

The Hypoglycemic Health Association

NEWSLETTER

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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.



Please note that the **Annual General Meeting** will be held at 1.30 pm half an hour before the public lecture by Dr George Samra. Copies of the Financial Statement of Income and Expenditure for the year ended 31 December 1998 and the Auditor's Report will be made available at the meeting. The financial statement and report is prepared by Mr Hugh Macfarlane, Chartered Accountant who has given his free time to the Association to submit these documents. We would like to thank Mr Macfarlane for his efforts. This Association is entirely run by voluntary members, without any funding from private industry or government. Although we have been trying to contain the cost of production of the Newsletter and hiring of public halls, we had to increase membership fees to \$20.00 p.a. and to \$15.00 for pensioners and students. Please pay your membership fees as soon as possible by sending in a copy of the application form on the last page of the Newsletter. There is firm evidence in the USA that the number of patients using at least one 'alternative' therapy has increased from 33.8% in 1990 to 42.1% in 1997 (JAMA 280: 1569-1575), but this also means that the majority of 'traditional' medical doctors still practise medicine based on drugs, chemotherapy and surgery. We need your support to encourage those doctors to embrace complementary medicine through dissemination of information to both health practitioners and patients.

Our Next Public Meeting will be at 2.00 PM
on Saturday, the 6 March 1999
at **Glebe Neighbourhood Centre**
160 St Johns Rd (Corner Mt Vernon St)
and our guest speaker is

Dr George Samra
MB,BS, (Sydney), FACNEM

who will be speaking
on the subject of
**"Beating fatigue and
The Diseases of aging"**

DR GEORGE SAMRA is of course well-known to our members. He is the patron of our Association as well as a pioneer in Nutritional Medicine. It is mainly through the personal effort by Dr George Samra that the concept of hypoglycemia is recognised as a major cause of ill-health and an important factor in human behaviour. Naturally, since the foundation of the Association the concept has broadened to include the whole range of clinical nutrition and ecology, as well as traditional medicine. Dr George Samra is now well-known among probation officers, the judiciary and legal profession in assisting them to determine to what extent a program of rehabilitation can prevent criminal behaviour. Dr Samra's surgery is located at the Total Therapies Medical Centre in Kogarah, practising with like-minded practitioners.

Dr Samra's chosen topic should prove to be very interesting.

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 to any library upon request.

Donations by professionals

Many professionals have donated \$50 to the Association and we have acknowledged this by **printing their business card** in the Newsletter. We hope to receive more of these requests, which would help to finan-

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

cially sustain the Association and be of benefit to the doctors and practitioners.

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 also 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 5 December 1998 **Betty Jones** won the lucky door prize and **Graham Butt** won the raffle.

Fund raising activities

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

Please note that the Editor Jurriaan Plesman can now be reached on the internet. His e-mail address is: jurplesman@hotmail.com

Preventative Health and Longevity

By Dr John Hart, MSptMed, MB, BS, BPE(Hon), BAppSc, BA

Preventative health care is of particular interest to me. There are three basic areas that I would like to discuss in order to keep healthy and stay healthy as long as possible.

These are

- 1) Stress management
- 2) Physical activity and
- 3) Nutrition

If we look at the kinds of diseases that kill us now, 80 per cent of us die from life-style diseases. When we see how our body evolved over thousands of years it is clear that our body is adapted to a totally different environment from the one we live in today. This environmental transformation began with the industrial revolution about 100 years ago. The things that used to kill us thousands of years ago were actual traumas: wild animals or our tribal neighbours would have a go at us. Once we started to live in civilised groups, became friendly with our neighbours and began to work together, the things that killed us then were infectious diseases. We lived in close communities and we did not know yet about waste disposal, food preparation or food preservation. We did not have refrigerators and the

waste was running down the middle of the street. Thus infectious disease were the major killers, and we were no longer nomadic and moving around over large areas.

We then discovered bacteria, viruses, antibiotics, immunization, refrigeration and food preparation and food preservation and waste removal. We no longer die primarily from infectious diseases, but from life-style diseases. The big three killers are heart attack, stroke and cancer. Heart attack and strokes are the same thing; they are diseases of the blood vessels but affect different parts of the body. These are not sudden diseases. These diseases may develop over a period of ten to twenty or more years before symptoms manifest themselves. The causes of these modern diseases are overwhelmingly due to the way we lead our lives.

These may be classed under the headings of stress, physical activity and nutrition. The environment has radically changed, but our bodies have basically remained the same. If we were to survive for the next two thousand years we would probably evolve into this environment, but in the meantime we are stuck in the change-over time. The new envi-

ronment contains 83,000 new chemicals completely foreign to our body. We do not know how all these chemicals interact, or where they will appear. They may be sprayed onto vegetables and finish up in our water supply. We can do some tests on mice and give them the toxins and see whether they survive. It is difficult to imagine that something that is toxic to animals or plants is not toxic to human beings. The major worry I have about chemicals is their interaction. The plastic wraps around foods, polystyrene cups, the flexible plastic bottles containing drinks all leave chemicals in foods that affect the taste and smell. Many of the pesticides, and herbicides have mild estrogen-like effects on the body and people that have been exposed to them over a life-time probably have a greater risk of hormone-dependent cancers of the breast and uterine. Hormone-dependent cancers in men causes prostate cancer. It is difficult to know the chronic effects of these chemicals over time. How they interact with one another is difficult to test. In addition to the chemical soup we are exposed to we have further questions about the electro-magnetic radiation, genetic engineering, exposure to uranium,

lead, mercury and cadmium.

Stress management

Stress is not what happens to you, it is how you react to it. We seem to make our own stress. In the absence of any stress we may be bored. But too much stress may cause a breakdown in the body. If we want to control our stress reactions or manage stress, then we have to look at what triggers our stress reactions. We need to confront and manipulate them. You look at the sources or cues to one's stress in the environment and then we should try to change them, or minimize their effects. Not all the triggers of stress can be so manipulated though and some we have to deal with as best we can. Two people might experience different levels of stress to the same trigger. The main problem is how do you modify your reactions to stress. There are certain stress management techniques such as meditation, counselling, good diet, and physical activity. There are now many studies showing the influence of the mind-body connection: when the mind is unwell, the body will be unwell and vice versa. There are studies showing that when people are sick and they do meditation, or they have good social support, they do better than people who don't have these supports.

Physical activity

Nowadays we have machines that do so much for us. An extensive study has just been published in America which looked at the relationship between life-style and health. They found that machines in Western society do the equivalent of one and a quarter hours of moderate physical activity every day. We have machines that take us to work, we have machines that do the physical labour at work and machines that entertain us. Thus 1 1/4 hours of moderate physical activity plus one hour of vigorous activity per week has been taken out of our life-style. And hence the experts are saying that we need these hours of physical activity in order to optimize our health and to reduce the risk of cancer. Scientists recommend that we should exercise for one hour of moderately intensive activity per day - defined as a brisk walk. Here we may distinguish vigorous activity or training for special fitness such as running fast or playing sport and activity for health purposes, where you seek to optimize the function of your body. Thus there are different criteria for training for a sports event. The bare minimum for training is three times a week for an aerobic event such as running or swimming for at least thirty minutes at a time. They recommended also two training sessions for strength per week. This is the standard recommendation from the American College of Sports Medicine for training.

From a health point of view we are rather looking at energy turn-over, thus actually burning up the energy, which then gives you the health benefits. The New South Wales Government Chief Medical Officer two years ago recommended that everybody in New South Wales accumulate at least thirty minutes of moderately intensive activity preferably every

day of the week. This advice comes from a medical bureaucrat - indeed a conservative point of view. The reason is that there is a lot of evidence to support this recommendation. To accumulate thirty minutes does not necessarily mean that you have to do thirty minutes in one hit, the same can be achieved by three ten minutes sessions per day and this adds up to the same energy expenditure.

'Moderately intense' means the intensity of a brisk walk, it could be any activity ie., swimming, cycling or continuous gardening. Anything that turns over the energy. This needs to be done preferably every day of the week, but at least five days a week. When you follow this program you halve the risk of stroke, you halve risk for heart attacks and halve the risk of dying if you do have a heart attack, decrease the risk of colon cancer by one third, decrease the risk of osteoporosis, diabetes, blood pressure, depression and anxiety and so on.

This advice cannot be patented and therefore we need a government body to tell us about these health benefits which we can obtain for next to nothing. You won't get these benefits from tablets and even from diet alone. A variation in exercises would help even more so that you spread the load over different joints or muscles. A load-bearing exercise is useful especially for ladies facing problems of osteoporosis. Thus variety is important.

Our ancestors when they were stressed they were usually facing real dangers and hence the flight-fight response was a useful physical activity based mechanism to deal with the crisis. In the modern world the fight-fight response is suppressed in most instances, and this may lead over time to chronic stress and diseases.

Nutrition

The food that we consume now is not the food we evolved with over thousands of years. Members of the Hypoglycemic Health Association would of course be acutely aware of the effects of food on health.

Originally when we were still nomadic, we used to pick the fruits off the tree when they were ripe. This is when they have the most nutrients in it. This is when the fruit is ready to drop off the tree which would start a new generation. When we started to live together in communities, we started farming in the valleys, where there was a good water supply and fresh soils. As we were getting smarter we decided to stop the valley being flooded every few years by putting a dam upstream. This flooding helped to fertilize the soil. Gradually we farmed the same soil over and over again and took the nutrients out. Superphosphates were introduced, making the soil more acidic. This decreased the ability of plant to take up some nutrients from the soil.

In commercial farming the food is grown for money and not necessarily for nutrition. Commercial farming means that you select crops and make hybrids of the food that are most pest-resistant, have a long shelf-life and that are heavy. Commercial farmers get paid by weight and not for nutrient content. Com-

mercial factors outweigh nutritional factors. The fruits are taken from the tree before they ripen, thus they do not contain all the nutrients, but they will survive the trip to the markets much longer. At the markets fruits and vegetables are frozen and sprayed with chemicals to make them look attractive. Then they may be processed in packets of foods or in tins, where they are heated and boiled which destroys the vitamins or wash out the minerals. Then preservatives, emulsifiers, colouring and flavourings are added. These chemicals have never been encountered by the body before and the effects of their interactions are unknown. Thus it is no wonder that many people get these mysterious diseases such as chronic fatigue syndrome. When you have organic food or home-grown food you can smell it, they look different and their taste is not the same. We are not getting the nutrients in our diet that we used to get and we are probably eating more. We also have a higher requirement of nutrients for detoxification of the chemicals that we ingest.

When there is a deficit between the nutrients that we need and nutrients that we are getting we are more likely to suffer a disease. If we have not enough vitamin C we get scurvy, and if we have not enough B vitamins we may get pellagra or beriberi. Most people don't get to the stage of a gross vitamin or mineral deficiency. What happens is that most people have not enough vitamins and minerals for optimal health, but not too little to have a gross deficiency disease. When our cells are not fuelled properly, they don't do the job properly and we get vague symptoms such as fatigue and headaches, poor sleep and depression. Over time our cells wear out faster, and so we end up with chronic life-style disease such as osteoarthritis or blood vessel diseases, which are now accepted as a normal part of aging.

In the past as people were getting older, and they were active and healthy. Suddenly they died. Now we spend much less time living and much more time dying. We expect to be infirm and have aches and pains as we get older and be less able to do things. This is very much a self-fulfilling prophecy for as we expect that we are less able to do things as we are getting older, then we do less, then surprise, surprise, we are in fact less able to do things. While we are living longer than ever before, we are also dying longer than ever before.

Of course, many modern diseases are influenced by inheritance and genetic factors, but ten years ago the World Health Organisation stated that 60 to 70 per cent of cancer are caused by the way we live our life.

So what is a healthy diet?

The American Council of Cancer Research claimed that the healthiest people are basically vegetarians, with high fibre diet, five to seven servings of fruits and vegetable everyday, mostly unprocessed, no red meat. They say you don't need red meat (there is nothing in red meat that you need, that you can't get from other foods), have fish three or four times a week and use monounsaturated oils.

Thinking of fats, there are monounsaturated fats, polyunsaturated fats (PUFAs) and saturated fats. PUFAs are found in vegetables, olive oils, sunflower oil, flaxseed oils and these are the good oils. The saturated fats are the worst and they come from animal sources. They used to say that margarine was better than butter, but they have now discovered that it is worse than saturated fat and this is because of the trans-fatty acids which do not occur in nature. They are not in the food supply and are not needed by the body. Margarine is 20% trans-fatty acids which is obtained by heating fatty acids which simply changes the molecular orientation of the fatty acid and thus changes its function as well.

There was a report which said that when you leave butter and margarine standing, the butter is attacked by all sorts of animals but no

animals would eat the margarine.

It is said that we need the odd fifty vitamin and minerals to keep us alive and which are essential. However there are thirty or more thousands of phytochemicals in food, that are not essential but are needed for cells to work optimally. These are needed in different part of the cells and you are not going to get these phytochemicals in tablets unlike the essential vitamin and minerals. We obtain these phytochemicals from the variety of food we eat. In the Western diet we have a range of about 12 food items, in contrast to the full spread of foods we used to get when we were nomads in different parts of the country and during different seasons. Hence we don't get the full range of phytochemicals that cells need to function properly.

It is for this reason that diet is more impor-

tant than supplements, although the latter should not be overlooked.

There is the 80/20 rule, which says that 20 per cent of the effort gives you 80 per cent of return. It is easy to avoid the known poisons or toxins and you get most of the benefits from that. But you can increase the 20 per cent effort by growing your own food or buying organic foods.

It seems that the vegetable shop and the fish market is perhaps the best source of your food. The less we do in the preparation of food the healthier it is.

It would seem that preventative health and longevity revolve around the way we manage stress, physical activities and nutrition.

NUTRITIONAL MEDICINE - Its Presence and Power

Ian Brighthope M.B., B.S., Dip.Agr.Sc., M.A.T.A.,
F.A.C.N.E.M.

This paper provides a very brief overview of a small number of conditions with a minimum number of references for each condition. An attempt has been made to exclude well-known nutritional facts to allow for the provision of information that is often not readily available to the busy practitioner. While some of the references may appear academic, an attempt has also been made to provide practical information.

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INTRODUCTION

Poor nutrition is costing Australians approximately 6 billion dollars annually. The three major causes of preventable death in Australia are:

Ischaemic Heart Disease	27.8%
Cancer	24.3%
Stroke	10.9%,

representing a total of 63%. Nutritional factors play an important role in the causes of these three killer diseases¹.

Over the past two decades there has been a virtual explosion in information in the medical and scientific literature relating nutrition to disease. Nutritional factors have been documented in the aetiology of most of our degenerative diseases including diabetes, arthritis, coronary artery disease, stroke, many cancers and neurodegenerative conditions, including dementia. A change in diet and the appropri-

ate use of nutrients reduce the risk of disease and are becoming increasingly important in the treatment of patients to either improve prognosis or achieve a state of well-being in serious disorders².

DEFINITION

Nutritional Medicine is the study of the interactions of nutritional factors with human physiology, biochemistry, pathology and anatomy and the clinical application of these interactions in the optimisation of health and the prevention and treatment of disease².

It is a system of therapeutics that favours dietary changes and the use of nutrient substances in appropriate doses to encourage physiological homeostasis.

Major factors to be considered in the evaluation of the nutritional status of the patient are the quality and the quantity of food eaten, the efficiency of its digestion, absorption and assimilation and, most importantly, the bio-

chemical uniqueness of the individual. Environmental and genetic factors may influence these considerations, and modifications are made to the former when indicated³.

Most diseases are associated with nutritional disturbances. A thorough examination of the medical and scientific literature will reveal much to the general practitioner about nutritional factors in illness.

The medical conditions shown in **Table 1** are nutritionally responsive. Acceptable peer review literature, documenting the evidence of the nutritional factors involved, is available³⁻⁵.

CARDIOVASCULAR DISEASE AND ANTIOXIDANTS

Cardiovascular diseases are often the result of poor diet and lifestyle. In this paper, some less well-known features of nutritional influences are documented.

Dietary factors and particularly nutritional

antioxidants have been documented to be effective in the prevention and treatment of a wide range of cardiovascular disorders.

The WHO-MONICA study has revealed that the risk for coronary heart disease mortality decreases at high plasma vitamin E levels⁶.

In a case-controlled study of early angina pectoris in Edinburgh Scotland, a community with a traditionally low consumption of fresh fruit and vegetables, it has been shown that plasma concentrations of vitamins C, E and carotene are significantly inversely related to the risk of angina pectoris⁷. Betacarotene supplementation raises serum HDL cholesterol and hence may contribute to a decreased cardiovascular risk. Daily intakes of 20 mg betacarotene are associated with a 47% increase in HDL lipoprotein⁸⁻¹¹. The Physicians Health Study, also known as the Harvard Intervention Study, involves over 22,000 male physicians aged 40-84 years in a double-blind placebo-controlled intervention style. In this study it has been shown that 50 mg of betacarotene, taken on alternate days for 6 years, can reduce the occurrence of major cardiovascular events by almost 50%. These major events include stroke, infarction and cardiovascular death. The protective effect of betacarotene supplementation became significant after the second year of treatment and actually increased with time. Side effects were absent⁸⁻¹¹. More recently, a double-blind placebo-controlled study at Cambridge University of 2002 people with a previous history of coronary heart disease demonstrated an amazing 75% reduction in heart attacks when they took up to 800 I.U. of vitamin E per day - significantly more than is available in any diet. This is the CHAOS study published by Stephen in the Lancet (1996; 347).

The protective effect of antioxidant vitamins in cardiovascular disease is beyond doubt. The exact mechanisms and degree of protection require further elucidation. The range of dosages used in most studies are as follows:

Betacarotene	6-25 mg per day
Vitamin C	100-1500 mg per day
Vitamin E	50-1500 mg per day

The low blood antioxidant status in countries with highest risk for cardiovascular disease is related to a low vegetable and fruit intake. Lower mortalities are recorded in France, Italy, Portugal and Spain, compared to the United States and the United Kingdom. A Mediterranean type diet seems compatible with protection from coronary heart disease. Of course, there are other factors involved, for example the consumption of garlic and olive oil is higher in Mediterranean countries, and consumption of vitamin C-rich foods such as citrus fruits are also higher in the Mediterranean style of diet¹²⁻¹⁵. The EURAMIC study shows that high betacarotene concentrations

within the normal range, reduce the risk of a first myocardial infarction. The findings for alpha tocopherol (vitamin E) in this study are compatible with previous observations of a reduced risk of myocardial infarction amongst vitamin E supplement users only¹⁶.

No official recommended daily allowance for carotene has been established but the dietary intake recommended by the United States National Cancer Institute is 6 mg daily. This corresponds to 5 or more servings of vegetables or fruits per day. The present estimated intake of betacarotene in the United States is between 1.5 mg and 2.5 mg per day. The Harvard researchers have shown that women who take vitamin E for 2 years or more reduced their heart disease risk by 46%; men by 26%^{17,18}.

Workers at the University of California, Los Angeles, have linked vitamin C with a reduction in heart disease risk. People with high vitamin C intakes, at least 50 mg per day from diet, plus the regular use of vitamin C supplements, had a significantly reduced risk of dying from all causes, especially cardiovascular disease^{19,20}.

Combination therapies using nitrates with 200 mg of Vitamin E, 3 times a day, compared with placebo, may be a beneficial way to

and E and the carotenoids and cancer risks. Dietary fibre is also associated with reduced cancer risk, approximately 50% coming from fruit and vegetables and 30% from grains.

Folic acid from fruit, vegetables and even in orange juice, may reduce hypomethylation of DNA, which is thought to initiate cancer²². A major problem is the difficulty in determining which nutrients have a beneficial anti-cancer effect in these preventative foods. Subjects consuming a high intake of fruit, or supplements of vitamin C and other vitamins, can reduce their risk of cancer from a high meat diet quite substantially³¹. The risk of cervical dysplasia from human papilloma virus is high in women with a low folic acid intake²². In June 1993, Gladys Block stated in the Journal of the National Cancer Institute, that "there can be no disagreement that people should eat a balanced diet rich in fruits, vegetables and whole grains. But people are not eating enough of these foods and are unlikely to do so in the near future."

A national survey found that only 60% of Americans have even one serving of fruit or juice per day. Block believes "even though we don't know all the protective components in fruits and vegetables, there is enough evidence for some of these agents to be utilised and not delayed²². The antioxidants have a definite role of reducing the risk of some cancers". Block states that "it is time for serious debate and consideration of public health measures, including fortification and supplementation to increase the intake of these nutrients"²².

MICRONUTRIENT INTERVENTION IN CANCER PREVENTION

In September 1993, William Blot et al., published in the Journal of the National Cancer Institute, a paper titled "Nutrition Intervention in Linxian China:

Supplementation of specific vitamin/mineral combinations, cancer incidence and disease-specific mortality in the general population"²³. The importance of this study needs to be emphasised. The population of the Linxian province of China has one of the highest rates of gastro-intestinal cancer, especially oesophageal and gastric cancer, in the world, and a persistently low intake of certain micro-nutrients. Approximately 30,000 adults aged between 40 and 70 years of age were studied over a 5-year period between 1986 and 1991. Various combinations of the following nutrients were provided:

Vitamin A	5000 iu
Zinc	22.5 mg
Vitamin B2	3.2 mg
Niacin	40 mg
Ascorbic Acid	120 mg
Molybdenum	30 mcg
Betacarotene	15 mg
Selenium	50 mcg
Alpha tocopherol	20 mg

Table 1 Conditions Most Responsive to Diet and Nutritional Supplementation

Acne, Anorexia Nervosa, Anxiety, Asthma, Arthritis, Benign prostatic hyperplasia, Cardiac arrhythmia, Carpel tunnel syndrome, Coeliac disease, Cervical dysplasia, Constipation, Crohn's disease, Depression, Diabetes mellitus, Dysmenorrhoea, Eczema, Epilepsy, Fatigue syndromes, Fibrocystic breast disease, Gallbladder disease, Gingivitis, Herpes infections, Hyperkinesia, Hypertension, Immune depression, Infections, Infertility, Inflammatory disorders, Insomnia, Irritable bowel syndrome, Learning disorders, Menopausal symptoms, Migraine, Muscle cramps, Neuralgia, Obesity, Osteoporosis, Pain syndromes (some), Periodontal (some), Premenstrual syndrome, Psoriasis, Raynaud's syndrome, Restless legs syndrome, Schizophrenia, Seborrheic dermatitis, Tardive dyskinesia, Ulcerative colitis, Ulcers, Urticaria, Vasculitides, Wound healing

prevent the development of nitrate tolerance during continuous nitrate therapy in ischaemic heart disease patients²¹.

CANCER AND DIET

Cancer is the second greatest killer of Australians, and diet and lifestyle factors contribute to the cause of cancer and can influence patient management and prognosis.

More than 175 case-controlled or cohort studies have been published since 1982 on the relationship between vegetables, fruits or their antioxidant nutrients, and cancers of various sites. Very consistent epidemiological data show an inverse relationship between those factors and the risk of at least 15 different cancer sites. Furthermore, over 80% of the studies show statistical significance²². There is now definite epidemiological evidence supporting an inverse relationship between antioxidant micro-nutrients such as vitamins C

Four combinations of nutrients were assessed: Avitamin A and zinc; vitamins B2 and B3; vitamin C and molybdenum; betacarotene, vitamin E and selenium. The dose ranges provided were 1-2 times the recommended daily allowance. More than 2100 deaths occurred during the trial and cancer was the leading cause of death. Approximately one third of deaths resulted from oesophageal or stomach cancer. There was a significantly lower total mortality in those receiving supplementation with betacarotene, vitamin E and selenium. In fact there was as much as a 24% reduction in mortality in groups taking these nutrients. The reduction in mortality was mainly due to lower cancer rates, especially that of the stomach. The reduction in the risk of cancer began to rise between 1 and 2 years after the commencement of supplementation with the micro-nutrients. Unfortunately, there was no significant effect on mortality rates from all causes found for supplementation with vitamins A and zinc, vitamins B2 and B3, or vitamin C and molybdenum.

These results suggest that vitamin/mineral supplementation in the diet of Linxian adults, particularly the combination of betacarotene, vitamin E and selenium, may effect the reduction of cancer risk in this population. Far more work needs to be done in this field of supplementary prevention and treatment of cancer, especially in terms of nutritional combinations, dosage rates (which in this study are fairly low), and the specific needs of population groups and cancer risk sites^{23,24}.

MACROBIOTICS AND CANCER PATIENT TREATMENT

Evidence has been recently published to suggest that a strict macrobiotic diet is likely to be more effective in the long-term management of cancer than diets providing a variety of other foods. A retrospective study of pancreatic cancer patients, has shown a one year survival rate higher amongst those who modified their diet; and in a case-controlled study, patients with metastatic prostate cancer showed a statistical association of dietary modification with longer survival²⁵.

ANTIOXIDANTS REVERSE PREMALIGNANCIES

Patients with symptomatic leukoplakia or dysplasia treated with 400 iu of alpha tocopherol (vitamin E) twice daily during a 24-week study period showed both clinical and histologic responses to treatment²⁶. High levels of vitamin E are related to lower oral cancer risk in later years and recent studies have shown that there is an inverse relationship between serum levels of all carotenoids and betacarotene and the risk of oral and pharyngeal cancers^{27,29}.

MICRONUTRIENTS IN PREGNANCY - REDUCED CANCER RISKS IN OFFSPRING

Greta Bunin published a paper in the New England Journal of Medicine in August 1993, titled "The Relationship Between Maternal

Diet and Subsequent Primitive Neuroectodermal Brain Tumours in Young Children"²⁸. The dietary patterns of 166 mothers whose young children developed brain tumours were compared to controls. It was shown that there was a significant protective trend observed in mothers who consumed vegetables, fruit, fruit juice, vitamins A and C and folic acid. The use of vitamin C, calcium and iron supplements at any time during pregnancy and the use of multivitamins during the first 6 weeks of pregnancy, were also associated with a decreased risk of brain tumours.

Again we see an increased intake of fruit and vegetables containing antioxidant nutrients, plus the use of nutritional supplements, offering a protective effect not only in the subject taking the diet, but in the next generation. This suggests that further work should be done in the field of periconceptual nutrition in the prevention of disease, not only in cancer, but also in the optimisation of health, growth and development of future generations².

SMOKING AND CANCER PROTECTION

Other studies have shown that among oral cancer cases, vitamin E supplementation appears to exert a protective effect. This protective effect disappears after accounting for smoking habit. However, vitamins A and B supplements are significantly protective against oesophageal cancer in current smokers. It has also been found that there is a synergistic protective effect of vitamin E and vegetable consumption amongst oral cancer cases. There is also a protective synergistic effect of vitamin C and vegetable and fruit consumption among oesophageal cancer cases.

Davis et al., in The Journal of the American Medical Association, Feb. 9, 1994, published a paper titled "Decreasing Cardiovascular Disease and Increasing Cancer Amongst Whites in the United States from 1973-1987". During that time, cardiovascular mortality decreased 42% in the age group 0-54 years and decreased 33% in the age group 55-84 years. Concurrently, cancer mortality decreased 17% in the younger group, but it increased 12% in the older group. By 1987, even though proportionally fewer people in the older age groups died, relatively more of them died of cancer. Men born in the 1940s had twice as much cancer as those born 1888-1897 and more than twice as much cancer not linked to smoking. Women born during this period had 50% & 30% more of these same cancers respectively. Rates of smoking-related cancers in recent cohorts of women were 5-6 times greater than in those born in 1888-1897, while rates in men declined. Recent cohorts of women also had more than twice as much breast cancer as those born in 1888-1897.

The conclusions of this study are that increases in cancer have occurred that are not solely linked to ageing of the population and smoking patterns. In light of these results and similar findings in Sweden, changes in carcinogenic hazards in addition to smoking are likely to have occurred and need to be studied

further. The changes in carcinogenic hazards should be couched in terms of increasing xenobiotic pollutants, superimposed on a background of diminishing antioxidant intakes or relative deficiencies in antioxidant status.

TREATMENT OF CANCERS WITH NUTRIENTS

Arguably, one of the most important papers published on nutrients and cancer appeared in the Journal of Urology no. 154, January 1994, by Lamm et al.: "Megadose Vitamins in Bladder Cancer: A double-blind clinical trial"³⁰. In this study a total of 65 patients with biopsy-confirmed, transitional cell carcinoma of the bladder were enrolled in a randomised trial of intravesical bacillus Calmette-Guerin (BCG) comprising therapy with multiple vitamins in the recommended daily allowance (RDA) versus the RDA, multivitamins, plus 40,000 units of vitamin A, 100 mg of vitamin B6, 2000 mg of vitamin C, 400 units of vitamin E and 90 mg of zinc.

The results of this study show that the addition of percutaneous BCG did not significantly lessen tumour recurrence rate, but recurrence after 10 months was markedly reduced in patients receiving megadose vitamins. The overall recurrence rate was 24 of 30 patients (80%) in the RDA arm and 14 of 35 (40%) in the high dose arm. Megadose vitamins A, B6, C and E plus zinc decreased bladder tumour recurrence in patients receiving BCG immunotherapy. The authors concluded that further research will be required to identify which ingredient or ingredients provide this protection. It is indeed unfortunate that the study did not use a higher dose of vitamin C nor include the trace element selenium^{3,5}.

MICRONUTRIENT SUPPLEMENTATION, CHEMOTHERAPY AND RADIOTHERAPY

On the issue of antioxidants and cancer treatment, Jaakkola has reported in the journal Anticancer Research³², a landmark study on the use of micronutrient supplementation combined with the usual conservative treatment of small cell lung cancer with chemotherapy and radiotherapy. The researchers used what they referred to as pharmacologic doses of vitamins, antioxidants, fatty acids and trace elements. They made special note that there were no side effects from the nutrients. The results of this study were stated as "antioxidant treatment in combination with chemotherapy and irradiation prolonged the survival time of patients with small cell cancer compared to most published combination treatments alone". The authors noted that patients receiving antioxidants were able to tolerate chemotherapy and radiation treatment well. "Because of the increased tolerance to chemotherapy, this suggests that more extensive and intensive treatments may be carried out without increasing stress caused by standard regimens"³².

Dietary Omega-3 polyunsaturated fatty acids plus vitamin E have been shown in a

randomised controlled study to have restored immune competence and prolonged survival in patients who are severely ill and with generalised malignancy. Tumour necrosis factor production was also restored in the malnourished patients³³.

OPHTHALMOLOGY

Cataracts are a common problem in Western society and treatment is costly. They are, in the main, preventable.

Proteins in the lens of the eye are highly susceptible to photo-oxidation and thus the production of cataract³⁴. The largest portion of the Medicare budget in the United States is spent on the removal of cataracts and doctor visits for this problem. Approximately 3.2 billion dollars is spent annually on cataracts. A study by Taylor³⁶ has shown that elevated levels of the antioxidant vitamins C and E and the carotenoids are associated with the delayed development of certain forms of cataract. Improvement of vision is also positively associated with elevated levels of these antioxidants. It is argued that if cataracts could be delayed by 10 years in the United States, half the cataract extractions and associated costs could be eliminated. The consumption of 400 units of vitamin E per day reduces the risk of cataract development by about one third³⁴⁻³⁶. More research into this area is required in Australia.

NUTRITION IN NEUROLOGY

Neurological disorders are often difficult to manage. However, many neurological diseases can be improved with dietary changes.

MIGRAINE

For example, many studies have now shown that migraine can be managed nutritionally^{2,5}.

Egger and co-workers provided evidence in 1983 that 93% of 88 children with severe, frequent, intractable migraine recovered on oligo-antigenic diets³⁷. The causative foods were identified by sequential reintroduction, and the role of the migraine-provoking foods was established by a double-blind controlled trial in 40 of the children. Interestingly, the associated symptoms that afflicted this group, including abdominal pains, behaviour disorders, fits, asthma and eczema, also improved. Most patients responded to the removal of several foods.

Of the 88 children who went on the oligo-antigenic diet, 14 suffered from epileptic fits. This number reduced to 2 on the diet and anti-epileptic drugs were withdrawn in those who became fit-free³⁷.

Further work by Hughes utilising fasting and food sensitivity management achieved major improvement for 80% of a group of 19 migraine sufferers, while Mansfield has confirmed that elimination diets may result either in headache-free or significant headache-reduced patients³⁸.

Mansfield has been able to show that double-blind food challenges can provoke migraines while placebos fail³⁹. Other nutritional factors that have been shown to correlate with headache prevalence are caffeine

consumption and dietary copper intake⁴⁰. The omega-3 series of fatty acids have recently been documented useful in a number of disorders, including cardiac disease and migraine. Three studies, including two double-blind placebo-controlled, have shown fish oil (Eicosapentaenoic acid) brings significant headache relief to chronic sufferers⁴¹.

At the Fourth International Headache Congress, Professor Kenneth Welch, the head of neurology at the Henry Ford Hospital, Michigan, stated that research into magnesium deficiency, not new pharmaceutical compounds, was the most exciting development in the migraine field⁴².

In a study of 5,386 non-demented individuals over 55 years of age, an increased relative risk of dementia at 2.1 years of follow-up was associated with total fat intake (2.4), saturated fat (1.9) and cholesterol (1.7). Dementia with a vascular component was most strongly related to total and saturated fat. Fish consumption is inversely related to dementia and, in particular, Alzheimer's disease⁴³.

TARDIVE DYSKINESIA

Tardive Dyskinesia is another condition which can cause great discomfort. Approximately 20% of patients taking anti-psychotic medications developed tardive dyskinesia. Some studies have shown that vitamin E supplementation may be helpful in alleviating the symptoms of tardive dyskinesia and others have not. A recent study by Adler et al. has shown that after 8-12 weeks of high dose vitamin E therapy (1600 iu per day), 9 of 16 patients showed marked improvement in tardive dyskinesia. The younger the patients, the more favourable the responses^{44,45}.

DIABETES, ANTIOXIDANTS AND NICOTINAMIDE (NIACINAMIDE)

Diabetes is associated with many complications which may be prevented by changing the patient's diet. Single-nutrient studies have revealed some interesting possibilities.

There is some early evidence that the vascular disease associated with diabetes, and of course the cardiovascular mortality and morbidity, may be reduced with better antioxidant nutrition. Although not classically regarded as an antioxidant, nicotinamide (vitamin B3) is important in the production of NAD, which is essential for the fuelling of glutathione synthesis. Nicotinamide is also involved in a number of injury and repair mechanisms centred in DNA. Nicotinamide has been implicated directly in the preservation of beta-cell function during immunologic processes leading to type-1 diabetes. In some studies, nicotinamide administration after one year showed a beneficial effect on the incidence of remission.

More consistently, however, is the fact that nicotinamide increases insulin secretion capacity after one year. It has been recommended that the use of long term treatment in pre-diabetic patients with high doses of nicotinamide should not be harmful in a range of approximately 1 gram per day⁴⁶.

In type-1 diabetes, hyperglycaemia results

in the intracellular accumulation of sorbitol, produced by the action of aldose reductase on glucose. Sorbitol may contribute to the complications of diabetes. The use of inhibitors of the enzyme aldose reductase appears to be therapeutically promising. Vitamin C is an effective aldose reductase inhibitor and thus vitamin C may be useful for therapeutic intervention in diabetes⁴⁷. The supplementation of pharmacologic doses of 900 mg of vitamin E per day appears to be a beneficial tool in reducing oxidative stress and improving insulin action. In diabetic patients, vitamin E supplementation reduces the glucose area under the GTT curve and increases glucose disappearance, total glucose disposal and non-oxidative glucose metabolism⁴⁸.

FERTILITY - VITAMIN C AND ZINC

Infertility is increasing in frequency. Nutritional and environmental toxic factors predominate in the aetiology. They are often ignored in IVF programs. It has been shown recently that males who smoke at least one pack of cigarettes per day have reduced sperm counts, decreased motility and increased rates of abnormal sperm. Smoking is associated also with decreased blood vitamin C levels. Vitamin C supplementation at levels of 200 or 1000 mg per day will increase blood vitamin C levels and produce a progressive improvement in sperm quality every week of supplementation. The greater improvement in sperm quality occurred in the group taking 1000 mg per day⁴⁹. Vitamin C supplementation is equally effective to both mesterolone and clomiphene in the treatment of male infertility^{50,51}.

RESPIRATORY DISEASE

Asthma is a killer disease and on the increase, with diet playing a role more frequently than most health professionals realise.

Food sensitivities definitely play a role in the majority of asthmatics. Many studies have shown that asthmatics can improve significantly by the elimination of certain foods⁵²⁻⁵⁴. A high salt intake is associated with increased bronchial reactivity⁵⁵. Vitamin B6 (pyridoxine) supplementation has been shown to result in a dramatic decrease in the frequency, duration and severity of asthmatic attacks with concomitant reduction of the dosage and frequency of use of bronchodilators and steroids^{56,57}.

Asthmatics are more likely to have lower plasma ascorbic acid (vitamin C) levels⁵⁸ and vitamin C supplementation at high doses has been shown to significantly reduce the number of asthma attacks⁵⁹ and attenuate exercise-induced bronchospasm⁶⁰.

Low levels and intakes of magnesium may also contribute to the severity of asthma and the administration of magnesium by inhalation or intravenous injection is beneficial and in acute attacks may reduce the need for hospitalisation if used in the emergency room⁶¹⁻⁶³.

A tryptophan-restricted diet may result in the improvement of symptoms⁶⁴, whilst the sudden removal of caffeinated beverages may result in rebound bronchoconstriction⁶⁵⁻⁶⁷.

AUGMENTATIVE MANAGEMENT of ACNE

Acne responds well to simple dietary changes and the use of nutrients of very low toxicity compared with standard drug regimes.

Zinc is probably the most studied nutrient in the treatment of acne. Low serum zinc and retinol-binding protein have been demonstrated in this condition⁶⁸⁻⁷⁰. Numerous double-blind studies have shown that zinc supplementation is effective and may be as effective as the tetracyclines⁷¹⁻⁷⁶.

The most reliable method of diagnosing a zinc deficiency is a therapeutic trial⁷⁷.

High dose vitamin A, which is less toxic than its analogues, or in combination with alpha tocopherol (vitamin E), has been shown to be effective^{78,79}.

NUTRITION AND ARTHRITIS CONTROL

Arthritis and its pathophysiology is definitely diet-related and often highly responsive to moderate changes when skillfully managed.

Numerous studies have now clearly shown the dietary factors are an important cause of the continuing inflammatory processes in arthritis and that saturated fat is a major contributor. Long-term remissions in rheumatoid patients may be achieved with low-calorie 'fat-free' formula diets or the removal of inflammatory incitant foods from the diet, or both⁸⁰⁻⁸¹.

There is increasing evidence that the non-steroidal anti-inflammatory drugs (NSAIDs) commonly used in medicine may contribute in a number of ways to the progression of arthritis in its various forms, by interfering with essential fatty acid metabolism or increasing intestinal permeability to food antigens and gut-bacteria toxins⁸² and that safer, more natural anti-inflammatory agents are available. These include copper complexes which not only significantly reduce inflammation but can accelerate the healing of peptic ulcers caused by NSAIDs⁸³⁻⁸⁴. Changing the ratio of the Omega-3 series may bring about dramatic relief, provided that an increased intake of Vitamin E is maintained to prevent oxidation⁵.

The elimination of certain foods, including dairy foods, gluten-containing grains and members of the Solanaceae family (tomatoes, potatoes, eggplant, capsicums and tobacco) may help or remove the symptoms of pain, stiffness and loss of function in osteoarthritis⁸⁵. Vitamin E has been shown to partially inhibit the formation of inflammatory leukotrienes responsible for inflammation, and double-blind studies have revealed its usefulness in a number of inflammatory conditions including osteoarthritis^{86,87}. Boron is a trace mineral which has been shown to induce remissions of symptoms in significant numbers of patients with osteoarthritis without toxic side-effects⁸⁸. Glucosamine sulphate inhibits the breakdown of proteoglycans and double-blind studies have shown its effectiveness in this condition^{89,90}.

MENOPAUSE & OTHER NUTRITIONALLY RESPONSIVE FEMALE CONDITIONS

Female Disorders may often be related to hormonal imbalances and fluxes which can be significantly influenced by diet.

A recent study has shown clearly that menopausal women who consume 60 g of isolated soy protein per day compared to casein placebo have a reduction of hot flushes by as much as 45% after a 12-week period. It is believed that the isoflavones in soy are the active agent and 60 g of protein contains approximately 76 mg of isoflavones. Higher doses of isoflavones may provide a better response, i.e. 200 mg/day in Japan where hot flushes, hormone-related cancers and osteoporosis are reportedly the lowest in the world⁹¹. Cervical dysplasia is associated with a number of nutritional deficiencies including folic acid, beta-carotene, vitamin A, vitamin C and selenium, a deficiency of which is known to increase the risk of cervical cancer⁹²⁻⁹³. Supplementation with the above nutrients may be useful in both the prevention of cervical dysplasia and its reversal. Supplementation with folic acid at high doses may reverse mild and moderate degrees of cervical dysplasia, despite some women electing to remain on the oral contraceptive pill which is known to reduce folate levels⁹⁴⁻⁹⁹.

EATING DISORDERS

Anorexia nervosa is another condition responsive to nutrients, especially zinc. Experimental zinc deficiency in humans is associated with apathy, lethargy, amnesia, retarded mentation, irritability, depression and paranoia¹⁰⁰. Zinc deficiency also causes anorexia and hypogeusia - a reduction in taste sensation. Supplementation with zinc may be of benefit¹⁰¹⁻¹⁰² with reports of an average weight gain of 0.7 kg per month¹⁰³ being heralded by increased appetite, mood elevation and return of taste sensation¹⁰⁴. Clinical signs of zinc deficiency may be absent and routine pathology testing may not reveal a deficiency state¹⁰⁵. Other nutritional factors, multiple nutrient deficiencies, and essential fatty acid deficiencies may coexist¹⁰⁶.

NUTRITION AND IMMUNE FUNCTION

Infectious diseases have not been eliminated by screening, antibiotics or vaccination programs and there are now many studies published supporting the use of single nutrients or nutrient combinations to stimulate immune function, even in 'well-nourished' individuals⁵.

The elderly are at a great risk for lower intakes of several vitamins and minerals known to influence the immune response. Recent studies have shown that supplementation with either a multivitamin and mineral or single nutrients greater than the RDA have improved the immune response. In one study in which multivitamin and mineral supplements were given, the enhanced immune response resulted in a decreased frequency of infection¹⁰⁷.

Vitamin C supplementation has been shown

to enhance resistance to post-race upper respiratory infection which occurs frequently in competitive, ultra marathon runners¹⁰⁸.

Vitamin A supplementation has been shown to produce a 30% reduction in all-cause mortality in either infections in developing countries, in children admitted to hospital with measles and in very low birth weight infants. Vitamin A supplementation has been shown to reduce death from diarrhoeal disease by 39%, from respiratory disease by 70% and by 34% from other causes in community studies. Vitamin A ingestion either by appropriate dietary means or through supplementation has a major role in preventing morbidity and mortality in children in developing countries. Children in developed countries may also receive benefit from vitamin A supplementation during life-threatening infections such as measles and for relative deficiencies such as occur in premature infants^{109,110}.

Vitamins C and E, betacarotene and selenium are significantly lower in HIV-positive patients compared with controls, and lipid peroxides, breath pentane and ethane output are significantly higher, indicating significant oxidant stress and weakened antioxidant defence systems¹¹¹.

Vitamin E at doses of 300 mg twice daily has been shown recently to improve the immunological responses in patients with hepatitis B¹¹².

PROBIOTICS

Probiotic micro-organisms have recently become the subject of interest in a number of conditions, including the treatment of acute gastroenteritis in children and the management of infections caused by antibiotic-resistant bacteria or the correction of an unbalanced intestinal microflora caused by antibiotics¹¹³. Prebiotics, probiotics and genetically-engineered bacteriocins produced by metabolically active probiotics, promise to play a very important role in health care.

CONCLUSION

Nutritional medicine is the study of the interactions of nutritional factors with human biology and the application of these interactions to achieve optimum health for all - healthy or diseased. Nutritional medicine is an established science and it forms the basis upon which better health for all can be achieved simply and economically. Nutritional medicine is a discipline of medicine, it is not simply dietetics or nutrition. It is an active and deliberate intervention utilising nutritional manipulations to achieve a pre-determined clinical outcome. In nutritional medicine, patient management strategies are essential. Doctors practising nutritional medicine in Australia are fortunate to have a large number of clinically experienced practitioners to refer to for assistance. Growing numbers in the profession require more training which should be valid, clinical and patient-oriented. While more research is desirable and the conduct of clinical trials will always remain important, they should not be the only referential criteria when making important decisions about health

education and patient care. There are more than adequate scientific and medical data and clinical experience in the field of nutritional medicine to allow its carriage into mainstream health care immediately and into the next millennium. The proper application of nutritional medicine can prevent disease, save lives and, in the long term, is profoundly more economical than virtually any other medical discipline.

Now is the time to re-examine whether the orthodox scientific standards of proof, and waiting while disease and sickness persists, ought not to give way to more effective health policies that are satisfied by more realistic conventions that lead to action sooner. The use of chiropractic and physical medicine in back pain management are cases in point. Its enthusiastic and complete adoption by mainstream is only a matter of time. Nutritional medicine has established itself firmly in the health care scene.

We need to drive it home to its rightful place - central to all good medicine.

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NUTRITIONAL MEDICINE TABLES

These may be found in the original article in the ACNEM Journal and on the Web at www.acnem.org.

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The Australian College of Nutritional and Environmental Medicine (ACNEM)

conduct courses especially for medical practitioners. It also provides an Australia-wide referral service for patients who would like to consult medical health practitioners in their region with qualifications in nutritional medicine. Please ring ACNEM, 13 Hilton St, Beaumaris Vic 3193, Phone: 3-9589-6088, Fax:03-9589-5158

ACNEM's 33rd Course in Nutritional and Environmental Medicine is to be held in Sydney (the Capital of New South Wales) from 15th to 19th September 1999.

The enrolment fee for the Sydney Primary Course is AU\$1150. This includes the tuition, lecture notes, lunches, morning and afternoon teas and suppers. It does not include transport, accommodation, breakfasts or din-

ners.

Enrolment may be made by:
 * mail (13 Hilton Street, Beaumaris, Vic. 3193, Australia)
 * fax (+613 9589 6088)
 * e-mail (acnem@mail.austasia.net)
 * in person (rear 13 Hilton Street, Beaumaris, Vic. - 10 am - 4 pm, Mon.- Fri)
 * further information can be found at www.acnem.org

ACNEM coming events:

March 6-10 Saturday - Wednesday

4th World Congress on Cancer to be held: New Delhi, India
 contact: Jennie Burke, Independent Medical Research, Suite 401, 135 Macquarie Street, Sydney, NSW 2000, Australia
 phone: +61 2 9247 5322 fax: +61 2 9247 5453
 e-mail: austbio@mpx.com.au

March 19-21 Friday - Sunday

ACoHM Course in Herbal Medicine - Part 2
 to be held: Melbourne, Australia
 contact: ACoHM, 38/487 Toorak Road, Toorak, Vic. 3142, Australia phone: +61 3 9804 8968 fax: +61 3 9804 7200
 e-mail: acohm@bigpond.com

June 16 - 20 Wednesday - Sunday

32nd Course in Nutritional & Environmental Medicine
 to be held: Gold Coast, Queensland, Australia
 contact: ACNEM, 13 Hilton Street, Beaumaris, Vic. 3193, Australia phone: (03) 9589 6088 fax: (03) 9589 5158
 e-mail: acnem@mail.austasia.net
 details & program: ACNEM Courses

June 18 - 20 Friday - Sunday

Specialist Training Program: Aspects of Nutrition and Cancer. (available to graduates of the ACNEM Primary Course)
 to be held: Gold Coast, Queensland, Australia
 contact: ACNEM, 13 Hilton Street, Beaumaris, Vic. 3193, Australia phone: +613 9589 6088 fax: +613 9589 5158
 e-mail: acnem@mail.austasia.net
 details & program: ACNEM Courses

June 23 - 26 Wednesday - Saturday

3rd Congress on Electro Cancer Treatment & Congress on Biologically Closed Electric Circuits to be held: Bad Aibling, Germany
 contact: Jennie Burke, Independent Medical Research, Suite 401, 135 Macquarie Street, Sydney, NSW 2000, Australia
 phone: +61 2 9247 5322 fax: +61 2 9247 5453
 e-mail: austbio@mpx.com.au

September 15 - 19 Wednesday - Sunday

33rd Course in Nutritional & Environmental Medicine
 to be held: Sydney, Australia
 contact: ACNEM, 13 Hilton Street, Beaumaris, Vic. 3193, Australia phone: (03) 9589 6088 fax: (03) 9589 5158

e-mail: acnem@mail.austasia.net

September 16 - 19 Thursday - Sunday #

Specialist Training Programs: Chronic Fatigue Syndrome || Meditation, Psychoneuroimmunology, Psychotherapy and Anti-stress Nutrition. (available to graduates of the ACNEM Primary Course) to be held: Sydney, Australia

contact: ACNEM, 13 Hilton Street, Beaumaris, Vic. 3193, Australia phone: +613 9589 6088 fax: +613 9589 5158

e-mail: acnem@mail.austasia.net

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A Postgraduate Course in Clinical Nutrition

is offered by the **International Academy of Nutrition** PO Box 370, MANLY NSW 2095, Australia, Ph: 02-9977-0771, Fax: 02-9977-0267, for further information see www.intacad.com.au

Its Director is the well-known nutritionist Dr Robert Buist, B.Sc. (Hon), Ph.D.

PRE-REQUISITES

Those eligible are all health care professionals working in areas responsible for the continuing health of individuals in our society. These include General Practitioners, Psychiatrists, Pharmacists, Chiropractors, Dietitians, Clinical Psychologists, Social Workers, Nurses, Dentists, Nutritionists, Natural Therapists, Acupuncturists and others.

COURSE RATIONALE

The material presented in this Course will enable all health care professionals to better utilise nutritional science. It illustrates how natural molecules such as vitamins, minerals, enzymes, phytochemicals, essential amino acids and fatty acids can be effectively used in the treatment of many of our acute and chronic degenerative diseases and can complement drug therapy where necessary.

The biochemical basis of most clinical disorders is an important concept throughout the course. Specific biochemical imbalances can often be corrected by administering agents which are not foreign to the body. Such agents or nutrients facilitate and enhance the many metabolic pathways which are affected by disease, chronic illness, malnutrition or ecologically related disorders.

Our philosophy recognises that there is a vacuum in modern medicine which must be filled by the correct application of recent knowledge in nutritional biochemistry. Public awareness has recently created a demand for professionals competent in this field. The Nutritional Medicine Course which we call the Postgraduate Course in Clinical Nutrition is thus designed for such professionals working in areas responsible for the continuing health of our community.

HOME STUDY PROGRAMME

This is a ONE YEAR distance education course designed for those who do not have the time to spend several nights each week attend-

ing lectures. The course is also constructed in such a way that students, working at home, may quickly proceed from the necessary basics of nutritional science to more detailed clinical applications. The material is clear and comprehensive, making full use of the latest nutritional texts and associated Study Guides, Reference Materials, Tape Cassettes on practical clinical nutrition and a full year's subscription to International Clinical Nutrition Review, the Academy's official quarterly journal which reviews over 300 peer-review medical and nutritional journals.

STUDY GUIDES

There are several Study Guides to be completed during this one year course. Study Guides ask relevant questions about each chapter in the textbooks and also on specially compiled sections on a) Carbohydrates, Proteins and Fats; b) Vitamin Toxicities, Side-Effects and Contraindications; and c) Drug-Induced Nutritional Deficiencies.

The questions are presented in a multiple-choice format, requiring responses such as true or false, fill in the missing words or may call for a brief discussion or outline. After completing the questions, they can be self-checked using the special ANSWERS section which gives the correct answer and may further elaborate on important aspects of the questions. In this way areas are highlighted, fundamentals are emphasised and the recognition and recall aspects of learning reinforced.

After the completion of all the Study Guides a final multiple choice test is taken (based on all the Study Guide material), and this summary is returned to the Academy. The questions in this final test are in-depth but having conscientiously gone through the prepared material, each candidate should pass. The object of the Study Guides and final tests is not to fail a candidate but to facilitate the learning process.

There is also one 3000-5000 word essay to be completed as part of the course requirements.

This system is similar to that used by Macquarie University in Sydney for educating external students and has successfully passed the test of time.

TEXT BOOKS

There are two major textbooks already heralded as classics in nutritional medicine. One contains 700 pages summarising the nutritional literature for specific nutrient-related illnesses and includes thousands of clinical studies emphasising double-blind investigations wherever possible.

The other is written by two family physicians who have pioneered nutritional medicine in Britain and have combined their talents to produce an invaluable guide to the nutritional treatment of most clinical disorders including gastrointestinal conditions, cardiovascular disease, cancer, arthritis, osteoporosis and other problems with bones and joints, disorders of the respiratory and urinary systems, eczema and problems of skin, hair, eyes

and nails, diabetes, hypoglycaemia, obesity, menstrual problems, side-effects of the pill, infertility, pregnancy and breast feeding, infections, candidiasis, disorders of the central nervous system, migraine, children's problems, nutrition in old age and nutritional psychiatry.

TAPE CASSETTES

Each student is given a complete set of audio cassette tapes covering over 20 different key nutritional topics.

COURSE CONTENTS CLINICAL APPROACHES IN NUTRITION

Taped presentations by Dr. Robert Buist have been prepared on: Osteoporosis prevention, magnesium and calcium citrate. Oxidised LDL-cholesterol and dietary fats. The French Paradox. Vitamin C and the common cold, viruses, herpes simplex and zoster. Prevention of kidney stones with magnesium, vitamin B6 and citrate. A role for nutrition in asthma prevention, sulphites, tartrazine, vitamin B12, B6 and magnesium. Diet for PMS sufferers. Nutritional support pre- and post-surgery. Hearing disorders, tinnitus, rigidity of red blood cells. Infertility, Preconceptional care, folic acid, neural tube defects, zinc-iron interactions. Pregnancy care and lactation. Anxiety neuroses, panic attacks and agoraphobia. Neurotropic B vitamins, caffeine, sugar and alcohol. Nutrition for the elderly, dementia, Alzheimer's disease. Aluminium toxicity. Fatigue. Anti-cancer foods, cancer initiation and promotion phases. Fibre soluble and insoluble. Antiinflammatory foods and supplements for rheumatoid arthritis. Insomnia and other sleep disorders, stomach and duodenal ulcers, mouth and leg ulcers. Gluten sensitivity. Digestive disorders in children.

FOODS, NUTRIENTS AND ANTINUTRIENTS

Comprehensive Study Guides will deal with factors influencing nutritional states, recommended daily intakes, sugars and carbohydrates, proteins and amino acids, fats, cholesterol, fatty acids, dietary fibre, minerals, enzymes, toxic minerals, drug-nutrient interactions, vitamin toxicities, side-effects, contraindications, free radicals, lipid peroxidation.

ENVIRONMENTAL PROBLEMS AND NUTRITION

A fully referenced and comprehensive approach to: food intolerance, allergies, chemical sensitivities, food additives, contaminants, behaviour problems, pesticide and herbicide residues, naturally occurring drugs and toxins, elimination diets, special diets (low salicylates, yeasts, M.S.G. amines, etc.), soil nutrients, crops, food manufacturing and processing.

THE NUTRITIONAL MANAGEMENT OF ILLNESSES

The use of diet and nutritional management in the prevention and treatment of the following disorders: Acne Rosacea, Acne

Vulgaris, AIDS, Alcoholism, Allergy, ALS, Anaemia, Aphthous stomatitis, Arthritis, Atherosclerosis, Auto-Immune Disorders, Benign Prostatic Hyperplasia, Bronchial Asthma, Bursitis, Cancer, Candidiasis, Capillary Fragility & Hyperpermeability, Cardiac Arrhythmias, Cardiomyopathy, Carpal Tunnel Syndrome, Cataract, Celiac Disease, Cerebrovascular Disease, Cervical Dysplasia, Chronic Fatigue Syndrome, Congestive Heart Failure, Constipation, Crohn's Disease, Dermatitis Herpetiformis, Diabetes Mellitus, Dumping Syndrome, Dysmenorrhoea, Eczema, Edema, Epilepsy, Esophagitis, Fibrocystic Breast Disease, Gall-

bladder Disease, Glaucoma, Gout, Headache, Heartburn, Hepatitis, Herpes Simplex, Herpes Zoster, Hyperestrogenism, Hyperkinesis, Hypertension, Hypoglycaemia, Immunodepression, Infection, Infertility, Inflammation, Inner Ear Dysfunction, Irritable Bowel Syndrome, Kidney Stones, Lupus, Macular Degeneration, Menopausal Symptoms, Menorrhagia, Mitral Valve Prolapse, Multiple Sclerosis, Muscle Cramps, Muscular Dystrophy, Myopathy, Neuropathy, Neuromuscular Degeneration, Obesity, Osteo-arthritis, Osteoporosis, Pain, Parkinson's Disease, Peridontal Disease, Pregnancy-related Illness, Premenstrual Syndrome, Psoriasis, Raynaud's Syndrome, Restless Legs Syndrome, Rheumatism, Rheumatoid Arthritis, Scleroderma, Seborrheic Dermatitis, Sports Injury, Tardive Dyskinesia, Tinnitus, Tiredness, Ulcerative Colitis, Ulcers (Duodenal & Gastric), Ulcers (Skin), Urticaria, Vasculitis, Vitiligo, Wound healing, Common Nutritional Deficiencies, Dangers of Nutritional Supplementation, Guidelines to Nutritional Supplementation, Laboratory Methods for Nutritional Evaluation, Nutrient Bioavailability and Interactions, Syndromes Due to Abnormal Tissue Nutrient Levels.

own private resource and form part of your bibliography.

NUTRITIONAL JOURNAL

The Academy's Journal, International Clinical Nutrition Review, goes to 2000 subscribers around the world. It reports on recent nutritional research with potential clinical applications taken from over 300 scientific journals. Reviews in ICNR are aimed at keeping busy health professionals up-to-date with all nutritional research - especially that research which can be applied in clinical practice.

RECOGNITION

All successful candidates will receive a Postgraduate Diploma in Clinical Nutrition - recognised by leading Colleges, Institutes, The Australian Traditional Medicine Society (ATMS), and the South Australian Chiropractic Registration Board.

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The complete cost of the Course including Study Guides, Texts, Tapes, Lecture Notes, Reference Material, Nutrition Journal subscription, final examination fee and Diploma is US\$950.00 (or AUD\$1,200 for those applicants living in Australia or New Zealand) and is tax deductible.

INTERNATIONAL CLINICAL NUTRITION REVIEW

By Editor

Dr Robert Buist, Editor in Chief of the ICNR, has indexed the **International Clinical Nutrition Review** which will be updated in the last issue of each year.

This makes the series of International Clinical Nutrition Review a valuable commodity in one's private library for anyone who is interested in the scientific basis of clinical nutrition.

Researchers from all corners of the world review medical and other scientific literature and cull out the latest news on the clinical application of nutrients in the treatment of disease. The serial also publishes in-depth-editorials written by experts on various topics of concern to clinical nutritionists.

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