



Bio-Balance Newslette^{February 2007}

Bio-Balance Health Association Inc
A non-profit organisation dedicated to promoting effective techniques of
biochemical treatment for mental, behavioural and autistic disorders.

Presidents Update

We are happy to have our website up and running (www.biobalance.org.au) and are receiving requests from the public for more information on Dr. Walsh and the Health Research Institute treatment programs. We have recruited new members from the website and will continue to add new and valuable information as it becomes available.

Once again Bio-Balance is looking forward to Dr. Walsh visiting Australia in April 2007 for the Outreach Clinic in Sydney. The training sessions for medical practitioners are attracting Doctors from all over Australia, and a number of previously trained practitioners are returning for additional training.

Once again we urge patients wishing to attend the Outreach Clinic in Sydney in April to secure an appointment as soon as possible. It is important that patients undertake their testing at least 6 weeks prior to the appointment so that the test results will be available before the appointment time. (See details on this page).

Dr. Walsh was invited to present at the ARMS Global Autism Conference in Brisbane last October (2006) and whilst in Brisbane Dr. Walsh also made a presentation for Bio-Balance at the Wesley Hospital. The topic of the presentation was "*The Role of Nutrient Therapy in Combating Mental Illness, Alzheimer's Disease and Parkinson's Disease*" and approximately 100 people attended. A DVD of this presentation is available for sale from Bio Balance for \$15.00 including postage – details can be found on our web site www.biobalance.org.au

The Pfeiffer Treatment Center has been conducting trials with Alzheimer's patients in recent years with encouraging results and is now accepting Alzheimer's patients for treatment.

Our Annual General Meeting was held on 28 November, 2006 and was well attended. Dr. Richard Stuckey delivered a comprehensive report on his past 12 months with Pfeiffer Treatment. He also reported on his visit to Dr. Walsh and the Pfeiffer Treatment Centre near Chicago, Illinois USA.

Once again I would like to thank all committee members and our Editor for their continued support and good work.

Bruce Jeanes

PFEIFFER SYDNEY OUTREACH CLINIC Patient Assessment & Treatment Program 16 – 24 April 2007

Dr William Walsh and other Pfeiffer Treatment Center professionals will again be visiting Sydney in April
Bookings presently available for patients with mental and behavioural disorders and mild to moderate Alzheimer's Disease

Bookings should be made as soon as possible
so prior testing, medical examination and lab results can be completed

**General information: www.hriptc.org
and www.biobalance.org.au
or phone Bio-Balance at 07 5538 7203**

**Detailed information and Clinic bookings from
Marion Redstone,
Outreach Clinic Organizer
Phone: 02 9716 6615
E-mail: mazzared@bigpond.net.au**

Editor's Note:

The article on page 10 of the Newsletter provides general background on Pfeiffer treatment in Australia. It is presented in a concise format suitable for photocopying so that the information can be passed on to others who may be interested in it.

John Skelton - Editor

POST-PARTUM DEPRESSION

[Following is an edited version of press releases by HRI-PTC in the USA and by Bio-Balance in Australia following recent publication of the research article in the peer-reviewed *Journal of Trace Elements in Medicine & Biology*]

Post-partum depression (PPD) has been much in the news – from mentally ill women who kill their own children while in the grip of PPD, to movie star Brooke Shield's public announcement that she struggled with PPD after the birth of her first child and took anti-depressants to treat the condition. Now, new research sheds light on what may be the underlying cause of the condition, and may help explain why some women suffer more extreme cases of PPD.

Researchers have identified a pattern of elevated copper levels in the blood of women with a history of the condition. "In our study, we looked at zinc and copper levels in 78 women who suffered from PPD after completed pregnancies, and compared them with a group of 148 mothers without a history of PPD, and also with a group of 28 non-depressed women," said John Crayton, M.D. [Dr. Crayton is a Professor of Psychiatry at Loyola University School of Medicine, Chicago, Illinois and the Section on Biological Psychiatry, Hines VA Hospital, Illinois.]

Copper levels and copper to zinc ratios were significantly higher in the group of women with a history of PPD compared to the other groups, according to the study published in the February issue of the *Journal of Trace Elements in Medicine and Biology*.

"The exact nature of the association between elevated copper and PPD is not yet known, but copper plays a role in a variety of physiological systems that may be implicated in the development of PPD," said William Walsh, PhD. Dr. Walsh is founder and director of research at the Pfeiffer Treatment Center and the Health Research Institute, Warrenville, Illinois, and a co-author of the study. Walsh added that elevated copper in the brain tends to diminish dopamine and increase norepinephrine levels.

"Zinc and copper play important roles in brain chemistry and are present in high concentrations in brain hippocampus which is involved in mood regulation, short-term memory, and behavior control," Dr. Crayton said.

During the nine months of a normal pregnancy, blood copper levels increase more than 100% but quickly return to normal after birth. This study indicates that the high copper condition can persist for many years in PPD women.

"We have seen dramatic improvement in women with PPD when we treat them with supplements that lower copper levels and restore a normal copper to zinc ratio," said Dr. Walsh. "The next step is a controlled

clinical trial to verify these results, which may lead to a more effective treatment for PPD."

The Pfeiffer Treatment Center (PTC) is a not-for-profit outpatient facility for children and adults specializing in the evaluation and management of biochemical imbalances, which may be associated with the symptoms of developmental, learning and behavior disorder or severe mental illness. Operated by the Health Research Institute (HRI), a public charity based in Warrenville, Ill., the PTC staff and HRI research staff are dedicated to better identify and assist those living with biochemical imbalances through collaboration in treatment and research. In addition to PTC's Warrenville location, patients also are seen and treated at its centre in Oakdale, Minnesota and at its outreach clinics in Maryland, California, Michigan and Arizona.

Pfeiffer Treatment Center also conducts an annual Outreach Clinic, medical practitioner training seminar and Public Conference in Sydney, Australia under the auspices of Bio-Balance Health Association Inc., an Australian non-profit organization dedicated to promoting the development of complementary treatments for children and adults living with biochemical imbalances which manifest as mental, behavioural, learning and autistic disorders. Several Australian and New Zealand medical practitioners have been trained in Pfeiffer assessment and treatment techniques at these training seminars. The next Pfeiffer Outreach Clinic, practitioner training seminar and Public Conference will be held in Sydney during the period 16-24 April 2007. Further information about Pfeiffer Sydney Outreach from Marion Redstone, Pfeiffer Sydney Outreach Organizer – 02 9716 6615.

Elevated serum copper levels in women with a history of post-partum depression

John W. Crayton and William J. Walsh

Abstract

Previous observations suggested that there may be an association between elevated serum copper (Cu) levels and post-partum depression (PPD). In this study, we examined Zn and Cu levels in women with completed pregnancies who had a history of PPD and compared them to women who did not have depression, and to women who reported having been depressed, but without a history of PPD. Cu levels were significantly higher in women having a history of PPD compared both to non-depressed women and to depressed women without a history of PPD. The mean serum Cu level of 78 women with a history of PPD was 131 ± 39 $\mu\text{g/dL}$ compared with 111 ± 25 $\mu\text{g/dL}$ in 148 women without such a history, and 106 ± 20 $\mu\text{g/dL}$ in non-depressed controls ($p < 0.001$). Zn levels did not differ across the three groups. Cu/Zn ratios were significantly higher in the PPD-history-positive group, due to the significant differences in Cu levels. Cu and Zn levels were not significantly different in depressed

and non-depressed men, or between non-depressed women and non-depressed men. Depressed women had higher Cu, but not Zn, levels compared with men. The nature of the association between elevated Cu values and PPD is, as yet, unknown; however Cu has roles in a variety of physiological systems that may be implicated in the development of PPD.

Journal of Trace Elements in Medicine & Biology
Full text at www.sciencedirect.com

BIOCHEMICAL TREATMENT AND IMPROVED MENTAL FUNCTIONING

William J. Walsh, PhD

Founder & Director of Research, Health Research Institute
and Pfeiffer Treatment Center

Introduction

The Health Research Institute (HRI) recently celebrated its 25th anniversary of conducting research and studies in human biochemistry. The early years concentrated on the development of nutrient therapies for behavior disorders and Attention Deficit Hyperactivity Disorder (ADHD), with the able assistance of Carl C. Pfeiffer, MD, PhD, founder of the Brain Bio Center in Princeton, New Jersey. HRI is a 501c (3) [non-profit] organization and its clinical arm, the non-profit Pfeiffer Treatment Center (PTC), was founded in 1989. We have treated more than 20,000 patients including clients from more than 75 countries at our Centers in Warrenville, Illinois, and Oakdale, Minnesota, or at one of our four U.S. outreach clinics. Our extensive fundamental and clinical research on body chemistry, brain chemistry, and nutrition has been presented at the National Institutes of Health (NIH), United States Senate, Office of the U.S. Surgeon General, American Psychiatric Association, Neuroscience Society, and many other venues. The past five years have seen a great acceleration in our research and development efforts; and we have achieved new insights into the molecular biology of mental disorders and developed improved nutrient therapies.

Autism research

The Pfeiffer Treatment Center, the medical clinic of HRI, has studied more than 5,000 patients in the autism spectrum and has amassed a database of more than 600,000 chemical assays of blood, urine, and hair. In 1999, we were the *first* to report that more than 90% of persons with autism exhibit undermethylation (too few methyl groups, carbon with three atoms of hydrogen, CH₃). In 2000, we were the *first* to report copper overload and metallothionein (MT) protein deficiency as distinctive features of autism. In 2002, we were the *first* to measure MT in the bloodstream of humans, and found that most persons with autism have

low levels of this protein that protects against mercury and other forms of oxidative stress.

This summer, a collaborative study with the University of Pennsylvania Medical School was published in the *Archives of Neurology* (Volume 6, pages 1161-4, 2006). The principal finding of this study was increased oxidative damage to vascular tissue and fats in children with autism, compared by age and gender to matched controls. Since these were the only two areas that were studied, the implication is that oxidative damage may occur throughout the body and brain of persons with autism. This may explain why most young persons with autism appear to be very bright (albeit troubled), whereas most adults with autism exhibit severe mental retardation. We conclude that autism may be neurodegenerative, resulting in a gradual loss of brain cells and IQ, unless antioxidant therapy is provided.

HRI recently completed a study comparing hormone levels in male children with autism and age-matched controls, funded by the BHARE (Brenen Hornstein Autism Research and Education) Foundation. We found that testosterone and estrogen levels were identical in both groups, but that the DHEA (dehydroepiandrosterone, a precursor of sex hormones) was extremely low and SHBG (sex hormone-binding globulin) very elevated in the children with autism. Previously, several experts had theorized that the 80/20 male/female ratio in autism was due to elevated levels of testosterone in the males with autism. Our study indicates that this theory is incorrect, at least for male children with autism.

In collaboration with U.S. Department of Energy's Argonne National Laboratory, we recently completed chemical analysis of 176 tiny autism and control brain tissue samples prepared by Johns Hopkins University Medical School in Baltimore. Using the Advanced Photon Source Facility, we scanned two tissue arrays of 99 samples each. Each array included eight samples of brain tissue (cerebellum, white matter, and two areas of the cortex) from 11 different individuals.

In addition, we tested 22 samples of liver, kidney, skin, and other tissues for our chemical assays. These data appear to represent the world's first meaningful chemical assays of elemental values in autism brains. The analysis of data is incomplete, but it is clear that major chemical abnormalities are present in the brains of persons with autism. We have found that males and females with autism exhibit abnormal chemistries that are completely different by gender, suggesting that males with autism may be genetically different from females with autism.

Behaviour Research

In 2004, HRI published a paper entitled, "Reduced Violent Behavior Following Biochemical Therapy," *Physiology & Behavior, Volume 82, pages 835-9, 2004* [see April 2006 Bio-Balance Newsletter, page 8]. This paper reported a 92% reduction in the incidence of physical assaults in children and adults who complied with individualized nutrient therapy. A total of 58% of

these families reported that the assaultive behaviors had completely stopped. These efficacy levels are much higher than those reported for Ritalin, Adderal, and other medications.

A two-year National Recreation Foundation project at Chicago's Ariel Elementary Community Academy was completed in 2006 that involved nutrient therapy for 50 at-risk students from this high-poverty neighborhood. Most of the families reported significant improvements in behavior and academics following treatment. HRI is currently organizing a much larger clinical intervention program for students in high-poverty areas of Chicago's west-side.

Post-partum depression

A research article, by John Crayton, MD, and the author has just been published by the peer-reviewed journal, *Trace Elements in Biology and Medicine* [see Abstract, page 3, this Newsletter]. The findings indicate strong evidence of elevated serum copper levels in females with a history of post-partum depression, compared to depressed women who never experienced post partum.

Blood serum levels of copper rise sharply during the nine months of a normal pregnancy, but the protein system for normalizing copper levels after birth appears to be genetically impaired. Elevated copper levels have been associated with elevated levels of the norepinephrine (a neurotransmitter) and reduced levels of another neurotransmitter, dopamine, in the brain. The Pfeiffer Treatment Center has hundreds of patients who reported that their post-partum depression was overcome by nutrient therapy to normalize copper levels.

Alzheimer's Disease

The Pfeiffer Treatment Center has initiated a novel antioxidant treatment program for patients with Alzheimer's Disease (AD) and other forms of dementia. This program involves a new therapy called "Metallothionein-Promotion Therapy" that is aimed at slowing or halting the progression of the disease. We have provided this powerful antioxidant treatment to pioneering AD patients since 2000, and have received many exciting reports of partial return of lost memory followed by stabilization of mental functioning that has continued for years. These reports have been verified by improved scores using the Mini-Mental Test and computerized CANTAB (Cambridge Neuropsychological Test Automated Battery) testing. Although these early results are promising, this treatment must be considered as "unproven" until double-blind, controlled studies can be successfully completed.

Recent published research suggests that degenerative brain diseases are associated with severe oxidative stress in the brain and low levels of metallothionein (MT) proteins. Published research indicates that Alzheimer's Disease may be primarily a disease of oxidative stress, involving a proliferation of free-radical metal ions. Key features of AD include the accumulation of beta-amyloid plaques, tau protein, and

the presence of neurofibrillary tangles. These abnormalities appear to be associated with elevated levels of metal free radicals and excessive oxidative stress.

Free radicals of metals such as iron, copper, aluminium, lead, and mercury appear to accelerate the formation of beta-amyloid plaques that are a distinctive feature of the disease. In healthy individuals, MT proteins can effectively bind to free-radicals in the brain, rendering them harmless. However, MT protein levels in Alzheimer patients have been shown to be generally less than one-third of normal levels. Restoring MT proteins to normal levels could potentially slow or halt the progression of the disease. In 2000, HRI submitted a claim to the U. S. Patent Office for a novel formulation of 22 nutrients known to enhance the synthesis or functioning of MT proteins. If MT-Promotion proves to be effective in slowing or stopping the progression of Alzheimer's, this therapy may also represent an effective approach for **prevention** of this devastating disease.

New developments

Following the highly promising results achieved in our Alzheimer's Disease study, the Pfeiffer Treatment Center is now routinely accepting patients with mild-to-moderate AD. These services will include periodic testing with the CANTAB system for assessing memory and other cognitive functions.

HRI is pleased to announce that testing has begun on antioxidant and anti-inflammation therapy for victims of Parkinson's Disease and Multiple Sclerosis. In each case, we are testing 25 pioneering patients who are being intensively studied to determine if this novel therapy provides benefits.

The Pfeiffer Treatment Center has developed an international physician training program, based in Sydney, Australia. Last year we trained 16 physicians from Australia, New Zealand, Japan, and Ireland in advanced nutrient therapy for persons with behavior disorders, autism, ADHD, depression, bipolar disorder, or schizophrenia. The next training sessions will be held in April 2007 in Sydney and we expect up to 30 physicians from around the world to participate. [See information on April 2007 Sydney Outreach Clinic, medical practitioner training and Conference, page

From: NOHA News 2007, XXXII(1):4-6
<http://www.nutrition4health.org/NOHAnews/NNW07Walsh.htm>

"Never doubt that a small group of thoughtful citizens can change the world: indeed it's the only thing that ever has."

- Margaret Mead

NUTRITION AND ALZHEIMER'S DISEASE

John W. Crayton, MD

Professor of Psychiatry, Loyola University Medical School;
Research Scientist, Biological Psychiatry Laboratories, Hines
Veterans Administration Hospital

Introduction

It is a well-known fact that reduced amounts of certain dietary nutrients are associated with memory loss and other thinking problems-especially in older individuals. (For a detailed review, see Solfrizzi, Panza, and Capurso, 2003) And reduced levels of vitamins C and E have been associated with increased severity of Alzheimer's Disease (AD). High intake of cholesterol and saturated fats is also associated with an increased risk of Alzheimer's Disease.

A variety of epidemiological studies have suggested that certain substances regulated at least in part by diet, may be predisposing factors for Alzheimer's Disease. For example, elevated cholesterol levels, which can be lowered by diet, have been shown to be a risk factor for AD.

Vitamin E is an effective anti-oxidant substance. Particularly in the form of d-alpha tocopherol (a form that readily passes into the brain), it has been shown to slow the progression of Alzheimer's Disease in a group of moderately severely impaired individuals. (Sano, *et al.*, 1997) However, based on a careful review of the various functions of the available anti-oxidant substances, Prasad has suggested that using several vitamins for AD prevention and treatment is the most rational approach. He suggests a regimen of vitamin A (retinyl palmitate, 5000 I.U./day), natural beta-carotene (15 mg/day), vitamin E (d-alpha tocopherol succinate, 100 I.U./day, vitamin C (calcium ascorbate, 500 mg/day), vitamin D (400 I.U./day), B-vitamin doses twofold to threefold higher than RDA values, selenium (100 mcg/day), chromium (50 mcg/day) and zinc (15 mg/day).

How does nutrition affect the brain?

There is still considerable work to be done on how these dietary changes are related to the development of AD. One of the most exciting current theories of the cause of Alzheimer's Disease is that it is due to a faulty bodily response to "oxidative stress." Oxidative stress refers to a class of metabolic responses of cells in the body which produce highly toxic "free radicals" such as elemental, highly reactive oxygen, which, in the presence of metals such as copper and iron, produce substances called "superoxides" and "hydroxyl radicals" which, in turn, cause a wide variety of tissue-damaging effects. Brains from Alzheimer's Disease patients show increases in a substance called amyloid-beta peptide. This substance has been associated with increased concentrations of free radicals.

Once formed, free radicals can inflict a wide variety of injuries to the brain. For example, the brain's phospholipids, critical elements in the structure and function of the brain, are readily damaged by free radicals. [See the immediately preceding article in this *NOHA NEWS* by Professor Crawford, describing the highly unsaturated fatty acids - arachidonic and docosahexaenoic acids - used in the brain. These are most susceptible to oxidation. Eds.] It is easy to imagine how damage to the brain's phospholipids could lead to the progressive memory problems in someone with Alzheimer's Disease.

The process by which free radical oxygen destroys brain tissue has been compared to a forest fire (McCaddon, A, Hudson, P, et al., 2003):

Hydroxyl radicals react readily with membrane lipids, generating lipid peroxides and peroxy radicals. These kindle a chain reaction of lipid peroxidation that propagates through surrounding membranes like a spreading forest fire. This process of partial combustion has been elegantly described as a "simmering biological fire of oxy-radical-based pathology." (Cohen, 1994)

Interestingly, copper and zinc, although they are normal constituents of brain, may play a role in this free radical-induced damage in AD. (e.g. Bush, et al., 2003) While the roles of these two metals are complex, and may be both protective as well as damaging, there is evidence that regulating these substances may provide an effective treatment for AD. A chelating agent, that is, a substance that binds and de-activates copper and zinc, called chloroquinol, has been shown to reduce the deposition of abnormal proteins in the brains of mice with a genetic predisposition to developing these proteins. (For a detailed review of this approach, see Cuajungco and Fagét, 2003)

What are metallothioneins and what do they do?

Another system involved in the regulation of copper, zinc, iron, and other metals is the metallothionein family of proteins. These substances, which occur in several forms, have a variety of functions in the brain. Much interest in the area of Alzheimer's Disease studies has focused on the metallothionein called MT-3, which, unlike other species of metallothioneins, occurs only in the brain.

One of the most important functions of the metallothioneins is to detoxify heavy metals in the brain. The "heavy metals" include cadmium, lead, zinc, cobalt, mercury, and copper. When excess amounts of one of these metals build up in the brain, the body's metabolic machinery goes into high-speed production of extra metallothionein. Of particular interest, is the observation that in experimental copper poisoning, markedly increased amounts of metallothionein have been found in precisely the same areas of the brain where the copper excesses occur. A direct experimental approach to demonstrating the effects of

copper on brain function is the study by Sparks and Schreurs (2003) in which rabbits given a diet rich in cholesterol plus trace amounts of copper showed behavioral and neuropathological evidence of developing a form of dementia similar to AD.

The function of the metallothioneins in heavy metal toxicity appears to involve a "scavenger" role, whereby the metallothionein attaches itself to the toxic metal and renders it harmless. Experimental animals with higher concentrations of metallothioneins are more resistant to the effects of toxic doses of heavy metals, suggesting that the regulation of metallothionein levels in the body may prove to be an important aspect of the body's resistance to heavy metal toxins.

But while mercury, lead, and cadmium are extremely toxic foreign agents that do not belong in the body, zinc and copper are normal and essential components of a healthy body. So it is important to point out that metallothioneins have a significant role to play in the normal regulation of the heavy metals like zinc and copper, and are not just involved in clearly toxic conditions. Consequently, our bodies rely, on a day-to-day basis, on the metallothioneins to maintain proper amounts of zinc and copper.

In animals having a condition called "experimental autoimmune encephalomyelitis," which has many similarities to human multiple sclerosis, the injection of metallothioneins caused a significant improvement in their symptoms. Findings such as this raise the hope that therapeutic interventions that enhance the ability of metallothioneins to do their detoxification work, will prove beneficial to human disorders such as Alzheimer's Disease and multiple sclerosis.

Enhancing metallothionein activity: Nutritional approaches.

The available data from the medical literature supports the possibility that metallothionein efficacy may be enhanced via nutritional means.

William Walsh, PhD, Director of the Health Research Institute and Pfeiffer Treatment Center in Warrenville, IL, a NOHA Professional Advisory Board Member, has proposed that a carefully-selected formulation consisting of several agents known to enhance metallothionein activity will be effective in the treatment - and perhaps prevention-of AD.

This novel approach to the clinical management of this crippling disorder opens up an entirely new area of clinical study of this condition. Patients with AD are currently being accepted into a program designed to assess the efficacy of this new approach. Individuals who have been diagnosed with AD or suspect that they may be developing it, may contact the Pfeiffer Treatment Center for more information about this study and, if interested, obtain application forms for the study.

[**Note:** In Australia, contact Bio-Balance at Phone: 07 5538 7203 Email: biobalance@optusnet.com.au]

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[Article from *NOHA NEWS*, Vol. XXIX, No. 2, Spring 2004, pages 5-6].

Be careful about reading health books. You may die of a misprint.

-Mark Twain

What would men be without women? Scarce, sir... mighty scarce.

-Mark Twain

PYROLURIA AND ELEVATED KRYPTOPYRROLES

The root cause of Pyroluria is the production of too much "kryptopyrrole" (KP) in the blood.

The symptoms of excess KP first manifest themselves as behavioral abnormalities. The symptoms are consistent: poor tolerance of physical and emotional stress, mood swings, depression, sensitivity to light, noise and other tactile sensitivities. Later symptoms can range from severe depression to chronic schizophrenia. Accompanying physical symptoms can include pain, seizures, even complete physical debilitation.

Pyroluria can be responsible for a wide range of behavioural conditions in children and adults, including autism, Asperger's, depression, bipolar disorder, paranoia, schizophrenia, ADD/ADHD, assaultive, aggressive and violent behaviour and other mental and emotional conditions. Historically, these conditions have been easily misdiagnosed. Thus, early testing is essential for anyone exhibiting such symptoms.

What is kryptopyrrole?

Elevated KP levels result from an abnormality in hemoglobin (the protein that holds iron in red blood cells). KP has no known function in the body, but it is excreted in urine. It was originally discovered in a urine test in Saskatchewan about 1960 in a patient exhibiting schizophrenic symptoms. Subsequently, researchers began investigating possible relationships to the various types of schizophrenia. Thousands of patients were examined and a long series of double-blind tests were performed.

The results were extraordinary: There was a clear and measurable relationship between elevated urinary KP and patients exhibiting schizophrenic symptoms. Although not a definitive test for schizophrenia, the results indicated that the presence of elevated urinary KP is often associated with clinical conditions characterized by schizophrenic patients.

However, there are diagnostic challenges for physicians. Although a substantial proportion of psychiatric diseases can be traced to excess urinary KP, other conditions with a genetic basis, such as autism, frequently show elevated pyrrole levels. In more general cases there can be emotional symptoms, physical symptoms, or both simultaneously. It is therefore easy to understand how a misdiagnosis can occur — hence the importance of early testing.

In formal clinical trials, the following percentages were determined for frequency of elevated pyrrole in a range of test subjects:

Autism	50% (Audhya)
Alcoholism	40% (Mathews-Larson)
ADHD	30% (Walsh)
Schizophrenia & Depression	70% (Hoffer)

To summarize: Pyroluria is a feature of many behavioural and emotional disorders. Its cause is an inborn error in pyrrole chemistry, resulting in a dramatic zinc and vitamin B6 deficiency. Elevated levels of KP produce symptoms including irritability, anger episodes, poor memory, impaired intellectual function, impaired immune function and inability to deal with stress. Patients are easily identified by their inability to tan, poor dream recall, abnormal fat distribution, and sensitivity to light and sound.

Assessment and treatment for pyroluria

The decisive laboratory test is analysis for kryptopyrroles in urine. Treatment is centred on zinc and B6 supplements together with omega-6 essential fatty acids. If left undiagnosed and untreated, the condition can lead to a wide range of significant health problems.

A physical examination to observe the patient for signs of pyroluria should always accompany the laboratory test. A formal regimen can then be implemented based on a combination of quantitative results and qualitative observations.

Vitamin B6 is important in the formation of many neurotransmitters. B6 deficiency is associated with agitation, irritability, depression and impaired intellectual function. KP elevation can also be associated with poor tolerance of physical stress. In advanced cases, severe pain in the joints and extremities may be present.

Treatment of pyroluria consists of replacement of zinc and vitamin B6. Because the treatment has a metabolic rather than pharmacologic basis, it must be titrated to individual requirements. A variety of factors are taken into consideration when developing a treatment regimen. Both zinc and B6 supplementation need to be directed by a practitioner, as too much can be toxic. Use of the correct form of vitamin B6 and zinc is necessary to be effective. Avoiding competing minerals and supplements may also be necessary.

Early testing for pyroluria can not only lead to proper diagnosis and treatment, but has at times resulted in very rapid recovery.

Dr William Walsh, PhD, co-founder and chief scientist at the Health Research Institute and Pfeiffer Treatment Center near Chicago, has authored more than 200 scientific reports on diagnosis and treatment of

biochemical disorders. Part of what he has discovered is the fact that learning disabilities may also be directly related to pyroluria and elevated KP levels. To quote from one of his articles: *"There is a high incidence of learning problems among violent youngsters or those with oppositional-defiant disorder. As we followed the results of nutrient therapy on behavior, we noticed that learning often improved, sometimes dramatically. I recall a violent, emotionally disturbed girl who was in Educable Mentally Handicapped classes with a reported I.Q. of 62 (the average is 100). Within three months on the nutrient protocol she was mainstreamed into high school. She became highly motivated and did well in college. When re-tested, her resulting I.Q. was 135. The family was shocked."*

Clearly, the need for early testing and detection of pyroluria and elevated KP levels cuts across multiple disciplines. Some remarkable stories have been recorded in which patients with extreme symptoms have experienced near-total recoveries in mere days of commencing treatment. However, this treatment is not always administered early. The attending physician may be unaware of the real root cause of the problem. This is not surprising because the range and severity of symptoms can easily mislead the diagnosis.

Fortunately, elevated KP levels and pyroluria are relatively simple to resolve, once the proper tests have been performed and a correct diagnosis has been made.

[Adapted from: <http://www.pyroluriatesting.com>]

HOW TO DESTROY CONFIDENCE IN VITAMINS WHEN YOU DO NOT HAVE THE FACTS

by **Andrew W. Saul**

"Ladies and Gentlemen, welcome to the annual meeting of World Headquarters of Pharmaceutical Politicians, Educators, and Reporters (WHOPPER).

"Let us get right to the point. Many of our members and affiliates have complained about what is, for us, an alarming and dangerous segment of health care: so-called orthomolecular medicine. We want to assure you that, although this therapeutic approach is, unfortunately, very effective in preventing and treating disease, that we will make sure the public will never learn of it.

"We can say this with considerable confidence, since for over 50 years we have managed to keep virtually all psychiatrists from using niacin to treat schizophrenia; we have kept cardiologists from prescribing vitamin E; and we have kept general practitioners from prescribing vitamin C for viral illnesses.

"Yes, it's really been a triumphant half-century. How did we do it, you may ask. It is really quite easy. Here is a summary for those of you that may have missed the last WHOPPER meeting.

"Our guiding principle is, keep the public afraid. Any fear will do, but we have been especially pleased with, and therefore recommend instilling, the fear of new strains of flu viruses; the fear of vaccine shortages; and most especially, the fear of vitamin toxicity. Our success with this last one has been nothing short of spectacular.

"Of course, you know that decades of poison control center statistics show that there have been virtually no deaths from vitamins. You also know that properly prescribed drugs, taken as directed, kill at least 100,000 Americans annually. Clearly, the last thing we want is for the public to actually figure out that vitamin therapy is tens of thousands of times safer than drug therapy.

"Therefore, we endorse the following tactics:

1) Always demand 100% safety and 100% efficacy from nutritional therapy. This is particularly effective when you, at the very same time, continually remind the public that they have to expect and accept a reasonable amount of dangerous, even fatal, side effects with drug therapy. And, if one drug does not work, there is always another, still more expensive drug that might.

2) Always give priority to publishing research that shows that vitamins are ineffective, or outright harmful. Select the low-dose vitamin study; ignore the high-dose study. Pick the one negative vitamin study; ignore the hundreds of positive vitamin studies. If a positive megavitamin study is submitted to your department, medical society or journal, reject it on a technicality, and take a year or two to do so. Better still, make the authors publish in the Journal of Orthomolecular Medicine. After all, whatever is published there will not be indexed by the National Library of Medicine. Therefore, the public's annual 700 million MEDLINE searches will utterly fail to find it. You cannot read what cannot be located.

3) Obfuscation works. Cloud and confuse the issue. Never let the truth stand in the way of a good press release. This we learned from the tobacco industry: If you cannot wow 'em with wisdom, baffle them with baloney. Remember, with vitamins, always highlight the negative; ignore the positive.

4) Never let the facts get in the way of as good argument. A good argument is one that you win. It's about politics, not health. Remember that, ladies and gentlemen. Don't worry about accuracy. Here is a perfect model for you:

"Dietary supplements cannot make up for poor food choices. They have not been proven to boost energy or prevent or cure diseases."

(American Dietetic Association. Dietary Supplements: Do You Know All the Facts? March 24, 2004).

"Take heed of what behaviorist B.F. Skinner said: Education is a very large number of very small steps. The secret is to keep plugging away, every chance we get. Every time we tell a WHOPPER in the news media, it is one additional, accumulative step towards washing the public's mind clean as a whistle, and stamping out nutritional medicine for good.

"Remember, half of America takes vitamins, but fewer than 1% of physicians practice orthomolecular medicine. How hard can it be to shut the rest of them up? After all, look what we did to Linus Pauling. When he spoke out for vitamin C, we got the entire medical world to openly snicker at the only person in history to win two unshared Nobel prizes. Talk about a WHOPPER!

"Now go back to your word-processors and get to work. Wade through those nutrition studies and latch onto the negative ones. The news media are waiting to hear from you."

OK: my story of WHOPPER may be (slightly) fictitious, but the problem is real enough: Negative stories about vitamins indeed have often been front-page leads, yet vitamin cures have rarely made the evening news.

From: <http://orthomolecular.org/resources/omns/index.shtml>

High Maternal Homocysteine Associated with Schizophrenia Risk in Offspring

Elevated third-trimester levels of homocysteine appear to be associated with an increased risk of offspring subsequently developing schizophrenia, researchers report in the January issue of the Archives of General Psychiatry.

Dr. Alan S. Brown said, "Our finding could have important implications for our understanding of causes of schizophrenia that affect the development of the brain in the prenatal period."

Elevated levels of homocysteine are associated with abnormal placental function and pregnancy complications, note Dr. Brown of Columbia University, New York and colleagues there and at the Kaiser Foundation Division of Research, Oakland, and the Public Health Institute, Berkeley, in California.

To investigate whether elevated maternal levels of homocysteine during the third trimester were also associated with adult schizophrenia risk in offspring, the researchers conducted a nested case-control study of a birth cohort with more than 12,000 members born

from 1959 through 1967 and followed up for schizophrenia from 1981 through 1997.

In all, 63 were diagnosed with schizophrenia and other schizophrenia spectrum disorders. The 122 controls were matched members of the birth cohort without such a diagnosis.

In a model that tested for a threshold effect of third-trimester homocysteine levels, the researchers found that an elevated homocysteine level was associated with a significant increase in the risk of schizophrenia (odds ratio, 2.39).

The team suggests that homocysteine may have effects on brain structure and function or lead to subtle damage to the placental vasculature that compromises oxygen delivery to the fetus.

Should a causal link be confirmed, Dr. Brown concluded, "it has the potential to lead to prevention of cases of schizophrenia through relatively simple measures such as folic acid supplementation in the later part of pregnancy."

Arch Gen Psychiatry 2007;64:31-39.

[From: Reuters Health Information 14 Jan 2007]

SURFING THE WEB

Some more useful websites:

www.foodforthebrain.org

A UK website promoting awareness of the importance of optimum nutrition for mental health. Valuable resources on:

- ADHD/hyperactivity
- Autism spectrum disorders
- Bipolar disorder
- Dementia/Alzheimer's
- Depression
- Dyslexia/Dyspraxia
- Optimum mental health
- Schizophrenia

Includes access to CDs/DVDs of 2006 Food for the Brain Conference papers

www.orthomed.org

Website of the International Society for Orthomolecular Medicine and the International Schizophrenia Foundation. Includes the archives from 1967 to the present of the Journal of Orthomolecular Medicine, a quarterly journal that publishes informative papers on all aspects of orthomolecular treatments for physical and mental disorders.

Complementary Nutritional Treatment for Mental Disorders in Australia

John Skelton

Vice-President, Bio-Balance Health Association

Since 2004, many Australians with schizophrenia, bipolar disorder, depression, ADHD, behaviour and learning disorders and autism have benefited significantly from innovative research-based biochemical assessment and nutritional treatment techniques, used in conjunction with conventional drug medications where appropriate, developed in the U.S.A and introduced to Australia under the auspices of Bio-Balance Health Association (BBHA). My own daughter, a chronic schizophrenia sufferer for 26 years, is currently benefiting from this treatment.

These assessment and treatment techniques are based on biochemical analysis research by Dr Bill Walsh, founder and Research Director of the non-profit Health Research Institute and Pfeiffer Treatment Centre (HRI-PTC) in Chicago, USA. Dr. Walsh has authored more than 200 scientific articles and reports and has presented HRI-Pfeiffer's research findings at the American Psychiatric Association, the U.S. Senate, the Office of the U.S. Surgeon General, the Society of Neuroscience, National Alliance for the Mentally Ill, and the National Institutes of Mental Health.



William Walsh PhD, Director of Research for HRI

HRI-PTC has helped thousands of people in the USA and around the world towards recovery over the last 17 years by correcting nutrient imbalances affecting their brain functioning and contributing to their psychiatric, behavioural and autistic disorders. Many of these are now leading rewarding and productive lives.

Biochemical individuality and the brain

How can nutrient imbalances affect brain functioning?

- Except for identical twins, each human being has unique biochemical characteristics inherited from our ancestors on both sides of the family, resulting in quite diverse nutritional needs. Because of genetic differences in the way our bodies process foods, most of us are deficient to some degree in certain nutrients and overloaded in some others.
- The brain is a chemical factory that produces neurotransmitters such as dopamine, serotonin, noradrenaline and other brain chemicals 24 hours a day. Their raw materials are nutrients: vitamins, minerals, amino-acids, etc.
- Nutrient imbalances can result in brain chemistry problems which, when serious, can produce mental and behavioural disorders. A genetic nutrient deficiency may require many times the RDA (Recommended Daily Allowance) on an ongoing basis for normalization in that nutrient to be achieved. Genetic nutrient overloads may require ongoing biochemical therapy to eliminate the nutrient excess.

Biochemical imbalances in mental illness

The classification of mental disorders based on biochemical analysis research by Dr Walsh, building on earlier work by the late Dr Carl Pfeiffer, is quite different from conventional psychiatric diagnostic categories, which are based on observed behaviour and symptoms and therefore purely descriptive.

HRI has found that a limited number of high-incidence chemical imbalances account for the great majority of cases of mental and behaviour disorder. For example: three major patterns of biochemical imbalances account for 90% of schizophrenia cases and five major biochemical syndromes account for some 95% of depression cases treated at Pfeiffer Treatment Centre.

Each of these biochemical syndromes has a typical pattern of symptoms, an appropriate individualized nutrient therapy program and a typical pattern of recovery over time. Plain language papers by Dr Walsh outlining these patterns are available on the HRI-PTC website at <http://www.hriptc.org>. Additional information is available on the Bio-Balance website at <http://www.biobalance.org.au> and also at <http://www.alternativementalhealth.com/articles/walsh>

Outcome Studies

Formal follow-up studies have indicated a high level of effectiveness in most categories of disorders treated at HRI-PTC, with significant improvement or recovery in:

Depression	80%
Schizophrenia	75%
Bipolar disorder	65%
Behaviour disorders	90%
ADHD	75%
Autism spectrum	85%

A follow-up 12-month outcome survey by the first Australian medical practitioner trained in Pfeiffer assessment and treatment techniques (see Bio-Balance website) indicated similar encouraging results.

Pfeiffer treatment in Australia

Dr Walsh has been visiting Australia with other HRI-PTC professionals annually since 2004 to train Australian and New Zealand medical practitioners in Pfeiffer techniques, conduct patient assessment and treatment clinics and address public and practitioner meetings. Pfeiffer-trained medical practitioners are now available in South-East Queensland, Sydney, Canberra, Melbourne and Adelaide.

2007 Pfeiffer Outreach Clinic

The next Pfeiffer Outreach Clinic will be in Sydney 16 - 24 April 2007 with an Outreach Conference on Saturday 21 April. Further information on the Bio-Balance Health Association website (see above).

For detailed information and Clinic and Conference bookings, phone Marion Redstone, Pfeiffer Sydney Outreach Clinic and Conference Organizer at 02 9716 6615 or email mazzared@bigpond.net.au



Bio-Balance Health Association Inc. Application Form for Membership

Bio-Balance Background – Brief Overview

Since its formation the Bio-Balance Health Association has moved to establish a means to treat patients suffering from behavioural disorders and mental illnesses such as schizophrenia and bi-polar disorder, depression, autism, ADD/ADHD and learning disorders based on technologies developed by the Health Research Institute-Pfeiffer Treatment Center (HIR-PTC).

HRI-PTC Research Center and outpatient treatment clinic in Chicago, Illinois, USA since 1989 has demonstrated a high level of effectiveness in treating these disorders by assessing each patient's body chemistry imbalances and prescribing an individualised nutritional supplement program to balance the body chemistry.

Bio-Balance's efforts resulted in Dr. William Walsh PhD – Chief Scientist and Director of HIR-PTC visiting Australia in 2004 and again in 2005 and 2006 to train some Australian medical practitioners and to address public and practitioner meetings in Sydney, Brisbane and on the Gold Coast. Further visits are planned.

Further details on HRI-PTC and Dr. William Walsh PhD can be found on their website at www.hriptc.org

Membership of Bio-Balance gives you:

- Information on forthcoming visits to Australia by Dr. Walsh and the HRI-PTC Outreach Clinic
- A Newsletter keeping members up to date on items of interest
- An internet chat/messaging site where you can talk to other members
- A range of library books
- Links to websites of interest

Annual Membership is \$5 including GST for 12 months and all member information is strictly confidential.

For further information please contact Bio-Balance on

Phone 0755 387203

Fax 0755 384599

Email biobalance@optusnet.com.au

Or Write to

Bio-Balance Health Association Inc

PO Box 7795

Gold Coast Mail Centre Qld 4217

Australia



MEMBERSHIP APPLICATION FORM

Bio-Balance Health Association Inc

To join or renew your Bio-Balance Association Membership

Please return completed form to:

Po Box 7795 Gold Coast Mail Centre, Qld, 4217

Annual membership fee: \$5.00 incl GST

**New Membership
Renewal**

Date:.....

Name:

Address:.....

.....**State**.....**P/Code**.....

Phone.....**Fax**.....**email**.....

Membership Fee Enclosed \$.....

Donation \$.....

Total \$.....

Donations of \$2 and over are tax deductible