



InterClinical Laboratories

# Newsletter

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Hair Tissue  
Mineral Analysis

Nutritional  
Products

Practitioner  
Education

Research and  
Development

## Clinical Updates for the Healthcare Professional

### Diabetes Develops Years Before Clinical Diagnosis

**R**ecently, European researchers performed a prospective study involving over 6,000 British civil servants who did not have diabetes. A median follow-up at ten years found over 500 cases of individuals now diagnosed with Type 2 diabetes. It was found that blood glucose levels increased and insulin sensitivity decreased three to six years before the diagnosis. It was also found that beta-cell function increased in order to compensate for increased glucose levels four years before diagnosis. The researchers concluded that prevention would be more effective before the glucose and insulin levels became unstable and that more research is needed to identify those at this early stage of development. *The World in Medicine. Foreshadowing Diabetes. JAMA 302,2, 2009.*

Comment: Many health problems begin years before they become clinical. The early signs and symptoms may be minor or sub-clinical and therefore, go undetected until they fully manifest. As stated by the authors "more research is needed to successfully identify people at an early stage." The value of HTMA is that it has predictive value for identifying underlying and subclinical trends in nutritional imbalances that are associated with many chronic degenerative health conditions. HTMA can be a significant and valuable tool for detecting early changes, as well as providing information for effective prevention.

It detects not only nutritional imbalances contributing to health issues, but also assesses metabolism and endocrine function in the body, as the mineral patterns found in the hair reflect the internal metabolic environments. These HTMA patterns are greatly influenced by the endocrine glands and are largely a reflection of endocrine activity that contributes to absorption, retention and excretion of minerals.

People can be classified into two main metabolic types: fast (sympathetic dominant) and slow (parasympathetic dominant). Depending on whether the person is sympathetic or parasympathetic dominant, stress of any kind (eg emotional, illness, exposure to toxic metals or chemicals) can cause overactivity or underactivity of the adrenal glands and lead to endocrine imbalance. The majority of adverse health conditions have underlying metabolic disturbances involving the neuroendocrine system – that conversely contribute to nutritional imbalances. The different metabolic needs of patients can be identified through patterns revealed in HTMA, enabling responsible nutritional therapy to be prescribed by practitioners.

*The Trace Nutrients practitioner product range addresses the need for metabolic support with special formulations that balance the requirements of sympathetic overactivity or parasympathetic dominance (see insert on Sym-Pack V, Para-Pack V and Aden Complex).*

*Continued on next page*

## Season's Greetings and Happy New Year

### DIRECTOR'S MESSAGE:

*InterClinical Laboratories would like to acknowledge you, the health care professionals and practitioners who use our services. We thank you wholeheartedly for your support in 2009, a year that was difficult and challenging for many people. Because of your continued support, we are able to achieve our goal of making a difference in people's lives by delivering high quality, affordable healthcare solutions, through natural and nutritional medicine professionals, that are based on solid scientific evidence.*

*We look forward to a great year in 2010. Our national seminars, which were a resounding success this year, will continue next year. (If you missed out in 2009, we have created a special DVD compilation set, with presentation notes - so please contact us for details).*

*New for 2010: We are pleased to introduce our Online Practitioner Education Program. Please see page 3 of this newsletter for details on how to register.*

*Wishing you and your patient's a safe and enjoyable time over the festive season. Good health and happiness for the year ahead.*

kindest Regards,  
 Ian Tracton, Director, InterClinical Laboratories

## Diabetes and ITP Caused by Helicobacter Pylori

This is a very interesting case study involving a gentleman who was admitted to a hospital with cold sweats and shivering. Eventually they found his HbA elevated along with low platelets. Despite treatment with antidiabetic agents his HbA continued to rise and he was experiencing recurring hypoglycaemic episodes. Even though antibodies against insulin were not found, they did however detect antibodies against insulin receptors. The patient was eventually diagnosed with Type B insulin resistance syndrome. They also found antibodies against platelets since his platelets continued to drop. Eventually they discovered that the patient had helicobacter pylori (H pylori) infection. Upon appropriate treatment and eradication of the H pylori the patient's platelet level returned to normal along with a reduction in HbA and normalization of his insulin level. After six months, antibodies against insulin receptors were no longer detectable and the patient no longer required glucose regulating drugs. Case Report. Eradication of insulin resistance. Imai, J, et al. Lancet 374, 2009.

Comment: H. pylorus is estimated to affect half the world's population being more prevalent in less developed countries. However, it is also estimated to affect over twenty-five percent of the population in developed countries. H pylori is related not only to gastritis, ulcers and gastric cancer but may also be related to immunological disorders, such as diabetes and rheumatoid arthritis. HTMA studies have shown that a chronic elevation of the sodium/potassium (Na/K) ratio (greater than or equal to 5:1) is associated with inflammation. Often the inflammation is associated with gastritis and therefore, may be associated with H pylori infection, as H pylorus is known to cause a chronic low-level inflammatory response. Tests for confirming H pylori include; biopsy, carbon urea breath test, blood antibody, or stool antigen tests. H Pylori is commonly found in individuals with low hydrochloric acid production. Recent studies have shown that consumption of broccoli sprouts can reduce H pylori colonies in the stomach by forty percent.

## Antacids and Pneumonia

It is interesting that observational studies reported in J.A.M.A. found that the use of acid suppressing medications such as proton pump inhibitors (PPI's) increased the risk for hospital-acquired pneumonia. Records of about sixty-four thousand patients hospitalized over a three to four day period revealed that hospital-acquired pneumonia was significantly more common in those receiving acid suppressing drugs compared to those not using the drugs. Apparently about half of the patients in the group were receiving acid suppressors. Acid-Suppressive Medications Linked to Increased for Hospital-Acquired Pneumonia. Fairchild, DG. Physician. Physician's First Watch, May 27, 2009.

Comment: Normal HCl is not only necessary for digestion but also acts as a barrier to micro-organisms entering the body. It also impacts the pH of the body and when deficiency causes a shift of the pH toward the alkaline side. Alkalinity enhances the predisposition for viral susceptibility as well as bacterial colonization in the stomach or small intestine. As stated in the previous paragraph, H Pylori colonization can contribute to autoimmune responses related to diabetes and possibly other health conditions.

*There are excellent constituents in natural nutritional medicine that can be used to improve a patient's HCL production and digestive function. InterClinical Laboratories produces two digestive support formulae – HCL Plus and Digestive-Zyme. HCL Plus contains synergistic nutrients and botanical extracts that support the synthesis and secretion of HCL. Digestive-Zyme provides nutrients and botanical extracts that normalise pancreatic digestive enzyme production and secretion. Both these products are designed to support nutrient absorption from foods and as well as enhance the absorption of other Trace Nutrients supplements, such as the multi-nutrient metabolic support packs and specialty vitamin and mineral formulae (for more information see the back page of this Newsletter and/or contact InterClinical Laboratories).*

## Hair Mineral Patterns and Goiter

This study explored the relationship between the local mineral geology of residence and whether these local minerals could be related to thyroid disorders. Researchers found that "The geology-geomorphological factors of the habitat, such as geological formations (mineral composition, structure, the degree of rock metamorphism), tectonics, the history of geological development, relief, paleorelief, were found to be of considerable importance in the formation of the human trace element status. Both deficiency and excess of trace elements was shown to be of pathogenetic value in the development of thyroid disease." They found that residences located in areas of carbonate rocks were particularly vulnerable to thyroid disease. Hair Trace Elements in Patients with Goiter. Farkhutdinova, LM, et al. Klin Lab Diagn. Aug. (8) 2006.

Comment: From HTMA studies we have also found a relationship between geographical areas around the world that are associated with HTMA patterns and disease susceptibility. Dr. I Rosborg and colleagues from the Department of Occupational and Environmental Medicine at Lund University found in 2003 that the mineral concentrations differed in groups residing in acid and alkaline regions in southern Sweden. They found that hair calcium levels were higher in groups living in alkaline areas compared to those living in acid regions. This helps to support the above study in that it is well known that excess calcium accumulation is associated with hypothyroidism via HTMA studies.

## Hair Mineral Patterns and Metabolic Syndrome X

Researchers to the Ajou University in Suwon, South Korea studied the hair mineral patterns of over three-hundred individuals. After performing cross-sectional analysis for the relationship between mineral patterns and metabolic syndrome, they found that hair calcium, magnesium and copper levels were significantly lower in the group with metabolic syndrome compared to levels found in normal groups. Sodium and potassium levels were higher in the affected group. Their report concluded, "As part of the metabolic syndrome, the optimal calcium and magnesium concentrations in hair tissue may reflect decreased risk of metabolic syndrome." Hair Tissue Mineral Analysis and Metabolic Syndrome. Park, SB, et al. Biol.Trace Elem.Res. 130,3, 2009.

Comment: This study adds support to our findings that Sympathetic mineral patterns may be indicative of, and/or increases the risk for the development of metabolic syndrome. For more information see the ICL Newsletter Vol. 12, No. 4, August/September 2008, Metabolic Syndrome X – As Defined Through Hair Tissue Mineral Analysis (HTMA) Patterns.

## Cancer and Hair Mineral Patterns

Metallomics can be described as a field that studies bio metals. A metallomic study was published exploring metals or minerals in relationship to cancer risks. The study included tests of twenty-four essential and toxic metals in the scalp hair samples of one hundred twenty-four cancer patients and eighty-six control subjects. The associations of cancer with minerals were statistically analysed with multiple logistic regression analysis. Results of the study demonstrated that several minerals were significantly correlated to cancer, positively or inversely. The study concluded that their research findings suggested that some minerals such as arsenic, selenium and probably iodine, zinc, sodium and vanadium contribute to the regulation of cancer and that a metallomics study using multiple logistic regression analysis is a useful tool for estimating cancer risks. Metallomics Study Using Hair Mineral Analysis and Multiple Logistic Regression Analysis: Relationship Between Cancer and Minerals. Yasuda, H, et al. Environ. Health Prev.Med. 24,5, 2009.

Comment: At TEI (InterClinical Laboratories) we have noted HTMA patterns associated with various types of cancers, as have other researchers. With further research and pattern recognition, HTMA may serve as a significant tool in defining the relationship of mineral patterns and cancer.

## Diet and Violence

Bernard Gesch is a nutrition and criminology researcher at the University of Oxford. He can certainly be considered a forward thinker and has taken his hypothesis of improving diet to reduce violence into the mainstream by applying his ideas to prison inmates. In 2002 he published the results of a double-blind trial involving over two hundred prisoners in Aylesbury, England. His study revealed that those who received nutritional supplements had significantly fewer incidences of violent acts compared with a placebo group. In fact, violent acts were reduced thirty-five percent in the supplement group. With more significant funding Gesch has now begun an even larger and more ambitious three year study involving over one-thousand prisoners in three prisons in the U.K. The Theory? Diet Causes Violence. The Lab? Prison. Bohannon, J. Sci. Vol 325. Sept. 2009.

Comment: As stated by Gesch, "the idea of a link between diet and antisocial behaviour is not new. As far back as 1892, the Italian criminologist Cesare Lombroso reported that many bomb-throwing terrorists suffered from pellagra." Other researchers such as Pauling, Hoffer, Osmond, Shaus and others have also written about the relationship between nutrients and psychiatric conditions, as well as diet and behaviour. However, Gesch's study is well designed, and extensive. It has government backing as well as substantial funding for a properly designed trial. His earlier studies have shown the significant importance of nutrition in regards to violent behaviour, and which may help bring attention to the poor diets not only found in prisons throughout the world, but in schools, hospitals and disadvantaged young people living in poor neighbourhoods. The usefulness of HTMA in this area cannot be understated.

## What is Osteopenia?

There is rarely a week that goes by that I do not receive a call from a client whose patient has had a bone density scan and were told they have osteopenia. The patient is often very concerned over the findings and many are suggested to begin aggressive drug treatment for bone loss. Many do not understand the term osteopenia and what it means. It should be emphasized that osteopenia is not a diagnosis and should not be confused with osteoporosis. Osteopenia is a term used to describe bone density that is below optimum, even though the actual density may be perfectly normal for most people depending upon their age. Peak bone mass is estimated to be reached at about age thirty.

Afterwards, bone density begins to diminish naturally to some degree as we age. The term osteopenia was defined in 1992 by the World Health Organization (WHO). A group of experts came up with the term, based arbitrarily upon bone density being approximately one standard deviation below that of an average thirty-year-old female. The definition has been very controversial since it originated. Dr. Cummings, of the University of California, San Francisco stated, "There is no basis, no biological, social, economic or treatment basis, no basis whatsoever for using one standard deviation." WebMD states "Bones naturally become thinner as people grow older. Some people who have osteopenia may not have bone loss. They may just naturally have a lower bone density." Other experts also state "Expanding the disease to include a new condition, osteopenia, or pre-osteoporosis, with boundaries so broad they include more than half of all women over 50." Further, others have argued that the term osteopenia could be used to incorrectly label individuals as having a disease, thereby making it easier to treat them with new drugs that they may not need. As a result, millions of women may be exposed to bone drugs at a large expense, with little or no evidence that the drugs are safe or even effective.

Machines for testing bone density have largely been developed and promoted by major drug companies who produce alendronate drugs. There are now approximately eight to ten-thousand bone-measuring devices throughout the US compared to about eight hundred in 1995. Some drug companies promote their use by doctors, by making them available for relatively little cost and often reimbursing the doctors for the scans themselves. Eventually, insurance companies began reimbursing for bone scans as well, along with the expensive prescription bone drugs. Bone density studies are done in different ways by different machines and can produce wide variations. Small portable machines that measure bone density at the wrist are not as reliable. Experts at an FDA hearing agreed that a better way than T-scores was needed to assess a persons risk for fracture and that many women are being prescribed drugs they do not need. Many physicians, scientists and experts in the field of osteoporosis are pushing to scale back bone testing.

Kelleher, S. Seattle Times. June26, 2005. Bone-Strengthening Drugs May be Overprescribed. Health Day. Jan18, 2008.

Drugs for Pre-osteoporosis: Prevention of Disease Mongering? Alonsi-Coello, P, et al. BMJ. Jan 2008

Comment: There are over thirty factors associated with proper bone integrity which need to be considered when forming an appropriate prevention and therapeutic regimen for individuals that are at increased risk of fractures. Thousands of HTMA tests of individuals have revealed two distinct categories of mineral patterns related to osteoporosis; Type I Osteoporosis is found in people with high metabolic rates, and individuals with slow metabolism suffer from type II Osteoporosis. Individual HTMA patterns reveal the complex underlying metabolic, endocrine and nutritional imbalances involved in osteoporosis.

## On-line Practitioner Educational Program



As part of our ongoing commitment in supporting our practitioners in learning more about and interpreting your patient's HTMA reports, InterClinical Laboratories is offering referring practitioners an opportunity to be involved in our ongoing On-line Practitioner Educational Program.

For more information and to express your interest, please contact **InterClinical Laboratories.**

Phone: (02) 9693 2888 or

Email: [lab@interclinical.com.au](mailto:lab@interclinical.com.au)

**Use InterClinical Laboratories for reliability, efficiency and reproducibility.**

# Advanced Digestive Support

## The key to improving the health of your patients

Compromised nutrient status and poor protein digestion may cause allergies, indigestion, heavy metal toxicity and a large number of other health conditions.

Many of these conditions can be improved by enhancing digestive function with Trace Nutrients nutritional digestive aids.

**Reduced digestive function is extremely common.**

**Causes include:**

**ageing, stress, poor diet, dietary excess, refined foods, alcohol and drugs, health conditions, environmental toxins**

### **Digestive-Zyme: Digestive Supplement for normalising pancreatic activity**

Digestive-Zyme support the synthesis and secretion of pancreatic digestive enzymes. Inadequate pancreatic enzyme secretion reduces the efficiency of nutrient absorption. This may cause indigestion, with symptoms such as bloating, nausea, cramps and flatulence, and lead to nutritional deficiencies. Incomplete protein digestion may also trigger food sensitivities.

Contains

- **Barberry:** a bitter tonic that stimulates secretion of all digestive enzymes, including those released from the pancreas, small intestine and gallbladder. It also helps to repair damaged gastrointestinal lining.
- **Ginger:** a warming, carminative and anti-spasmodic; relieves symptoms of indigestion.
- **Zinc:** required for the synthesis of all digestive enzymes.
- **Lecithin** emulsifies dietary lipids and fats, facilitating enzymatic digestion.
- **Glutamine:** the preferred fuel for intestinal cells. It restores the integrity of the gastrointestinal lining, reducing the severity of allergic responses by preventing undigested proteins from entering the bloodstream.

**Better digestion improves the absorption of other nutrients, ensuring that the patient is getting the maximum benefit from their health regime.**

Contains natural botanical extracts



**Dec/Jan  
Special  
20% off**

### **HCL Plus: Digestive Supplement for normalising gastric activity**

The nutrients and botanical extracts in HCL Plus supports the synthesis and secretion of hydrochloric acid (HCl) from the parietal glands in the stomach. Low gastric acidity is one of the leading causes of indigestion and poor nutrition in the elderly, as HCl production can decline with age.

Contains

- **Gentian:** a bitter tonic that stimulates gastric and bile secretions, and reduces symptoms of indigestion.
- **Ginger:** a warming, carminative and anti-spasmodic herb that relieves symptoms of indigestion, such as nausea, bloating, cramps and flatulence.
- **Vitamin B3 and zinc:** are required for the synthesis and secretion of HCl.



## **TRACE NUTRIENTS**

**Evidence based nutrients for therapy**



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