

Biological Terrain Assessments are performed to evaluate functional chemistry in the body. The following components are included:

Acid/Alkaline pH Challenge Test

Overview:

The acid/alkaline pH challenge test is an acid/alkaline challenge test to monitor mineral reserves. Minerals are needed by virtually every cell enzyme activity. The average number of cells is 450,000,000,000, and the average number of cell enzyme reactions per cell per second is 35,000! Each enzyme reaction requires mineral co-factors for optimum efficiency. By subjecting a client in an acid challenge (lemon juice), alkaline buffer reactions can be monitored along a time line. The degree of adaptability of the client's alkaline buffer system will reveal the state of the mineral reserves.

Clinical Applications

Assess available mineral reserves, potential adrenal stress, mineral depletion risk factors, client's degree of stress, cell rigidity and serious organ pathology.

Adrenal Stress Urine Test

Overview:

The Adrenal Stress Urine Test, also known as the Konisburg Test, measures chloride displacement in the urine. Minerals such as sodium, potassium, and magnesium, all bound to chloride, are displaced due to high tissue and serum acidity (> H⁺ ions). High acidity is the result of a hyper-stimulated sympathetic system, which directly stimulates the adrenals. Sodium should be reabsorbed through the kidneys via the function of aldosterone. Potassium, magnesium, and calcium, however, are not reabsorbed. These minerals are easily lost.

Clinical Applications:

Helps to determine degree of adrenal weakness, and energy output, kidney burden or dysfunction, stress levels, and probable magnesium, potassium, and calcium deficiencies.

Calcium Urine Test

Overview:

Calcium is the most abundant mineral in the body. Nearly 99% of it is found in the bones and in the teeth. The remaining 1% is found in blood, lymph, and other body fluids. The following is a list of important functions of calcium:

- Calcium develops and maintains healthy bones and teeth
- It plays a vital role in muscle contraction
- It is vital to the regulation of heart muscle contraction
- Calcium is essential for nerve impulse conduction
- It plays a role in the release of neurotransmitters and activates their enzymes
- It interacts with sodium, potassium, and magnesium to regulate blood pressure and water balance
- Calcium activates prothrombin, essential to the clotting process

- Calcium is essential for cell, and activation of cell enzyme processes
- It helps to produce hormones involved in digestion, energy metabolism
- It is essential in the production of saliva

- Calcium can be removed from the bone to regulate blood calcium levels
- Calcium absorption reduces with age

Calcium absorption is **increased** by:

| | | |
|------------|----------|---------------------------|
| Growth | Exercise | Pregnancy |
| Lactation | > Vit D | Protein intake – adequate |
| Fat intake | Lysine | Glycine |

Calcium absorption is **decreased** by:

| | | |
|---------------|---------------------|--------------------------|
| < Vit D | G.I Inflammation | <HCL |
| <Exercise | <fat intake | <protein intake – excess |
| >Grain intake | >phosphorous intake | >oxalic acid vegetables |

ChemStrip Urine Test

Overview:

The ChemStrip Urine Test is a simple dip-stick urine test that screens for gross pathology in 13 categories. This is an essential test for screening possible pathology from simpler organ dysfunction. Categories of the test include:

| | | | |
|---------|--------------|--------------|------------------|
| Color | Transparency | Odor | Specific Gravity |
| pH | Leukocytes | Nitrite | Protein |
| Glucose | Ketones | Urobilinogen | Bilirubin |
| Blood | | | |

Free Radical/Oxidata Urine Test

Overview:

Free radicals are molecules that have an uncoupled electron. This uncoupling occurs as a by-product of normal metabolic reactions and xeno-toxic reactions (foreign to the body). This is a very unstable state causing these molecules to be highly reactive. Once free radical species are initiated, they propagate by becoming involved in chain reactions with less reactive species of cell material. The chain reaction compounds itself from cell materials that generally possess longer half-lives, and therefore extend the potential for cellular damage. Many chronic diseases are implicated with free radical damage.

Clinical Applications:

The Oxidata Urine Test measures the distant end of the polyunsaturated fat chain and helps to pinpoint cellular oxidation-reduction trends. Aldehyde is most concentrated in the urine and is fifty times more sensitive than blood plasma aldehyde measurement.

Vitamin C Urine Test

Overview:

The role of Vitamin C is now well established. It is involved in literally hundreds of biological processes in the body. The following is a partial list of Vitamin C's most important functions:

- Essential to production of collagen and connective tissue

- Provides support and protection of blood vessels, bones, joints, organs and muscles, eyes, teeth, ligament, cartilage and skin
- Essential to antibody production
- Increases white blood cell activity
- Essential to the production of interferon
- A water-soluble anti-oxidant that protects the watery part of the body
- Protects LDL cholesterol against oxidative stress and protects heart from oxidation damage
- Essential to the manufacture of neurotransmitters, particularly the conversion of tryptophan to serotonin, and of tyrosine to dopamine and adrenaline
- Protects against high blood pressure
- Appears to reduce the risk of cancer, particularly esophageal, larynx, stomach, colon and lung
- High levels of Vitamin C reduces the risk of cataracts and oxidation stress of diabetes
- Vitamin C, when combined with bioflavonoids, reduces histamine reactions
- Protects against oxidation stress to the skin
- Protects against the build-up of gall stones
- Improves the stability of Vitamin E in the body
- Important to the transport of iron across the cell membranes

Clinical Applications:

It pinpoints Vitamin C status. The reagent: 2,6-dichlorophenol endophenol reacts with ascorbic acid in the urine

Zinc Taste Test

Overview:

Zinc is essential to the production of hydrochloric acid (necessary for digestion), antibodies, white blood cells and thymus hormonal function. Combined with copper in SOD, zinc is a primary anti-oxidant and is essential to the normal structure and function of cell membranes. It provides nutritional support for teeth, bones, nails, hair and skin, and it produces carbonic anhydrase, the primary enzyme for the conjugation of CO₂. Zinc is essential to the conversion of Linoleic Acid (LA) to Gamma Linoleic Acid (GLA) and is involved with metabolism of testes, pituitary, thyroid and the adrenals. It is also an essential co-factor in the production of seminal fluid. 90% of clients tested are zinc insufficient! Test scores range from no deficiency, to mild, moderate and severe.

Clinical Applications:

Zinc reserves in the body can be measured instantly to detect deficiencies. Test can easily be repeated on an ongoing basis to check progress.