



InterClinical Laboratories Practitioner Newsletter

Volume 18 | Number 2 | April/May 2014

InterClinical Laboratories
Pty Limited ACN 076 386 475

PO Box 6474
Alexandria NSW 2015
Australia

Unit 6, 10 Bradford Street
Alexandria NSW 2015

Phone
(02) 9693 2888

Fax
(02) 9693 1888

Email
lab@interclinical.com.au

Web
www.interclinical.com.au



Be our friend!

You can also find us on Facebook. Find current research, seminar information and specials.

We're talking family health...

In this newsletter, Janine Castle gives us a taster of what to expect in this year's seminar series.

Summer has officially wrapped up and we are beginning another exciting seminar season at InterClinical Laboratories. This year will see the introduction of Janine Castle, a Naturopath with a Bachelor of Science (Toxicology) and over 20 years clinical experience, collaborating with our very own Mr Zac Bobrov in the new seminar series: *Runs in the Family. Family Health, Generations and Environmental Overload*. Discussions will seek to expose nutritional anomalies, metabolic dysfunctions and toxicity within individuals, households and throughout generations. Janine and Zac will dissect case studies and present individual treatment protocols for successful clinical outcomes.

In the case study featured below, Janine investigates through Hair Tissue Mineral Analysis, potential inherited factors vs environmental exposure for each member of a family, and compares her findings. Her use of Hair Tissue

Mineral Analysis and approach to multi nutrient protocols to support the family's endocrine health delivered successful treatment results.

Children, mothers, men and the elderly are featured in Clinical Updates for the Health Professional. We look at how environmental exposure to metals can affect children's growth, in particular arsenic, cadmium and lead, how lead can affect men's reproductive health and the nutritional status of the elderly living in residential care.

This years' seminar series starts in Adelaide on May 31st and finishes in Auckland in September. Please visit our website www.interclinical.com.au for more details. Hurry and register early to receive our early bird discount on registration! We wish you a happy and healthy Autumn and hope to see you soon in person at our 2014 Seminar Series!

Yours in health,
The Team at InterClinical Laboratories.

Highlighting Mineral Patterns Using Hair Tissue Mineral Analysis Across Three Generations

By Janine Castle

It's fascinating to look at families as a whole and consider what inherited factors exist and what is environmental. Often it's a combination of the two, a genetic nutritional weakness with a toxic environment, which creates the pathology. One sibling can also manifest one version of the weakness while the other expresses a completely different manifestation. In this case, it would have been easy to become overwhelmed with the first HTMA results. But as you will see, the right treatment was simpler than you would expect.

CASE STUDY: L.H

L.H came for his first consultation at 3yo. His Mum R.H was having problems with L.H's schoolteachers, who believed he needed a special learning program. He had been recently diagnosed with developmental delay, but R.H felt it was too early to be definite. She did, however, agree his behaviour was difficult and she had trouble controlling his impulses. He had frequent colds, often every two weeks and was very low in energy.



He was quick to temper and became very physical when upset, with punching, pushing and sometimes spitting. He was unresponsive to direction and had no understanding of social boundaries. His child psychologist wanted him to undergo regular assessment every six months. On his first appointment he did not speak or make any contact with the therapist. Interestingly, his mother argued that he has exactly the same temperament as her father who babysat L.H frequently.

Continued overleaf

Hair Tissue Mineral
Analysis Pathology

Nutritional, Herbal and
Natural Medicines

Practitioner Education

Research and
Development

First HTMA (see following pages for HTMA charts)

L.H's first hair analysis came back with high Iron, Chromium, Molybdenum, Vanadium, Tin and Aluminium. He had no recordable Selenium levels. His Zinc levels were low also. There were also smaller levels of Arsenic and Lead.

Due to his very particular food habits, it was difficult to know how to supplement L.H and what to prioritise. I needed to come up with a theory as to what was causing his developmental problems. It is particularly rare to have undetectable HTMA levels of Selenium from my experience. The consequences of having such a gross Selenium deficit would no doubt be found in many areas of the body such as brain, skin, thyroid, blood, immunity etc.

Glutathionation

One of the major roles of Selenium is on liver function and detoxification. Selenium is a component of the glutathione peroxidase enzyme, which drives Phase 2 liver detoxification. Glutathione is one of the body's most powerful antioxidant and detoxifying agent. Without it, toxicity develops including heavy metal accumulation.

For a 3yo, a high toxic load is critical. Poor glutathionation could explain the accumulation of Iron, Cobalt, Molybdenum, Tin and Aluminium. Both Tin and Aluminium are connected with poor brain function, poor thyroid function and neurological problems. I have had cases of high Aluminium in children with autism, epilepsy, poor concentration, headaches and mood swings. Iron toxicity often comes from poor liver function, while high Chromium with Vanadium indicates poor blood sugar control. The latter can certainly be due to poor liver function also.

Knowing 3yo's with behaviour issues, compliance was always going to be a problem. After trial and error, we successfully administered a daily dose of Selenium and Zinc for eight months until his next HTMA.

Second HTMA

The second report showed a healthy influx of Selenium and increased Zinc. But more importantly, decreased Aluminium, Tin, Arsenic, Lead, Molybdenum, Cobalt and Iron all suggesting improved liver function. His mother said L.H had marked improved milestones, better listening skills and his teachers had made encouraging comments on his concentration. He had had no colds or infections.

Third HTMA

His third report showed an excellent balance of most nutrients, with some remaining Aluminium. At this stage I felt his mineral balance was better than most high performing adults I have studied. His psychologist said he now spends a whole hour chatting with her face to face and she no longer detects any developmental issue. R.H was relieved he was doing well at school and interacting with his friends appropriately.

M.H and R.H

We had reports done for R.H, her husband and L.H's 5yo sister M.H. I was interested to see if the whole family shared any similarities. R.H had a typical adrenal fatigue/ slow thyroid picture with low Selenium. L.H's father had high Copper.

M.H's report also indicated lower levels of Aluminium, high Tin, low Selenium and very low Zinc. She also had developmental delay, but was sluggish, anxious and tired. She did not have the toxic picture L.H had. M.H was heavier in build (Slow 2 metabolism) and very easy going in contrast, but suffered many fears which may be reflected in her high sodium levels. I suspected M.H's thyroid was slow, so we also gave her Selenium and Zinc daily.

Grandparents A.J and M.J

We also had L.H's maternal grandfather and maternal grandmother's hair analysed. The grandfather had sky-high Aluminium and very low Selenium. R.H believed L.H and his grandfather shared common behaviour patterns such as volatility, mood swings, passion and a fiery temperament. They also shared some activities together such as gardening and making things in the shed. The grandmother A.J showed a completely different pattern with only a small trace of Aluminium and healthy Zinc levels.

Both L.J and M.J are now doing considerably well two years after their initial treatment. L.J's behaviour and development is close to normal according to his specialists and M.J has a brighter, happier disposition with no learning issues and significantly lower anxiety levels.

Summary

Selenium and Zinc are essential for healthy liver and thyroid function. Children with developmental delay and Autism Spectrum Disorders have poor natural detoxification, which is reflected in a HTMA accurately. In addition, hypothyroidism in children was a legitimate cause of slow development in medical history, and can also be seen in hair analysis. In this case, naturally low Selenium and Zinc have resulted in one sibling being toxic and the other being hypothyroid.

Perhaps in this case, the mother's low Selenium became more significant after the first child, leading to a further Selenium drop in the second child. Therefore, the second child suffered more than the first, which is a common observation in HTMA.

Interestingly, the grandfather had similarities to the child with behavioural problems both in terms of mineral imbalance and temperament. It is possible that a combination of low Selenium and Zinc in both the generations, plus a toxic environment eg. tinkering activities with Grandpa have led to a compound effect in the case of L.H.

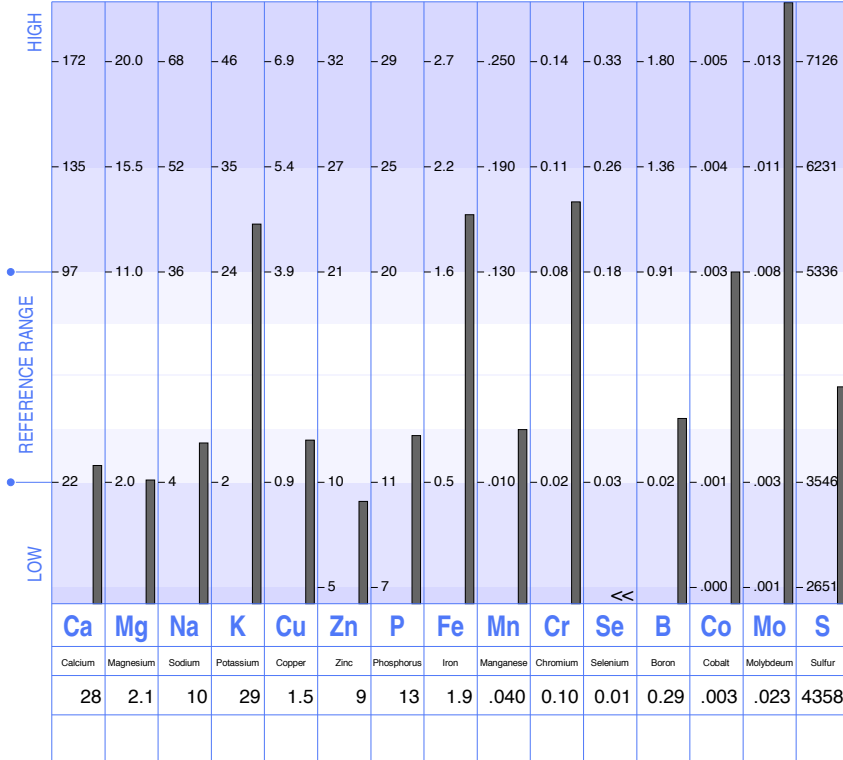
Janine Castle,

Naturopath BSc. Dip. Appl Sci (Nat)

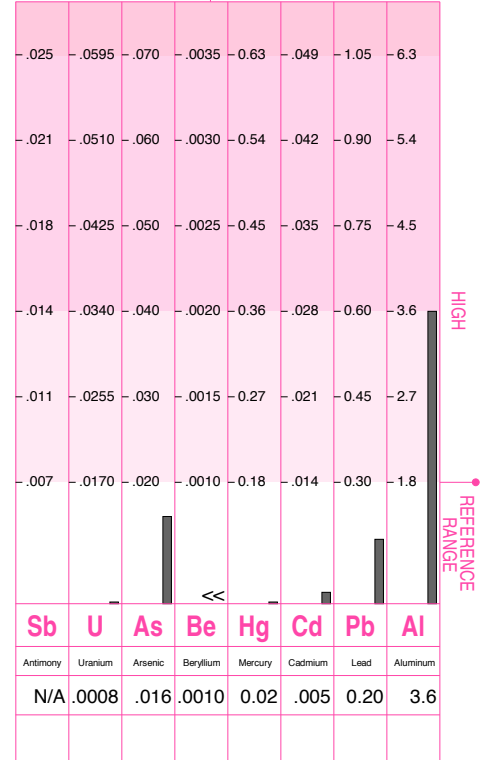
Janine is this year's guest speaker at InterClinical Laboratories 2014 Seminar Series: *Runs in the Family, Family Health, Generations and Environmental Overload*. Janine Castle is a Naturopath with 20 years of clinical practice experience in the area of family healthcare. Her investigative approach involves hair analysis with blood, saliva and urine analysis, allergy testing and stool analysis for children and their parents. Janine uses nutraceuticals, homeopathy and herbal medicines and utilises a contemporary approach in treating heavy metal contamination.

L.H'S FIRST HTMA (SON - PRIMARY PATIENT) 17/04/2012

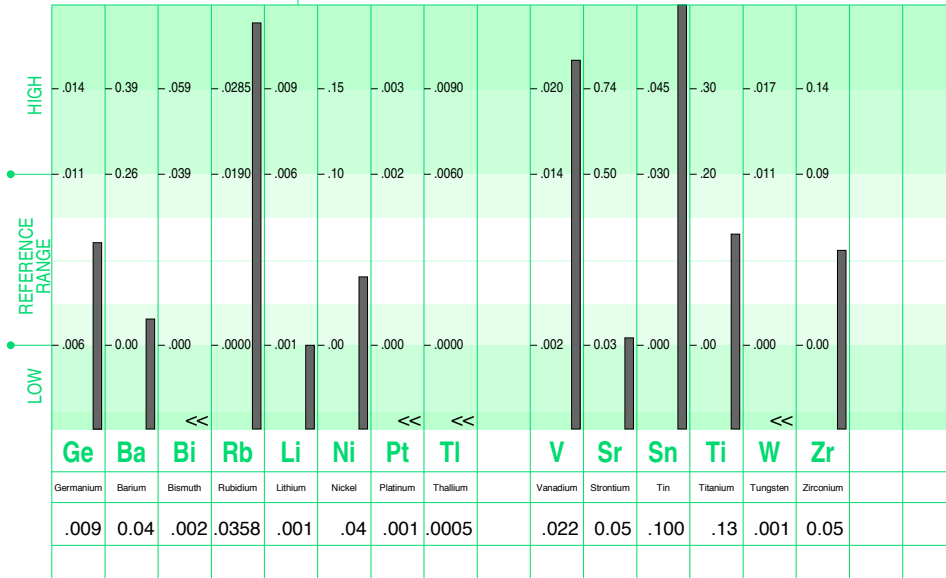
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



*<<: Below Calibration Limit; Value Given Is Calibration Limit

QNS: Sample Size Was Inadequate For Analysis.

N/A: Currently Not Available

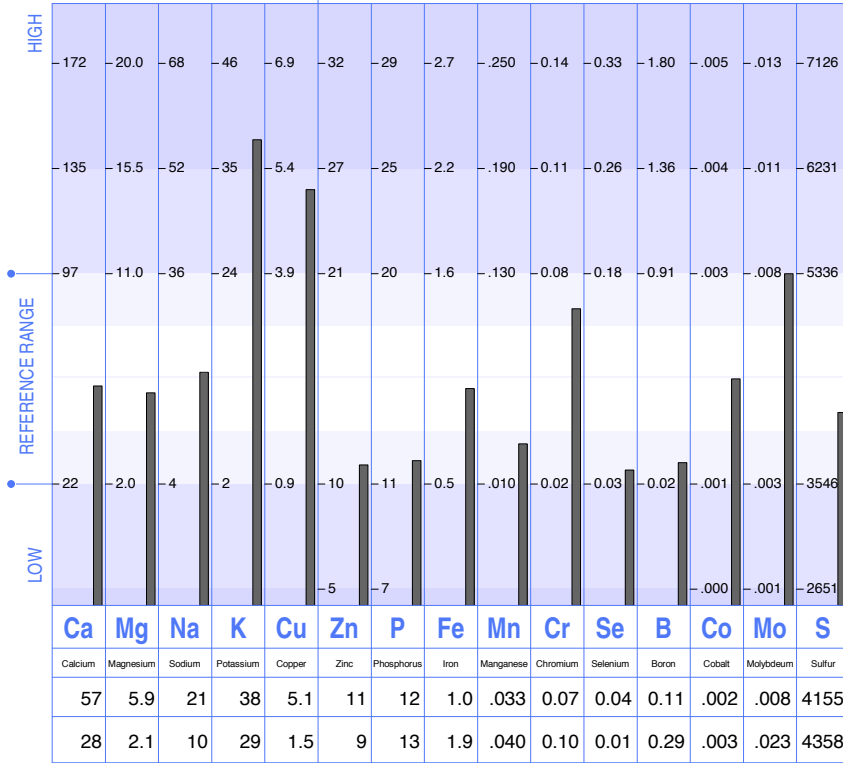
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

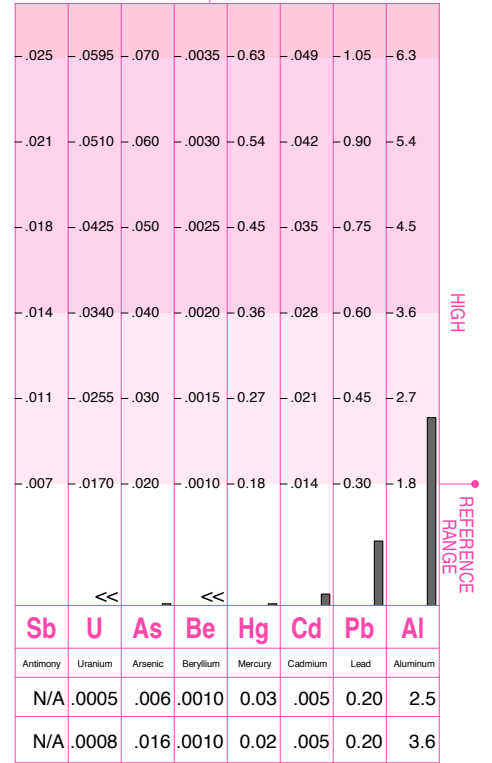
17/04/2012
CURRENT TEST RESULTS

L.H'S SECOND HTMA (SON - PRIMARY PATIENT) 11/01/2013

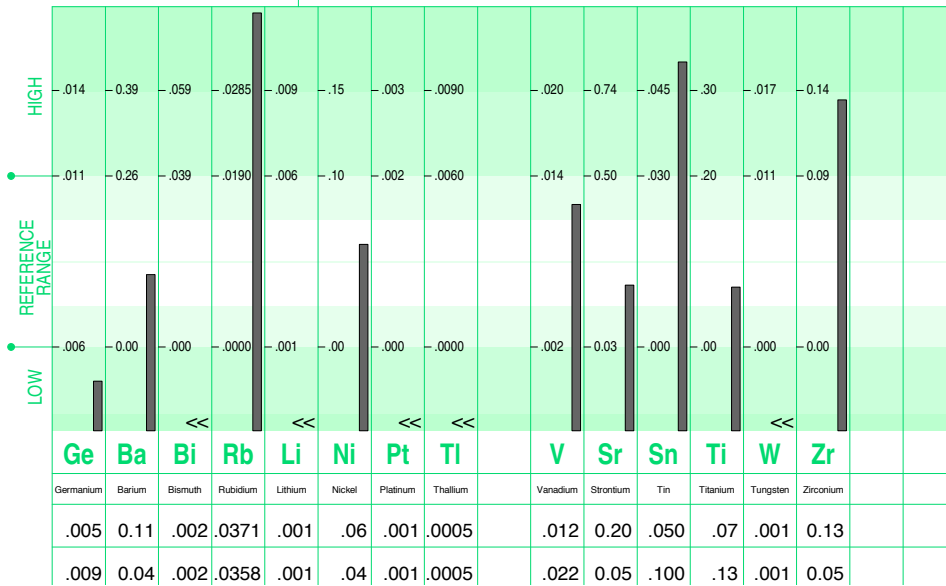
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



*<<: Below Calibration Limit; Value Given Is Calibration Limit

QNS: Sample Size Was Inadequate For Analysis.

N/A: Currently Not Available

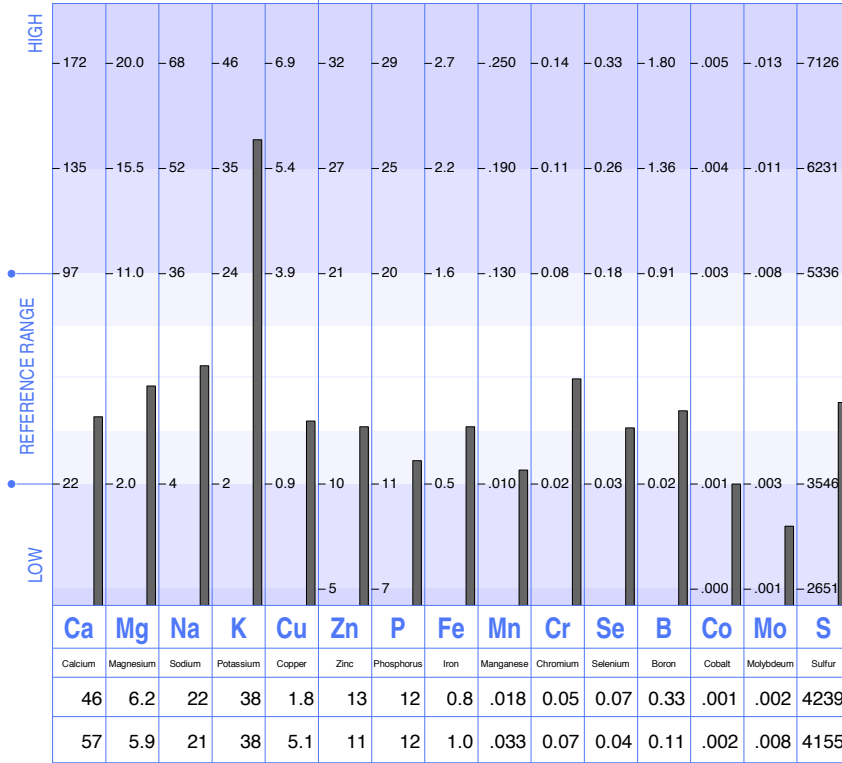
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

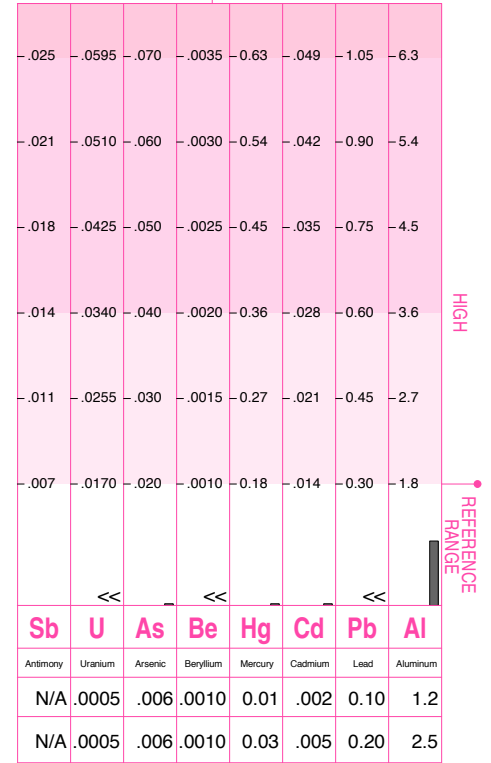
11/01/2013
CURRENT TEST RESULTS
17/04/2012

L.H'S THIRD HTMA (SON - PRIMARY PATIENT) 31/07/2013

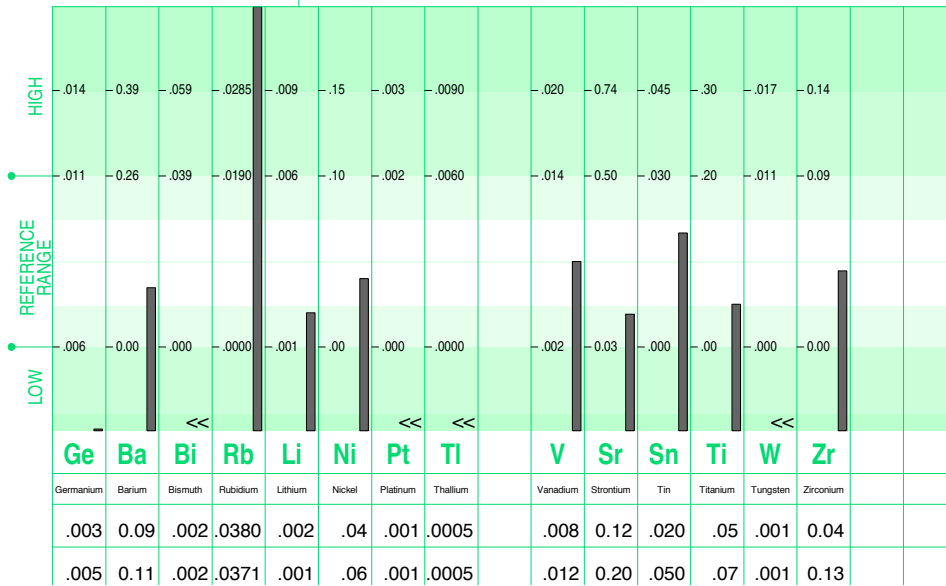
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



*"<<": Below Calibration Limit; Value Given Is Calibration Limit

*"ONS": Sample Size Was Inadequate For Analysis.

*"N/A": Currently Not Available

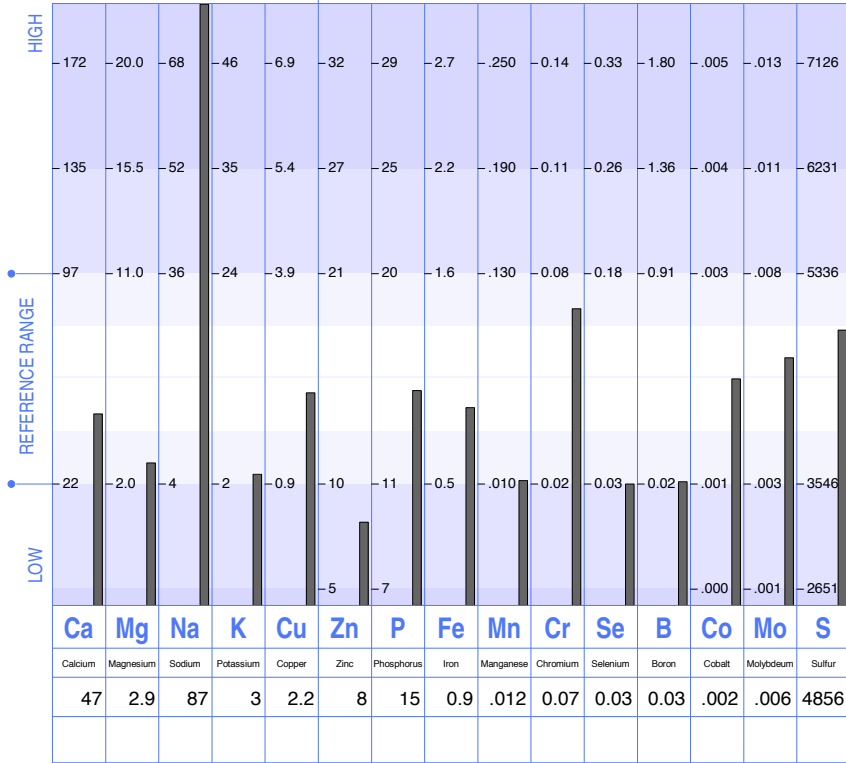
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

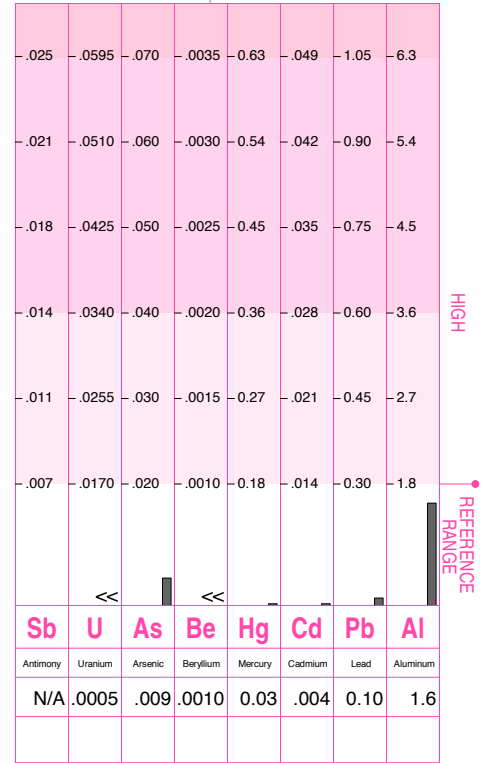
31/07/2013
CURRENT TEST RESULTS
11/01/2013

M.H'S HTMA (DAUGHTER) 11/05/2012

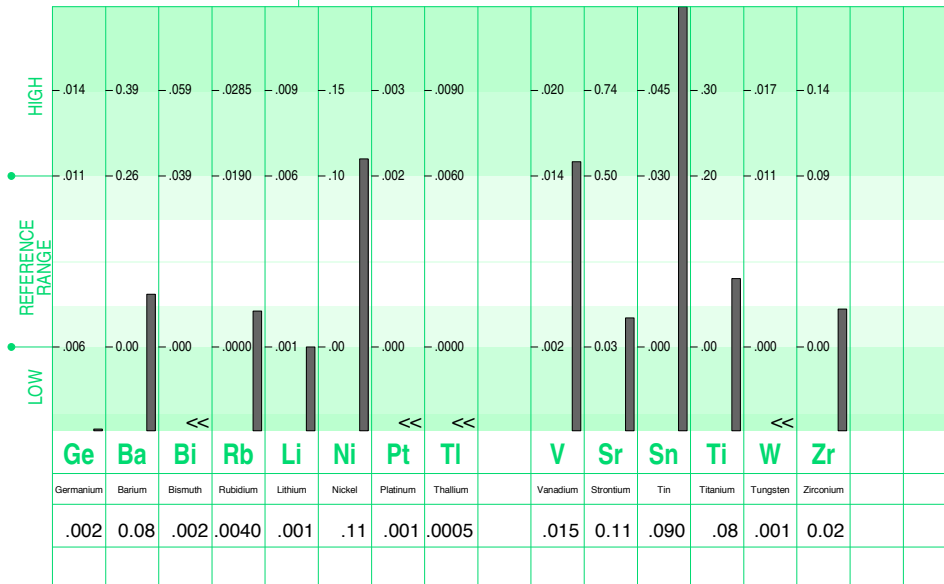
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



<<: Below Calibration Limit; Value Given Is Calibration Limit

QNS: Sample Size Was Inadequate For Analysis.

N/A: Currently Not Available

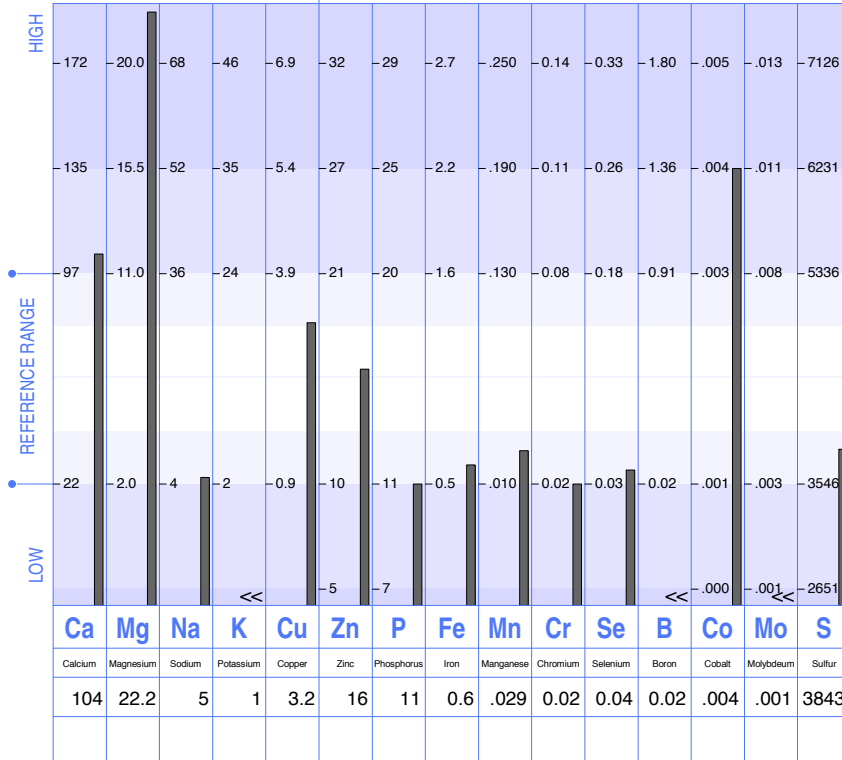
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. S. Licensed Clinical Laboratory. No. 45 D0481787

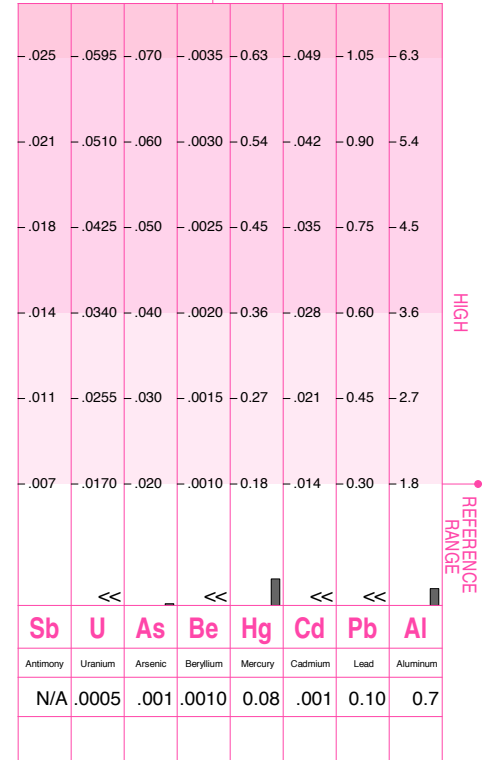
11/05/2012
CURRENT TEST RESULTS

R.H'S HTMA (MOTHER) 30/05/2012

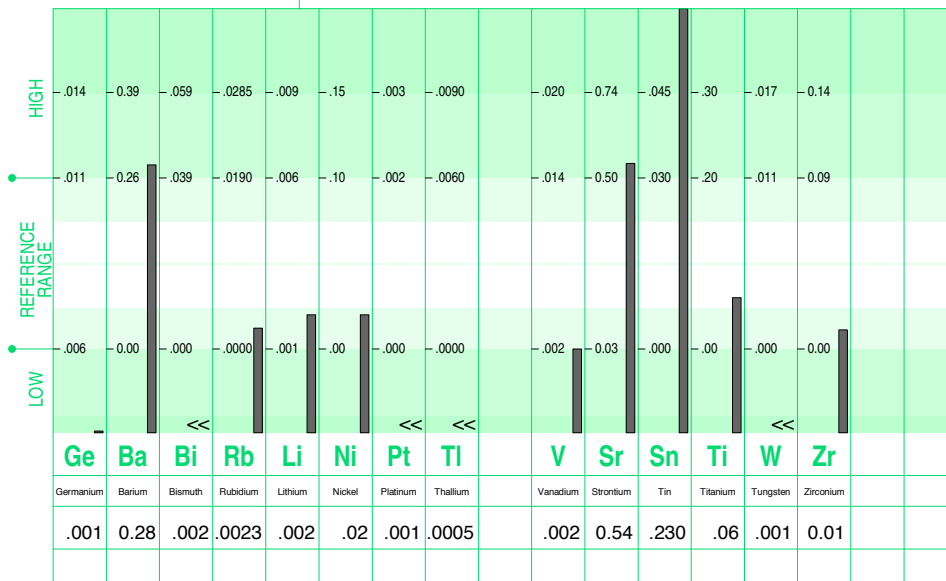
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



*"<<": Below Calibration Limit; Value Given Is Calibration Limit

*"QNS": Sample Size Was Inadequate For Analysis.

*"N/A": Currently Not Available

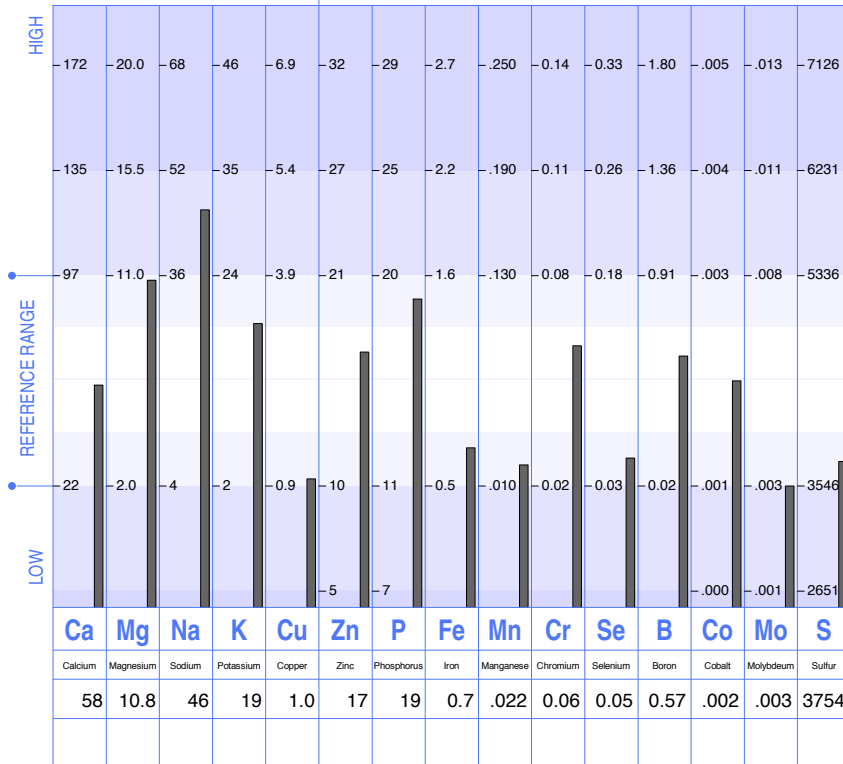
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

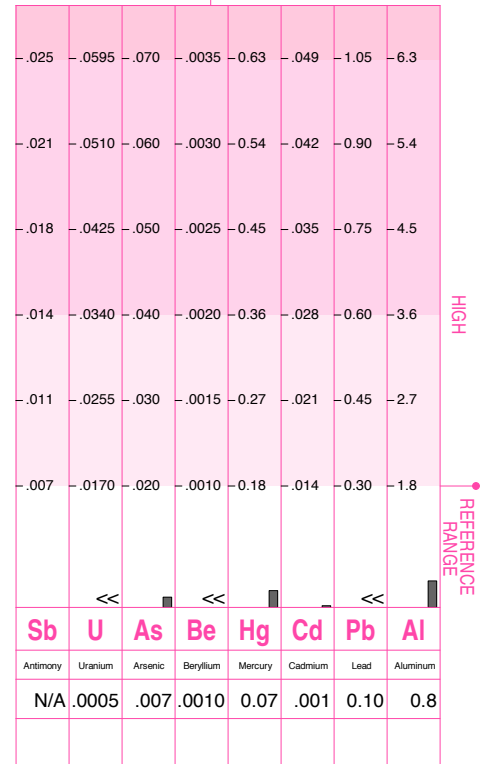
30/05/2012
CURRENT TEST RESULTS

A.J'S HMTA (GRANDMOTHER) 20/07/2012

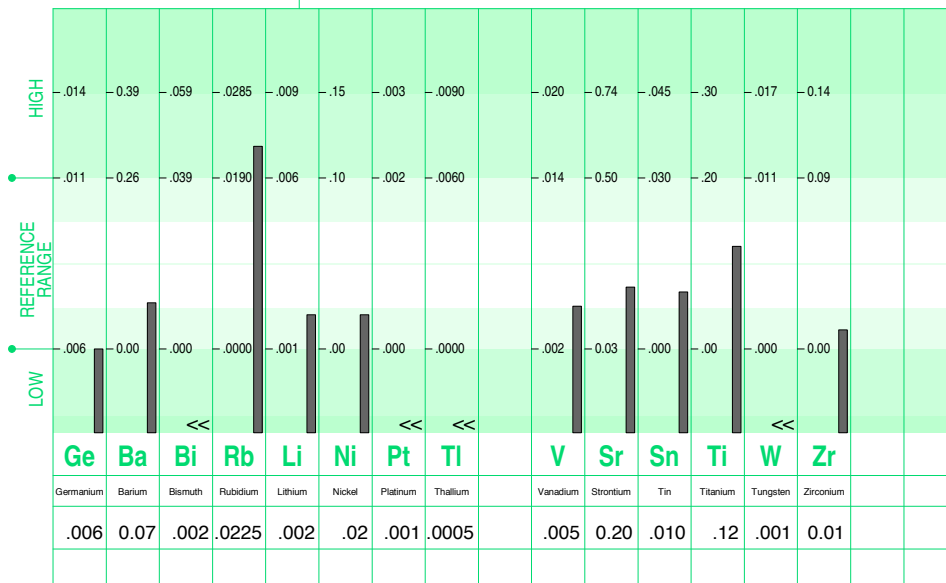
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



*"<<": Below Calibration Limit; Value Given Is Calibration Limit

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

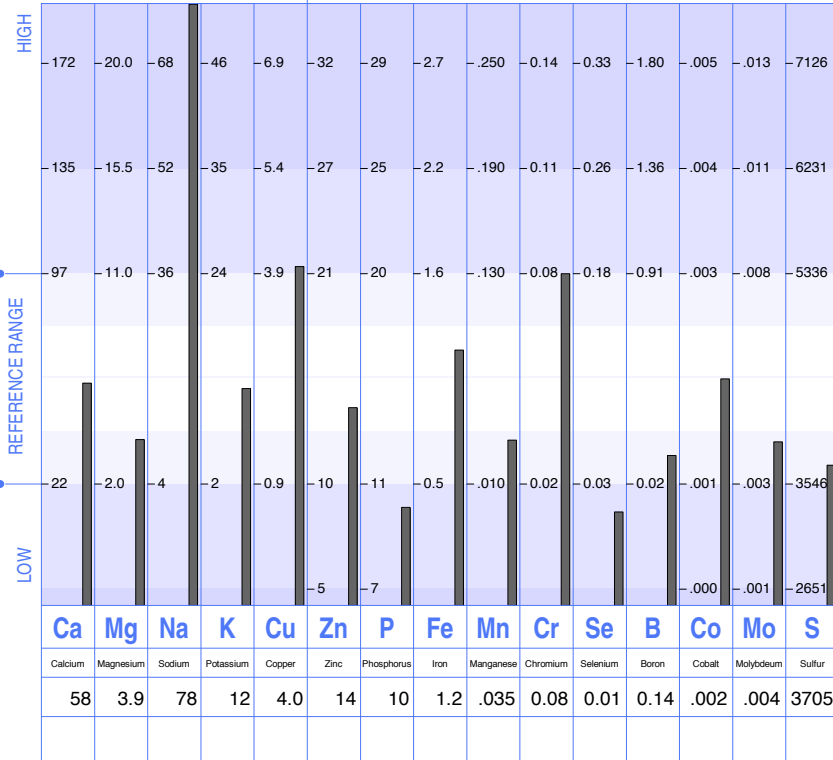
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

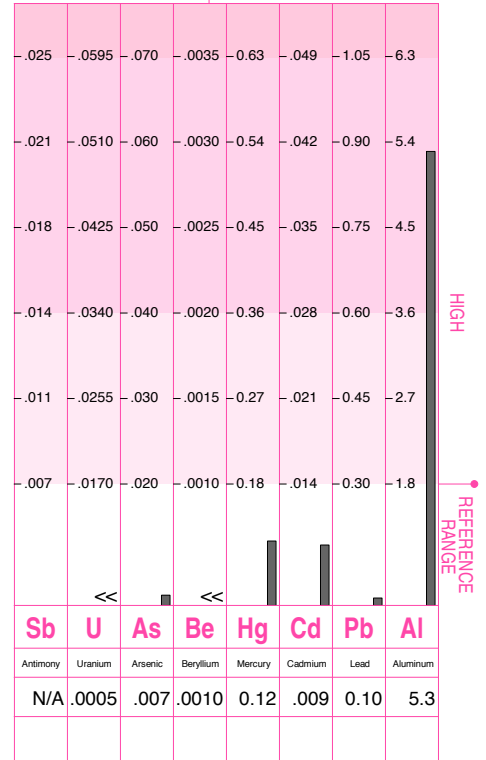
20/07/2012
CURRENT TEST RESULTS

M.J'S HTMA (GRANDFATHER) 20/07/2012

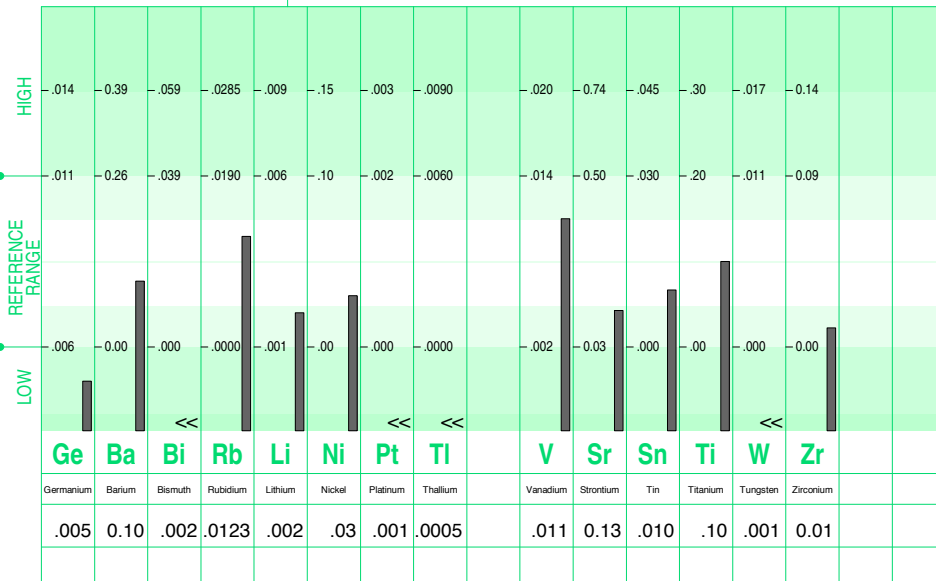
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



"<<": Below Calibration Limit; Value Given Is Calibration Limit

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787

20/07/2012
CURRENT TEST RESULTS



Environmental exposure to metals and children's growth

Growth restrictions in early life are associated with a number of poor health outcomes later in life. A prospective cohort study of 1505 mother-child pairs were tested from pregnancy through to 5 years of child age for early life exposure to arsenic, cadmium and lead. Urinary concentrations of these heavy metals were assessed in spot urine samples collected from pregnancy, and ages 1.5 years and 5 years. This study provided evidence that exposure to cadmium and arsenic during early life may contribute to poor growth. It showed that persistent exposure to cadmium in early life led to a cadmium-attributable decrease in height and weight by age 5 years. Arsenic-attributable differences in weight were smaller, but still significant enough to cause concern.

Gardner, R M. Environmental Exposure to Metals and Children's Growth to Age 5 Years: A Prospective Cohort Study, American Journal of Epidemiology, 177 (12): 1356-1367, 2013.

Comment: Heavy metal exposure in pregnancy and infancy can adversely affect children's growth rates and lead to other issues later in life. In this study, cadmium and arsenic were shown to cause a decrease in height and weight by the age of 5. Hair Tissue Mineral Analysis is a non-invasive method of detecting heavy metal exposure in storage tissue in young children, giving practitioners the opportunity to identify and treat them from an early age.



Functional status of elderly residents and nutritional risk

Working in lead smelters has been confirmed in earlier reports to correlate with a decrease in semen quality. A cross sectional investigation of 20 environmentally exposed men and 27 controls showed that exposure to lead is related to a decrease in the quality characteristics of semen. Spermatic concentration, asthenospermia and teratospermia were all affected, with sperm morphology being the most sensitive to toxic influence. This study suggests that long term environmental exposure to low lead levels can adversely affect sperm quality.

The elderly in long-term care facilities can be at greater risk of nutritional deficiencies compared to the elderly living in the community. Anthropometric and biochemical markers were used to study a group of 115 residents in Australia, to determine the relationship between nutritional status and physical function. It was found that 68% of subjects had low levels of at least one serum marker of albumin, vitamin D, vitamin B12, folate and zinc. 48% of residents had low serum zinc concentration, and this was associated with a slower timed "up and go time". This performance measure, in conjunction with the findings of previous studies that show a low dietary zinc intake is associated with an increased risk of fractures and bone loss, indicates that low serum zinc concentration is a risk factor for falls and fracture in the elderly.

Morán-Martínez, J et al. Chronic environmental exposure to lead affects semen quality in a Mexican men population, Iranian Journal of Reproductive Medicine, 11 (4): 267 - 274, 2013.

Grieger, J et al. Anthropometric and biochemical markers for nutritional risk among residents within an Australian residential care facility, Asia Pacific Journal of Clinical Nutrition, 16 (1): 178-186, 2007.

Comment: There is a potential for heavy metals to affect sperm quality. As this study illustrates, lead in particular can affect sperm morphology. Using hair tissue mineral analysis to test for heavy metals in males is a useful clinical tool as a part of pre conception care plan.

Comment: Certain nutritional deficiencies have been shown to affect physical function. This study shows that low serum zinc concentration is associated with slower physical movement in the elderly. Regular mineral testing for the elderly can be an effective clinical tool to ensure that mineral levels stay optimal for physical function. Hair tissue mineral analysis is a comprehensive method of testing for the minerals that help to support healthy physical function.

Runs in the Family... Family Health, Generations & Environmental Overload

EXPOSING NUTRITIONAL ANOMALIES, METABOLIC DYSFUNCTIONS & TOXICITY IN PARENTS AND CHILDREN TO IMPROVE CLINICAL OUTCOMES

HTMA Primary Course – Saturday

Introduction to Hair Tissue Mineral Analysis in Clinical Practice

- Overview of essential minerals
- Toxic and heavy metals
- Mineral synergists and antagonists
- Importance of mineral ratios
- Endocrine relationships
- Report interpretation and metabolic typing
- Case studies and examples
- Hair sampling, procedures and laboratory overview

HTMA Secondary Course – Sunday

Family Health, Generations & Environmental Toxicity

- Occupational and household toxicity
- The effect of toxicity on the whole family
- Mineral imbalances – mums, nannas, children and teens
- Dads bringing their work home with them
- Exploring sibling patterns using HTMA
- Inherited patterns of disease – mother & child & genetic factors
- Case studies and examples
- Advanced report interpretation
- Building your business with HTMA – an interactive discussion.

PRESENTED BY:



Zac Bobrov
Technical Director,
InterClinical Laboratories

Zac is a prolific educator, avid researcher and engaging lecturer with over 20 years' experience in the field of nutritional and environmental medicine.



Janine Castle
Naturopath, BSc. Dip Appl Sci (Nat)

Janine Castle is a Naturopath with 20 years of clinical practice experience in the area of family healthcare and uses nutraceuticals, homeopathy and herbal medicines with HTMA and Functional Pathology testing.

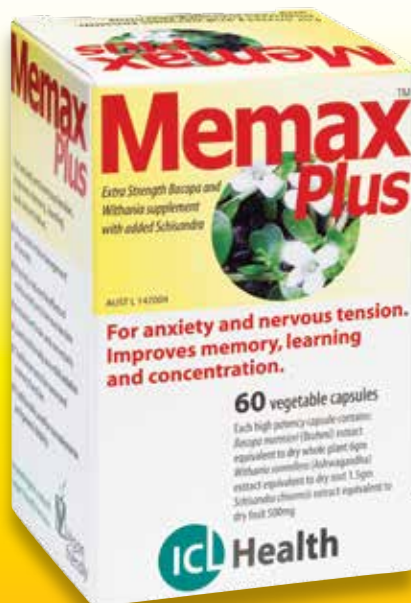
2014 SEMINAR DATES & VENUES:

Adelaide	31st May & 1st June	Crowne Plaza
Brisbane	14th & 15th June	Traders Hotel
Melbourne	21st & 22nd June	Oaks on Collins
Perth	19th & 20th July	Ibis Styles
Sydney	26th & 27th July	Vibe Hotel
Auckland (NZ)	6th & 7th of Sept	Novotel Ellerslie

Book Now!
Special earlybird
price and group
bookings

For full seminar program details and ticket prices, please contact InterClinical Laboratories or register on-line.

Phone: (02) 9693 2888 Fax: (02) 9693 1888 On-line registrations: www.interclinical.com.au/events



FOCUS ON Memax Plus

Extra Strength *Bacopa* and *Withania* supplement with *Schisandra*

- Helps to enhance cognitive function including memory, information processing, concentration and learning.
- Helps relieve the effects of stress and nervous tension,

60 CAPSULE PACK

Each capsule contains extracts equivalent to:

- ✓ *Bacopa monnieri* (Brahmi) dry whole plant 6gm
- ✓ *Withania somnifera* (Ashwagandha) dry root 1.5gm
- ✓ *Schisandra chinensis* (Schisandra) dry fruit 500mg

Good tonic for children and the elderly.



For more information, please contact:

 **InterClinical Laboratories**
www.interclinical.com.au

Unit 6, 10 Bradford Street Alexandria NSW 2015
Ph: +61 2 9693 2888 Email: lab@interclinical.com.au

 **ICL Health**