recent exposure is more likely to show up in the hair even if a blood or urine test has been clear.

Some of the nutrient levels in this test that are most helpful to development, mood and behaviour are: magnesium, zinc, copper, lithium, lead, chromium.

Like the other tests described here, this is not a stand-alone diagnostic test for nutritional deficiency or metal toxicity. But it can be helpful when looked at in conjunction with a detailed health and behaviour profile and other laboratory tests.

Copper:Zinc Profile:

Copper and zinc compete against each other to regulate physiological pathways. When zinc is high, copper is low, and vice versa. The two need to be in a healthy balance in order for optimal mood, behaviour and development to occur. The body needs more zinc than copper, but diet and lifestyle factors, along with environmental contaminants, some genetic factors and some medications often cause an imbalance.

Panic attacks, headaches, chronic infections, chronic fatigue, brain fog, diarrhea, reduced appetite, weight loss, skin problems, anxiety, depression, poor immune function, autism and ADHD are some symptoms that can be associated with a copper:zinc imbalance.

This ratio can be checked using the hair test already discussed or by a blood draw.

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References:

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