



“The Truth About Diabetes”

By Geoffrey Leigh

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Warning: Persons afflicted with Diabetes Mellitus Type 1 or Diabetes Mellitus Type 2 should NOT consume Fish Oil supplements (as several research studies have reported that Fish Oil supplements cause significant increases in blood sugar and a decline in insulin secretion in diabetes mellitus patients).

This should not be construed as not eating fish. You may safely substitute linseed (flaxseed) sunflower, and almond mix for fish oil. Or better still "Eudo's Oil."

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Introduction

The Institute's protocols are the result of meticulous research of many pioneers of nutritional medicine - many of whom, interestingly, were Doctors of Dentistry. Of the many, none stand above Roger J Williams. The father and author of "Biochemical Individuality" and who explained the role of various nutrients in preventing what he called Genetotropic diseases.

Genetotropic diseases are those for which genetic uniqueness's create demands for specific needs of nutrients beyond average to facilitate optimal function and prevent premature disease.

When these specific needs are not met in a given individual, disease results.

Biochemical individuality proves that each and every one of us is as individual in our biochemical (nutrient) needs and as differing as are our fingerprints.

The importance of that fact is magnified by the sheer volume of cells that comprise the human body. Numbering up to seventy five trillion cells; each requiring up to ninety nutrients, potable water and fresh air for its very existence.

Failure of the system to present the cell with adequate quantity and quality of the vital ingredients, results in the premature death of the cell.

Factors which accelerate the aging process include, but are not confined to, excessive consumption of simple sugars including fructose (sugar of fruit), hyperinsulinism (too much) and insulin resistance i.e., diabetes.

One of several factors which retard the aging process is dietary restriction.

Biochemical individuality proves that each and every one of us is as individual in our biochemical (nutrient) needs and as differing as are our fingerprints.

This is part of the story of the evolution of medicine as it applies to the human environment. We need to go back to around 640 BC when the alleged father of modern medicine said:

"It seems to me to be necessary for every physician to be skilled in nature and to strive to know, if he wants to perform his duties, what man is in relation to the food and drink he consumes and to all his other occupations, as well as their effects on everyone else. Because if he does not know what effects these things have on man, he cannot know the consequences that result from them.

If he does not pay attention to these things, or paying attention does not understand them, how can he understand the diseases, which befall man? For man is affected by every one of these things and changed by them in numerous ways. The whole of his life is subjected to them, whether in health, convalescence or disease. Nothing else, therefore, can be more important than to know these things. "

(Hippocrates 450 BCE.)

Perhaps we practitioners need to pay more attention to these teachings if we are to halt and reverse the, thus far, uncontrolled escalation of illness conditions that we experience today, where more than seventy percent of the population have one or more chronic illness conditions, i.e. a condition lasting six months or more.

I listened to Prof. Steven Myers, head of the Center For Complimentary Medicine, addressing the National Press Club in Canberra ACT, Australia recently. Prof. Myers made mention of the fact that "at least 470 deaths occurred per annum in this country alone from prescribed Non-Steroidal Anti-inflammatory Drugs (NSAIDs). It may be that some of these are not prescribed medicine because some may now be purchased over the counter." (Both these statistics and most others referred to in the book may be extrapolated to the U.S.A. and indeed most other westernized/industrialized countries on a per capita basis).

Conversely the naturally occurring "glucosamine" was, during 1981 the subject of three double-blind trials of two hundred patients each, conducted in Italy, Spain and Portugal where fifty percent of the patients received the NSAID 'ibuprofen' and fifty percent glucosamine. In the final analysis the conclusion was that glucosamine was superior in its effect of relief of symptoms of osteoarthritis compared to ibuprofen.

Nothing more was heard about glucosamine and they just went on prescribing this drug with the potential to kill. Why? My guess is you do not need a prescription and you cannot patent

glucosamine which is now being prescribed by all open-minded physicians, albeit due to public demand.

In 1997, I conducted a clinical trial comparing glucosamine hydrochloride with shark cartilage in fifty-six patients with osteoarthritis, over a ten month period.

The conclusion was that both were very effective alone or together, with an overall (very good) effect of 97%. The oldest participant was eighty five years of age and responded to be pain free (hip) at ten months and, as a bonus, her life-long psoriasis had disappeared. The latter condition responded to shark cartilage, long recognized for its ability to give sustained remission of symptoms of psoriasis, as is bovine tracheal cartilage.

Since that time, I would have prescribed glucosamine to more than two thousand patients with negligible failures and not one reported adverse reaction. It is my belief that most knee and hip replacements are preventable.

As a clinician these past twenty-three years and, for most of that time researching the determinants of chronic illness conditions, one is frustrated at the continuance of governments who refuse to address "prevention" of illness conditions in real-terms.

In Australia, history records that it was reported in the first National Health Survey Summary of 1947, that approximately 42% of the population suffered one or more chronic illness conditions. These are defined as any illness condition lasting six months or more.

The last health Summary (2001) showed that more than 70% of Australians suffered one or more chronic illness conditions. Killer diseases have escalated out of control during the same period and thorough scrutinizing of the various authorities statistics will often reveal a far from truthful report.

An Investment In Health Pay's A Lifetime of Dividends.

Foreword

While this book concentrates, for the most part, on the nutritional management and prevention of diabetes Type II, the risk factors of neuropathy, retinopathy, and nephropathy are just as applicable and, indeed, perhaps more so, to Insulin Dependent Diabetes, also known as Juvenile or type I diabetes. It should not be construed to any degree that diabetes is caused solely by the inability of the pancreas to regulate insulin.

In fact, diabetes - being a very much stress-related condition - has very complex origins. That major unmanaged stress has a profound effect on our entire physiology is beyond question.

Furthermore, we are not confined to mental-emotional stress. Few of us, indeed, are not exposed at some time or other to physical, psychological, chemical and infectious stress on a regular and ongoing basis.

A normal response to stress is, in fact, a protective adaptation designed to limit the damage that stress may have on the body.

In particular, we are reliant on the optimal function of three particular glands to mediate our response to stress. The three glands are called the hypothalamus-pituitary-adrenal axis (HPA). They, through complex and interrelated biochemical actions and reactions, control our response to stress.

Every tissue in the body comes under the influence of the HPA. However, we are most concerned here with another stress-related gland - the pancreas.

Pancreas: A gland situated behind the stomach in front of the 1st and 2nd lumbar (lower back) vertebrae in a horizontal position.. The pancreas produces both an external and internal secretion, called pancreatic juice, which plays a major role in the final digestion of all classes of food.

It is the internal secretion of the hormones insulin and glucagon that control the all important insulin/glucagon response . So, along with the thyroid and adrenal glands, we have our major stress glands.

One recalls reading nutrition studies back in the early eighties which showed that during World War II in the United Kingdom, the incidence of diabetes plummeted to an all-time low due to the rationing of sugar and the halting of the production of white flour and white bread. Only whole meal bread was available.

However, there was an exception in that the incidence of diabetes sky rocketed among R.A.F. fighter pilots, due in the main to an overstressed glandular system.

On post-mortem examination, it was found that the effect of battle stress on the pancreas of these young men was devastating. Of course we know today that the adrenals, thyroid and thymus gland would all atrophy.

Korean War

In fact, United States military medical researchers autopsied a large number of young men who had died in battle in the Korean campaign and found that their thymus glands had atrophied to be comparable to an eighty year old.

Some of you reading this will own up to being easily startled. That is, your body "jumps" when you are startled by a loud or, sometimes, even unexpected human voice saying something as simple as, "Hi!".

That is a condition of adrenal burnout. In which case, you may be assured that your thyroid will also be implicated, your insulin/glucagon response and most assuredly your immune status as well.

The message then is to **take stress seriously. It can be a killer.**

Unfortunately, allopathic medicine is not yet geared, except in extreme cases of Addison's disease, to treating or supporting the adrenals and immune system along with the thyroid gland.

Prevention

It is the author's opinion that diabetes type II is the most preventable disease on this planet. Unfortunately, politicians do not believe in funding preventive medicine to a realistic degree, and vested interests, especially in food manufacturing and, of course, the pharmaceutical industry, do not appear, at this time, to practice preventive strategies in foods or medicines offered for sale.

What is required is a paradigm shift in general to "Predictive-Preventive" medicine. But the general practitioner of today just does not have the time or the wherewithal to practice predictive medicine. It requires time, research and patience. No government is prepared to pay the doctor the fee he/she deserves as it is, let alone prolonged consultations required to predict and protect the future health status of the individual.

In the past twenty years or more, I have consulted with thousands of patients who, according to genetic history and a lengthy personal assessment (over 300 questions), were pre-diabetic. Few, I believe, would have succumbed provided they applied the protocols given - one might add, most often in writing.

Nutrient Interrelationship

The day that dietary nutrient interrelationship becomes an integral part of school curriculum's will be the day that we, as a society, proactively address and begin the therapeutic and preventive strategies essential to the reduction of almost all illness conditions.

A few of these conditions have been taking a terrible toll on human-kind through the millennia.

However, most of today's maladies reached epidemic proportions only during the past one hundred years, with particular responsibility laid squarely on the food manufacturing industry, television and general media advertising - ably abetted by governments who may be acting in what they believe are our best interests, promulgated by the National Academy of Science, the Department of Agriculture (U.S.A.) and the National Health and Medical Research Council of Australia.

Cellular Nutrition

How can the average individual even begin to understand the complexity of the interrelationship between even only the thirty-six basic essential nutrients, let alone the other sixty or more?

The fact that diet and disease are interdependent has long been established. However, it is only progressively over the past one hundred years that we have begun to better understand why.

I began to cut my nutrition teeth back in the seventies, in the study of animal nutrition. Believe it or not, it was nearly ten years before I began to extrapolate the disease/diet/biochemistry involved, to humans.

It took a personal health crisis to do that.

Interestingly, as mentioned before, more than ninety percent of my knowledge in nutrition - even today - emanates from dentists.

For brevity, I shall deal here only with the interrelationship between carbohydrates and protein with some attention to the lipids or fats.

In their book, "Modern nutrition in health and disease" (1964) Robert A. Harte of the American Society of Biological Chemists, and Doctor Bacon Chow of the Johns Hopkins University School of Public Health and Hygiene, explain in detail the dietary interrelationships. State (extract).

"Perhaps the most striking impression received from evaluation of the literature is that hardly any study undertaken with any pair of nutrients has failed to show a significant interaction in terms of some nutritional or biochemical criterion. This is not surprising, though, since each step of the chain of reactions through which a nutrient goes as it follows an appropriate metabolic pathway is mediated by at least one enzyme system, and the functioning of every enzyme system calls for the combined action of an apoenzyme (made up for the most part of amino acids) and a coenzyme (which usually includes a vitamin and/or a mineral element). However, the breadth of the experimental interrelationships brought about by these various studies underlines the

statement that ' the recognition of the large number of them re-emphasizes the basic soundness of the principle of maintaining a variety of food in order to provide the most nutritious diet'."

This is the basis for deficiency disease which, in truth, applies to almost every illness condition that applies to the animal species, at least at the level of cellular nutrition/malnutrition. People living in famine, starving to death, die of cellular malnutrition. Just as do most of us, eventually.

Most naturopaths are concerned - and rightly so - about how we, as a modern society, eat - in terms of eating protein with carbohydrates.

My experience, gained from "old school" naturopaths, is to consume the protein first at each and every meal, then the carbohydrates and never to eat fruits at the same time as the vegetables and grains.

That is how our genetic forebears lived! That is how hunter-gatherers live today; consuming one food at a time.

Protein ingestion always demonstrates a more favourable blood sugar profile (homeostasis) than does carbohydrate ingestion.

Why is this so? Because it is all due to hormonal response that is your insulin/glucagon response, which is, in turn, controlled by eicosanoids, often referred to as super hormones, produced by every one of the trillions of cells and by far the most biochemically powerful hormone regulators in all living organisms.

Only dietary fats - in particular fatty acids - build eicosanoids, whereas the protein to carbohydrate ratio controls our insulin to glucagon ratio.

It is well known that carbohydrates have a marked effect on lipid (fats) metabolism. What is less realized is that differing types of carbohydrates affect our lipid metabolism in different and important ways.

Simple sugars are proven to elevate serum lipids whereas starch actually lowers serum lipids. Starch is of course a component of all plant foods. However, modified starch sold as thickeners

etc most often contains aluminum sulfate, sodium hydroxide and propylene oxide, and may therefore, be toxic to the human body.

The much-touted myth that, “fat causes weight-gain and obesity” is just that, a myth. It is our glucagon/insulin response to carbohydrate intake that determines our percentage body fat and lean body mass.

Further attention is paid to this essentiality when we progress to the chapter, '**The Life Savers**'.

Chapter 1

Are You a Statistic?

WORLD-WIDE CATASTROPHY

Reuters Health August 25, 2003 reported:

The number of people with diabetes worldwide is rising so quickly that governments and social security systems may not be able to keep up with expenses by 2025. Over 300 million people are at risk of developing diabetes globally, and it's estimated that health care for people with diabetes worldwide already costs at least \$153 billion each year. The number of people with diabetes may rise from 194 million to 333 million by 2025, and health care costs could increase to \$396 billion during this timeframe.

Type II diabetes can often be prevented or controlled with careful attention to what you eat and how you exercise *Anita Manning*, "USA Today," August 24, 2000 reported:

According to endocrinologist, Frank Vinicor, of the CDC "We're seeing the greatest increase in obesity and lack of physical activity" in people in their 30's, so therefore it is not surprising to find the 70% increase in just 8 years. "We are now beginning to see the consequences of physical inactivity and weight gain that go well beyond feeling good about yourself or cosmetic issues."

The following is a summary of their findings for the percent of the total population that has been diagnosed with diabetes:

Caucasian	African-American	Hispanic
1990 - 4.6%	1990 - 7.0%	1990 - 5.6%
1998 - 5.9%	1998 - 8.9%	1998 - 7.7%

The researchers also note that their results probably significantly underestimate the percentage of people with diabetes, since it is not uncommon for the disorder to be present for as long as 12 years before being properly diagnosed.

These statistics could safely be extrapolated in the case of Caucasians to most industrialized western countries. Some variations might apply to indigenous peoples. Certainly, in Australia Aboriginals and those perhaps of mixed genes have a very high incidence of Diabetes Type II, if they live that long.

In fact, it is the author's considered opinion that we Caucasians in settling foreign lands have perhaps unwittingly perpetrated a form of genocide by conditioning indigenous people to our way of eating. For instance my research reveals that our own Australian Indigenous people consumed a diet with a glycemic factor approximating 32. Today their westernized high refined carbohydrate intake would approximate 79. Hence the epidemic obesity, and premature death rate.

Chapter 2

INSIDIOUS & SILENT KILLER

The symptoms of diabetes - thirst, hunger and frequent urination - go unrecognized by the individual too often.

It has been the author's experience that too many practitioners still do not recognize or give credence to the fact that hypoglycemia (low blood glucose) is a precursor to full-blown diabetes.

Having seen literally thousands of patients with the unmistakable pathology of hypoglycemia, one used to be amazed when the patient had recently seen a general practitioner and presented with exactly the same symptoms, was told, " don't worry about it - just eat some sugar when you have the symptoms."

Some foods are *poison!*

Hypoglycemia is a sort of "Catch 22" situation where insulin over-counteracts high blood-sugar levels, leading to low blood sugar - with consequent cravings for more sugar. This is hyperinsulinism!

In other words, the patient experiences mild to significant episodes of rebounds from consuming too many high glycemic foods with consequent overreaction of the pancreas in controlling the elevated blood sugar.

Here are just a few of more than one hundred associated symptoms of hypoglycemia:

- ✗ Craving for simple sugars. (Mostly foods derived from white flour, white rice, and sugar or glucose including syrups.)
- ✗ Lack of Energy
- ✗ Confusion

- × Anxiety
- × Panic Attack
- × Nervousness
- × Depression
- × Fatigue

Hypoglycemia increases the craving for alcohol thus increasing the risk of alcohol dependency and abuse.

Some female readers will be well aware of the correlation of some of the above symptoms premenstrually and will recall the cravings for chocolate or other sugar-rich sweets.

As a matter of interest, one was employed for some years as a "Medical Detailer" by a leading pharmaceutical company specializing in diabetes management. We learned, as early as 1960, that it could be established from a female's first menstrual period whether or not she would later succumb to diabetes mellitus. This was ascertained from her blood glucose level at that time.

This means that there is a very real correlation between carbohydrate metabolism and PMS. I believe that one may also claim the moral right to researching and developing the first nutritional supplement for PMS and, perhaps, giving the first lecture at university level (Sydney May 1982) on PMS.

If you have any of the symptoms associated with those listed, and particularly if you suffer mid-afternoon fatigue, cravings for sweets, bread or cereal grains, see your doctor and request at least a four hour glucose tolerance test.

Chapter 3

Cardiovascular Risk Factors

It is with the cardiovascular system that we are likely to have the most serious and life-threatening risk factors.

This is mostly due to a cellular deficiency of essential nutrients; vitamins, minerals and amino acids etc - the flavonoids, - of which there are several varieties, all of which are most important for the integrity of the cardiovascular system.

The most serious risk factors apply to the neurological system, the renal (kidney) system and the ocular (eyes) system.

When these conditions occur, they go under the medical terminology of:

- **Neuropathy:** Any ailment of the peripheral nervous system, usually causing numbness. Neuritis is a condition of inflammation of a nerve.
- **Nephropathy:** Any pathological condition of the nephrons of the kidney
- **Retinopathy:** Usually defined as a non-inflammatory and hereditary condition of the retina of the eyes. Diabetics are prone to retinopathy known as diabetic retinopathy.

Probably the major contributing determinants (cause) are a diet that high in carbohydrates and low in vitamin C, bioflavonoids, vitamin E, vitamin B1, B5 and B6 as well as the essential macro and micro minerals, especially chromium, magnesium, selenium and zinc.

A lack of appropriate exercise - add unmanaged stress - and that is the recipe.

There are, of course, differing types of carbohydrates - all derived from the plant kingdom. Those most familiar in our daily dietary intake are cereal grains, bread, pasta, vegetables and fruit.

All vary in their sugar (glucose, maltose etc) content, and it is this substance - the simple sugars – that, in my experience, pose the greatest single threat to health in our society. Many books have been written by nutritional scientists before this about the detrimental effects of the simple sugars.

The Diabetes Association now allows up to seven teaspoons of sugar per day because of the sugar (sucrose) having a relatively moderate glycemic index.

Herein lies an obvious lack of awareness of cellular nutrition.

Broadly speaking, I refer here to all foods made from white flour, sugar and white rice. These have insufficient nutrients in their make-up to facilitate their own digestion. This means precious endogenous stores of nutrients must be “robbed” for the digestion of useless and dangerous foods.

Importantly, most of these refined foods are high on the Glycemic Index along with just about all cereals and, even, wholemeal and whole grain breads.

True, non-artificially colored wholegrain breads have recently been shown to actually lower blood glucose levels. However, one must postulate the actual nutrient loss in the consumption of whole rather than mashed grains, most of which may pass through the digestive tract without adding one iota of anything.

Unfortunately, there are also commonly consumed vegetables - staple to our diet - which are also high on the Glycemic Index and, therefore, a potential health hazard. Foremost of these are the potato and carrot, especially when baked, and the refined carbohydrates.

More of this, later.

Green vegetables, legumes, beans some nuts and most seeds are low glycemic and essential to good health.

FRUIT

It is with the fruits that we need to concentrate at present.

Bioflavonoids are a natural component of fruits and other plant life.

Bioflavonoids are also found in a wide variety of dietary and herbal supplements. However, in Nature, Bioflavonoids are bound to carbohydrates e.g. Glucose, Galactose, Glucorhamnose, Rhamnose and Arabinose as Glycosides and are collectively known as Flavonglycosides.

During intestinal absorption, the free Bioflavonoid is split off and released from the carbohydrate. Our commonest source is as an integral part of all citrus fruit. As a vitamin, most Bioflavonoids protect and enhance the action of Vitamin C and increase the absorption and bio-availability of orally administered Vitamin C.

The renowned navigator and explorer Captain James Cook recognized the value of citrus fruits in the prevention of scurvy. It is recorded that he never lost a seaman to scurvy after making the ingestion of citrus fruit (limes) mandatory on a regular basis.

The year before Captain Cook introduced this form of functional medicine, ten thousand British sailors died of the dreaded disease in the English Channel alone. It is the author’s clinical experience that sub-clinical scurvy is epidemic in our society.

Do not ever rely on store-purchased citrus fruits for you vitamin C intake. They are picked almost green and therefore deficient in this master nutrient. The same may be said for tomatoes.

Berry Good for You

Professor Jack Masquelier (Professor Emeritus) of University of Bordeaux France is recognized for his significant contribution to our knowledge of flavonoids with his discovery of the even more powerful flavonoids OPC (oligomer of proanthocyanin).

Masquelier patented the original as Pycnogenol (OPC). Similar forms are found in the bark of the Maritime Pine tree, red and black grape skins and seeds and the red husk of peanuts. OPC has an antioxidant effect 20 times stronger than vitamin C and 50 times more than vitamin E.

The healing effect of the anthocyanins on sprains, bruises, venous stasis and other forms of microangiopermeability has to be experienced to be believed. This is where it is essential for all diabetics in particular, and for all of our species generally, to obtain regular amounts in our

dietary intake or to otherwise supplement. Black and red grapes, skins and seeds and blueberries are ideal sources.

Due to a deficiency or increased need for Bioflavonoids, diabetes mellitus can cause microangiopermeability (leaking Capillaries), especially in the eyes, kidneys and lower limbs.

Eyes/Vision: Diabetes Mellitus patients have a 3 to 4 times higher risk of developing cataracts compared to the general population and diabetes mellitus patients are at greater risk of developing retinopathy (Diabetic Retinopathy). This is where the capillaries 'leak' within the retina of eye itself or in those capillaries supplying blood to the retina. A similar effect may be seen in the sclera (white) of the eye following trauma. The best illustration is what we know as a "black eye".

It may be pertinent to recall that, a few years back, medical research predicted a rise of some 600% in the incidence of cataracts in the general population due to climatic changes.

Because of its effect on the immune system, diabetes mellitus patients are more prone to infections.

In the area of metabolism, diabetes mellitus can cause a state of acidosis.

Persons afflicted with diabetes mellitus may not be able to manufacture the enzyme known as Delta-6-Desaturase enzyme and, because of this, they are unable to convert Linoleic Acid (LA) to Gamma- Linolenic Acid (GLA), which is an Essential (Omega 6) and extremely important Polyunsaturated Fatty Acid (found as the main ingredient in evening Primrose oil) which is, in turn, critical to every one of the sixty or so trillion cells in the human body.

Diabetes Mellitus is a common cause of fatigue and, because diabetes interferes with Vitamin A absorption, diabetics are unable to convert beta carotene (provitamin A) to vitamin A, as is normal when we eat certain vegetables including carrot.

Musculoskeletal System

As the blood supply becomes increasingly compromised both in flow and lacking in essential nutrients, especially the Bioflavonoids, vitamins C and E, so the diabetic succumbs all too often to gangrene, which is referred to as diabetic gangrene the result of atherosclerosis and associated conditions.

The work of the two Canadian cardiologists Bill and Evan Shute is of interest - ridiculed for decades by their peers in medicine because they claimed, with great validity, that Vitamin E in appropriate dosage would prevent second heart attacks and effectively halt gangrene (to the extent that toes, so affected, would self-amputate) due to oxygenation of tissue as a result of Vitamin E supplementation.

Of course, today, this is well accepted. In the meantime, countless thousands have suffered unnecessarily and, yes, died at the expense of the arrogance and lack of awareness of some members of the medical profession who castigated the Brothers Shute for so many years.

Or is it simply that natural substances cannot be patented and one does not need a doctor's prescription to obtain them?

Even twenty years ago, very few pharmacies stocked nutritional supplements. Today they mostly are stocking them because they represent the premium growth rate of pharmacy products. Unfortunately, it is my experience that the majority are more interested in the profit than the potential preventive and therapeutic properties.

Persons afflicted with diabetes mellitus are also more prone to plantar ulcers.

Nervous System

Persons afflicted with diabetes mellitus have an increased risk of depression, due to insulin's probable role in the prevention of depression. Neuralgia can occur as a side effect of diabetes mellitus as can neuropathy. Oxidation and free radicals greatly accelerate the rate of cross-linking of the body's endogenous proteins with glucose - this accelerated cross-linking is responsible for the majority of the complications associated with diabetes.

Sexual System - Female

Diabetes mellitus increases the risk of vaginitis, i.e., inflammation of the vaginal wall in the female.

Folic Acid

Probably the major contributing determinants (cause) are a diet high in carbohydrates and low in vitamin C, bioflavonoids, vitamin E, vitamin B1, B5, folic acid and B6. Plus the essential macro and micro minerals, especially chromium, magnesium, selenium and zinc.

Chapter 4

Life Savers

The following substances may alleviate diabetes mellitus

- **Amino Acids:** Carnitine helps to prevent diabetes mellitus, lowers elevated triglycerides and cholesterol in diabetes mellitus patients and helps to alleviate the pain associated with (diabetic) neuropathy in diabetes mellitus patients.

In carbohydrate metabolism, cellulose helps to lower blood sugar levels, as do glucomannans, the gum: guar gum.

- Other Carbohydrates named Inulin and lignin also help to regulate our blood sugar levels.

Inulin is a Fructosan Glycan Polysaccharide comprised of linked units (polymers) of Fructose. Dietary sources are vegetables: artichokes, Jerusalem artichokes and the herbs: burdock, dandelion and echinacea.

Dietary Lignin functions in a similar manner to fiber. Dietary sources of Lignins: fig, peach, and strawberry. The herbs: goldenseal and liquorice. Nuts: Brazil nuts. Seeds: Flax seeds. Vegetables: potatoes, carrot, peas, green beans, and tomato.

- The tomato is also a rich source of Lutein, proven to prevent prostate cancer along with adequate levels of zinc.
- **Enzymes:** Persons afflicted with diabetes mellitus are generally found to have abnormally low Glucokinase activity. Glucokinase is responsible for the first metabolic step in the utilization of glucose by the liver and is facilitated by the B group vitamin Biotin. Recall that most diabetics lack Biotin.
- **Hormones:** Supplemental Dehydroepiandrosterone (DHEA) lowers the requirement for exogenous insulin in persons afflicted with diabetes mellitus.

- **Immune System Chemicals:** Persons afflicted with diabetes mellitus are usually found to produce insufficient quantities of endogenous Interferon Alpha.
- **Lipids (Fats):** Gamma-Linolenic Acid (GLA) previously mentioned in doses of 480 mg per day alleviates the symptoms of neuropathy. Scientific research showed that after 12 months diabetic neuropathy patients improved on most measures of nerve status when using products that contain 480 mg of GLA per day.

Minerals

- **Diabetes Mellitus can occur as a result of chromium deficiency** and supplemental chromium exerts numerous beneficial effects on diabetes mellitus patients. One could write a book on the health benefits of chromium alone.

Here are just a few of those benefits: Chromium lowers elevated serum triglycerides levels in diabetes mellitus patients, and is essential to our major stress glands the adrenal glands where it has a protective effective.

- **Aging & Life Extension:** Our body manufactures essential substances known as endogenous, which as we age progressively decline. Chromium is just one of these and supplementation counteracts the natural decline in the body's chromium content that occurs in tandem with the progression of the aging process. Laboratory research in animals has demonstrated that the addition of chromium to the diet of rats increases their lifespan by 33%.

Excessive accumulation of Lipofuscin, a pigment that accumulates in tandem with the progression of the aging process, can occur as a result of chromium deficiency.

This little known substance can really affect premature aging and is worth sharing.

The components of Lipofuscin include Malonaldehyde, which comprises 50% of Lipofuscin. This substance is a component of well-cooked beef and Malonaldehyde is formed as a breakdown product of polyunsaturated peroxidized fats. Malonaldehyde can and does cause cancer.

Do not consume well-cooked beef. The same goes for char-grilled meat of any kind.

That yummy char-grilled flesh can cause cancer because large amounts of cancer-causing substances called Heterocyclic Aromatic Amines (HAAs) are formed within all muscle meats including meats, poultry and fish during the grilling process. This is irrelevant to the amount of fat in the meat.

Cross-Linked proteins, which comprise about thirty percent of Lipofuscin and other substances (which comprise around twenty percent) have a toxic effect on the body organs including, but not confined to: Adrenal glands, cardiovascular system, the critical detoxifying and storehouse for nutrients that we know as the liver, musculoskeletal system, skin and, importantly, our nervous system where Lipofuscin impairs learning ability and interferes with the transmission of nerve impulses.

When the levels of Lipofuscin reach seventy percent of our neurons, it destroys them. In extremis it also inhabits the spinal cord with very detrimental consequences Lipofuscin substitutes and destroys the Ribonucleic Acid (RNA) normally present in cells.

Back to Chromium (The Glucose Tolerance Factor: GTF)

Chromium has an important role in the cardiovascular system and, on this indication alone, we would all benefit from supplementing chromium, which has been proven to reverse atherosclerosis damage, to help regulate blood pressure and improve circulation.

It is also well documented that cardiovascular diseases can occur as a result of chromium deficiency due to chromium's ability to increase HDL cholesterol. Chromium has also been shown beneficial for the treatment of congestive heart failure

Poor eyesight can occur as a result of chromium deficiency. Diabetic retinopathy is a major and most common risk factor.

It is with our metabolism that chromium is implicated so essentially in diabetes, where chromium regulates the body's blood sugar levels – the interesting thing being that

supplementation decreases blood sugar in people with high blood sugar levels and increases blood sugar in people with low blood sugar (hypoglycemia) levels.

Chromium (2 mg per day) may reduce total serum cholesterol levels by 15% and, importantly, increase the body's HDL Cholesterol levels while, at the same time, lowering the body's LDL cholesterol levels.

Chromium improves the body's metabolism of glucose due to its incorporation into the GTF molecule and chromium deficiency is an underlying cause of some cases of diabetes. Importantly chromium, especially the Chromium Picolinate form, improves insulin sensitivity in diabetes Mellitus Type I patients and alleviates Diabetes Mellitus Type II.

A large-scale clinical trial involving 180 persons afflicted with Diabetes Mellitus Type II were administered 1 mg (i.e. 1,000 mcg) of Chromium Picolinate per day. This protocol resulted in normalization of glucose and insulin levels in all subjects.

Chromium helps to prevent Obesity (by improving the body's utilization of glucose) and can stimulate weight loss in persons afflicted with obesity - humans supplementing with 400 mcg of Chromium Picolinate per day achieved an average weight loss of 1.5 kg after 10 weeks.

Why, in light of the foregoing, do doctors not routinely prescribe chromium for their diabetic patients? Ask your doctor.

Copper deficiency can cause glucose intolerance, which is implicit in diabetes mellitus).

Magnesium helps to prevent diabetes mellitus and to keep diabetes mellitus under control, most diabetes mellitus patients are found to be deficient in magnesium and, interestingly, so are about 70% of the population

Manganese (5 - 15 mg per day) is beneficial in the treatment of diabetes mellitus due to its ability to activate the enzymes involved in the process of glycolysis.

Potassium alleviates diabetes mellitus by facilitating the conversion of glucose to glycogen.

Zinc supplementation counteracts the inability of persons afflicted with diabetes mellitus to absorb zinc and their tendency to excrete zinc. More than seventy percent of people in our society are proven zinc deficient today. A zinc taste-test will prove levels and, if deficient, one needs to supplement either a zinc powder or liquid zinc until levels are raised, when one may change to tablets. Warning - take your zinc only at bedtime for maximum absorption.

Co-Enzyme Q10

Another endogenous substance (Quinone), endogenous production of which declines after about age forty, is Coenzyme Q10- proven to alleviate diabetes mellitus. 8% of diabetes patients are deficient in Coenzyme Q10, shown to reduce blood sugar levels by at least twenty percent in thirty six percent of diabetes mellitus patients and reduced blood sugar levels by at least thirty percent in thirty one percent of all patients. Many of the complications associated with diabetes mellitus are exacerbated if there is Coenzyme Q10 deficiency.

Extensive clinical trials have established that an older person, under any stress but supplementing 100 mg of Co-Enzyme Q10, has a heart recovery time of a young person.

Importantly, all persons taking Beta Blockers and cholesterol lowering drugs (statins) need extra Co-Enzyme Q10. This information appears in the doctors manual (MIMS) but is largely ignored.

The Vitamins

Biotin lowers fasting blood sugar levels and improves overall control of blood sugar levels in persons afflicted with diabetes mellitus, partly due to Biotin enhancing the activity of the Glucokinase enzyme which is usually low in diabetes mellitus patients. The avidin in raw egg white interferes with Biotin levels.

Inositol - a component of Lecithin, improves the function of the myelin sheaths of persons afflicted with diabetes mellitus. It is the affected myelin sheath that is implicated in diabetic neuropathy and multiple sclerosis.

Choline is also a component of lecithin and a precursor to a major brain neurotransmitter known as acetylcholine. Choline assists in the maintenance of the integrity of the adrenal glands,

cardiovascular system, gall bladder, kidneys, liver, eyes and most importantly our nervous system.

Lipoic Acid prevents and alleviates many of the detrimental side effects that occur as a result of diabetes mellitus (both Type 1 and Type II): By reducing the incidence of cataracts in persons afflicted with diabetes mellitus and preventing the (diabetic) neuropathy that is a common side effect of diabetes mellitus.

This super vitamin-like substance plays a critical role in every organ/tissue system and I consider Lipoic Acid an important supplement for Life Extension with quality of life.

Most diabetes mellitus patients are found to be deficient in Vitamin B6 and one could almost write a book on the innumerable health benefits of this vitamin.

Vitamin C reduces the insulin requirements of persons afflicted with diabetes mellitus.

Many of the complications associated with both forms of diabetes mellitus are exacerbated in the presence of Vitamin E deficiency, especially the cardiovascular complications arising in the lower limbs.

These Foods or Herbs Alleviate Diabetes Mellitus:

Agrimony helps to prevent some cases of diabetes mellitus and lowers elevated blood sugar levels in persons afflicted with diabetes mellitus.

Empirical evidence shows that **Alfalfa** reputedly alleviates diabetes mellitus.

Aloe Vera (1 tablespoon of juice derived from the pulp of Aloe Vera leaves consumed orally) reduces blood sugar levels and triglyceride levels in diabetes mellitus patients.

Bilberry and its close relative Blueberry help to prevent retinopathy developing in persons who are afflicted with diabetes mellitus (due to the Anthocyanosides content of Bilberries)

Blue Cohosh reputedly alleviates diabetes mellitus.

Cat's Claw may alleviate diabetes mellitus.

Dandelion alleviates diabetes mellitus.

Essiac (a mixture of Herbs - primarily Sheep Sorrel) reportedly allows persons afflicted with diabetes mellitus to discontinue supplemental insulin treatment by vastly improving the function of the Pancreas - [**anecdotal**].

Ginsengs lower serum blood sugar levels in persons afflicted with diabetes mellitus, having a very beneficial effect on our ability to handle stress.

Goldenseal may alleviate diabetes mellitus.

Chapter 5

A Glass of RED

OPC & Red Wine

The French paradox is the fact that the French, as a race, consume copious amounts of fats in their every-day diet yet suffer only a low incidence of cardiovascular disease.

This is attributed, at least in part, to the fact that they also consume regular moderate amounts of red wine which contains Oligomeric Proanthocyanidins (OPC, which are a group of colorless flavonols). The term Proanthocyanidins is derived as follows pro = before, anthocyanins = red, referring to their colorless property and their ability to be transformed into (red) Anthocyanins.

OPC inhibits some aspects of the Aging Process (by enhancing the body's renewal of collagen and inhibiting excessive cross-linking).

OPC inhibits excessive cross-linking, yet allows optimal cross-linking that is necessary for the structural integrity of Scleroproteins. Importantly, OPC removes Lipofuscin from and inhibits its formation in the brain and heart.

In the Cardiovascular System, OPC helps to prevent and reverse atherosclerosis by its action in inhibiting the Histidine Decarboxylase enzyme, which catalyzes the excessive conversion of Histidine to Histamine that is usually observed in persons afflicted with atherosclerosis.

OPC improves the strength and elasticity of the walls of blood vessels and reduces their permeability (by enhancing the synthesis and metabolism of collagen and elastin within the blood vessels).

OPC helps to prevent hemorrhage by strengthening the walls of blood vessels, reducing their susceptibility to leakage. OPC also helps to prevent hypertension and OPC lowers blood pressure in persons afflicted with hypertension.

Most importantly, not only for diabetics but for all of us, OPC helps to prevent and alleviate Microangiopermeability (fragile Capillaries) and reduces the risk of thrombosis and other blood clotting ailments. In this manner, it alleviates varicose veins and is very useful in treating sprains and bruises and preventing venous insufficiency.

Digestive System: OPC helps to prevent gastric ulcers, by inhibiting the excessive production of Histamine within the gastric mucosa by the Histidine Decarboxylase enzyme.

Eyes/Eyesight: OPC helps to prevent bloodshot eyes by increasing the strength of the capillaries, thereby preventing their unwarranted leakage as occurs in bloodshot eyes.

OPC concentrates in the Retina of the Eyes, enhances the health of the eyes and significantly improves eye sight. Scientific research showed that volunteers with no retinal disorders who received 200 mg of OPC per day for 6 weeks recorded significant improvement in visual performance in dark and after-glare tests.

OPC helps to prevent short-sightedness in that it improves the structural integrity of the capillaries that supply the retina.

Chapter 6

Stress & Exercise

If there exists one major determinant in almost all illness conditions,.. that must be unmanaged stressors.

One is increasingly convinced that "what is matter does not matter, and what is mind, is all there is". We of this modern society were never designed to live as most of us do. Surely, we are an adaptive species. But the price is high. It is only about one hundred and fifty years ago that most of us lived close to Mother Earth, living and working in a mostly rural environment. Did I say it before?

Our genes have not changed in at least 30,000 years though our lifestyle has changed enormously in one hundred and fifty years. Young people today carry upwards of 500 chemicals in their body that their grandmother did not carry at the same age.

There exist some 70,000 substances that did not exist one hundred years ago, including more than 3,000 foods. Well, manufactured foods, not real foods! Unfortunately there are hundreds of thousands of other species that coexisted with human kind for millennia that no longer exist due mostly to the greed of mankind and I say here again 'mankind', which cannot be said thankfully of most 'Women, the nurturers.'

Believe me! I have witnessed much of the change! What I'm getting at here is that, though the genes are constant, our diet and lifestyle have altered to a degree where evolution is more than confused.

As a clinical nutritionist back in ninety four to ninety six, one was given the opportunity to research and develop an Environmental Health Plan for a large Local Government Authority, Liverpool City Council, under Mayor Mark Latham - at this time the leader of the opposition in the Australian Federal Parliament and a man of vision.

You cannot imagine their lack of enthusiasm (Mark had moved on) when my research showed that the major determinants of the higher than average mortality, morbidity and youth suicide in Liverpool LGA was due, not to faulty diet, but to a lack of life skills and coping. To homelessness, and joblessness. To socio-economic disadvantage and socio-environmental disadvantage.

In this country, I have witnessed the statistics of the 14 to 25 years age group escalate from 33% suffering one or more chronic illness condition to more than 70 % in less than fifteen years. No wonder the escalation in diabetes, heart disease, cancer and all the rest of it! In 20 short years this group will beggar any health system.

Stress in Middle-Age Increases Diabetes Risk

Psychological stress caused by the death of a spouse, a financial crisis or other life-altering event may increase the risk of developing diabetes in middle age. Many studies have shown that the abovementioned types of major life events were associated with Type II diabetes regardless of family history of the disease, exercise or alcohol use.

Type II diabetes used to occur later in life, forty plus years. However, increasingly, diabetes Type II is now occurring in younger age groups, particularly in adolescent males.

The real tragedy is that, in almost all cases, diabetes is preventable just by reducing the intake of carbohydrates. And, in any case, can be controlled with diet and exercise. In fact, I would guarantee at least a fifty percent (50%) improvement in the quality of life if one followed the protocols prescribed for the individual.

In one recent study, a high number of rather common major life events that probably indicate chronic psychological stress during the past 5 years were indeed related to a higher prevalence of previously unknown Type II diabetes.

The researchers asked more than 2,000 white adults between 50 and 74 years about stressful life events in the past five years, such as the death of a loved one, the end of a relationship or long-lasting financial problems.

Diabetes was diagnosed in 5% of people participating in the study and those with the highest number of stressful events (three or more) were 60% more likely to have diabetes as those with fewer stressful life events.

However, there was no association between stressful work-related events such as a forced job change, retirement or long-lasting problems at work, the study found. The study could not conclusively determine that stress causes diabetes. However, the researchers believe that it is unlikely that the diabetes was the cause of the stress, or that some underlying factor - such as poverty - contributed to both conditions

The authors concluded that the findings are at least "partially consistent" with a theory that says that stressful life events increase the diabetes risk by increasing levels of the hormone cortisol and decreasing levels of sex steroids such as testosterone, which have been shown to influence the action of insulin.

Insulin is the hormone that regulates blood sugar. Although that theory suggests that stress results in a higher diabetes risk due to weight gain in the abdomen, the researchers found no link between stress, abdominal fat and Diabetes. *Diabetes Care* February 2000;23:197

Chapter 7

Let thy food be thy medicine

Yes, Hippocrates again. This physician "non-pariel", way back in the fourth century BC, proved a correlation between obesity in women and infertility. Research will show that the majority of women in the IVF programs are, in fact, obese. Are you aware that obesity is today the major biological maker for cancer? Hippocrates treated his patients almost exclusively through diet, massage and simple therapies. The results would astound the doctor of today!

You are what you eat.

For too long, our dietary recommendations have largely been the result of vested interests in the American Agricultural and food manufacturing industry.

We are still exhorted to consume six to eight servings of cereal grains, bread and pasta per day (Australia). I believe that itself the ratio may be as high as eleven servings in the United States.

Be that as it may, the fact is that, since the introduction of the 60:20:20 (carbohydrates, protein, fats) diet, diabetes has escalated out of control to an increase today in excess of 200% and an increase in obesity of at least 35%.

This epidemic of western society is within just four decades.

Summary

Diabetes Mellitus (Type II) is an ailment that occurs when the pancreas is unable to secrete enough insulin to maintain a normal blood sugar (Glucose) level, leading to high blood sugar levels.

This state (Insulin Resistance) is preceded always by Hyperinsulinism, which simply means the pancreas is continuously stressed and reacting by secreting insulin to overcome the high intake of carbohydrates rich in simple sugars. Eventually, the unchecked organism becomes insulin resistant (Diabetes).

Approximately 80,000 Australian die needlessly each year of complications associated with diabetes. ALL OF THESE COMPLICATIONS ARE PREVENTABLE.

Most of these unfortunate individuals die a very uncomfortable death because of the inadequacy of allopathic medicine to address or effectively treat the conditions! We are not talking about the individual practitioner, rather a system, which denies the efficacy of non-patentable, non-prescription drugs (mainly herbals) like ginkgo biloba and bilberry - proven in innumerable properly conducted trials to treat and prevent diabetic neuropathy, nephropathy and helps the cardiovascular system generally in terms of prevention of microangiopermeability.

An ailment characterized by excessive permeability of the walls of the Capillaries where selective passage of nutrients and wastes into and out of cells becomes impossible and molecules of any size or shape can penetrate the capillaries.

Diabetes Mellitus (Type II) is the most common form of diabetes mellitus. These people have elevated insulin levels but are resistant to its actions. Diabetes Type II accounts for approximately 90% of cases of Diabetes Mellitus.

Maturity onset diabetes is the most preventable disease on the planet and is caused by several factors, chief among which are cellular malnutrition and unmanaged stress.

If you want to suffer this killer disease all you need do is follow the theory that: "consuming a balanced diet is all you need to do to keep healthy"- no need to supplement vitamins and minerals; you will get all you need from the balanced diet.

Wrong!

There is no such thing as a balanced diet for everybody and how can a 60:20:20 diet - contradicting our genetic dietary needs be balanced?

Follow this diet with diligence and you keep the system in business. Once you achieve the diabetic state, the doctor will prescribe a tablet or insulin injections and you might live another decade or two or three. Increasing the need for yet another prescribed drug, to give symptomatic relief of newly arising symptoms.

However, the piper must be paid! You probably will die of the complications eventually; from gangrene, after one or two limb amputations, of cardiovascular disease, with attendant blindness or kidney failure, etc because the cause is almost always, cellular malnutrition, leading to the illness in the first instance.

One thing is for certain - diabetes has definite 'nutritional' value; it guarantees the doctors and surgeons in food, employs hundreds of people in the diabetic associations, makes billions for the pharmaceutical industry and finally, the funeral directors.

The tragedy is that all you needed was to eat right, that is a diet approximating a 40:30:30 diet or 35:35:35 for Syndrome X or, better still, according to your Metabolic Type and supplement a few dollars per month of vitamins and minerals, especially chromium - the glucose tolerance factor, magnesium, and the B group vitamins, with special attention to pantothenic acid (calcium pantothenate), discovered by Roger J. Williams, and to learn how to manage the stressors of life, especially mental/emotional by practicing biofeedback and /or meditation, yoga or similar stress management strategies.

Importantly, do not consume 6-8 servings of cereal grains, bread and pasta daily.

Do not consume margarine or cook in polyunsaturated oils or eat take-away deep fried or battered or wrapped in pastry. Coconut oil is the safest for cooking closely followed by clarified butter (ghee).

Grape seed extract and Bilberry will prevent diabetic neuropathy and nephropathy and the small blood vessel disease that attacks the lower limbs.

Chapter 8

Insulin Resistance & Syndrome X

Insulin is a polypeptide hormone that is released by the beta cells of an organ tissue known as the Islets of Langerhans situated in the Pancreas.

Possibly the most common ailment that besets modern societies is indigestion and associated complaints. Effective antacid preparations are readily available for symptomatic relief but may do more harm than good in the long term. First, they may mask serious underlying disease and, additionally, most formulas contain aluminium - a proven toxic element which may further compromise an already polluted internal environment. At best, over the counter antacids give only symptomatic relief. That is, they do not get at the underlying cause.

Let us have a look at how most of our digestive systems work, in good health.

Starch foods, such as vegetables, nuts, seeds, fruit, grains or their derivatives, begin to digest in the mouth where they are attacked by starch splitting enzymes.

These foods move fairly rapidly through the stomach, although the protein fraction is exposed to hydrochloric acid and pepsins etc in the stomach to begin the protein digestion, the starches however, are finally degraded to sugars and starches in the small intestine.

Protein, on the other hand, is reduced in size by chewing in the mouth, after which it travels down the tube to the stomach for the initial phase of protein digestion where it is changed in composition.

Final degradation of protein is, like the starches, carried out in the small intestine which - under the influence of the pancreas - is first flooded with bicarbonates, consisting of 60% sodium, 40% potassium bicarbonates (pancreatic juices), to reduce acidity and then attacked the pancreas releases proteolytic (protein-splitting) enzymes, which work on the proteins and finally break them down into what we call amino acids. These amino acids are the building blocks of all of the protein in our body.

Pancreatic insufficiency is a not-uncommon condition where the pancreas does not effectively break down the proteins, resulting in partially-split proteins (polypeptides), flowing into the blood stream where they have carcinogenic potential. Consequently, this practitioner regards indigestion as a serious condition which, if not remedied, will inexorably lead to cellular malnutrition with consequent potential for chronic illness and killer diseases.

Now the aforementioned pancreatic juice is also the carrier vehicle for insulin and the biological functions of insulin include but are not confined to: an essential cofactor for Human Growth Hormone, and the quantity of “free” testosterone available for uptake into tissues.

When the body goes into Insulin Resistance, the body quickly begins to build up fat including dangerous blood fats, i.e. LDL cholesterol and depleting our friendly HDL cholesterol. Mind you, not everybody in Insulin Resistance puts on weight.

Excessive consumption of Saturated Fatty Acids can cause Insulin Resistance, as can excessive production of cortisol our endogenous anti-inflammatory hormone released by our adrenal glands in response to stress, can cause Insulin Resistance especially in the muscles.

Commonly, excessive endogenous production or release of insulin can cause insulin resistance which occurs through a negative feedback mechanism. Other factors include the high glyceemic foods and especially fructose when consumed in excess.

In reference to the aforementioned aging process, it is well documented these days that insulin resistance accelerates the aging process of the human body.

Chapter 9

A Revolution in Health Management

Over thousands of years of evolutionary history, people in different parts of the world developed very distinct nutritional needs in response to a whole range of variables, including climate and geography and whatever plant and animal life their environment had to offer.

As a consequence, people today have widely varying nutrient requirements, especially with regard to macronutrients (minerals) - the proteins, carbohydrates and fats that are the fundamental "building blocks" - that is the nutrients most essential to life.

For example, many people who currently inhabit tropical or equatorial regions have strong hereditary need for diets high in carbohydrates such as vegetables, fruits, grains and legumes.

These foods provide the kind of body fuel that is most compatible with the unique body chemistry of people who are genetically programmed to lead active lifestyles in warm and humid regions of the world. Their systems are simply not designed to process or utilize large quantities of animal protein and fat.

Conversely, people from cold, harsh northern climates are not genetically equipped to survive on light vegetarian food. They tend to burn body fuel quickly so that they need heavier foods to sustain themselves. For example, the Inuit (Eskimo) can easily digest and assimilate quantities of heavy protein and fat - the very type of foods that would overwhelm the digestive tracts of people from, say, the Mediterranean basin.

The bottom line is that a diet considered healthful in one part of the world is frequently disastrous for people elsewhere in the world.

Research concluded, almost fifty years back, that certain cultures (African Bantu et al.) whose diet was consistently low fat; high carbohydrate, suffered less heart disease than western cultures. This information, followed by animal (rabbit) experiments, was extrapolated to western society designed to reduce the incidence of, in particular, heart disease and obesity and diabetes.

The result some forty-odd years later is an increase in the past twenty years of 200% in diabetes, an increase of 34% in obesity and hardly a dent in heart disease accompanied by an enormous increase in most forms of cancer.

The fact is that certain people, especially the Scot's, Irish, Welsh and Celtic people, do best on fatty foods - especially fatty fish, which is good fat or, more to the point, good oil.

Every animal species on planet Earth is genetically programmed to feed on specific foods. Taste buds or high impact advertising about what is "good to eat" does not guide them.

Consider for a moment, there exists something like 132 species of primates on this planet. In fact, the chimpanzee has just been reclassified from ape to "homo" because it shares 99.4% of our genes. However, the point here is that humans are the only species that eat grains as a dietary staple. If we put a tribe of chimpanzees in a field of wheat, my bet would be that they would not eat the wheat or, for that matter, most other grains.

Do not believe that chimpanzees are vegetarian. In their natural habitat, they consume animal protein on a regular basis, even to the extent of planning, killing and eating the baboon.

Over the past seventy years or so, several of the world's most notable nutrition scientists have discovered, in particular, the uniqueness of our body's biochemistry and how it handles what we consume as food.

Notable among these scientists are:

- Roger J. Williams: He discovered Pantothenic acid, a major B group anti-stress vitamin, and he is co-discoverer of Folic Acid. Roger Williams is also known as the father of "Biochemical Individuality" and for the theory that we are each of us born with an increased need for certain nutrients. He called this "genetotropic need".
- George Watson M.D., author of 'Nutrition and Your Mind', proved conclusively that biochemical imbalances were at the root of many psychological disturbances and that certain nutrients intensified adverse emotional states in some people and alleviated them in other people. His major contribution to nutritional science included confirming the fact

that there is a distinct correlation between people's psychological and emotional characteristics and the rate at which their cells convert nutrients to energy.

- William Donald Kelley, with degrees in biology, chemistry, biochemistry and dentistry, overcame his own pancreatic cancer (a most deadly form) through applied nutrition and, in particular, eating to his specific "metabolic type." Dr. Kelley is known therefore as the father of "Metabolic Typing".
- Latter-day American Naturopath Peter D'Adamo is the Author of "Eat Right for Your Blood Type", which addresses the genetic relationship between diet and blood type, following forty years of his father's research.

Dietary lectins, found in all foods, are well documented to cause histamine reaction or more serious conditions according to blood type.

The author of the book "Metabolic Typing Diet", William L. Woolcott, worked with Dr. Kelley for many years refining and improving the techniques of the now several scientific findings, which have been embraced to enhance metabolic typing. These include, but are not confined to the Glycemic Index, and eating according to your blood type. William Woolcott is recognized as a world authority on Metabolic Typing.

In contrast to the past two thousand years of treating the symptoms of disease, metabolic typing builds health at the origin of all illness conditions, i.e., the individual cell, which contains the biochemistry of life itself. You can improve the quality of your life just by eating according to your metabolic type with the added bonus of practicing "Therapeutic and Preventive Medicine".

Chapter 10

Fats Ain’t All Fats!

The nomenclature for fats and oils was changed by vested interests back at the beginning of the cholesterol mania era, some thirty or more years ago. When I first studied biochemistry, more than forty years ago, it was taught that a fat was a substance solid at room temperature and an oil a substance fluid at room temperature. I have not yet been convinced to see them otherwise.

There is no such thing as bad fat! They just differ and therefore have differing chemical properties with differing effects on the human body. So, let us examine the much-maligned fats!

Dietary fats are the sum total of lipids (Lipids are a diverse group of compounds and include all biological compounds that are not soluble in water, but are soluble in organic solvents), including fatty acids that are consumed via the diet. Most dietary fats are consumed in the form of triglycerides.

Triglycerides are water insoluble and fat-soluble. The number of possible combinations and arrangements of fatty acids in triglycerides is large - there are 3 fatty acid positions in the triglyceride molecule, 7 degrees of saturation and 10 different lengths of carbon chains (4 to 22 carbon atoms, with even numbers only).

General Health Benefits of Dietary Fats

Dietary fats suppress the appetite by slowing down the passage of food through the digestive tract. This effect occurs due to dietary fats inhibiting the opening the pylorus of the stomach, thereby slowing down the passage of foods into the duodenum.

I call this the appestat control. Carbohydrates, especially refined ones like yummy white bread (deadly), can be consumed all day long and herein lies the danger. High in the glycemic index, the more we eat the more we crave the carbohydrates.

A fatty roast, for instance, leaves us satiated. So, if you are craving carbohydrates, it means your dietary intake of carbohydrates is too high. Importantly, you are also likely to be deficient in Chromium, the glucose tolerance factor.

Metabolism: the body can utilize all dietary fats in the production of energy, because dietary fats are stored in adipose tissue as a storage mechanism for future energy production.

Dietary fats are also essential to the production of Sebum in the sebaceous glands. However, over consumption of dietary fats can have very detrimental consequences including the production and secretion of excessive amounts of sebum.

Dietary fats actually enhance the function/production of carotenoids and are essential to the production of Testosterone. In fact researchers have determined that dietary fats should comprise 25-30% of total calorie intake in order to maintain optimal Testosterone production.

So, if you are male and losing libido, apply the Super E Plan instead of rushing out and spending lots of dollars on " Horny Goat Weed" and leave the supplement to the goats.

Dietary Oils are Fats derived from plants and animals that are liquid at room temperature. That's straight from the biochemistry manual!

We have two types that are derived from plants and animals.

Chapter 11

Plant Oils

Here we have the differences of beneficial (mostly natural cold pressed) and detrimental, if not deadly manufactured, (heat or chemical extraction and partial hydrogenation).

Many plant oils are used as a base in the commercial production of margarine - the most common being corn oil, cottonseed oil, maize oil and soya bean oil, safflower and sunflower oil. These are absolute No-No's in your diet, unless you have a hankering for cancer, heart disease and heaven knows what else. These contain lethal amounts of trans fatty acids.

By the way, some fish and chip shops, and other "take-aways", proudly advertise that their cooking oils are cholesterol free. Of course they are if they are vegetable in origin!

Some also announce that they cook only in cottonseed oil. Do not consume foods cooked or canned in cottonseed oil because cottonseed oil is detrimental to the liver, gall bladder, lungs and reproduction in the female. Some margarines contain cottonseed oil.

..... straight from the Institute's web site: www.health-care.org.au

The Facts

Trans-Fatty Acids are the altered chemical structure of Unsaturated Fatty Acids in dietary oils after they have been modified from their natural Cis-Fatty Acid state.

Partially hydrogenated oils contain Trans-Fatty Acids, which are irrefutably proven to increase the risk of atherosclerosis by increasing the body's production of Lipoprotein (a), which is strongly implicated in atherosclerosis. They also increase the risk of abnormal blood clotting by increasing the "stickiness" of the platelets in blood cells.

Trans-Fatty Acids increase the risk of Ischemic Heart Disease and increase the risk of a first heart attack. It has been shown that individuals who consume more than 6 grams of Trans-Fatty

Acids per day have a 2.44 times greater risk for a first heart attack compared to persons who consume less than 3 grams of Trans-Fatty Acids per day.

It is also proven that Trans-Fatty Acids increase the risk of high blood pressure by increasing blood pressure. By altering the activity of liver enzymes, Trans-Fatty Acids increase the risk of cancer and also obesity and asthma.

Here are some clinical reports for you to judge.

Margarine negates benefits of EPA

Fish oil supplements containing EPA (eicosapentaenoic acid) are proven to exert an anti-inflammatory effect and may be of benefit to those suffering with rheumatoid arthritis and psoriasis. Studies show that this beneficial effect is significantly reduced when the diet is high in Linoleic acid. A seven week controlled experiment involving 30 male volunteers was recently completed in Australia. The participants were given 1.6 gram EPA and 0.32 gram DHA (docosahexaenoic acid) daily. Half the volunteers were kept on a diet high in Linoleic acid by using margarine as a spread and polyunsaturated oils for cooking. The other half used butter and olive oil which are low in Linoleic acid. The experiment clearly showed that the incorporation of fish oil is enhanced by a diet containing butter and fish oil. Margarine and polyunsaturated oils had an inhibiting effect and should therefore be excluded from the diet in order to obtain maximum benefit from fish oil.

..... *The American Journal of Clinical Nutrition*, February 1992, pp. 395- 99

Margarine is a heart hazard

Researchers at the Harvard Medical School have concluded that consumption of trans-fatty acids significantly increases the risk of heart attack. Trans-fatty acids are found mainly in margarine and shortening and are formed during the hydrogenation of vegetable oils. The researchers studied 748 men aged 43 to 85 years over a three-year period. They found a direct correlation between total cholesterol and the intake of trans-fatty acids and also between low-density-lipoprotein cholesterol (LDL) and trans-fatty acid intake. Blood concentration of the "good"

cholesterol, high-density-lipoprotein cholesterol (HDL), on the other hand, decreased as the consumption of trans-fatty acids went up. The data translates into a 27% increased heart attack risk for a man consuming 30 grams per day of margarine as compared to a man consuming 10 grams per day or less. The researchers also discovered that people having high cholesterol levels to begin with were more susceptible to the adverse effects of trans-fatty acids.

..... *American Journal of Clinical Nutrition*, December 1992, pp. 1019-24

Myocardial Infarction & Margarine

Research carried out at the Harvard Medical School confirms that a high intake of margarine markedly increases the risk of a first heart attack (myocardial infarction). The researchers studied 239 white patients less than 76 years of age who had been admitted to Boston area hospitals with a first acute myocardial infarction. A group of 282 healthy individuals provided the control group. People who had a high intake of margarine were found to have more than twice the risk of a first heart attack than did people whose margarine consumption was low. The researchers believe it is the trans-fatty acids formed in the production of margarine, which are the culprits. Stick margarine contains about 32.5 per cent trans-fatty acids (per cent of total fat) while tub margarine contains about 17.5 per cent. The risk of a heart attack was found to be 2.44 times higher among people who consumed 6 or more grams per day of trans-fatty acids (energy-adjusted) as compared to people who consumed 3 grams or less. This increased risk remained when the observations were adjusted for intakes of beta-carotene, vitamins E and C, multi-vitamins, aspirin, and dietary fibre. The researchers found no relationship between the risk of heart attack and the intake of the type of trans-fatty acids occurring naturally in animal fats.

Ascherio, Alberto, et al. Trans-fatty acids intake and risk of myocardial infarction. *Circulation*, Vol. 89, No. 1, January 1994, pp. 94-101

Snack Foods Pose High Risk

Researchers at the Harvard School of Public Health have confirmed that many snack foods (containing vegetable oils & margarine) are very high in trans-fatty acids. As an example, Danish pastry was found to contain over 3 grams of trans-fatty acids, four ounces of French fries were

found to contain anywhere between 2.41 and 3.43 grams, and a teaspoon of stick margarine about 0.6 gram. In contrast, a teaspoon of butter contains only 0.1 gram and a muffin only 0.09 gram. Chicken and pork were also found to be relatively low in trans-fatty acids with five ounces of chicken or pork containing 0.1 gram. Beef had a higher content at 0.9 gram per five ounces while one teaspoon of vegetable shortening contains 0.63 gram on the average. The researchers point out that trans-fatty acids increase blood levels of the detrimental low-density lipoprotein cholesterol and decrease levels of beneficial high-density lipoproteins. They also caution that even a small intake of trans-fatty acids can negate the effect of an otherwise low-fat diet.

..... *Litin, Lisa and Sacks, Frank*. Trans-fatty-acid content of common foods. The New England Journal of Medicine, Vol. 329, No. 26, December 23, 1993, pp. 1969-70

Margarine negates benefits of EPA

Fish oil supplements containing EPA (eicosapentaenoic acid) are proven to exert an anti-inflammatory effect and may be of benefit to those suffering with rheumatoid arthritis and psoriasis. Studies show that this beneficial effect is significantly reduced when the diet is high in Linoleic acid. A seven week controlled experiment involving 30 male volunteers was recently completed in Australia. The participants were given 1.6 gram EPA and 0.32 gram DHA (docosahexaenoic acid) daily. Half the volunteers were kept on a diet high in Linoleic acid by using margarine as a spread and polyunsaturated oils for cooking. The other half used butter and olive oil which are low in Linoleic acid. The experiment clearly showed that the incorporation of fish oil is enhanced by a diet containing butter and fish oil. Margarine and polyunsaturated oils had an inhibiting effect and should therefore be excluded from the diet in order to obtain maximum benefit from fish oil.

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Asthma & Trans Fatty acids

It has long been suspected that the intake of certain polyunsaturated fatty acids is associated with the development of asthma and allergies in children. The n-3 (Linolenic) and n-6 (Linoleic) fatty acids have been particularly suspect, but no data has been available to indicate whether the configuration (cis or trans) of these acids plays a significant role. A team of medical researchers from Germany and New Zealand now report that there is a strong link between the intake of trans fatty acids and the prevalence of asthma, allergic rhinoconjunctivitis and atopic eczema in 13 to 14 year-old children. The association was particularly strong when the analysis was limited to trans fatty acids stemming from hydrogenated vegetable oils such as found in margarine, biscuits, cakes, and potato and other chips. No association between the intake of cis (natural) fatty acids and asthma and allergies was observed. In other words, hydrogenated vegetable oils whether found in margarine, cookies, French fries or chips are bad for children and may be a primary reason for their asthma and allergies. The study was performed by the International

Study of Asthma and Allergies in Childhood group and included extensive data from 10 European countries concerning fatty acid intake and prevalence of asthma and allergies.

..... *Weiland, Stephan K., et al.* Intake of trans fatty acids and prevalence of childhood asthma and allergies in Europe. *The Lancet*, Vol. 353, June 12, 1999, pp. 2040-41 (research letter)

Trans Fatty Acids and Hydrogenated Oils.

The dangers of trans-fatty acids in the diet have recently received scientific attention that is long overdue. To understand the toxic potential of trans-fatty acids, you have to know how they affect the body's use of EFAs.

EFA's have a chemical structure which is polyunsaturated. Technically, this means that each molecule of an EFA has two or more double chemical bonds. The double bonding twists the molecule, giving it a serpentine shape.

When incorporated into a cell's membranes, the snake-like EFA molecules disorder fluidity and flexibility to the membrane. EFA's, unfortunately, are rather unstable when exposed to air. The double bonds break down rapidly, producing a toxic form of fat that can be detected in food by its rancidity. Preservatives may be added to food to prevent this breakdown from occurring, thereby increasing the shelf life of the food. A natural preservative for fatty acids is vitamin E (alpha-tocopherol), but the most commonly used preservatives are the synthetic anti-oxidants, BHT and BHA.

A more efficient way to prolong the shelf life of the food is to hydrogenate the fatty acids, destroying the EFAs. In hydrogenation, the double bonds are broken by hydrogen gas and the unsaturated fatty acids become saturated with hydrogen. This means that all sites for chemical bonding are filled. Naturally saturated fatty acids are commonly consumed in meat and dairy products.

They are also manufactured in your liver and stored in your body's fat cells. Saturated fatty acids are straight, not twisting, in shape and impart stiffness and solidity to membranes. Human cell membranes usually have one saturated fatty acid lined up along-side one unsaturated fatty acid, producing just the right blend of stiff-ness and flexibility for responding properly to signals sent from other cells.

In present-day food processing, the hydrogenation of vegetable oils is usually not complete; it is partial. Partially hydrogenated oils are easier to work with and produce a softer foodstuff than

fully hydrogenated oils. Chemically, partial hydrogenation converts EFA's into trans-fatty acids, which are increasingly being proven a hazard to health.

What price margarine now?

Chapter 12

The Good Oils

These are the natural cold-pressed oils including, especially, Coconut oil (does that surprise you?)

Why should you be using coconut oil versus any other type of oil?

Because it can:

- √ Help you lose weight, or maintain your already good weight
- √ ·Reduce the risk of heart disease
- √ ·Lower your cholesterol
- √ ·Improve conditions in those with diabetes and chronic fatigue
- √ ·Improve Crohn's, IBS, and other digestive disorders
- √ ·Prevent other disease and routine illness with its powerful antibacterial, antiviral and antifungal agents
- √ ·Increase metabolism and promotes healthy thyroid function
- √ ·Boost your daily energy
- √ ·Rejuvenate your skin and prevent wrinkles

In short, after unjustly getting lumped in the "no-fat" craze of past decades, coconut oil is now starting to get the respect it deserves as, not only the healthiest oil you can consume -, even superior to olive oil which contains trans-fat - but as one of the most nutritious of all foods. Just be sure it is cold-pressed virgin oil, usually sold as coconut oil butter.

Next we have

Olive Oil Good for Health but Not for Cooking

Researchers found that participants in a study who consumed the most olive oil tended to have healthier diets than those who consumed the least amount of olive oil.

Participants who had the highest consumption of olive oil, consumed less cereal and baked goods but more eggs and vegetables and had a higher vitamin intake than those who consumed the least amount of olive oil.

Researchers concluded that olive oil is a major contributing factor to the health benefits of the Mediterranean diet.

..... *European Journal of Clinical Nutrition* September 2003;57 Suppl 1:S2-7

(The Super E Plan is almost identical to the Mediterranean diet)

Chapter 13

Conjugated Linoleic Acid (CLA)

CLA helps to prevent atherosclerosis and lowers triglyceride levels.

CLA potentially inhibits the development of some forms of cancer, including inhibition of the development of breast cancer and the prevention of colon cancer and melanoma.

It has been conclusively demonstrated that CLA possesses potent antioxidant properties that may be 200% greater than those of beta-carotene (provitamin A).

Research also shows that CLA significantly lowers LDL Cholesterol levels and, in doses of approximately 3,300 mg per day, facilitates weight loss in persons afflicted with obesity and protects the integrity of muscle and facilitates muscle growth at the same time.

For the obese, individual CLA is a blessing. Recall that obesity is the number one biological marker for cancer especially breast cancer. My research in breast cancer conclusively demonstrates that over 90% of the women I have seen with breast cancer are Blood Type A. If you are a woman with Blood Type A let us work together to prevent the disease.

CLA, where D'ya Get It?

Surprise Surprise!

The lie is uncovered!

WELL MARBLED BEEF especially Aberdeen Angus beef, milk, cheese, lamb, and to a lesser degree chicken and turkey.

However, do not race out and begin quaffing gallons of milk or eating tonnes of beef etc. As with all things, moderation is the name of the game. If you include a daily glass or two of milk (not low fat), some beef, lamb and turkey in your Diet, as is the case in the Super E Plan, you will be

okay. Use butter sparingly, then you will be reverting closer to the original Palaeolithic diets of our prehistoric ancestors. Natural foods get our tick of approval.

By the way, visit the National Heart Foundation web site and look for one of their major sponsors, especially for the school lunch programs. Or, we can save you the time and tell you it is Kellogg's.

Nine out of ten nutritionists recommend Wheat Bix for breakfast. I say that 70% of the population may not tolerate them and 100g of whole wheat is proven to take 350mg of calcium from the system.

Chapter 14

Fish Oils and Emu Oil (Omega-3 Rich)

Most of the health benefits associated with fish oils and Emu Oil are attributable to the Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA) content of fish oils.

These are potent inflammatory hormone regulators, found in appreciable amounts in both fish oil and Emu oil, especially the dark meat and skin of turkey.

In fact, my research is showing Emu oil (only one brand approved by the TGA) to be probably three times the potency (anti-inflammatory) as fish oil. The beneficial effect of EPA and DHA on every cell of the body would fill a book (currently being written). However, it is safe to claim that the increased incidence of most inflammatory conditions is due to an imbalance of Omega-6 to Omega-3 essential fatty acids. The ratio should approximate 2:1 and much research shows the average to be nearer to 20:1. That is a major determinant for increased rheumatoid arthritis, asthma, some cancers, heart disease and Crohn's disease.

Heart Association Now Recommends Fish Oil

All omega-3 fatty acids offer protective benefits to the heart, including making the blood less likely to clot and cause a heart attack, protecting against irregular heartbeats that cause sudden cardiac death and decreasing risk of cardiovascular disease (CVD).

Two especially beneficial omega-3 fats - eicosapentaenoic and docosahexaenoic acids (EPA and DHA) - are found in fish. A less potent omega-3, alpha-linolenic acid, is found in plant sources such as soybeans, canola, walnut and flaxseed.

The American Heart Association's (AHA) dietary guidelines have recommended that adults eat at least two servings of fish per week. However, in light of the recent Environmental Protection Agency and Food and Drug Administration (FDA) warning about the presence of contaminants in some species of fish, a report examined the benefits and risks of consuming omega-3 fats from this source.

The report stated that benefits and risks depend largely on a person's life stage. For example, children, pregnant and nursing women are more susceptible to mercury from fish so it would be more important for them to avoid eating fish than for middle-aged and older men, and postmenopausal women, for whom the benefits of eating fish are thought to outweigh the risks.

Additionally, people with elevated triglycerides, an indicator for heart disease, may benefit from taking 2 to 4 grams of EPA and DHA per day as a supplement, according to the report. A 1 gram per day dose, which may be more than can be received from diet alone, is currently recommended for patients with existing CVD. The report noted, however, that high intakes of EPA and DHA could cause excessive bleeding in some people.

..... *Circulation* November 19, 2002;106(21):2747-57

Current Atherosclerosis Report November 2002 (6):412-3

Long-chain polyunsaturated fatty acids have a positive effect on the quality of general movements of healthy term infants^{1,2,3}

Hylco Bouwstra, DA Janneke Dijk-Brouwer, Jacqueline AL Wildeman, Hendrika M Tjoonk, Jolanda C van der Heide, E Rudy Boersma, Frits AJ Muskiet and Mijna Hadders-Algra

1 From the Department of Neurology (HB, JCvdH, and MH-A) and the Perinatal Nutrition & Development Unit, Department of Pediatrics/Obstetrics and Gynecology (JALW, HMT, and ERB), University of Groningen, Groningen, Netherlands, and the Department of Pathology and Laboratory Medicine, University Hospital Groningen, Groningen, Netherlands (DAJD-B and FAJM).

Objective: We investigated whether supplementation of formula with LCPs for 2 months improves the quality of general movements (GMs) in healthy term infants at 3 months' of age.

Design: A prospective, double-blind, randomized controlled study was conducted with 2 groups of healthy term infants: a control-formula (CF) group (n = 131) and an LCP-supplemented-formula (LF) group (n = 119). A breastfed (BF) group (n = 147) served as a reference.

Information on potential confounders was collected at enrollment. Videotapes were made of the

infants' spontaneous motor behavior at 3 months' of age to assess the quality of their GM's. On the basis of quality, normal GM's were classified as normal-optimal or normal-suboptimal, and abnormal GM's were classified as mildly or definitely abnormal. Attrition at 3 months' of age was 15% and non-selective. Multivariate regression analyses with adjustment for confounders were carried out to evaluate the effect of the type of feeding.

Results: None of the infants had definitely abnormal GM's. Infants in the CF group had mildly abnormal GM's significantly more often than did infants in the LF and BF groups (31% compared with 19% and 20%, respectively). Infants in the BF group had normal-optimal GM's more frequently than did infants in the LF and CF groups (34% compared with 18% and 21%, respectively). Logistic regression analyses confirmed these findings.

Conclusion: Supplementation of healthy term infants with LCP's during the first 2 months of life reduces the occurrence of mildly abnormal GM's.

Key Words: General movements • long-chain polyunsaturated fatty acids • infants • nutrition • nervous system • motor development • breastfeeding • term infants • n-3 fatty acids • docosahexaenoic acid.

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The Omega Principle

"Some Fish Fats Protect the Heart. What If They Could Also Treat Your Brain?"

By *Sally Squires*

Washington Post Staff Writer

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They occur naturally in fish, flaxseed, canola oil, nuts and avocados. They're also extracted, packaged and sold in dozens of dietary supplements. Increasingly, they even show up on grocery shelves as the latest fortification in such popular fare as bread, eggs, dairy products, margarine, baby food and cereal.

Omega-3 fatty acids are already prized by cardiologists for protecting the heart against the inflammation that can lead to blocked arteries and for thwarting an irregular, often fatal, heartbeat. There's growing evidence that these polyunsaturated fats may also be helpful in preventing complications of diabetes and in soothing the inflamed joints of arthritis.

Now psychiatrists are also taking a closer look. Omega-3s, dubbed the "happy" fats in some quarters, are under investigation for treating depression, bipolar disease, attention-deficit hyperactivity disorder, alcoholism, Alzheimer's disease and even the so-called baby blues, or postpartum depression. Earlier this year, the American Psychiatric Association formed a committee to review the findings to make treatment recommendations for the use of omega 3's.

What makes this emerging science particularly intriguing is that the evidence for the fat's various benefits comes from several types of research: population studies, clinical trials and basic neurochemistry.

"Not only are the data consistent in those areas, but they are very robust," says Joseph R. Hibbeln, chief of the outpatient clinic at the Laboratory of Membrane Biochemistry and Biophysics at the National Institute of Alcohol Abuse and Alcoholism (NIAAA) in Bethesda.

And since there are few if any side effects to eating foods rich in omega-3 fatty acids, there's little downside to investigating these healthy fats -- and a lot to be gained. Fish, and even fish oil dietary supplements, are far cheaper than most prescription medications. Plus, there's the hope that omega-3s may help bridge the treatment gap in mental disorders -- up to 30 percent of people being treated for depression, for example, find drugs inadequate in controlling their symptoms.

"The main problem we have with depression is that we do not have treatment that [dependably] provides complete recovery," says David Kupfer, head of psychiatry at the University of Pittsburgh's Western Psychiatric Institute and Clinic. "We're still leaving people mildly depressed or unable to function well. It's like trying to make the last 10 yards when you're in field goal range. The same drug is not going to do it. It has to be some sort of adjunctive treatment. Whether that will come from omega-3's, St. John's wort or some other nutritional thing, we just don't know yet."

The idea that omega-3 fatty acids might help treat mental disorders dawned on Hibbeln in 1984 when he was standing in an anatomy lab. "I had cut open the brain, and it just very much struck me that it is mostly fat," he says. "The biochemistry of fat and lipids just seemed to be very unexplored in psychiatric disorders and that seemed odd because there are many profound neurological disorders that are known to be caused by lipid problems."

It's well recognized, for example, that multiple sclerosis damages the fatty myelin sheaths of nerve cells. Another neurological disorder, Gaucher's disease, results from the buildup of harmful fatty substances in cells, and a whole class of neurological disorders called leukodystrophies are caused by flawed development or maintenance of the fatty myelin in nerve cells.

The brain itself, is, in fact, about 60 percent fat, giving new meaning to the term fathead. But unlike other adipose tissue throughout the body, the brain's fat is diverse, "as diverse as proteins in the body," notes Hibbeln.

Essential fatty acids are fats that can't be produced by the body but are required for good health. They play key roles in the structure of brain cells and of the eye, particularly the retina. They're vital for each neuron's membrane, both its outer protection and its means of accessing key nutrients. And it is these essential fats that regulate the growth of long tendrils called axons that enable neurons to communicate with each other.

Oddly enough, while the body can manufacture saturated fat, cholesterol and even some unsaturated fat -- it is incapable of producing two of the fatty acids that are most vital. One is an omega-3 fatty acid called alpha linolenic acid, which is found in fish, canola oil and flaxseed. The other is an omega-6 fatty acid with the possible confusingly similar name of linoleic acid, which is found in soybean, safflower and corn oils, as well as in meat, poultry, fish and such popular fare as processed foods. Omega-3s and omega-6s are close enough in chemical structure to be able to compete for the same molecular machinery that allows entry into the brain. (Omega-3 fatty acid molecules have three carbon atoms on one end; omega-6 fatty acids have six.)

That fact might simply still be a little quirk of nature had not a huge shift occurred in diets during the past century. In 1909, Americans got most of their fat from free-range animals, which have higher levels of omega-3s than the chicken, beef and pork commonly eaten today. They also consumed about 0.02 pounds per year of soybean oil -- a number that increased gradually until about 1960, when "soybean oil took over the U.S. food chain," says William Lands, a retired biochemist with NIAAA. "It was like a tsunami."

By 1999, soybean oil -- a major ingredient in crackers, bread, salad dressings, baked goods and processed food of all sorts -- accounted for 20 percent of total calories consumed in the United States, according to the U.S. Department of Agriculture. Per capita consumption reached 25 pounds per year. "That means that there has been an 1,000-fold increase in [consumption of] omega-6 fatty acids" over 100 years, Hibbeln says. "So we have literally changed the composition of people's bodies and their brains. A very interesting question, which we don't know the answer to yet, is to what degree the dietary change has changed overall behavior in our society."

Flooding brains and bodies with a diet rich in omega-6 fatty acids theoretically could give an unfair advantage to these molecules, allowing them to block omega-3s from getting inside cells and replenishing stores in the brain and elsewhere in the body.

Intrigued by this possibility, Hibbeln charted fish consumption worldwide and compared those figures to rates of depression. In a paper published in 1998 in *The Lancet*, he showed that nations with the highest fish consumption -- Japan, Taiwan and Korea -- also had the lowest rates of depression. Nations with the lowest fish consumption -- New Zealand, Canada, West Germany, France and the United States -- had the highest rates of depression. "It becomes an interesting picture across countries," Hibbeln says.

Next, he took a look at homicide, suicide and aggression rates and compared them to seafood consumption. Similar patterns emerged. Using World Health Organization statistics, for example, Hibbeln found that men living in land-locked Hungary, Bulgaria and Austria had the lowest fish consumption and the highest rates of suicide, while their counterparts in Japan, Portugal, Hong Kong, Korea and Norway ate the most fish and had the lowest rates of suicide.

Men living in the United States, Canada, Italy, Australia and Sweden fell between the two extremes on both seafood consumption and suicide rates.

Since then, Hibbeln has examined patterns of postpartum depression, which provides a particularly interesting window of opportunity for studying the psychological aspects of omega-3 fatty acids. That's because during pregnancy, mothers are the sole source of an omega-3 fatty acid known as docosahexaenoic acid (DHA) to the fetus. So key is this substance to fetal brain development that the mother's stores are depleted if she doesn't consume enough DHA in her diet. In a 2002 study published in the Journal of Affective Disorders, Hibbeln reported that "rates of postpartum depression are 50 times higher in countries where women don't eat fish," he says.

Of course, results from such population studies -- known as epidemiology -- can at best show only associations and trends, not cause and effect or a biological mechanism. To nail down any new scientific theory requires both basic science and clinical trials.

[End of Article]

A Hard Sell

As director of the psychopharmacology research lab at McLean Hospital near Boston, psychiatrist Andrew Stoll often gets the most difficult patients to treat - the ones for whom standard therapy has failed.

In the late 1990's, research had already shown that depressed people seem to have lower levels of DHA in their brains than healthy people. Studies by Hussein Manji at the National Institute of Mental Health also found that people who respond well to antidepressants have neurons that exhibit greater plasticity, meaning that they are more receptive to changes that help them grow. Other laboratory work suggested that omega-3 fatty acids could help neurons be more plastic.

Stoll put all these elements together in a study of 30 people suffering from bipolar disorder, also known as manic depression. During the four-month study, which was published in 1999 in the Archives of General Psychiatry, he randomly assigned participants to receive either fish oil capsules containing omega-3 fatty acids along with their standard treatment or a placebo of olive

oil plus the standard treatment. The study found that the omega-3s significantly lengthened the period of remission for those who received it.

Since then, a handful of other small, short-term studies have also found benefits to omega-3s. In England, Malcolm Peet and his colleagues at the Swallownest Court Hospital in Sheffield gave another type of omega-3 - eicosapentaenoic acid (EPA) - in varying doses to people with ongoing depression that was not well controlled with antidepressants. Peet found in this 12-week study that one gram per day of EPA was significantly better than placebo in improving mood. (Both groups also received standard antidepressant medication.) Other studies found that omega-3s were helpful in controlling postpartum depression, impulsivity and even antisocial behavior in prisoners.

To Stoll and other proponents of the benefits of omega-3 fatty acids in treating mental disorders, the results have been a kind of vindication. "We were laughed at five years ago and teased by our colleagues," says Stoll, an associate professor of psychiatry at Harvard Medical School. "Now this is in textbooks."

But the story is still unfolding. Exactly how omega-3s may work is not yet known. Scientists know that these fats break down into EPA and DHA in the body, while omega-6 fatty acids break down to a substance called arachidonic acid. Nothing is static in the body. So these products just continue a cascade of other biochemical reactions that produce more substances -- chemicals that act like a thermostat to raise and lower production of other key substances that in turn control blood clot formation, immune responses, bone health, smooth muscles and so on and so on.

Which dosages of omega-3's may be most effective is also not certain, "although it's probably going to be in the range of one to three grams per day," says Marlene Freeman, director of the Women's Mental Health Program at the University of Arizona Health Science Center in Tucson and lead investigator of two studies examining the use of omega-3s in pregnant women at high risk for postpartum depression. "It's all kind of theoretical, but then we don't truly know how antidepressants work, either."

Nor are omega-3's a panacea for mental disorders. In schizophrenia, for instance, there have been two studies showing benefit and one showing no effect. Studies of DHA "didn't do anything for people with attention-deficit disorder," Stoll notes. "But no one has tested EPA yet, and there's lots of evidence that kids with ADD are deficient in EPA."

Alcoholism is known to deplete the brain of omega-3 fatty acids. But whether supplementation might help reverse some of the ill effects is also not yet known. Omega-3's are also under investigation for treating Parkinson's and Alzheimer's diseases.

And at least one trial, published earlier this year in the American Journal of Psychiatry by researchers at Baylor College of Medicine, found no significant effect of adding DHA to treatment for major depression.

Such findings explain why plenty of people - even experts in the field - are cautious about over billing the benefits of omega-3 fatty acids.

"The biggest risk is for someone to try to treat themselves with these over the counter when what they really need is an evaluation," says Freeman. "It scares me a little to have this in the media."

A National Academy of Sciences panel spent months reviewing the scientific literature on omega-3 fatty acids and other fats in the diet and concluded that there was not enough evidence to set a recommended dietary allowance.

"Is the evidence strong enough to use [omega-3s] for depression?" asks Alice H. Lichtenstein, professor of nutrition at Tufts University "It's sufficient evidence to do human trials, but not to make dietary recommendations."

In the meantime, research continues to point to the cardiovascular benefits of eating a diet rich in omega-3 fatty acids. Some of the latest findings, published earlier this month in the journal Circulation, found that men who ate at least two servings of fish per week had lower heart rates, meaning their hearts beat were stronger and more efficient, beating fewer times per minute than men who ate fish less than once per week. And the twice-weekly fish eaters also had a

significantly reduced risk of heart disease compared with those who ate fish less than once per week.

Some of the omega-3 researchers are so convinced of the benefits of these essential fats that they are making sure their families eat foods rich in them.

Until the science is completely sorted out, Lichtenstein hedges her bets by alternating between using a bottle of olive oil and a bottle of canola oil in her family meal preparation.

Harvard's Stoll is so convinced of the benefits of omega-3s that he jokes he nearly force-feeds food rich in omega-3s to his three children. His two older kids also take a daily fish oil supplement made by a company that Stoll's wife -- also a psychiatrist -- formed after seeing his data. His youngest child, who doesn't like fish and can't swallow pills yet, dines on flax-meal pancakes, on flax-meal with honey and walnuts and on flax, wild game and other foods laced with ground flaxseed.

As Stoll says, "Anything good for the heart seems to be good for the brain."•

Late Breaking News October 2004

A recently completed long-term H.A.I.N.S. study consisting of more than 7,000 clinical trials studying the effect of fish oil, oily fish and fish oil supplements in inflammatory conditions including heart disease concluded that fish oil reduced mortality from all causes.

Warning: Persons afflicted with Diabetes Mellitus Type 1 or Diabetes Mellitus Type 2 should NOT consume Fish Oils supplements (as several research studies have reported that Fish Oils supplements cause significant increases in Blood Sugar and a decline in Insulin secretion in Diabetes Mellitus patients).

This should not be construed as not eating fish. You may safely substitute linseed (flaxseed) sunflower and almond mix for fish oil. Or better still "Eudo's Oil.

Chapter 15

You thought fruit was good for you

Proof of my earlier attention to the danger inherent in over-consumption of fruit. It has been my clinical experience that individuals who over-consume fruit in the long-term end up with a syndrome I call "fruitcake" - no pun intended.

Fructose, weight gain, and the insulin resistance syndrome^{1,2,3}

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This review explores whether fructose consumption might be a contributing factor to the development of obesity and the accompanying metabolic abnormalities observed in the insulin resistance syndrome. The per capita disappearance data for fructose from the combined consumption of sucrose and high-fructose corn syrup have increased by 26%, from 64 g/d in 1970 to 81 g/d in 1997. Both plasma insulin and leptin act in the central nervous system in the long-term regulation of energy homeostasis. Because fructose does not stimulate insulin secretion from pancreatic β cells, the consumption of foods and beverages containing fructose produces smaller postprandial insulin excursions than does consumption of glucose-containing carbohydrate. Because leptin production is regulated by insulin responses to meals, fructose consumption also reduces circulating leptin concentrations. The combined effects of lowered circulating leptin and insulin in individuals who consume diets that are high in dietary fructose could therefore increase the likelihood of weight gain and its associated metabolic sequelae. In addition, fructose, compared with glucose, is preferentially metabolized to lipid in the liver. Fructose consumption induces insulin resistance, impaired glucose tolerance, hyperinsulinemia, hypertriglycerolemia, and hypertension in animal models. The data in humans are less clear. Although there are existing data on the metabolic and endocrine effects of dietary fructose that

suggest that increased consumption of fructose may be detrimental in terms of body weight and adiposity and the metabolic indexes associated with the insulin resistance syndrome, much more research is needed to fully understand the metabolic effect of dietary fructose in humans.

Key Words: Fructose, leptin, weight gain, insulin resistance, triacylglycerol, hypertension, obesity, review.

And You Thought Fruit was Good for You?

Consuming a lot of fruit and fruit drinks may increase your risk of Parkinson's disease, according to researchers in Honolulu.

A link between fruit and vitamin C intake and an increased risk of Parkinson's has been suggested by previous studies, however the studies were not confirmed.

The current study involved more than 8,000 participants who were observed for 34 years.

Results indicated that increased fruit and fruit drink consumption was associated with an increased risk of Parkinson's disease. The results remained even after adjusting for other known risk factors.

Researchers suggest that the increased risk may be due to pesticides or herbicides on the fruit, rather than the fruit itself.

No association was found between dietary and supplemental intake of vitamin C and risk of Parkinson's.

Fruit consumption can be useful in preventing many chronic diseases; however, further research into the role of food borne toxins may be useful in gaining insight into the prevention and origins of Parkinson's, according to researchers.

The American Academy of Neurology Annual Meeting Honolulu April 3, 2003

Journal Clinical Toxicology 2003;41(1):67-70

American Journal Epidemiology March 1, 2003;157(5):409-14

Chapter 16

Stress

If there exists one major determinant in almost all illness conditions, that must be unmanaged stressors.

One is increasingly convinced that "what is matter does not matter, and what is mind, is all there is." We of this modern society were never designed to live as most of us do. Surely we are an adaptive species. But the price is high. It is only about one hundred and fifty years ago that most of us lived close to mother Earth, living and working in a mostly rural environment. Did I say it before?

Our genes have not changed in at least 30, 000 years. Or Life-Style though has changed enormously in one hundred and fifty years. Young people today carry upwards of 500 chemicals in their body that their grandmother did not carry at the same age.

There exist some 70,000 substances that did not exist one hundred years ago, including more than 3,000 foods. Well, manufactured foods, not real foods! Unfortunately there are hundreds of thousands of other species that coexisted with human kind for millennia that no longer exist due mostly to the greed of mankind and I say here again 'mankind', which cannot be said thankfully of most 'Women, the nurturers.'

Believe me! I have witnessed much of the change! What I'm getting at here is that though the genes are constant our diet and Life-Style have altered to a degree where evolution is more than confused.

As a clinical nutritionist back in ninety four to ninety six one was given the opportunity to research and develop an Environmental Health Plan for a large Local Government Authority, Liverpool City Council under Mayor Mark Latham at this time the leader of the Opposition in the Australian Federal Parliament and a man of vision.

You cannot imagine their lack of enthusiasm (Mark had moved on) when my research showed that the major determinants of the higher than average mortality, morbidity and youth suicide in Liverpool LGA was due, not to faulty diet, but to a lack of life skills and coping. To homelessness, and joblessness. To socio-economic disadvantage, and socio-environmental disadvantage.

In this country, I have witnessed the statistics of the 14 to 25 years age group escalate from 33% suffering one or more chronic illness condition to more than 70 % in less than fifteen years. No wonder the escalation in Diabetes, Heart Disease, Cancer and all the rest of it! In 20 short years this group will beggar any health system.

Stress in Middle-Age Increases Diabetes Risk

Psychological stress caused by the death of a spouse, a financial crisis or other life-altering event may increase the risk of developing diabetes in middle age. Many studies have shown that the abovementioned types of major life events were associated with type 2 diabetes regardless of family history of the disease, exercise or alcohol use.

Type 2 diabetes usually occurs later in life, forty plus years, and in almost all cases can be controlled with diet and exercise. In fact I would almost guarantee at least a fifty percent (50%) improvement in the quality of life if one followed the protocols I work with.!

In one recent study, a high number of rather common major life events that probably indicate chronic psychological stress during the past 5 years were indeed related to a higher prevalence of previously unknown type 2 diabetes.

The researchers asked more than 2,000 white adults between 50 and 74 years about stressful life events in the past five years, such as the death of a loved one, the end of a relationship or long-lasting financial problems.

Diabetes was diagnosed in 5% of people participating in the study and those with the highest number of stressful events (three or more) were 60% more likely to have diabetes as those with fewer stressful life events.

However, there was no association between stressful work-related events such as a forced job change, retirement or long-lasting problems at work, the study found. The study could not conclusively determine that stress causes diabetes. However, the researchers believe that it is unlikely that the diabetes was the cause of the stress, or that some underlying factor -- such as poverty -- contributed to both conditions

The authors concluded that the findings are at least "partially consistent" with a theory that says that stressful life events increase the diabetes risk by increasing levels of the hormone cortisol and decreasing levels of sex steroids such as testosterone, which have been shown to influence the action of insulin.

Insulin is the hormone that regulates blood sugar. Although that theory suggests that stress results in a higher diabetes risk due to weight gain in the abdomen, the researchers found no link between stress, abdominal fat and diabetes.

..... *Diabetes Care* February 2000;23:197

According to *David Holland*, M.D., the medical communications director at Media Triton:

"There is a whole new field called "psychoneuroimmunology" that studies the effects of psychological stress on the immune system. Scientists in this area have demonstrated alterations in the normal function of immune cells in animals during times of stress.

Excessive physical stress also changes our immune cell profile. Increased upper respiratory tract infections occur in athletes who overtrain, and a decreased cell-mediated immunity has been demonstrated in such athletes.

Without a properly functioning immune system, our bodies are vulnerable to invasion by opportunistic germs such as fungi, viruses and bacteria. By taking an antimicrobial like garlic, some scientists have been able to prevent immune suppression in psychologically stressed mice."

The Immune System is the guardian of our entire cellular system against infection and comprises all structures and processes that are involved in defeating the attempts of environmental forces to overrun, destroy or gain control of any part of the body.

The overall coordination of the Immune System takes place in the Hypothalamus and Pineal Gland both located in the brain.

Many commonly met substances suppress or are antagonistic to our immune system. These include but are not confined to:

- Over-consumption of simple sugars including fruit sugar (fructose).
- Chlorine: as found in treated water supplies for drinking bathing and showering. Many studies confirm that drinking chlorinated water increases the risk of bladder cancer by a factor of 93%, and that showering in heated chlorinated water is up to six times more hazardous than drinking chlorinated water.

Chlorine added as a purifier to ground water in the dam produces trihalomethanes from the proteins in the water and these are proven to cause cancer in humans.

- Lead suppresses the immune system as do pharmaceutical anti-cancer drugs and marihuana.
- Many toiletry items and especially shower gels and toothpaste containing sodium laurel or loreth sulphate are highly toxic being absorbed into the skin or oral mucosa where it can cause mouth ulcers.

Best to get on the Internet and check out toxic substances in the home and workplace.

Exercise

There is substantial evidence proving that regular and sustained levels of exercise is critical in the effective management of almost all illness conditions. It would be fair to say that there are very few individuals who have a regular exercise program and suffer hyperinsulinism of Diabetes type II.

Quoted hereunder is an extract from a recent study reported in Archives of Internal Medicine 2000;160:2108-2116.

- For type 2 diabetes, risk decreased progressively with increasing levels of physical activity.
- Physical activity was associated with serum insulin level and with factors associated with insulin, i.e., heart rate, hyperuricemia (elevated uric acid in the urine), diastolic blood pressure, and high-density lipoprotein cholesterol level, and with -glutamyltransferase level, a possible marker of insulin resistance in the liver.

Careful attention to dietary intake is critical. However there is nothing that gets the blood circulating the vital nutrients to every one of the trillions of cells as well as exercise. You do not need to jog. Walking, swimming bicycle riding are all effective means of reducing excess insulin levels.

In fact, you will not achieve nor sustain good health without the exercise, no matter what ails you.

Chapter 17

Infections

Diabetics are more prone to infections than the general population. Diabetics that require surgery are more likely to be susceptible to and infected by the killer bacteria methicillin-resistant *Staphylococcus aureus*.

Approximately fifty thousand patients in Australian hospitals fall victims to hospital-borne infections each year. Of these, as many as five thousand die prematurely of the infection. There are naturally occurring substances proven to prevent and successfully treat infections including methicillin-resistant *Staphylococcus aureus*.

In the role of preventive-therapeutics, the probiotics: *Lactobacilli bifidobacterium*, *acidophilus*, *bulgaricus* and *plantarum* are of special interest.

In the healthy individual, beneficial bacteria comprise approximately 90% of digestive tract bacteria. In the newborn, provided the mother has sufficient beneficial bacteria to inoculate the infant and provided the infant is breast fed, 90% of the infants stool should comprise *bifidobacterium infantis* by day seven.

Beneficial bacteria locating in the colon (*bifidobacterium*) and in the small intestine (*acidophilus*) perform several vital function including but not confined to:

- enhancing and maintaining the health of the digestive system,
- controlling cholesterol levels,
- enhancing the function of the immune system and
- protecting against bacteria and virus.

Beneficial bacteria are also responsible in part for the fermentation of dietary carbohydrates and the synthesis of some vitamins including:

- Biotin
- Choline
- Folic Acid
- Inositol
- Para Aminobenzoic Acid (PABA)
- Vitamin B2
- Vitamin B5
- Vitamin B6
- Vitamin K

A major nourishing food component for beneficial bacteria is Fructooligosaccharides (FOS), which does not feed detrimental bacteria. Major contributing foods for FOS are Bananas, Onions, leeks, garlic, tomatoes and the herb chicory root. **Excessive raw garlic is detrimental to friendly bacteria.**

Another critical role of beneficial bacteria is to control the growth of detrimental bacteria in the gut, including candida albicans. If our beneficial bacteria is destroyed by antibiotics or faulty diet, the gut lining (mucosa) is invaded by the detrimental bacteria which bore into the mucosa, rendering it in the long term, more permeable with the consequence of long term invasion of the entire system by detrimental organisms and substances.

This condition is known as "leaky gut," which, today, is treatable and repairable by supplementation with a medically patented Metagenics supplement.

Contributing Factors:

High simple carbohydrate diet High saturated fat diet Aging

Viral infection Autoimmunity Smoking

Atherosclerosis Obesity Alcohol

Lack of exercise Stress

High birth-weight (woman & child) later stage risk

Chapter 19

The Future?

One has little doubt that the status quo will remain for a long time to come. In that time millions – yes - millions of individuals throughout this world will suffer and prematurely die, due in the main to the enormous power both financial and political of the system. In this context I mean the pharmaceutical system ably abetted by the great majority of the medical establishment at all levels.

Gutless governments with the power to enforce change overnight will not change until you the consumer vote with your conscience and for truth. The governments I speak of are not afraid of losing your vote so much as a fear of losing the billions of dollars funded by the giants of commerce and industry. But then you put them there!

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"These results indicate that fluoxetine reduced food intake for at least 16 weeks in nondepressed obese individuals without specifically affecting carbohydrate intake. Weight that was lost during the first few weeks of daily fluoxetine administration was subsequently regained even though food intake remained reduced. Therefore, fluoxetine maintenance does not appear promising as a sole long-term therapy for obesity." *Ward AS; Comer SD; Haney M; Fischman MW; Foltin RW*. Fluoxetine-maintained obese humans: effect on food intake and body weight. *Physiol Behav* Jul 1999;66(5):815-21.

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Beyond this change, a balanced ratio of unsaturated fatty acids to carbohydrate leading to fat intake of approximately 30% of total energy seems appropriate for the American public."

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"Traditionally, a low-fat high-carbohydrate diet was used to prevent CHD because it effectively reduces plasma cholesterol concentrations, but this dietary regimen increases plasma TAG concentrations and reduces HDL-cholesterol concentrations. There is substantial epidemiological evidence which demonstrates that high plasma TAG and low plasma HDL concentrations are associated with an increased risk of CHD." *Roche HM.* Dietary carbohydrates and triacylglycerol metabolism. *Proc. Nutr.Soc.* Feb.1999 58 (1) p201-7.

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There are 91 references listed. Be assured there exists to day many hundreds more. Perhaps one might ask their GP or Health minister in the light of the overwhelming evidence why are these strategies not promulgated and practiced by mainstream-medicine?

Author's Afterword

I have dedicated the past twenty years or more to making a difference. When the time arrives to pass over I shall know that for many I have made that difference.

I sincerely pray that you are one of those people. May the Divine Spirit be ever with you and thank you for sharing your time with me.

Geoffrey Leigh

Organization: Australian Institute for Functional Medicine

The Institute is committed to enhancing the health of all people through information sharing pertaining to the practice of Predictive-Preventive Medicine and the application of Clinical & Applied Nutrition and Traditional Medicine, as fostered by the World Health Organization, the sum total of which is Functional Medicine.

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The first of a series "The truth about" this book is not about the denigration of the doctor of today. It is about a different curriculum.

A curriculum researched, developed and practised about 450 years (BCE) by the alleged father of modern medicine, the Greek physician Hippocrates.

The Institute formed in 1981 by nutrition-oriented practitioners is devoted to the "original teachings", continuously confirmed, supported and broadened by the "masters" in particular, of the past seventy years.

Reading this book will certainly broaden the knowledge of the individual. Applying that knowledge will have a significant outcome in improving the overall health of the individual.

This book is the first of a series, the information of which, if applied, may improve the quality of life of the individual by at least 50%. It will serve the reader well to remember that.

The following Ebooks in the "Truth about" series will hopefully be completed at the rate of one book per month:

Fat Lies	Inflammatory Bowel Conditions
Hypothyroidism	Inflammation & Pain
Omega-3's and Life Extension	Irritable Bowel Syndrome
Hypothyroidism	Obesity
Children's Illness Conditions	Allergies
Heart Disease	ADD & ADHD
Pregnancy & Lactation	Cancer
Calcium & Osteoporosis	Skin Conditions
Alzheimer's	Life Skills & Coping Series
Relationship Enhancement (available soon).	Hormone Replacement Therapy

Metabolic Type Questionnaire

Taking a questionnaire to ascertain your Metabolic Type online usually costs U.S.\$170.00.

You can have the test emailed or posted together with CD, Floppy disk or booklet outlining all you need to know to apply the Super E plan for your Metabolic Type.

How much? Because you are already contributing to our organization through the purchase of this book it costs you only \$60

Ketogenic Diet

Our protocols include the Ketogenic Diet. Medically proven effective, and safe in weight management, with sustainable results.

However, unlike other weight loss programs the Ketogenic diet guarantees that the patient does not lose muscle, which is critical. This is achieved with supplemental Keto Oil patented and proven to facilitate weight loss and protect and build muscle. Keto Oil is CLA!

Do you feel devalued?

If you would like to receive our bi-monthly functional medicine newsletter, “Frontiers in Functional Medicine” or for advice re health concerns

Email: functionmed@optusnet.com.au

Visit our web site at www.health-care.org.au where you can learn how to help others and increase your income at the same time.

We are not-for-profit. All proceeds go to research and health promotion.

Who are Metagenics?

This Institute is committed to improving the health of the population. Where therapeutic and/or preventive nutritional supplements are required we use almost exclusively Metagenics because we know that they are the very best available.

The Metagenics Nutritional Science Team. The research and development team is the very heart of Metagenics' competitive advantage. Headed by Kim Krumhar, Ph.D., an acknowledged expert in the field of nutritional science, our team of research scientists, health care professionals and technical support members are constantly analyzing the huge amounts of data available from publications, journals, seminars, the internet and their vast network of personal contacts.

Innovation is the cornerstone of Metagenics.

Metagenics domestic and international patents include the following:

U.S. Patent #5,626,883

Ascorbic Acid Compositions Providing Enhanced Human Immune System Activity

U.S. Patent #5,531,989

Immunoglobulin and Fiber Containing Composition for Human Gastrointestinal Health

U.S. Patent # 5,744,134

Immunoglobulin and Fiber-containing Composition for Human Gastrointestinal Health

U.S. Patent #5,531,988

Bacteria and Immunoglobulin-containing Composition for Human Gastrointestinal Health

U.S. Patent #5,270,297

Improved Endurance & Rehydration Composition

U.S. Patent #5,292,538

Improved Sustained Energy & Anabolic Composition and Method of Making

Australian Patent #669003

Improved Sustained Energy & Anabolic Composition and Method of Making

U.S Patent #5,164,384

Anabolic Mineral Formula

Metagenics has funded projects at research facilities throughout the world, including:

- " Henry Ford Hospital
- " Washington State University
- " Drew University
- " Upsala University in Sweden
- " Wayne State University
- " University of Cincinnati
- " Medical College of Ohio
- " Thomas Jefferson University

Some of Metagenics research activities have led to the development of patented proprietary products such as: Ultra Potent C®, Ultra Flora Plus®, Endura®, and Endura Optimizer®.

Key Benefits

- Cutting Edge Medicine
- Original Research
- Total Quality

Further Information

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