



IMAGE AWARENESS WELLNESS INSTITUTE

Low Thyroid Function

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AUTOPSY

Gerard van Swieten was the personal physician of Maria Theresa. She asked him to study the problem of infant mortality in Austria. His recommendation resulted in a decree that all hospital deaths in the city of Graz, Austria's second largest city, be autopsied. At the time 98% of newborns were dying in Graz.

This law is still in effect today and has resulted in one of the most important and complete autopsy records in the world. The city of Graz is located in a goiter belt. The autopsy records have proved invaluable in providing insights into the nature of hypothyroidism or low thyroid function associated with inadequate iodine.

It is of more than passing interest that 40-50% of patients deaths were associated with diagnostic errors in the last 50 years. In 10% of the cases the cause of death was wrong. In 10% of the cases a doctor assigned a problem that did not exist and in 20-30% of the cases doctors missed a diagnosis. Even today these percentages have changed little in spite of modern diagnostic tools.

Dr. Broda Barnes became convinced in the 1930's that low thyroid function was associated with arterial damage and heart disease. He demonstrated this to his students by removing the thyroid glands of rabbits. The rabbits life span was cut in half

and the animals suffered recurrent infections and obvious arterial damage.

Barnes made yearly trips to Graz from 1958 until the 1970's to study the autopsy records, over 70,000 of them by 1972. Dr. Barnes learned that the entire population had subnormal body temperature. Almost the entire population suffered with atherosclerosis although the primary cause of death until the 1930's was infectious disease. By 1970 that had changed and the primary cause of death was no longer infections, but heart disease.

Barnes concluded that those with low thyroid function are susceptible to repeated infections. The development of antibiotics (1945-1970) improved the survival from these infections, allowing them to live long enough to die of the heart disease which was beginning in the population at a young age.

CHOLESTEROL

Cholesterol was originally dis-



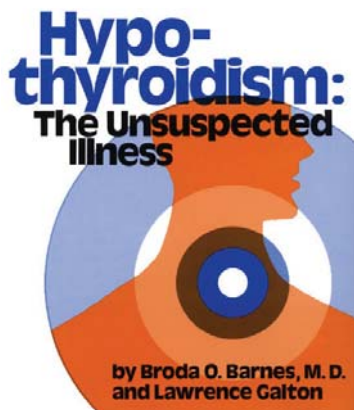
covered in gallstones. The gallbladder is a hollow organ which sits beneath the liver and serves as a repository for the bile produced in the liver. The bile is released in response to the consumption of a fatty meal. Bile aids in the digestion of fats.

Stones form in the gallbladder when the organ fails to empty frequently or when the bile acids become too concentrated. One category of gallstones consists primarily of cholesterol. These stones can be 70-80% cholesterol.

The word cholesterol is a combination of two Greek words meaning "solid bile." Cholesterol is a vital structural material for cells and plays an essential role in cell membrane permeability and fluidity. Cholesterol is important enough that each cell possesses enzymes which allows it to produce cholesterol if it is needed. In view of the importance of cholesterol for mammalian life it is interesting that this compound had achieved the reputation of being such a harmful compound. Cholesterol is not a critical nutrient for plant growth and so is not abundantly supplied by a vegetarian diet.

The highest concentration of cholesterol in the human body is found in the adrenal glands. Cholesterol is essential for production of adrenal hormones. Cholesterol is also essential for the health of the brain and nerves. The brain and spinal chord account for only 2 percent of the body weight but

Low thyroid function—how
it may be affecting your body,
your emotions, your life.



one-fourth of the body's cholesterol.

We should not be surprised that medications to inhibit cholesterol synthesis or utilization can negatively impact both the adrenal glands which help us cope with stress as well as the brain and nervous system.

Dr. Broda Barnes was among the enlightened physicians who understood the relationship between cholesterol and heart disease. He wrote, "It thus appears that not cholesterol feeding but rather feeding chemically changed cholesterol products not normally found in food produces artery disease in test animals."

Barnes did recognize that cholesterol accumulation was a by-product of a damaged circulatory system. He wrote, "...when an artery lining is normally healthy, cholesterol in the blood moves in and out of the lining, but when the lining is damaged, cholesterol can move in more readily than it can move out, and this happens even when blood cholesterol levels are normal."

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CHOLESTEROL AND THYROID

Lawrence Sonkin, M.D., Ph.D., was one of the pioneers of thyroid research. In one experiment he charted

one hundred consecutive patients with low thyroid function. He plotted basal metabolism and cholesterol on a graph and noted changes with treatment for low thyroid.

Basal metabolic rates increased from 10% to 35% in two-thirds of these patients. Cholesterol levels dropped from 25 to 200 points. Dr. Mark Starr notes, "During the first half of the twentieth century, prior to complete reliance on blood tests to diagnose hypothyroidism, elevated cholesterol was considered one of the hallmarks of hypothyroidism."

Early on it was suggested that elevated cholesterol be used to diagnose hypothyroidism. Research revealed that many hypothyroid individuals had normal or low cholesterol levels so the search continued for a better test. The result was our current testing.

Dr. Paul Dudley White was the famous early cardiologist who was appointed as Dwight D. Eisenhower's physician following his heart attack in 1955. White identified two characteristics of men who had survived a heart attack before the age of forty: a high blood cholesterol level and a low rate of basal metabolism often indicative of low thyroid.

Dr. White tried thyroid therapy on young men who suffered with heart disease. The patients felt better, cholesterol levels fell and anginal pain often improved.

Dr. White abandoned the therapy after cholesterol levels started to rise again. Broda Barnes learned of this study years later and comments that the dose of thyroid medication used by White was only 1/10 to 1/4 of a grain daily. These were very minute dosages which could hardly be expected to produce long term improvement.

Barnes wrote, "Had Dr. White been versed in thyroid physiology as he was in cardiology, we might long ago have had a broad medical profession and public awareness of

the role of the thyroid in coronary artery disease and heart attacks."

Many years before Dr. White's work Dr. L. M. Hurxthal of the Lahey Clinic in Boston had shown that thyroid hormone lowered cholesterol levels in most patients, while removal of the thyroid would result in elevated cholesterol levels.

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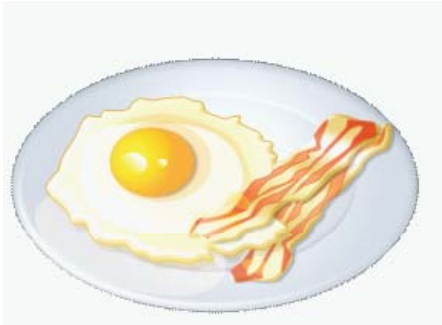
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DIETARY CHOLESTEROL

In previous newsletters I have pointed out that there seems to be little connection between cholesterol consumption and heart disease. Broda Barnes was well aware of this. He wrote of the diet of our forefathers where heart disease was rare, "Back then, much of the population lived on farms. Fresh dairy products and eggs were plentiful--and plentifully consumed. In winter meat could be preserved and fat meat was far more palatable than tough, lean meat. In summer, cured bacon and hams were supplemented with pork sausage fried down in lard. Butter then was spread thickly on breakfast hot biscuits and on bread. From milk cooled in the old springhouse, thick cream was skimmed and used on fresh or canned fruit. I can remember well a saying of my grandfather: 'Even shoe leather would taste good with cream and sugar on it.'"

"If a high-fat, high-cholesterol diet were as dangerous as alleged, it would seem that just about every farmer in those days should have died of a heart attack, leaving the rest of the world to starve to death. But farmers were not dying of heart attacks a century or two ago."

Dr. Barnes had no fear of fat. He encouraged his overweight patients to eat an abundance of fat meat, bacon, eggs, butter, and cheese. This



was in keeping with a reducing diet he had always found effective.

Dr. Barnes had his patients use thyroid hormone if they evidenced a need for it. According to the Framingham Study Barnes should have seen 72 heart attacks among his patients. In fact, he saw only 4. This is a 90% reduction from what the Framingham study would have predicted.

The thyroid glands provide half of the body's energy. Keeping these glands healthy and functioning well apparently helps maintain the health of the circulatory system and reduces the risk of heart attacks.

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THYROID CHALLENGE

With the importance of thyroid hormone in regulating high levels of cholesterol and preventing heart attacks the question naturally arises, "Why don't doctors treat high cholesterol levels with thyroid hormone more often?" The answer to this question is not simple.

Accurate thyroid testing is difficult and the typical form of hormone supplementation (synthroid) is often quite ineffective. Dr. Mark Starr points out that thyroid hormone may be available, but ineffective. He calls this Hypothyroidism Type 2.

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WHY LOW THYROID?

One very common pollutant which has been used medically to suppress thyroid function is fluoride. It is often added to water and to toothpastes to prevent dental decay. Other halogens like chlorine and bromine, which is added to white flour, can suppress thyroid function. All of these compounds tend to create an iodine deficiency. Iodine is the core mineral involved in production of thyroid hormones.

Many foods can also interfere with iodine availability. These include cabbage, cauliflower, kale, kohlrabi, mustard greens, rutabaga, turnips, soy, walnuts, peanuts, and millet. The high intake of millet in the third world may be responsible for the high incidence of low thyroid and goiter.

Many medications also have the ability to reduce thyroid function. Among these are sulfa drugs, antidiabetic medications, cough medicines, lithium, corticosteroids, aspirin, anti-depressant medications, prednisone, and estrogen (as found in birth control pills). Mercury which is added to dental fillings is also a powerful thyroid suppressant.

Nutrient deficiencies can also contribute to low thyroid. While iodine is the most important mineral for optimal thyroid function other nutrients can play a significant role. For example, selenium is involved in converting thyroid hormone to its active form. Deficiency of the mineral resulted in a 47% drop in thyroid hormone in rats.

Other nutrients essential for thyroid function include vitamins A, E, B2, B3, B6, and C and the minerals iron, zinc, copper, and the amino acid tyrosine. Essential fatty acids including phospholipids and omega-3 fatty acids have also been shown to improve thyroid function.

The minerals are particularly important for thyroid function. Modern agriculture fortifies soil with bulk elements like calcium, phosphorus,

nitrogen and potassium, but the micronutrients are often neglected. Micronutrients like iodine, selenium, copper and zinc are particularly important for thyroid function. GNLD's Multi-Mineral with Chelates is a particularly well-absorbed and complete source of mineral supplementation. The positive charges associated with minerals are neutralized by bonding the minerals with amino acids. This prevents the minerals from acting as free radicals in the digestive tract and dramatically improves absorption.

Enersine is a supplement built around the important amino acid tyrosine. This amino acid is the raw material for the manufacture of both adrenal and thyroid hormones. Oftentimes these two organ systems simultaneously operate less efficiently than they should. This is why enersine has gained a reputation of being a supplement which boosts energy.

Those with compromised thyroids and adrenals will also benefit from B Complex supplementation. The B vitamins are essential for energy formation in the body. We have a tendency to consume large quantities of sugars without the B vitamins we need to metabolize the sugars.

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AN IMPORTANT NOTE

One of the most common mistakes made in thyroid treatment is to supplement with thyroid hormone without taking into consideration the fact that increasing metabolic rate with thyroid hormone also increased nutrient requirements. One reason the body may downregulate thyroid hormone and metabolic rate is because the diet is lacking in adequate nutrition to maintain operation at a higher level. We feel better with a higher metabolic rate and are better able to ward off illness, but a higher metabolic rate requires a higher intake of nutrients to sustain itself. Failure to obtain these nutrients when supplementing with thyroid hormone will simply result in other types of health problems. Use of thyroid hormone requires nutritional support for the resulting higher metabolic rate.
SPOTTING HYPOTHYROID

Common symptoms of low thyroid include elevated blood fats, weight gain, intolerance to heat and cold, low body temperature, digestive difficulties, menstrual abnormalities, dry eyes and skin, loss of libido, blood sugar irregularities including diabetes, headaches,

frequent infections, chronic pains, autoimmune diseases, and fatigue.

Important medical tests for assessing thyroid function include the following: TSH, Free T4, Free T3, TPOab, and TgAb. The last two are tests to see if the body is producing antibodies which interfere the the functioning of thyroid hormones.

One of the best means of assessing low thyroid is basal metabolic rate, a measure of how much energy the cells of the body are producing.

Broda Barnes refined this test which involves measuring the temperature under the arm first thing in the morning before getting out of bed. A temperature below 97.8 suggested hypothyroidism. Women in the menstrual years need to measure the temperature on the second and third days of the period after flow starts.



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WEB RESOURCES

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