



Micro Trace Minerals GmbH

35 years of clinical and
environmental analysis

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Autism, Laboratory Test Information and Workshops

1. Conference on Autism, Santa Cruz, Tenerife

Aldis of Tenerife is an organisation of parents and doctors with an interest in the treatment of disorders such as Autism, Fibromyalgia etc. During the well-attended meeting, held at the Hotel Atlántida in Santa Cruz, a variety of specialists shared information about treatment methods and laboratory diagnostics. Certain aspects of the D.A.N. protocol were discussed. All agreed that proper information about diagnostics is important to physicians who base their treatment on laboratory tests. We like to share some notes and facts. See our website www.microtrace.eu or www.microtraceminerals.com for more information.

Fact #1: Microbiological Testing of Faeces

Microbiological testing of faeces (or urine) must be performed at a local laboratory, because bacteria and fungi readily multiply with time and in warm climates, or die. While some DAN members believe that certain American laboratories developed sampling methods that prevent microbiological growth during shipping time, all laboratory experts present agreed that this could not be the case. European laboratory standards are high. We are known for expertise, innovation, reliability and honesty. We do not know of chemicals that preserve bacteria and fungi without destroying them!

We like to point out that faecal metal testing is not affected by time and shipping conditions, simply because metals are stable.

Fact #2: Amino Acid Testing of Urine

In newborns, blood is tested under special conditions to detect problems of the amino acid metabolism such as defects in the tyrosine and phenylalanine metabolism, resulting in phenylketonuria (PKU). Phenylketonuria is diagnosed by blood test, usually as part of the routine screening tests given to a newborn within the first few days of life. If an infant is tested at less than 24 hours old, it is recommended that the test be repeated when the infant is one week old.

If PKU is present, the level of phenylalanine will be higher than normal in the blood. The test is highly accurate if done when the infant is more than 24 hours old but less than seven days old. Ask your paediatrician if PKU testing was performed. If the test was negative, there is no need for a repeat. A false-positive test can generate considerable parent anxiety.

PKU occurs in most ethnic groups. Parents and siblings of children with PKU can be tested to find out whether they carry the gene that causes the disease. If two carriers conceive a child, that child has a 1 in 4 chance of being born with the disease.

PKU is a metabolic disorder that can be treated with a controlled diet. Bread, cake, wheat germ, meat, fish, poultry, milk and milk products, eggs, beans and chocolate must be avoided. Absolutely forbidden are sweeteners such as Nutra Sweet, Equal and Aspartame, because they contain about 50% phenylalanine.

If normal children and adults eat phenylalanine-rich foods, the phenylalanine concentration of urine will be elevated. Generally, the amino acid content of urine easily changes, depending on a patient's food intake.

Maple Syrup Disease- a rare amino acid metabolic problem

Maple syrup urine disease (MSUD) results from a deficient enzyme (branched-chain alpha-keto acid dehydrogenase, BCKD) necessary for the breakdown of the amino acids leucine, isoleucine, and valine. Without the BCKD enzyme, these amino acids build up to toxic levels in the body. If left untreated, this leads to brain damage and progressive nervous system degeneration.

Typical for the disease is the sweet, Maple Syrup smell of urine, which is very noticeable. In many countries, testing for MSUD is done routinely after birth. Check the child's hospital records.

Maple syrup urine disease occurs in about 1 per 180,000 live births and affects both males and females. MSUD is caused by a gene defect and affects people of all ethnic backgrounds, but higher rates of the disorder occur in populations in which there is a lot of intermarriage, such as the Mennonite (Amish) community in Pennsylvania (U.S.).

Leucine is highly concentrated in meat, milk products, beans and brown rice. Isoleucine is highly concentrated in cheese, nuts and wheat germ, and Valine, in fact, is found in most foods, especially protein.

Fact #3: 'Organic Acid' Test

The concentration of certain organic acids in blood or urine is a reflection of the individual's dietary intake. For instance: **Malic acid** is formed in metabolic cycles in the cells of plants and animals, including humans. The compound provides cells with energy and carbon skeletons for the formation of amino acids. The human body produces and breaks down relatively large amounts of malic acid every day. Malic acid is normally produced when fruit is ingested and digested. Malic acid is also used as a flavor enhancer in food preparation for confectionaries, beverages, fruit preparations and preserves, desserts, and bakery products. Malic acid is used in the preparation of medical products such as throat lozenges, cough syrups, effervescent powdered preparations, toothpaste and mouthwash. Additionally, malic acid is found in skin care products.

Unless a controlled diet and lifestyle is administered and followed prior to sampling, the test will provide misleading results.

Fact 4: Food Intolerance Testing

While we do food allergy and food intolerance testing, we all agreed that serum samples are time and heat sensitive. Yes, we have methods that allow for some shipping time, but shipping to another country takes too much time. We recommend that you have these tests done locally.

Fact 5: Neurotransmitters

Neurotransmitters transmit information within the brain and from the brain to all the parts of the body. Glutamate is a neurotransmitter found in many processed foods.

The neurotransmitter Serotonin is influenced by paracetamol, muscle relaxants, even bananas, walnuts, tomatoes, pineapples, avocados or kiwi.

Again, a controlled diet is a must before neurotransmitter testing, and the urine must be collected over 24hrs, or else results are unreliable.

Fact 6: Genetics

The good news is that genetic tests can be done safely from EDTA Blood. It is also possible to submit dried blood cells on filter paper (as is used by paediatricians for infant testing). A few drops of red blood on filter paper are enough to provide reliable results. You may also send a gum swipe, not saliva. Genetic testing can only be done on cells, and saliva, serum or urine do not contain cells.

Fact 7: Hair mineral analysis

The test provides reliable information about the body's toxic burden as it accumulated over time. However, hair treatment such as coloring, bleaching or perming will falsify results. Since it is difficult to separate chemically treated hair from new growth, we recommend you send pubic hair or nails instead.

Fact 8: Urine mineral analysis

Metal-rich food or drink can affect the urine metal concentration. Foods that may be high in arsenic or mercury may be large fish such as tuna. Coca Cola, even certain city water may contains high amounts of aluminium. We recommend that you do not eat large fish for 3 days prior to sampling urine. Metals circulate in the body for about 3 days before they are stored or eliminated, therefore be conscious about what you eat and drink prior to collecting urine samples.

And when you collect urine, make sure you utilize clean containers as provided by us and the laboratories we cooperate with.

2. Water filters

These questions always come up during workshops and seminars:

- a) how effective are water filters
- b) which water filter is best

Charcoal filters work well and are inexpensive. To find out how effective the filtration system is, have your water checked *before and after it has been filtered*. If you have not bought the filter, insist that the filter company provides proof.

3. WORKSHOPS – for updates and additional workshops in German, Spanish or French see our website.

The next **IBCMT Workshop on Metal Toxicology** is planned for **May 12/13, 2012**

Place: Sheraton Carlton Hotel, Nuremberg, Germany

Program and Details: www.microtrace.eu or www.microtraceminerals.com

Bring your medical assistance. Well-trained assistants provide important information to your patients and help you make the most of your valuable time.

4. Have a Happy Holiday Season 2011 and enjoy a Successful and Healthy 2012.

Our future depends on our children, and the health of our children depends on a healthy environment. This year, we have donated to the Waldorf Kindergarten in Hersbruck, and to African Children in Need.

Note: while we work fewer hours during the Christmas Season, we are open throughout the holidays. Your samples will be accepted and worked on as usual.

We wish you all a happy, healthy and peaceful Holiday Season.

Eleonore Blaurock-Busch PhD
Yvette Busch BS, Director and Team