Biological Terrain Assessment: an Invaluable Tool

By Sondra Becchetti and Michael Kessler

What Is BTA?

The concept of biological terrain assessment (BTA) is not new, but with advances in technology, it is now a cutting-edge screening tool to put your health back on track. It is also a wonderful preventative and anti-aging system that can help keep our patients off the path to ill health.

BTA measures blood, saliva and urine for electron levels, pH balance and minerals (resistivity) in these fluids. The best comparison of the importance of this analysis would be that if you have healthy soil with all the necessary nutrients, you will have a healthy tree. If you put a healthy tree in unhealthy soil, you will have a sick tree that may die.

If our terrain is out of balance due to an unhealthy lifestyle or xenobiotics (environmental toxins), we are setting ourselves up for disease. Is your body’s internal environment designed for cancer, yeast, bacteria, viruses, or health? With this technology, we can tell objectively in what direction our patient’s health is heading and monitor their progress.

How many times have we taken herbs, vitamins and minerals and only felt better for a short period of time? That’s because we have not made a change on a cellular level. The basis for all health (and disease) occurs at the cellular level. BTA measures how healthy the cells are. More specifically, is the cellular environment too acidic, are there too few electrons to combat free radicals and/or to produce energy, and are there too few minerals to buffer the acids? These are just a few pieces of information BTA will reveal.

What Is So Important about pH, rH2 and Resistivity?

We are born alkaline and we die acid. The ability of our DNA to repair itself, the quality of our chemical reactions, the prevention of most diseases, and maintenance of the electrochemical cell balance all have to do with keeping extracellular fluids alkaline (pH).
rH2 (or redox) measures the amount of electrons in our fluids. Electrons are needed in the body to produce ATP, the energy source that our cells produce as a result of the metabolism of proteins, carbohydrates and fats. Our body goes through a process of stripping electrons off the food we eat and uses those electrons in the mitochondria of the cell to produce ATP.

We also need an abundance of electrons to reduce oxidative stress (free radical damage) to our cells. When there are not enough electrons, less ATP is produced. Insufficient energy is produced by the cells (and therefore to our bodies) and too much free radical damage occurs, which accelerates aging and disease. Many chronic fatigue syndromes begin - and need to be addressed - at this level. The greater the number of electrons, the greater the likelihood of quality chemical reactions, enzymatic reactions, and an abundance of cellular energy, resulting in optimum health.

 Resistivity (R) is a measurement of the amount of minerals which also equates to the ability of our fluids to conduct electricity. Minerals are important to neutralize the effects of acidity in the body fluids. Almost all serious diseases are associated with an acid environment. We need an abundance of alkaline minerals to buffer the acids produced by our body’s natural processes in addition to the acids produced by stress and the acidic foods we consume.

**What Can We Learn from BTA?**

- the level of acidity of the cells of the body;
- the level of compensating alkalinity of both the blood and saliva;
- the ability of the kidneys to excrete the excess acids that are produced within the body;
- the tendency for hemoglobin to release less oxygen to the cells;
- the tendency for the blood to be too thick;
- The ability of the cells to create energy;
- the amount of electrons present in the blood and saliva, and hence the potential for further chemical and enzymatic reactions in these fluids;
- the ability of the kidneys to hold onto electrons;
- the level of mineral deficiency in the blood;
- if there are enough digestive enzymes present;
- if there are enough antioxidants present;
- the ability of the kidneys to excrete wastes;
• if the lymphatics are congested.

The concept of biological terrain is credited to the noted 19th century physiologist, Claude Bernard. Bernard believed that a cell’s environment determines its function and integrity and that it is not outside organisms that make us ill, but the ability of our body to ward off pathogens.

In 1962, Professor Louis-Claude Vincent, a French check phone calls to see if the doctor is there. The front desk person is asked a barrage of questions regarding various issues. A follow-up letter is sent to the doctor, usually listing noncompliance of certain points, along with a reminder of the doctor’s agreement with them! For those doctors who are closed out in their area because there are no available slots, they are unable to serve those people in their community.

We practitioners have been positioned to "compete" among ourselves for these slots. ater.

In Germany, equipment was created that allowed physicians to apply the terrain principles to the human body by measuring blood, saliva and urine. In 1994, following years of research in biochemistry, Dr. Robert Greenberg designed the device and is recognized today as the foremost authority on biological terrain.

**Case Study**

An example of how we use BTA analysis can be seen in the case of a three-year-old boy, Michael, who had been medically diagnosed with Crohn’s disease on April 5, 1999. Michael had extremely abnormal lab readings:

• Alkaline phosphatase of 502 (reference range is 415)
• SGOT of 616 (reference range is 42)
• SGPT of 1257 (reference range is 45)

These numbers were verified by repeat analysis and indicated extreme inflammation. The SED rate was high at 38, confirming the inflammation. This little boy was experiencing abdominal pain, blood in the stools and high fevers.

On BTA analysis, the little boy had a chemistry of a 33 year old. His saliva pH was extremely high, indicating cellular acidity, as saliva will become more alkaline as a compensatory mechanism for acidity. This high salivary pH also indicated a decrease in the activity of the salivary enzyme ptyalin, which could further indicate an inability to adequately digest all food byproducts, especially carbohydrates. His saliva R
(resistivity) was also extremely high, indicating a diminished concentration of available minerals which could be caused by malabsorption due to leaky gut or lack of enzymes.

April 29, 1999 BTA Results

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<th>pH</th>
<th>rH2</th>
<th>R</th>
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<tr>
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<tr>
<td>Saliva</td>
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<tr>
<td>Urine</td>
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Optimum Values

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<tbody>
<tr>
<td>Blood</td>
<td>7.30-7.35</td>
<td>21.5-23.5</td>
<td>190-210</td>
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<tr>
<td>Saliva</td>
<td>6.50-6.75</td>
<td>21.5-23.5</td>
<td>180-220</td>
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<tr>
<td>Urine</td>
<td>6.50-6.80</td>
<td>22.5-24.5</td>
<td>30-45</td>
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Michael was put on a comprehensive program. He was taken off all dairy products and gluten grains; his total carbohydrate intake was reduced. In addition, he was put on a 4R program consisting of ultraclear sustain, probioplex and acidophilus/bifidus and a yeast protocol of FC Cidal, ADP, yeast/fungal homeopathics and essential fatty acids. He was later given a Chinese herbal combination to further decrease inflammation and colostrum.

Michael’s intestinal bleeding stopped immediately after beginning the program, and he made steady progress. His skin rashes disappeared, and his abdomen began to be less bloated. A followup blood test and BTA were performed on June 29, 1999 with the following results:

- Alkaline phosphatase 158
- SGOT 42
- SGPT 39
- SED rate 18
June 29, 1999 BTA Results

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Optimum Values

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These test results indicate an improvement in Michael’s overall cellular acidity seen by the decrease in compensating alkalinity of the blood and saliva. Also seen is an improvement in the yeast condition, again shown by the decrease in saliva pH and saliva R. His mineralization also improved somewhat indicated by the decrease in saliva R.

Michael’s program will now concentrate on supporting his kidneys, which appear to be somewhat taxed as seen by the high urine R. The high rH2 in the saliva also indicates oxidative stress in the liver, so Michael has begun a program for that beginning with buffered vitamin C. In addition, he will be given a liquid digestive enzyme to help absorb his nutrition better and further improve his scores. He will be closely monitored and retested as deemed necessary.

It is our understanding that biological terrain assessment is a valuable tool both in assessing and monitoring the progress or lack of progress in any health program. We also feel that adjunctive tools in evaluation should be used, such as Voll testing, Vega testing, advanced kinesiology and adequate lab work for complete diagnosis and treatment protocols.