

The Hypoglycemic Health Association

NEWSLETTER

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		Catering Committee:	Reg & Lynnette Grady

The NEWSLETTER of the Hypoglycemic Health Association is distributed to members of the Association and to Health Professionals with an interest in nutritional medicine and clinical ecology.

NEXT MEETING IS OUR CHRISTMAS MEETING at the YWCA, 2 Wentworth Ave, Sydney and will start at 1 pm, one hour before the talk given by Dr Joachim Fluhrer. Please bring in a wrapped present worth about \$5.00 and a plate of sugar-free food. For details see page 2 under "CHRISTMAS PARTY". Entry fees for non-members will be \$5.00 and for members \$3.00 & families \$5.00. Members are reminded that most subscriptions expire on the 31 December 1999 (expiry dates shown top-right hand corner of address labels). Please send in you application forms at the last page of this Newsletter to PO Box 830, Kogarah 1485. Receipts will be issued only upon request. At the last meeting of the Committee it has decided to slightly change the format of this Newsletter. The intention is to personalize the content by asking members to submit their personal accounts of their experience with hypoglycemia and related illnesses for publication in this Newsletter. This will provide a more person-to-person communication among members of the Association. These will be published on the first few pages of the Newsletter then followed by articles of a more scientific nature. We also will include two pages of recipes.

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Our Next Public Meeting will be at 1.00 PM
on Saturday, the 4 December,
1999
at **YWCA**
2 Wentworth Ave, SYDNEY
and our guest speaker is

Dr Joachim Fluhrer

who will be speaking
on the subject of

***“Migraine & Head-
aches”***

Dr Joachim Fluhrer is a registered medical practitioner and is the principal and owner of his practice at Manly, which is called **“Sydney Natural Medical Centre”**. Dr Fluhrer's main interest lies in the area of chronic illness. The practice is shared with other professionals in General, Nutritional and Environmental Medicine, Allergies, Acupuncture, Osteopathy, Homeopathy, Support for cancer patients, Chelation Therapy, Immune Therapies and, General and Biological Dentistry. The Institute caters for chronic degenerative diseases, chronic fatigue syndrome, chronic toxicity, mercury-amalgam toxicity, immune disorders, attention deficit disorders and, of course MIGRAINES & HEADACHES which will be Dr Fluhrer's topic at the next meeting.

Previous Copies of the Hypoglycemic Newsletter

Back issues of the Hypoglycemic Newsletters are available at the NSW State Library, Macquarie Street, Sydney. They are filed under NQ616.466006/1 in the General Reference Library.

Other libraries holding copies are: Stanton Library, North Sydney; Leichhardt Municipal Library; The Tasmanian State Library; The Sydney University; The University of NSW and Newcastle University. The Association will provide free copies in PDF format to any library upon request to jurplesman@hotmail.com

Donations by professionals

Professionals are reminded that the Association is now a registered charitable organisation and that any donations are tax-deductible.

Dr George Samra has paid for the hire of a room at the YWCA and his donation is greatly appreciated by the Association. Donations by professionals help to financially sustain the work of the Association for the benefit of not only doctors and practitioners but patients as well.

Books for sale at the meeting

Jurriaan Plesman: **GETTING OFF THE HOOK**

This book is also available in most public libraries (state and university)

Sue Litchfield: **SUE'S COOKBOOK**

Dr George Samra's book

The Hypoglycemic Connection

(now out of print) is available in public libraries.

The Newcastle branch of the Association are still meeting with the assistance of Bev Cook. They now meet at ALL PURPOSE CENTRE, Thorn Street, TORONTO. Turn right before lights at Police Station, the Centre is on the right next to Ambulance Station. For meeting dates and information ring Mrs. Bev Cook at 02-4950-5876.

Entrance fee at meetings

Due to diminishing income from our quarterly meetings we regrettably have to increase our fees. Entry fees for non-members will be \$5.00, members \$3.00 & families \$5.00

Donations for raffle

One way of increasing our income is by way of raffles. If any member has anything to donate towards the raffle, please contact Dr George Samra's surgery at 19 Princes Highway, Kogarah, Phone 9553-0084.

At the last meeting on the 4 September 1999 **Babs Lamont** won the lucky door prize and **Dr George Samra** won the raffle.

Any opinion expressed in this Newsletter does not necessarily reflect the views of the Association.

Fund raising activities

We need money, ideas, donations, bequests (remember us in your will).

Ms Bousfield has requested us to place an ad in this Newsletter calling for interested members to start a discussion group in the Gympie area. Please call Ms Bousfield at **9525-9178**

Many thanks go to **Lynette Grady** of Nowra who has donated a home-made jumper worth about \$250 to the Association. The jumper was sold at Dr Samra's surgery. **Mr Raymond Pont** purchased the jumper for his wife **Pat** who travelled all over England with the jumper. She said: "It was absolutely wonderful and warm".

Christmas Party

Our next meeting at the YWCA, 2 Wentworth Ave, Sydney will start one hour earlier at 1 pm on 4th December 1999, the last in this century, to celebrate our Super Christmas Party.

- Please bring along a plate of sugar-free foods. **Presents:** The Committee asks everyone to participate in the Lucky Dip. Bring a wrapped present worth about \$5.00 with you and mark it "male" or "female". These will be placed in special bags as presents to your fellow members. If you don't you will not be disappointed!!
- There will be presents for kids, and they are welcome.

Continued from page 1

The Editor, Jurriaan Plesman, would like to meet members interested in assisting him editing this Newsletter, especially in the preparation of recipes, which is not his forte. It is hoped that such person has access to a computer and has internet facilities. Thus the sub-editor need not be located in Sydney. Ms Babs Lamont has indicated that she would like to relinquish the job as treasurer for personal reasons. So we are anxious to hear from any member who is willing to take up this all-important job.

jurplesman@hotmail.com

How I discovered I had hypoglycemia

By Babs Lamont, Bowral

My mother had tobacco poisoning whilst pregnant with me, the result of working in a tobacco factory. She has never smoked. At six months my very existence was threatened with an abortion. Her kidneys failed. She was told if she did not pass urine by the next morning it would be her life or the foetus's. I reckon I heard those words and kicked her kidneys and the rest is history.

At three weeks of age I ulcerated both nipples on my mother's breasts. I was put onto cow's milk to which I proved to be "allergic" or intolerant. In my early school years I must have "outgrown" the allergy as I loved to drink as much of the free school milk as I could summer and winter.

During my school years I constantly had sinusitis, tonsillitis and chilblains. At high school I craved fresh bread rolls, doughnuts with real cream and real jam, and overripe bananas. I could never eat enough. I'd constantly raid the sweet tin. Fruits, fresh and home preserved, jams, pickles, artificially coloured and flavoured cordial drinks were abundant in my diet until I was 18 and a half when I left home. I was never a fat or overweight child or teenager.

I have always been very fit, healthy, active person. I loved to sing and dance. I was never still unless I was reading. As a child I played, ran, climbed the highest trees and walked miles. This continued into my teenage years with team and individual sports of netball, gymnastics, tennis, swimming, cycling, athletics and walking. With running 100 yards race, after being out in front about then 75 yard mark my energy level would suddenly drop and I'd finish the race heavily and closer to the back than the front. I remember the frustration and embarrassment. In my 30's and 40's I was backpacking (bushwalking) and kayaking I could never understand despite highly nutritious breakfasts, lunches, morning and afternoon teas and my fitness, how my energy or stamina would just flag. After just a couple of hours I'd start stumbling and would really resent the idea of such hard work, forgetting my love and enjoyment of walking and kayaking in the isolation, fresh air and beauty of the bush and rivers where I was truly happiest. I hated my pack on my back, and would get short tempered and irritable.

In my early 30's I joined weight watchers, lost required weight, low cal drinks, artificial flavourings, colouring and preservatives again became part of my life. At about 37 I became a vegetarian, and only very occasionally eating a little fish or a few eggs. I went on a 5 day fast and immediately psoriasis broke out all over my body. Through trial and error I found I was allergic to all dairy products.

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“The Benefits of Thermography, Clot Retraction Testing and Live Blood Analysis in the maintenance of health”

by Jennie Burke
Australian Biologics Testing Services,
135 Macquarie Street, Sydney. 2000

A simplistic view would be that the allopathic doctors treat with the aim to treat the disease (e.g. kill bacteria/viruses etc.) remove unpleasant symptoms whereas the holistic practitioner is more likely to boost the immune system, treat the digestive system, work on mind/body connections, all with the aim that the body should heal itself. The biggest difference in reality between the two is a philosophical difference.

Sufferers of conditions such as chronic fatigue and hypoglycaemia are often on the receiving end of such a dichotomy. In the field of oncology, this variation is starkly seen. Much of the attitude of orthodoxy has been developed by the fact that patients show no signs of ill health apart from their tumour. Their routine pathology tests are often in normal range (apart from tumour markers) and they often feel quite well. The reverse applies to Chronic Fatigue patients whose pathology is often normal yet feel extremely unwell. Interestingly, a study in Germany suggested that many cancer patients do not catch even a flu or a cold for approx. 5 years before they are diagnosed with cancer. This study suggested the merits of having a fever once a year.

We have a world-wide situation where a test such as mammography is promoted as being the best screening device available to detect early breast cancer. Of course by the time a breast tumour is found it really is too late, and to make matters worse, there is mounting evidence to indicate that annual mammography may indeed be seen as a way to dramatically increase a woman's risk to develop the disease. So, it becomes imperative that better and less harmful screening methods be developed.

There are however, some tests available that can measure subtle changes in the body, and that do in fact show many health problems in cancer patients. One such test is Regulation Thermography. This is closest to a truly functional test of the body as is possible. Thermography in this form was developed in Germany, with the latest version of this equipment, being used in our laboratory.

For hundreds of years, physicians have used the temperature of the body as a measurement of health or illness. We know that when fighting off an infection, one of our responses is to mount a fever. This stimulates the immune system and helps us rid ourselves of harmful organisms. We may now be seeing in developed countries, the long term effects of

drugs that prevent our fever responses. We know that old age often brings with it poor circulation and problems that may manifest in very cold extremities.

So, what has been developed is a system where we can take a very rapid series of temperature measurements - using a fine temperature probe, from the head, neck, chest, upper and lower abdomen and the back, we can measure every tooth, and we can measure various points on each breast. What turns thermography into a test of function, is that we can then create a stress in the patient, and then remeasure each point to see how the body has adjusted or regulated to that stress. The stress induced, is to lower the body temperature by having the patient remain seated following the first series of measurements for 10 minutes without any upper clothing on the body at points shown in **Figure 1**.

These are the points routinely measured.

We know that the body protects the head at all costs, so we know that the initial readings taken from the head should become slightly warmer following the “stress”. We know that dropping the body's temperature should also give us slightly colder readings for all other readings of the body except for the thyroid which as a metabolically very active organ will give us a slight increase in heat following cooling. So the normal thermogram as pictured here is the optimum response. See **Figure 2**.

The upper part of the graph represent the numerical input of temperatures. These are drawn in graphical form in the middle representing different parts of the body.

The most important of these are:

The middle row: 1) Head, 2) Neck, 3) Chest, 4) Upper Abdomen, 5) Lower Abdomen, 6) Back

The bottom row: 7&8) Upper Jaw, 9&10) Lower Jaw, 11&12) The right and Left Mamma

In the normal thermogram you will see that the readings of the head are above the base line with the second reading in red following stress (shown in figure 1 as gray) getting hotter. All readings following are below the base line with the second reading colder than the first. The perfect readings for the teeth would follow a sine wave with the front teeth hotter than the back teeth, and as with the head measurements, also growing colder with stress. The readings of the breast follow a descending

pattern. All reactions should be in a range between 0.4°C and 1.0°C. We know that *hot readings are inflammatory signs* whereas *cold readings are degenerative signs*.

So, if we examine the thermogram of a breast cancer patient, who has no abnormalities found in routine pathology testing, should we then expect to see a normal graph with the one area of abnormality being in the breast? In **Figure 3** we have an example of a thermogram from a patient diagnosed with breast cancer.

The circles are reactions we have noted that are particularly abnormal. Some of these abnormal readings are where the first reading and the second reading are identical - where the body did not react or recognise a stress. This is called a fixed point and may indicate a focal point in the body.

Note several fixed points in the teeth, in the head (the frontal and mastoid sinuses), the lymphatics L1 and L2 which drain from the head, and in the lower abdomen the point that reads the right ovary. You will also see the hot spot in the left breast shown in Figure 3 in the right-hand bottom part. We get a crossover effect with the tumour in the breasts and the opposite ovary. In the head region, we have circled the very cold readings of OsE 1 and 2. These are the readings of the ethmoidal sinuses, and in patients with malignancies usually give very low temperatures. We know that the paranasal sinuses with their mucous membrane serve the immune system and are often abnormal in cancer patients.

If you examine the readings of the neck, chest, upper and lower abdomen and back, you will see that most readings show a reaction of more than 1.0°C change. This over-reaction is called hyperegulation and in this first thermogram is especially evident in the upper and lower abdomen, showing that the digestive system is especially poor.

Our laboratory has produced many such thermograms, not shown here to save space. In one the tumour is showing in the right breast with two hot readings.

There are also very hot readings for both ovaries which may indicate some activity in the left breast as well. Again, many of the dental readings are abnormal. Having now examined many thermograms, it is quite obvious that the majority of people do not have healthy teeth.

Once again, the very cold readings of the

Figure 1

Regulations-Thermographie

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Standardmeßbareale

nach Prof. Reul

EIDAM

Werner Eidan - Medizin-Technologie GmbH
 04109 Berlin, Tel. 030 210021 Fax 030 210022

Figure 2

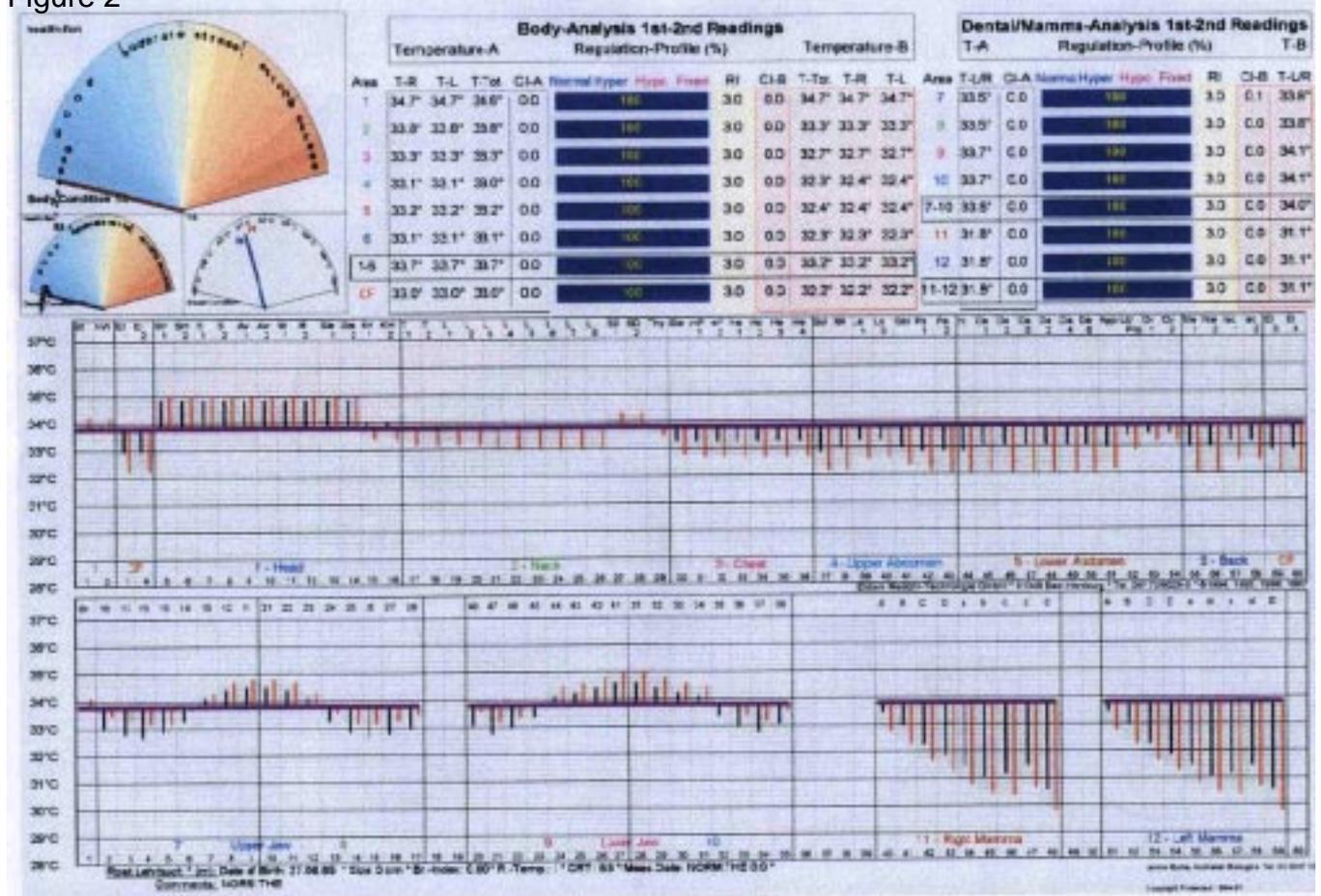
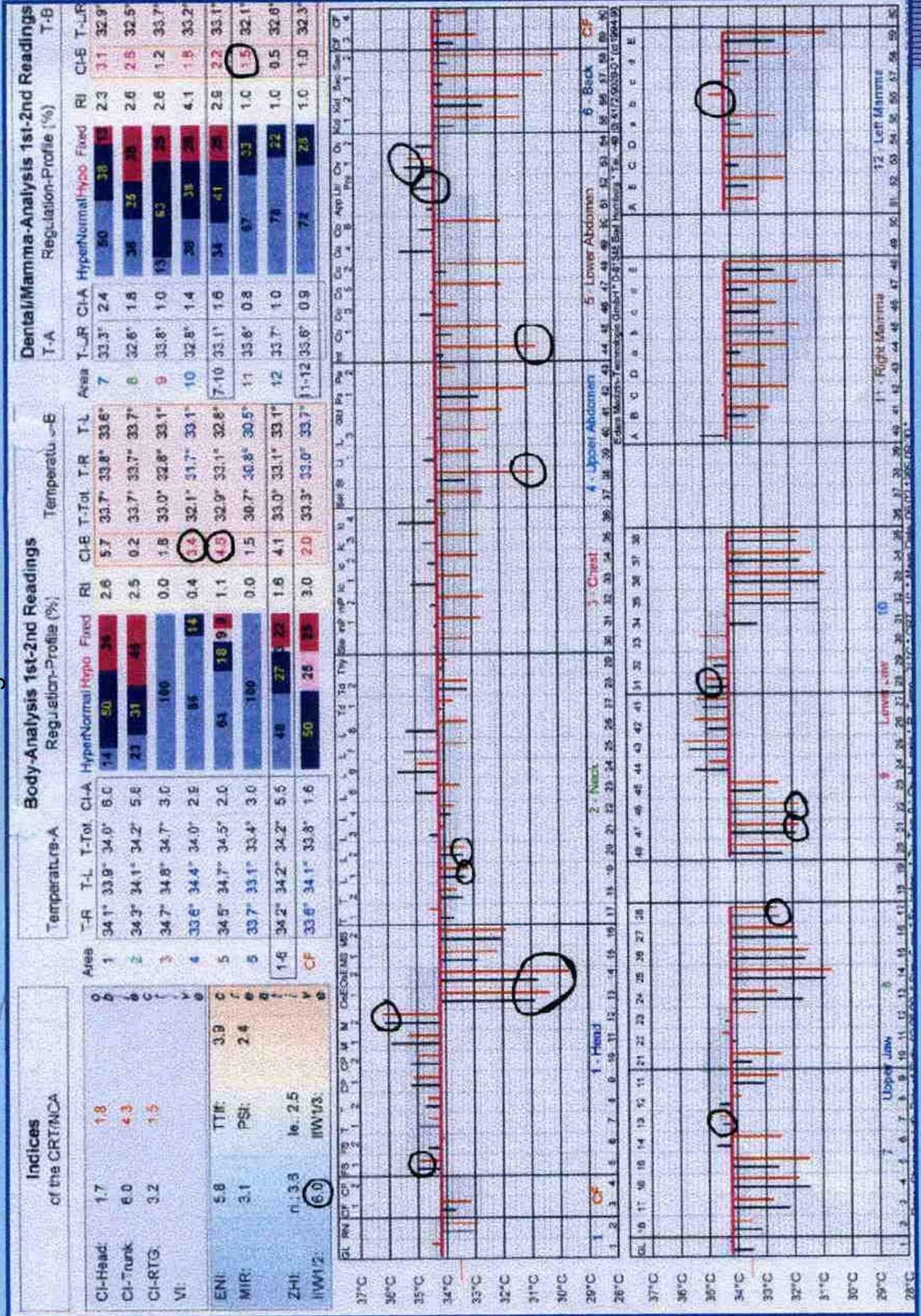


Figure 3



ethmoidal sinuses show a lowered immune system, with quite hot readings of most other sinuses. We also have hot readings for the tonsils and most lymphatics as well as the hot readings on the right of the neck region representing the thyroid and thymus readings. With breast cancer, we of course expect abnormal readings for the chest region, however, once again, we also see abnormalities in the abdominal readings

To heal any patient, surely it is necessary to know where their body function is imperfect and to work with them until all areas of the body function perfectly. At the very least, this should be goal we strive for.

The Clot Reaction Test

Another test we carry out for many patients is the Clot Retraction Test. This simple test allows us to record the level of oxidation for the patient and offers us insights into the organs or systems of the body that is generating this oxidation. The test is performed by swift examination of the clotting processes of the blood.

Variations between normal coagulation patterns and coagulation patterns of a cancer patient will be shown.

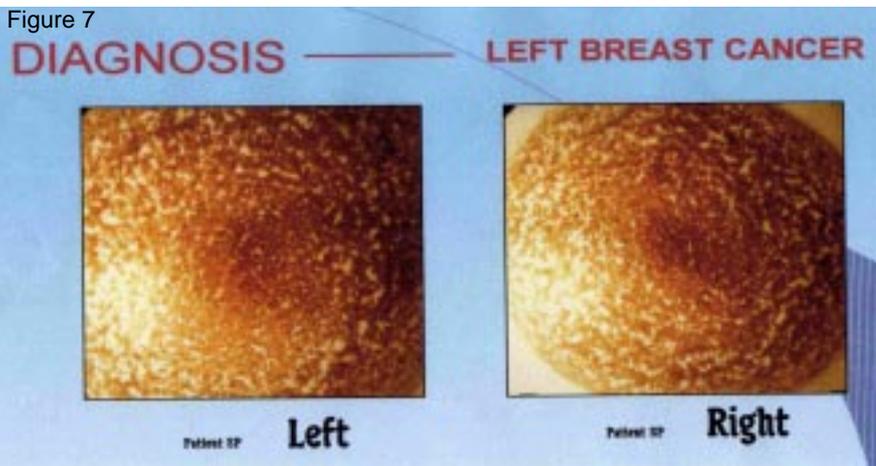
This test can be used to monitor a patient following treatment for cancer. **Figure 4** is an example of what a normal blood clot looks like. **Figure 5** shows an abnormal blood clot.

In some patients these tests may indicate the likelihood of a recurrence. e.g. photos

Figure 4 "Normal Clot"



Figure 5: An Abnormal Clot



from a patient treated in 91 but with a diagnosis of a recurrence in '98. At no stage did this patient appear to be in full remission. **Figure 6**.

Also discussed will be results of a patient diagnosed with left breast cancer. Unfortunately when we performed the CRT, we found that an extremely high level of oxidation coming from the right side of the body. We then carried out a thermography, which sadly confirmed that there was also cancerous activity in the right breast. Thermogram is shown in **Figure 7**.

All of the above tests are of course useful in all human conditions - not just as tests for cancer patients. Very few of us today appear to be at optimum health which is really in contradiction to the view put forward by the publicity machines of orthodox medicine. Most of us have some digestive problems - who amongst us has never taken an antibiotic and hence altered the bacterial flora of our gut ? How many of us have the perfect diet and the perfect coping mechanisms for stress ?

We live in an imperfect world. Our ways of coping in this world improve with knowledge, and knowledge about the function of our bodies can only be of benefit in maintaining health. So, in order to provide some balance in

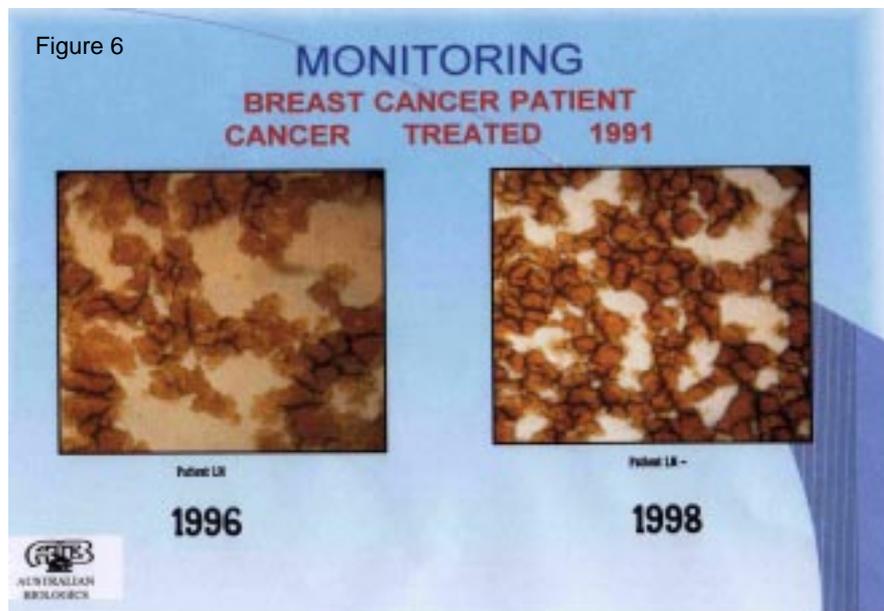
the views we have about health and dis-ease, our laboratory will continue to offer people access to tests which provide keys to the maintenance of optimal health.

For the skeptics of these radically new techniques of non-invasive diagnosis we agree that urgent large scale experiments to validate these diagnostic methods are needed. In the meantime we have to rely on clinical evidence from individual health practitioners, before acceptance by mainstream medicine is the norm.

Only a small proportion of available services by The Australian Biologics Testing Services are presented here. If professional practitioners are interested they can obtain an outline of these services (Clot Retraction Test, Live Blood Analysis, Hair Analysis, Cytotoxic Food Sensitivities, Scratch Test, Thermography, Biocompatibility) by contacting Australian Biologics,

Suite 401, BMA House
135 Macquarie Street, SYDNEY, 2000
Ph: 02 9247 5322, Fx: 02 9247 5453
Email: aust@mpx.com.au
Web site: <http://www.australianbiologics.com>

Figure 6



Dyslexia, attention deficit disorder, dyspraxia: do fatty acid supplements help?

B. JACQUELINE STORDY BSC NUTRITION, PHD

Dr Jackie Stordy, worked at the University of Surrey for 32 years, first as Senior Lecturer in nutrition then as Director of the Nutrition Degrees until December 1996 when she retired. She has done research in many areas including infant nutrition and regularly appears on radio and television to discuss nutrition issues. Her discovery in 1995 in relation to fatty acids and dyslexia lead to invitations to speak on the topic in many different countries around the world. She is now co-ordinating research into fatty acids and learning disorders at Efamol Ltd.

SUMMARY

Long chain polyunsaturated fatty acids are major components of nerve cell and retinal membranes. There may be a common biological basis to the disorders dyslexia, attention deficit hyperactivity disorder and dyspraxia as these conditions are frequently co-morbid and appear to share a common genetic predisposition. The common biological basis may be related to fatty acid metabolism as disordered fatty acid metabolism, clinical features of essential fatty acid deficiency or improvements following supplementation with certain long chain polyunsaturated fatty acids have been indicated in the research described. Further support for a phospholipid membrane defect associated with dyslexia has been given by brain scans which reveal chemical differences in the brains of dyslexics.

Notes on essential fatty acid metabolism

- * There are two essential fatty acids, linoleic acid and alpha-linolenic acid.
- * They are in two different series, n-6 and n-3, sometimes called omega-6 and omega-3.
- * They must be present in the diet and are just as important as any vitamin or mineral.
- * Linoleic acid (LA) is the head of the n-6 series.
- * alpha-linolenic acid (ALA) is the head of the n-3 series.
- * LA and ALA are converted by a series of chemical reactions called elongations and desaturations to long chain polyunsaturated fats, LCPs.
- * The important long of the n-6 series are arachidonic acid and adrenic acid.
- * The important long of the n-3 series are eicosapentaenoic acid and docosahexaenoic acid (DHA).

INTRODUCTION

Efficient reading and writing require sensory input from vision, hearing or touch, central processing in the brain and effective mo-

tor action determined by motor nerves taking messages to the muscles of the hand. The cells that are specialist receptors, modified nerve cells, and the sensory and motor nerve cells themselves are largely made up of lipid (fatty substances). The brain is 60 per cent lipid and roughly half of this lipid is long chain polyunsaturated fatty acids. The long chain fatty acids, docosahexaenoic acid, adrenic acid and arachidonic acid are the major long chain fatty acid constituents of the brain. They are in effect the building blocks of phospholipid membranes around and within nerve cells determining the physical characteristics and the chemistry of the membranes which control the efficiency of transmission of signals from one nerve cell to another. Docosahexaenoic acid is also a major constituents of membranes in the cone and rod cells of the retina.

The importance of adequate supplies of long chain polyunsaturated fatty acids in early life for brain and visual development is well established. Premature infants who are not given milk containing LCPs have delayed development of visual acuity, they also have a lower IQ at age eight years. Human milk provides the LCPs ready formed but many formulas based on cows' milk do not. It was this research on the role of LCPs in visual and brain development that initiated my own research into the possibility of a link between LCPs and dyslexia. I noticed in one large family with many dyslexics in three generations, those who had been breast fed longest were least affected by their dyslexia and in general their problems had become apparent later in childhood. The variation in duration of breast feeding in this family varied from none at all to two and a half years. Even prolonged breast feeding however did not protect completely from developing dyslexia.

PREGNANCY

In my first study I investigated consumption of long chain fatty acids during pregnancy of two groups of mothers. One group had dyslexic sons, the other group included mothers of nondyslexic classmates. The mothers were given a comprehensive questionnaire designed to establish the amounts of essential fatty acids they consumed, particularly the

ratio of n-3 to n-6 fatty acids. The study showed that the mothers of dyslexic children were significantly more likely to have consumed a diet with a low amount of n-3 fatty acids during pregnancy. This study collected data on diet roughly 10 years retrospectively and there is considerable doubt about the reliability of such data but the results suggested that there may be a link between certain fatty acids and dyslexia.

DARK ADAPTATION IN DYSLEXIA

I therefore decided to set up a study to investigate whether docosahexaenoic acid supplementation might be beneficial in dyslexic individuals. I wanted a test which might quickly be able to demonstrate an effect. DHA is known to be important in the function of retinal rod cells which are required for vision in dim light. I therefore decided to test whether there was any evidence for reduced retinal DHA content in dyslexia as indicated by dark adaptation. Ten adults with dyslexia (4 females and 6 males) and 10 control subjects (6 females and 4 males) were recruited⁽¹⁾. They were all young adults with age range 18-26 years.

Dark adaptation was tested using the Friedmann Visual Field Analyser, set for the dark adaptation function. One eye was occluded, bright light was shone in the other eye to bleach the retina and the room darkened. Measurements of dark adaptation were made at one minute intervals by assessing the intensity of very brief flashes of light which could just be detected. Measurements were continued until no further adaptation was observed. The dyslexics at every time point showed poorer dark adaptation than the controls. Because dark adaptation can be influenced by a number of known nutrients including vitamins A and C, riboflavin, nicotinic acid, thiamin and zinc, all subjects were asked to keep a food diary and the intake of these nutrients was estimated: there was no difference in intakes between the two groups.

I then went on to test the possibility that dark adaptation might be influenced by giving DHA⁽¹⁾. For a period of one month five dyslexics and five controls were given four capsules per day of a fish oil which contained

120mg of DHA per capsule with only traces of vitamins A and D. Dark adaptation was then re-tested. In four controls DHA had no effects on dark adaptation, although in one subject adaptation clearly improved. In contrast in the dyslexic subjects DHA consistently and significantly improved dark adaptation. Interestingly the control subject whose dark adaptation improved following supplementation was a fairly strict vegetarian who prior to the study had a habitual diet with a low DHA content.

The retinal rod cells are not only important for dark adaptation. They are the photoreceptors of the component of the visual system which processes rapid stimuli, the magnocellular (transient) system, and there is anatomical, psychophysical and functional magnetic resonance imaging evidence that this system is impaired in dyslexia. Magnocellular ganglion cells receive input from all retinal cone cell types and from rod cells and have large receptive fields. They are important for motion detection.

Improving the function of the photoreceptor by DHA supplementation does not necessarily indicate central processing deficits will be helped as well. It is likely, however, that this is the case as synapse membranes, the junctions between nerve cells, contain high concentrations of DHA. There are also high concentrations of DHA in growth cones of nerve cells so that any increase in the number of connections (dendrites) between nerve cells puts a high demand on the supply of DHA.

FATTY ACID SUPPLEMENTS AND MOTOR SKILLS

One of the largest studies ever examining the health, well-being and development of children from birth to maturity, the British Birth Cohort Study, examined predictors of dyslexia in 17,000 children⁽²⁾. The strongest predictor for dyslexia was the failing to catch a ball test. The test involves throwing a ball up, clapping a specified number of times and catching it. This indicates the close links between dyspraxia, where motor co-ordination problems are the core feature, and dyslexia. It was with great interest I accepted an invitation from a local group affiliated to the Dyspraxia Foundation to test the skills of their children before and after supplementation with a fatty acid supplement including both n-3 and n-6 fatty acids. The test battery we used was the ABC Movement Assessment Battery for Children (Henderson and Sugden 1992). The test consists of two parts: a check list completed by an adult familiar with the child, in this study a parent, and a series of objective measures of motor skills to assess manual dexterity, ball skills and static and dynamic balance. The test is designed to be used to evaluate treatment interventions by physiotherapists and occupational therapists but is just as suitable for examining the response to nutritional supplementation. The parents also completed a behaviour rating, Conner's Parent Rating Scales. The test battery was completed before and after 4 months of supplementation with Efalex™, a patented mixture of tuna oil, evening primrose oil, thyme oil and vitamin E.

The supplement provided 480mg of DHA, 35 mg of arachidonic acid, 96mg gamma linolenic acid, 80mg vitamin E and 24mg of thyme oil daily. Seventeen families volunteered for the study and 15 children completed all the tests. There were 11 boys and four girls with age range 5-12 years. At the outset the check list scores for all the children exceeded the 15th percentile indicating a marked degree of movement difficulty. A similar degree of difficulty was found with the objective measures. The total impairment score, derived by summing scores for manual dexterity, ball skills and static and dynamic balance, exceeded the 1st percentile for 14 children and the remaining child was on the 8th percentile. Following supplementation, overall, there were statistically significant improvements in scores for manual dexterity, ball skills, static and dynamic balance, total impairment and check list. Only one child failed to improve on the check list score but three failed to improve on the objective measures. The Conner's Parent Rating Scale scores also improved following supplementation and the children were significantly less anxious. Conner's Rating Scales are frequently used to assess children with attention deficit hyperactivity disorder.

FATTY ACID SUPPLEMENTS AND ATTENTION DEFICIT HYPERACTIVITY DISORDER

The research group at Purdue University led by Dr John Burgess and Dr Laura Stevens investigated the clinical and biochemical evidence for essential fatty acid deficiency in boys with AD/HD^(4,5). They found that such children had clinical signs of deficiency such as extreme thirst, they also found that they had low amounts of the long chain fatty acids particularly arachidonic acid, adrenic acid and DHA in the red blood cell membranes. It is thought that red blood cell membranes reflect the composition of nerve cell membranes. Examination of the fatty acid composition of the diets of these children indicated that there was not just a simple dietary deficiency of essential fatty acids which could explain the results. It appears that children with AD/HD are less able to convert the precursor essential fatty acids, linoleic acid and alpha-linolenic acid, from their food, to the long chain derivatives, arachidonic acid, adrenic acid and docosahexaenoic acid. A further indication that AD/HD may be related to LCP supply was that they found boys with AD/HD were less likely to have been breast fed and if they had been breast fed it was for a shorter duration. Conner's Parent Rating Scales and Teacher Rating Scales were inversely related to the duration of breast feeding. That is the longer the child had been breast fed the less severe the AD/HD. In a later study⁽⁵⁾ they found over the population as a whole, children with higher amounts of n-3 fatty acids in their blood had better mathematics ability and overall academic ability. The same children were also less prone to behaviour problems such as temper tantrums and sleep problems.

It appears that there may be a common biological basis to dyslexia, AD/HD and dyspraxia as they tend to run in the same families and are often comorbid. This common biological basis may be

related to fatty acid metabolism as disordered fatty acid metabolism, clinical features of essential fatty acid deficiency, or improvements with specific fatty acid supplements have been reported in all of these conditions. There has been much interest in the provision of adequate amounts of long chain polyunsaturated fatty acids for the foetus, the premature and the full term infant to enable good visual and intellectual development. These studies demonstrate there may be some value in long chain polyunsaturated fatty acid supplements for older children and adults with specific learning disorders who appear to be less able to synthesise the amounts required from dietary precursors. The studies described earlier are preliminary, they are small and have design faults which do not allow firm conclusions to be made. However a substantial amount of anecdotal evidence is now accumulating which appears to endorse the preliminary studies. It is unlikely every child with one, or even a combination, of these conditions will respond to fatty acid supplements. It is not yet clear which features of the conditions respond most. Further studies including double blind, placebo controlled trials are in progress to verify or otherwise the value of fatty acid supplements in dyslexia, attention deficit hyperactivity disorder and dyspraxia.

The biochemical mechanisms underlying the relationships between academic achievement, learning disorders, behaviour patterns and motor skills require detailed examination. Horrobin et al⁽⁶⁾ have suggested that there is an abnormality of membrane phospholipid metabolism in both dyslexia and schizophrenia. These ideas have been supported by very recent research using phosphorus-31 MRS brain scans of dyslexics⁽⁷⁾. There was also recent support for impaired dark adaptation in dyslexia and schizophrenia presented at the Dyslexia conference in Athens⁽⁸⁾. At present there is consistency between the various research studies. It is likely that fatty acid supplements available at present are a rather blunt tool but for many they appear to be of use.

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Here's the latest information on diabetes research: (Part II)

*As presented at the American Diabetes Association's 59th Annual Scientific Sessions, 19-22 June
From the Internet at <http://www.mediconsult.com>*

Designer Cells Produce Insulin

Researchers from New Orleans are hard at work developing a genetically bred cell line that can be implanted in your body, produces insulin, and is resistant to rejection. Sound like science fiction?

This exciting new development in the search for better ways to keep diabetes under control was presented at the 59th Scientific Sessions of the American Diabetes Association, held recently in San Diego.

Breeding cells specifically designed to perform a certain function has become almost commonplace with the great advances in DNA technology. For example, science has discovered how to insert human DNA into bacteria, thereby creating bacteria that produce human insulin. Many diabetics presently take this genetically engineered insulin.

Now, science is taking the next step. In a healthy individual, the beta cells in the pancreas manufacture insulin. One of the problems of Type II diabetes is that these cells, for whatever reason, produce less insulin. The genetically designed cells that these researchers are working on will produce insulin themselves.

The insulin-producing cells are encapsulated in a thin loop of tubing that is implanted under the skin with the expectation that the cells will release insulin in response to a rise in blood sugar levels, just like a normal pancreas would do. The material of the tubing allows the insulin to move out of the tube and into the blood.

In addition, these cells are bred to be resistant to cytokines—substances your body produces as part of the inflammatory reaction when it detects a foreign presence. Cytokines are part of the reason that people who have transplants have to take anti-rejection drugs.

Without insulin, glucose, the end result of the digestion of all carbohydrates, builds up in your blood (hyperglycemia). Excess blood glucose is very harmful to your cells over time and leads to many of the complications of diabetes including damage to your eyes (retinopathy), nerves (neuropathy), and kidneys (nephropathy).

Researchers are investigating three different sources from which the specialized cell line could be developed.

Depression Makes Your Diabetes Worse

In most cases, depression precedes the

development of diabetes. Researchers from Washington University and the University of Oregon presented these findings from multiple studies regarding depression and Type II diabetes.

Although the link between depression and diabetes is well known, the order of the association was thought to be the same as for other chronic illnesses. Once a chronic illness begins to have a negative impact on people's lives, they are more prone to depression. This holds true for diabetes, heart disease, multiple sclerosis, or any other disease.

In the course of trying to measure the quality-of-life for a diabetic who is also depressed, these research teams discovered that in as many as 90 percent of cases, depression begins first and up to 10 years before the diabetes develops. Reactive depression - depression that begins as a reaction to having diabetes - actually only accounts for a small number of depressed patients.

Physicians have serious concerns regarding the role depression plays in the development of Type II diabetes and even graver concerns that depression in many diabetics is undiagnosed and, therefore, untreated.

For a diabetic, being depressed carries additional risks. Depressed diabetics have poor glucose control and more diabetic complications. The good news is that treating the depression improves both the depression and the diabetes.

The researchers urge health-care providers, especially primary-care practitioners, to look for and treat depression in diabetic patients.

If you have Type II diabetes, you should be aware of your increased risk for depression and should report any depressive symptoms you may experience to your health-care provider. Because untreated, depression not only takes the joy of your life, it shortens it by making your diabetes worse.

High Blood Sugar in Pregnancy = High Risk for Baby

Researchers from Santa Barbara, California, presented findings on the effects Type II diabetes may have on your baby - both before and after the baby is born - at the American Diabetes Association's 59th Scientific Sessions currently underway in San Diego, California. Dr. Lois Jovanovic presented up-to-date information on exactly how a mother's high level of glucose (sugar) in her blood

adversely affects her baby.

During pregnancy, the fetus gets its nourishment from its mother's blood, filtered as it passes through the placenta and into the fetal circulation. Glucose passes easily through the placenta, but insulin can not. So if "mom" has high levels of glucose in her blood, it goes into her baby. In response, the fetus produces high levels of insulin, the hormone that helps sugar move out of the blood and into the cells. Some fetuses can burn up the extra glucose by increasing their activity in the uterus.

However, if the fetus has continuing high levels of insulin, called hyperinsulinemia, the insulin-producing cells in their pancreas become enlarged. In addition, hyperinsulinemia tends to make the body's cells resistant to insulin's actions. Together, these conditions can set the stage for your baby to be born large (macrosomia) and increase the odds that your child will develop diabetes sometime in the future.

Traditionally, both the mother's glucose level and her weight were thought to contribute equally to the risk. However, this study indicates that the mother's glucose level seems to pose a more serious risk than her obesity. This study reinforces the wisdom of maintaining blood-sugar control during pregnancy for the long-term health of you and your baby.

Diabetes Affects Women's Reproductive Health

Much has been written about the dangers diabetes poses to a pregnant woman, but researchers from the University of Pittsburgh caution that diabetes has encompassing effects on all aspects of a woman's reproductive health.

The study focused on females with Type I diabetes, a condition in which the body is not producing the hormone insulin, necessitating a daily infusion of the hormone either by injection or pump.

It starts before puberty. Girls diagnosed with Type I diabetes before the age of 10 may have a delayed menarche (first period). And once periods have begun, there is an increased incidence of a wide range of menstrual irregularities, including heavier flow, longer periods, and cycle disturbances.

Sometimes this means more frequent periods, but it's usually longer cycles and fewer periods.

The study also found an increased rate of ovarian cysts. However, researchers aren't

sure if this is a result of the diabetes itself or simply due to the closer medical observation of the women in the study group.

Another effect noted in this study was an increase in infertility rates, perhaps as a direct result of the disturbed cycles. While some researchers disagree on the connection between diabetes and infertility, there is agreement that once pregnant, diabetic women are at higher risk for having a spontaneous abortion (miscarriage), stillbirth, or malformed fetus.

Furthermore, menopause is more likely to occur earlier in diabetics. Estimates are that 60 percent of diabetic women will experience menopause before age 47, at an average age of 42. For women without diabetes, only 33 percent have early menopause, and the average age is close to 50.

With menarche later and menopause earlier, the number of fertile years is markedly decreased for diabetics. In fact, researchers estimate a loss of seven reproductive years, which could also be a contributor to their finding of higher infertility.

Both poor glucose control and the autoimmune aspects of Type I diabetes are thought to contribute to these disturbances in diabetic women's reproductive health. However, further research is required to discover the roles each factor might play.

Scientists Discover Link Between Diabetes and PCOS

Researchers from Brigham Women's Hospital in Boston and Parke-Davis presented research findings linking diabetes with polycystic ovarian syndrome (PCOS) at the American Diabetes Association's 59th Scientific Sessions, which is underway in San Diego. These researchers believe that women with PCOS are at higher risk for diabetes.

The commonality between these two diseases centers on conditions called insulin resistance and impaired glucose tolerance, both believed to be precursors to diabetes. Commonly found in Type II diabetics, insulin resistance is a state in which the body's cells can't use the insulin the pancreas produces. (In Type I diabetes, the pancreas doesn't produce insulin.)

PCOS is a cluster of signs and symptoms that result in impaired fertility for women because they don't ovulate. Included in the qualities that characterize this syndrome are insulin resistance, impaired glucose tolerance, and obesity: all risk factors for diabetes. These women also have high levels of androgens (male hormones), which produce such symptoms of masculinization as facial hair.

Researchers found that the rate of impaired glucose tolerance in women ages 20-44 was higher in women with PCOS (24 percent) than in any other individual population. The closest group was African-American women with a rate of 12 percent, or half the rate of impaired glucose tolerance in the PCOS group.

The studies treated women with PCOS with a drug (insulin sensitizer) designed to treat Type II diabetes. The insulin levels of the women taking the drug declined. Interest-

ingly, as the insulin levels dropped, so did the androgen levels, and some of these women resumed ovulation all on their own.

Further research is needed to uncover the exact relationship between PCOS and diabetes. Until this association is understood, women with PCOS should be aware they're at an increased risk for diabetes.

Depression Worsens Quality-of-Life for Diabetics

SAN DIEGO: According to reports presented at the American Diabetes Association's 59th Annual Scientific Sessions, people with diabetes and depression suffer more than those with diabetes alone. They experience a worsened quality-of-life, much higher medical costs, and more diabetes complications like heart disease. Depression may occur in 20 percent of people with diabetes, but with proper treatment, people can improve their situation. The studies, which involved people with Type II diabetes, noted that depression has unique importance in diabetics because the studies link it with poor compliance with diabetes treatment, poor blood sugar control, and an increased risk for micro- and macrovascular disease complications.

According to the researchers, effectively treating depression makes it easier to control blood-sugar levels, and lower blood-sugar levels make it easier to treat depression. The study recommends intensive interdisciplinary treatment of diabetes and depression.

Type II Diabetes on the Rise among Children and Teens

SAN DIEGO: According to four different reports from the United States, Canada, and Japan presented at the American Diabetes Association's 59th Annual Scientific Sessions, Type II diabetes, which normally occurs only in adults, is now affecting an increasing number of children and adolescents. Some of the reports emphasized that obesity in children and teens seems to play a major role in early development of this disease, because the majority of the children involved in the studies were obese. Researchers find this trend particularly worrisome since it could portend earlier onset of complications if these young diabetics are not properly diagnosed and treated early.

Parenting Style Affects Child's Adherence to Diabetic Regimen

SAN DIEGO: The University of Miami recently conducted a study on whether parenting styles, classified as either warm or strict, affected regimen compliance of diabetic children. Parental warmth was described as support and affection, and parental strictness was described as coercive attempts to control behavior. The study found children experienced better blood-sugar control and regimen adherence with warm parenting styles than strict parenting styles. The "warm" parents used high levels of warmth and inductive control, such as firmness, maturity demands, explanations, and flexibility, rather than coercive discipline strategies.

An Aspirin a Day Reduces Diabetes Complications

SAN DIEGO: Something as simple as an aspirin a day can reduce diabetes-related heart disease, according to a report presented at the American Diabetes Association's 59th Annual Scientific Sessions. The American Diabetes Association (ADA) recommends that if individuals wish to reduce the incidence of cardiovascular disease, then they should take one enteric-coated aspirin, in doses of 81 to 325 milligrams, daily. This can be used as a secondary prevention among people who already have evidence of such illness and for primary prevention among those with risk factors for heart disease.

Blood Sugar Levels Checked Painlessly

SAN DIEGO: At the American Diabetes Association's 59th Annual Scientific Sessions, a report was released stating that an experimental device which enables diabetics to check their glucose levels painlessly can be as effective as current techniques that require finger pricks to obtain blood samples. GlucoWatch biographer is based on a technique called reverse iontophoresis, which extracts interstitial fluid from the skin. This watch-like device uses a AAA battery to send a small electrical current to the skin, measuring the glucose level in the fluid. The product is currently awaiting Food and Drug Administration approval.

Sub-Diabetic Sugar Levels Increase Death Risk

SAN DIEGO: Long before people develop diabetes, they may develop the potentially fatal risks of high blood-sugar levels. According to a report released at the American Diabetes Association's 59th Annual Scientific Sessions, those with undiagnosed diabetes and/or abnormally high glucose intolerance should be treated to help reduce death from such diabetic complications as heart attacks, stroke, and kidney disease. Many of the adults in a random study tested positive for Impaired Glucose Tolerance (IGT). IGT is when a patient has neither normal insulin secretion nor diabetes. If IGT is treated, patients can lower their risk of heart disease.

Bioengineered Skin Heals Wounds in Less Time

SAN DIEGO: A bioengineered skin tissue product has helped heal diabetic foot ulcers in more people and in about half the time of standard care alone, according to a report released at the American Diabetes Association's 59th Annual Scientific Sessions. Foot problems account for 20 percent of diabetes-related hospital admissions and for more than 50,000 amputations per year nationwide. The skin device, known as Graftskin, enhances but does not replace standard care. Standard treatment includes removing dead tissue from ulcers, treating for infections; reducing daily wear and tear on the wounded foot with customized footwear or crutches; and, if necessary, performing vascular surgery to increase

circulation. The Food and Drug Administration approved Graftskin, sold under the brand name Apligraf, for the treatment of venous leg ulcers, which have not adequately respond to conventional ulcer therapy and lasted longer than one month.

Risk of Diabetic Foot Ulcers Reduced

SAN DIEGO: At the American Diabetes Association's 59th Annual Scientific Sessions, the Manchester Royal Infirmary presented a study that shows that silicone injected at sites of abnormal weight bearing is well retained and significantly reduces localized pressure. Results of this study confirm the efficacy of silicone injections under metatarsal heads to provide soft tissue cushioning, thereby reducing the risk of foot ulceration without adverse reactions to the silicone. Confirmation of these findings, with federal approval of silicone fluid, could markedly reduce the alarming yearly increase of diabetic toe, foot, or limb amputations: a problem globally.

NIH Meets Recruitment Goals

SAN DIEGO: A National Institutes of Health (NIH) clinical study, the Diabetes Prevention Program (DPP), which examines ways to prevent or delay the onset of Type II diabetes, met its recruitment goals ahead of schedule. The participation goals were set to reflect the increased risk for diabetes in specific ethnic and racial groups. Diabetes rates are at least one and one-half to two times higher in ethnic minorities than in the non-Hispanic white population. A major success of the DPP has been to recruit nearly 45 percent of study participants from minority populations, and 20 percent of them are more than 60 years old. Racial and ethnic minorities are at the highest risk for developing Type II diabetes, and diabetes affects older Americans disproportionately.

Improved Care for Latino Population

SAN DIEGO: Since Type II diabetes is three times more prevalent in Latinos than whites, effective diabetic treatment of this population remains a challenge. A pilot community health program developed by the Whittier Institute for Diabetes is showing promising results. The Institute implemented a diabetes program in local community health centers to assess changes in biochemical markers, psychosocial parameters and physician satisfaction with the program. Their preliminary results indicate that the program has a high compliance with ADA standards of care, positive changes in HbA1c and cholesterol levels, and increased patient and physician satisfaction. At the completion of the pilot program, the Whittier Institute for Diabetes will compare cost and health services utilization to a similar unmanaged group. If successful, this model could be replicated in other communities with high populations of at-risk groups.

Children Strongly Affected by Parental Concerns

SAN DIEGO: At the American Diabetes

Association's 59th Annual Scientific Sessions, a study was released that documents children's reactions to being diagnosed with Type I diabetes. More than three-quarters of the adolescents surveyed reported that they felt their parents were being intrusive. The study also showed that one-half of the adolescents worry about low blood sugar and social embarrassment and/or fear of being alone during a low blood-sugar reaction. A few adolescents described their personal experiences with high blood sugar as scary. Adolescents attributed the majority of parental worries to high blood sugars and potential complications of diabetes. Furthermore, 92 percent of the children endorsed some type of conflictual interactions with their parents, such as parental intrusiveness, parental worry, blame for blood sugar levels, attributing moods to blood sugar levels, and hiding foods. Not all was conflict, however. The study also stated that 46 percent reported supportive interactions with their parents, such as understanding out of range blood sugar level and reassurance. Autonomy and trust emerged as key elements in parent-child conflicts about diabetes. Researchers recommend interventions to reduce diabetes-related stress in the parent-child relationship and to resolve conflicting goals of diabetes management.

Alcohol Reduces Diabetic Mortality in Men

SAN DIEGO: At the American Diabetes Association's 59th Annual Scientific Sessions, a study showed that in men with Type II diabetes mellitus, moderate alcohol intake, 16-30 grams per day reduced the risk of death from ischemic heart disease. Mortality from all causes was also reduced.

The same effect could not be shown in women, and any alcohol intake greater than 30 grams per day was linked to increased mortality. The study was conducted over a 15-year period, alcohol consumption was self-reported, and the cause of death was obtained from death certificates.

New Ways to Assess the Quality of Life in Diabetic Children

SAN DIEGO: Using the Diabetes Quality of Life (QOL) questionnaire, a study was conducted to develop a questionnaire to assess the QOL of the parent, and the health professional's perception. The study also compared adolescent, parent, and health professional QOL perceptions and attempted to establish the validity and reliability of the questionnaire as screening QOL assessment tools. After the completion of the study, international QOL questionnaires were developed for child/adolescent, parents and health professionals, which has been translated into 14 languages and is used in 17 countries. The new questionnaire has a high completion rate, and it's brief and easy to administer and score. The study also noted that the inclusion of parents and health professional perspectives completes a comprehensive assessment in this quality assurance approach.

Emphasis on School Personnel's Diabetes Education

SAN DIEGO: Current data released at the American Diabetes Association's 59th Annual Scientific Sessions by Children's Hospital of Pittsburgh Diabetes Center demonstrated that there is a need to provide new diabetes information to school personnel, and the center's 5 C Diabetes program design is an extremely efficacious method to provide the education. Data also showed that school personnel appear to understand the need for immediate treatment of hypoglycemia and recognize that children with diabetes can attend school on a regular basis. School and ancillary school staff personnel should be assessed for their knowledge of diabetes and responsibilities as outlined in the Americans with Disabilities Act. The researchers recommended that appropriate programs should be developed to include information on the symptoms of hyperglycemia and the actions of glucagon.

Recipe Corner

by Sue Litchfield

Hi every one.

In future the Association is hoping to include a section featuring a selection of recipes and hints and tips that hopefully will make everyday life a little easier for everybody. However for this to be a success we really need to hear from anyone who may have a great recipe or handy hint.

A HINT

Did you know that when travelling by plane within Australia special diet meals may be ordered when making reservation.

ANOTHER HINT

To stop that dry feeling of the skin spray at regular intervals with *Evian Mineral Water Atomizer* available from most good chemist shops.

Recipes

HERBED LAMB

- 1 cup oil of choice
- 2 tablespoons cracked pepper
- 2 tablespoons chopped fresh Rosemary
- 1 tablespoon fresh Thyme
- 1 tablespoon chopped Parsley
- 1 tablespoon chopped Chives
- 4 Lamb Backstraps

Cut each backstrap into 3 or 4 pieces depending on size. Combine all other ingredients in a shallow dish, add the backstraps, marinate for at least 2 hours or better still overnight in fridge.

Grill or barbecue till tender. Nice served with salad

EASY PORK

- To each piece of Butterfly Pork allow 2 teaspoons Pure Maple Syrup
- 1 teaspoon Tahmari

Marinate for as long as possible, at

least 1 hour. Then barbecue or grill. Serve with tossed salad, potato or rice.

CHRISTMAS CAKE

- 1 kilo mixed fruit
- 2 tablespoons of glycerine
- 2 cups of fruits juice of choice (I use orange)
- 1/2 cup Maple Syrup or pear Concentrate
- 4 eggs
- 250 grams melted butter or Ghee
- 1 1/2 cups Lowans Soy Flour
- 1 1/2 cups rice flour

1/2 teaspoon of the following: Ground Ginger, Cinnamon, Salt, Bi-carb Soda, Vanilla, Lemon Essence.

In mixing bowl thoroughly mix the fruit, glycerine, pear concentrate, maple syrup, all the spices and allow to stand for 2-3 hours. Add melted butter, add beaten eggs. Mix well.

Add rest of the ingredients. Place in lined 21 cm square tin and bake in slow oven 5 hours or till cooked.

PEACH CAKE

- 75 grams butter or Ghee
- 1/2 teaspoon Stevia
- 220 gram Goulburn Valley Peach in Natural Syrup
- 3 eggs
- 2 1/2 teaspoon baking powder
- 1 cup Soya flour - Lowan's Brand
- 1/2 cup Rice flour
- 2 tablespoons Glycerine
- 1/3 cup of water
- 3 tablespoons Sheeps yoghurt

Cream butter, Stevia, Yoghurt till creamy, add undrained fruit. Add beaten eggs. Lastly add rest of the ingredients, more water may be needed to give dropping consistency.

Place in loaf tin and bake 150° fan-forced, 180° normal oven for approx. 40 minutes.

ANOTHER HINT

By adding 2 tablespoons of glycerine to a cake mixture the cake will not dry out so much in cooking. Glycerine is also a preservative.

Continued from page 2: Babs Lamont

In 1993/94 I worked in the desert on a remote aboriginal community in N.W. Australia. Part of my assistant art coordinating job involved decanting acrylic water-based paint into 200ml containers, over 100,000. Temperatures in the high 40's plus nine months of the year, no ventilation. Here I developed the first stage asthma. After a horse bite to the breast I had to return to Sydney. I was diagnosed with post traumatic stress syndrome and acute anxiety disorder. The asthma cleared.

I floundered drastically with my health over the next two years until I saw an allergist, Dr Baker, and finally found out the full extent of my chemical sensitivities. I was referred to Dr Chris Reading, a psychiatrist, who helped further. Eventually he referred me on to Dr Samra and finally after all these years I was told I had reactive hypoglycemia and chronic fatigue. All the mood swings, irritability, anxiety, impatience, frustration, chronic tiredness, sudden loss in energy, sugar cravings, seeing weight, poor sleep and all the other classic hypoglycemic symptoms were explained. I wasn't crazy, it wasn't "all in my mind". Finally I am on the right track. Thank you.

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By Editor

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