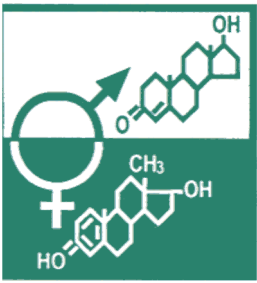


"Great spirits have always encountered violent response from mediocre minds."

-Albert Einstein



About the Editor:

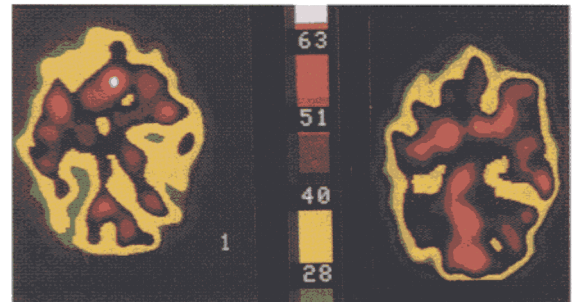
Dr. Mary Wilson is Medical Director of the New York Fertility Unit and Menopause Research Center. She promotes early ovarian cancer detection by using transvaginal sonography and color Doppler. She is in private practice in Manhattan.

From the Editor:

I was in the locker room changing for surgery. Dr. Lauren came in and said "Hi, Mary." I looked at her and could not believe it, she was bent forward and there was a metal plate stabilizing her back. She suffered from osteoporosis with vertebral fractures. "You should be on estrogen, Dr. Lauren" I said. "I can't take estrogen because of a history of breast cancer in my family" she answered. I saw her on and off with her hunch back, looking rather old. Two years later, when I had not seen Dr. Lauren for a while, I asked a nurse about her. "You don't know?" she said, surprised. "She is dying of breast cancer." This is a true story. Because of Dr. Lauren's belief that estrogen replacement therapy causes breast cancer, she had severe osteoporosis and poor quality of life, which ended prematurely from a very malignant breast cancer. She was the victim of misinformation. —Dr. Mary

After 6 weeks of estrogen replacement. Therapy (Premarin 2.5mg or 0.625) dramatic improvement in cerebral blood flow was demonstrated on single photon emission computed tomography (SPECT) scans, according to Dr. Robert Green of California. The greatest increase in blood flow was at the level of cerebral cortex where the SPECT scan demonstrated a mean increase of 9.2 ml. of blood per 100g of brain tissue per minute, or a mean increase of 22% over baseline. The brain function tests correlated with imaging findings. The greatest improvements were noted on tests for short term memory and verbal memory, which is consistent with the cerebral blood flow studies. It seems that estrogen enriches performance of the hippocampus, which is abundant in estrogen receptors and plays an important role in learning and memory.

SPECT Scans of Menopausal Women



Before estrogen replacement

After estrogen replacement

Is Your Brain On Estrogen?

Estrogen Enhances Brain Function By Improving Cerebral Vascular Perfusion

It also increases acetyltransferase and enhances synaptogenesis in memory centers of the brain. The research was carried out at Harbor- UCLA Medical Center in Torrance, CA.

OB/GYN News 06/1996

Estrogen Replacement Therapy (ERT) And Mental Performance.

Premarin, a mixture of ten different estrogenic hormones, gets its name from pregnant mare's urine, from which it is derived. A major component of Premarin, **Equilin**, with a low affinity for breast and uterine receptors, may be the key to preserving cognitive function not only in women but in men as well. **Equilin** increased the number of neurites and the number of nerve branches in the frontal, parietal, and temporal lobes. In contrast, 17Beta-estradiol inhibited temporal lobe nerve-cell growth. Dr. Roberta Diaz Brinton reported the results of these studies, at the annual meeting of the Society for Gynecological Investigation.

Dr. Brinton, a molecular pharmacologist, at UCLA, also reported at the International Alzheimer's Conference in Osaka, Japan, that Equilin was even more effective than estrogen in stimulating nerve-cell growth and branching in the brain. The greater the number of connections between brain cells, the better it can process information. In the journal of the American Geriatrics Society, July 1996, Dr. Stanley Birge, a geriatrician at the Washington University School of Medicine in St. Louis summarized the findings that support a role for estrogen as a preventive and treatment for dementia.

OB GYN News, 6/96

Nutrition News

A new bread called Burgen has been selling like hot cakes in Australia, where it was invented. Now it is available in England. Burgen bread is a whole grain loaf, containing soya and linseed—both rich sources of plant estrogen. You do not have to be a woman to eat this bread, it's good for the whole family.

Macadamia Nuts have a high ketogenic ratio (fat to carbohydrate) that suppresses the appetite and tends to result in your eating fewer calories a day.

One avocado contains 12 grams of carbohydrate, the same as 1/3 of an apple.

Wrinkled Mice

Wrinkled mice could hold the key to a new anti-aging sunscreens and skin treatments. Researchers at Thomas Jefferson University in Philadelphia have genetically engineered mice that contain human elastin DNA, the part of the skin that controls elasticity. Researchers will apply different sunscreens to the mice before exposing them to UVA and UVB rays. In humans, prolonged exposure causes elastin in the skin to form large clumps, making the skin leathery and wrinkled. The team has already seen similar reactions in the mice.

*From Bits and Bytes ,
London Sunday Times*

News from Japan

A team lead by Yoshinori Kuwabara, Professor of Obstetrics at Juntendo University, Tokyo, removed a goat embryo from its 17-week pregnant mother. The embryo was then placed in an artificial womb, an acrylic tank, where it grew and developed until the end of the normal 20-week goat gestation period. A number of baby goats have been born from the tank. The oldest one is now 6 years old.

Professor Kuwabara said "this system should be used on behalf of the mother who can not keep the fetus in her uterus." He believes that in ten years he will have made the move from animals to humans. The tank was filled with liquid at blood temperature, simulating the amniotic fluid in the real womb. The placenta was replaced by a machine to pump oxygen and nutrients into the embryo blood. The embryo was monitored by the open top and transparent sides of the tank.

The researchers are now working to sustain life in the tank using younger embryos. Dr. Winston, the British fertility expert from Hammersmith Hospital in London, told Sky News "the first impression is rather gruesome. When you think about it, it's really rather important. Let's make it quite clear, there's no way you could do this to a very early fetus. You could only do this towards the end of development when you are in the growth phase. A technique like this may well save many babies that would otherwise die."

The breakthrough conjures up visions of Aldous Huxley's *Brave New World*, where motherhood is rendered redundant by artificial conception and birth.

As reported by John von Radowitz, Medical correspondent, PA News

Our Menopause Research Center now has DEXA equipment for measuring bone mass density.

DEXA (Dual X-ray absorptiometry) is not only for menopausal women, but for anyone that might be losing bone mass due to bulimia, anorexia, colitis, Crohn's disease, polycystic ovary syndrome with prolonged periods of amenorrhea (no menstrual flow), or patients who are on glucocorticoids or other drugs that interfere with calcium absorption.

I'd like to introduce you to my sonographer, Susan Axamethy RDMS, who has been contributing to my success since 1983. Many fetuses have benefited from her prenatal sonographic diagnoses, which enabled the neonatologist to attend to the problem soon after birth. Susan does our OB sonographic evaluations, assists me with amniocentesis, and helps in general abdominal sonography. And now, let's hear from Susan.



- Dr. Marv

Welcome to Ultrasound!

Ultrasound is the best thing that has happened for women in a long time. The ability to see inside the body without surgery or radiation gives sonograms a special place in diagnostic imaging.

The human body, at 75% water, is a perfect medium for ultrasound. Over the years, the equipment has been improved by researchers and manufacturers striving to bring more information with sharper and more defined images. Dr. Wilson calls my scans "Sue sonos".

I was very fortunate as an X-ray technician to get the opportunity to train at Yale in the ultrasound program that only accepts four technicians a year to become Master Sonographers. Yale New Haven Hospital is a mecca of ultrasound technology information, with Dr. Kenneth Taylor as a pioneer and promoter of ultrasound from its infancy. My forte in ultrasound is teaching, and when I met Dr. Mary Wilson in 1982, she instantly revived my "Yale spirit" and we have been working together ever since.

I am celebrating my 20th year as a sonographer. I am challenged by Dr. Wilson's knowledge and expertise in obstetrics and gynecology and her accomplished skills in transvaginal sonography. Her never ending desire to continue to learn is a credit to the science and technology of medicine. She cares to know about her patients and that is the difference that her practice has over all others.

-Sonographically yours, Susan

Tamoxifen's Preventive Efficacy In Breast Cancer Questioned

Two new studies published in the July 11, 1998 issue of the Lancet called into question the efficacy of Tamoxifen and the prevention of breast cancer. Dr. Veronesi of the European Institute of Oncology in Milan, Italy reported preliminary findings from the Italian Tamoxifen prevention study showing that breast cancer rates are NOT reduced. The only significant benefit of Tamoxifen's treatment therapy was observed in a subgroup of women who were concurrently taking hormone replacement therapy, in whom tamoxifen prophylaxis significantly reduced the risk of developing breast cancer.

Meanwhile, Dr. Trevor Powles of the Royal Marsden NHS Trust in Surrey, England, reported that they, too, were unable to confirm the American findings of significant protection against breast cancer with tamoxifen prophylaxis. The British study

enrolled "2,494 healthy women aged between 30 and 70 with a family history of breast cancer." After 70 months of follow-up, women taking 20mg. per day tamoxifen developed breast cancer at the same rate as those taking a placebo.

This is the first study that used genetic criteria to determine breast cancer risk. The North American researchers used entry criteria based mostly on non genetic risk factors.

The Italian and British findings will put some doubt on the wisdom of the rush, at least in some places, to prescribe tamoxifen widely for prevention. The discrepancy in the results between Britain and America necessitates further trials to evaluate the long-term risks and benefits of using Tamoxifen in healthy women to see which women may gain the most benefit.

How to Increase Your Baby's Brain and Eye Development

What is DHA? DHA (docosahexaenoic acid, an omega-3 long chain polyunsaturated fatty acid), is a major component of the brain. DHA is supplemented in infant formulas, but not in the United States. Premature babies in the U.S. who are not breast fed are not receiving DHA in standard infant formula and may bear risk for developing neurological and/or visual disorders.

The human brain grows at a rapid pace during the late stages of fetal development and the DHA content of the fetal brain increases 3 to 5 times during the final trimester of pregnancy, and triples during the first 12 weeks of life.

DHA is crucial for pregnant and lactating women. It is abundant in breast milk, but DHA levels in breast milk in American women are among the lowest in the world. Fish such as, tuna, salmon, and sardines are rich sources of DHA, which is also found in mackerel, bluefish, halibut, herring, striped bass, Atlantic cod and flounder. Two to three servings of fish per week will maintain proper

levels of DHA. The purest source of DHA is not the fish itself but rather what the fish consume—the oceans' micro-algae. Egg yolks contain modest amounts of DHA.

The average American's diet is low in DHA because of a decline in consumption of fatty fish, organ meats and egg yolks. In recent years, scientists have developed techniques to extract DHA from micro-algae—the original source that the fish ingest.

For women who are breast feeding and don't eat fish, supplementation of DHA should be encouraged because of its importance for signal transmission in the brain, eye and nervous system. WHO/FAO (World Health Organization and United Nations Food and Agriculture Organization) recommended that DHA and arachidonic acid (ARA) be included in infant's formulas worldwide. Supplemented formulas are not available in the U.S.

(From Pregnant Physicians for DHA, Dr. Levine letter, publication of the Cornell Medical Center)

15-Month Old Baby Underwent World's First Gene Therapy Operation

The baby girl suffered from Hurler's disease, which is caused by a faulty gene. Her bone marrow was taken out and transported for treatment to a laboratory at the Peterson Institute at the Christie Hospital in Manchester. A normal gene was inserted into it, which hopefully will override the faulty one, and the marrow was then returned to her during the operation. It was the first gene therapy on this group of patients in the world. Children who suffer from Hurler's disease usually die before they are ten years old. It is still not known whether or not the operation worked, but the parents are very relieved that their daughter was given the chance to have this treatment because there was no other option for her and this was her only chance. AOL, Anjali Kwatra, PA News

Genetic Marker For Osteoporosis

Garvan Institute of Australia identified a genetic marker for osteoporosis. The vitamin D receptor gene or (VDR) responsible for conducting the receptors help cells utilize vitamin D. Dr. John A. Fisman (Nature, January 20, 1994) described individuals with variation of VDR gene identified as B has lower bone density (BB gene), bb gene, higher bone density.)

Cholesterol — is a vital substance in the body. Without cholesterol we could not produce sex hormones, bile, vitamin D, and crucial components of the immune system. The body has several control systems for cholesterol. If the blood level of cholesterol falls below a certain point, the liver compensates by manufacturing more. If the cholesterol blood level rises above a certain level, then additional cholesterol is converted into bile and excreted.

Walnuts are very rich in the omega-3 fatty acid alpha-linolenic acid. Raw, non-roasted walnuts are a great source of nonoxidized essential fatty acids and they can be a part of the diet of a cardiovascular disease patient (European Journal of Clinical Nutrition, 1998)

Vitamin B-6 may be useful in preventing oxalate kidney stones and acts as a mild diuretic.

Did you know that oral contraceptives and anticonvulsants interfere with folic acid absorption, therefore, they should not be taken together.

Why Not All Smokers Develop Lung Cancer

New research has been unveiled suggesting a single gene may determine whether or not a smoker develops lung cancer. Scientists have demonstrated that the gene provides vital defense against the toxic chemicals found in tobacco smoke.

The breakthrough was made by a team of scientists from Dundee, Glasgow and Edinburgh led by Professor Roland Wolf. According to Professor Wolf, it was shown for the first time that a single gene can be profoundly important in protecting us against cancer and that it is easier to manipulate one gene than many.

The gene provides the building instructions for making an enzyme called glutathione S-transferase. Laboratory mice from which the gene was removed, quickly developed tumors when tobacco smoke chemicals were applied to their skin. By removing the

gene, mice lost their protection against the chemical.

A similar gene was found in humans and was particularly important in the lungs and bladder, two places where cancer is strongly linked to smoking. Professor Wolf said, "the gene could be one reason why some heavy smokers escape lung cancer and live to a ripe old age, while others die young." Lung cancer is the biggest cancer killer of men, and is second only to breast cancer in women.

This research could be the starting point for discovering new cancer prevention therapies. One day a drug may be developed to protect people against lung cancer. Findings from the study were published in the Journal Proceedings of the National Academy of Sciences.

(As reported by John von Radowitz, Medical Correspondent, PA News.)

How to Fortify Male Reproductive Function

The amino acid arginine has been shown to raise sperm count and sperm motility. The recommended dosage is 2-4g a day. (Int Urol Nephrol, 15(2):195-203, 1983) Taurine, another amino acid, also may enhance sperm production and motility (2-4g a day).

Semen contains high concentrations of zinc. A good dietary source of zinc is pumpkin seeds. Pumpkin seeds also are rich in two other nutrients—the plant steroid beta-sitosterol (which binds to the testosterone receptor) and vitamin E (Weiss, R.F., Herbal Medications; 117,121,254, Beaconsfield, England, Arcanum Press 1988).

Vitamin E, ("tocopherol", from the Greek words tokos, meaning "offspring" and phero, which means "to bear"), is crucial to proper reproductive function in men and women. Vitamin E protects hormones from oxidation. Supplements of 400-800 IU a day may improve fertility for some men. (Hass E., Staying Healthy with Nutrition; 101-2 Berkeley, CA, Celestial Arts Public. 1992)

Avoid exposing the testes to excessive heat from jacuzzis, saunas or tight clothing. Evidence indicates that residues of the estrogens fed to cattle and poultry can interfere with human hormones. Furthermore, pesticides, plastics and other environmental

pollutants can bind to estrogen receptors in the body and depress both male and female infertility.

Foye, W., Principles of Medicinal Chemistry, 3rd edition:463. Philadelphia, PA; Lea and Febiger, 1989

News

Childless couples desperate to start a family are offered hope as it was disclosed that a pioneering fertility treatment could be available within months. The treatment involves adding chemicals known as growth factors to embryos within the first five days of fertilization to boost their chance of survival.

Professor Winston, of Hammersmith Hospital, London, claims the technique could dramatically increase the number of healthy embryos which survive the first week and then are implanted into the woman's womb. He said only 20% of embryos are capable of implanting and he believes that this could be because of the growth factor. "Our research shows that when we put the growth factor into the embryo, there are more cells in them and they are healthier. This is going to be a technique that could improve the success rate."

From the report of Rachel Ellis, AOL May 13, 1998)

Tooth Decay Vaccine

British scientists have developed a vaccine which stands a good chance of wiping out tooth decay. The vaccine, made in genetically altered tobacco plants, is simply painted on the teeth. After a few applications, it provides protection from tooth decay for months, and is completely safe for both adults and children. The tasteless liquid contains antibodies that attach themselves to tooth decay bacteria, preventing them from sticking to the teeth.

Professor Tom Lehner, one of the scientists heading the research, expected the breakthrough to lead to the eradication of tooth decay. Ultimately, it could be administered by patients themselves, possibly incorporated into toothpaste or mouthwash, though initially it will have to be applied by dentists.

Tooth decay is the second most common

Spina Bifida Cured in Womb

Dr. Scott Adzick was a part of a team that conducted experiments in sheep with spina bifida like defects. They found those that underwent operations early in gestation were more likely to be born with near-normal nerve function compared with those that had later surgical repair.

Spina bifida is caused by a gap in the spine causing the nerves of the spinal cord to bulge as a red lump on the surface of the back. Affected children can have paralyzed legs and incontinence as well as impaired intelligence.

After Melissa Kipfmiller's fetus was diagnosed with spina bifida at 16 weeks, instead of opting for abortion, she agreed for Dr. Adzick to perform the operation on her baby while still in the uterus. The complex surgery performed in the Philadelphia Children's Hospital involved C-section, during which, the spina bifida was repaired. Following surgery, the pregnancy progressed to 36 weeks, and the baby was delivered. He is now 2 months old and although it is still too early to predict, he can kick his legs.

Joseph Bruner, director of fetal diagnosis and therapy at Vanderbilt University Medical Center in Nashville, Tennessee, has attempted similar surgery on six older fetuses with encouraging results.

London Times, summary of correspondence from Lois Rogers, June, 1998

disease affecting humans. It is caused by the bacterium streptococcus mutans, which produces tooth eroding acid as it feasts on sugar coating the teeth.

The breakthrough came as a result of pioneering work producing antibodies from plants. Scientists found a way to transfer the antibody making gene from animals to tobacco plants, which are widely used in this field of research. The plants become living factories, producing large amounts of clean, safe vaccine. Eight small plants or one full grown plant provide enough vaccine for a single treatment.

This is the first time a therapeutic molecule made in genetically modified plants has been shown to have an effect on humans. It is also the first time a secretory-as opposed to a blood-vaccine has been used in human trial. The scientists predicted it would cost very little to produce the vaccine on a large scale from fields of tobacco plants. Professor Lehner said that the technique opened up endless possibilities for producing vaccines against a wide range of infections, including sexually transmitted diseases.

The team is working in collaboration with a California based company, Planet Biotechnology, which holds the license to develop the vaccine commercially. Clinical trials will start in San Francisco. Professor Lehner said he couldn't understand why no British company had seen the potential of the research.

Results from the four month patient trial of the vaccine were published in the journal of Natural Medicine, April, 1998.

Baby Diagnosed with Brain Hematoma While Still in the Womb

The patient was 28 years old, 30 weeks pregnant when routine ultrasound showed "something not quite right." An MRI was ordered and the baby was diagnosed with a subdural hematoma, a clot between his skull and brain. The baby was delivered by C-section one week prematurely. Neurosurgeon Paul May, of Alder Hey Children's Hospital in Liverpool, performed a life-saving craniotomy three days later. The baby is now doing well. Summarized from a report by Brony Warden, PA News

Is Your Body Absorbing Calcium

Calcium citrate is absorbed most readily; calcium oxalate most poorly. Taking calcium with a meal can interfere with absorption of iron. Some calcium supplements have a coating that resists gastric enzymes. To check this, drop the calcium pill in a glass containing 6 oz. of vinegar and stir every few minutes. If the tablet has not dissolved completely within 30 minutes, it probably will not do so in your stomach either.

Did You Know . . .

- Three 8 oz. glasses of milk have as much calcium as seven cups of broccoli. Moreover, milk is often fortified with Vitamin D. Salmon and sardines are also good calcium sources, providing the tiny bones are devoured along with the fish. Meats are poor sources because some of the proteins they contain bind to calcium before it is absorbed.

- The oxalic acid (oxalate) in spinach ties up about 95% of minerals so that it can not be absorbed.

- Foods high in dietary fiber, fat, phytic acid (found in wheat bran) and phosphates (found in brown rice) have been found to decrease calcium absorption. If you are a vegetarian or eat a lot of high fiber foods, you may need to increase your calcium intake.

(Harvard Women's Health Watch, Nov. 1994)

Most of the vitamin D in the body is stored in the skin and activated by sunlight; only 10% comes from food (fortified milk and fatty fish) vitamin D allows calcium to be absorbed into the bones. An SPF 8 sunscreen inhibits up to 98% of the skin's ability to activate vitamin D.

Excessive intake of vitamin A can result in toxic symptoms including redness of the skin and desquamation (excessive shedding of the skin). Polar bear liver contains toxic amounts of vitamin A—some arctic explorers who ate this liver lost the soles of their feet, as a result of vitamin A toxicity.

Eggs and Cholesterol

Where did the myth that eggs raise your cholesterol come from? From studies done over fifty years ago by The Cereal Institute. Those early studies used dried egg yolk powder, not whole eggs. And dried yolk powder, an oxidized form of egg yolk, is murder on your arteries. So forget all of that nonsense about eggs being bad for you. The egg yolk contains Lecithin (which emulsifies cholesterol) and 3-omega fatty acids (refer to "How To Increase Your Baby's Brain and Eye Development").

Why Should We Care About Homocysteine?

Studies show that individuals with high levels of homocysteine due to genetic metabolic defects often die of severe vascular disease in their teens or 20s. Even moderately elevated levels are associated with increased risk of cardiovascular disease. Participants in the Physicians Health Study with homocysteine concentrations greater than 15.8 micromol/L had a threefold increase in risk of myocardial infarction compared to men with normal levels, independent of other coronary risk factors. That study was based on a highly selected, low risk and generally well nourished population.

Homocysteine can often be normalized with nutritional supplements, particularly folate and Vitamin B6, and increased dietary intake of fruits and vegetables. You would have to consume five servings of fruits and vegetable a day (a minority of Americans) not to need supplementation. Vitamin supplementation at RDA level may be beneficial for the large segment of the US population not meeting dietary goals and in particular older persons and women of childbearing age.

Why Homocysteine Becomes Elevated

According to a Harvard University theory, "without adequate supplies of vitamin B6 and folate, methionine—an amino acid that is broken down in the body to cystathionine—cannot break down properly and instead turns into homocysteine, a very toxic substance. Homocysteine attacks the heart muscle and allows the deposition of cholesterol around the heart muscle.

They theorized that excess homocysteine is the actual cause of atherosclerosis and an adequate supply of vitamin B6 would prevent the accumulation of this toxic substance. Elevated homocysteine is a risk factor that can be modified, potentially preventing a fatal heart attack or disabling stroke.

Folic acid and vitamin B12 are also important in the remethylation cycle, which helps convert homocysteine back to methionine. Vitamin B6 helps in the conversion of homocysteine to cystathionine. The choice of doses were vitamin B6, 25mg; vitamin B12, 2.5 mcg and folic acid, 2.5 mg. A combination of those vitamins worked in 95% of all the cases studied. It has actually shown reversal of atherosclerotic plaque by reducing homocysteine levels. (The Lancet, January 4,

1998, Dr. J. David Spence: Stroke Prevention and Atherosclerosis, Research Center, London, Ontario). Recently, Carlson Laboratories in Illinois came up with the homocysteine lowering combination, TRI-B (25mg of B6, 800mcg of Folate and 400 mcg of B12).

New research reveals the association of heart attacks and strokes with homocysteine level. The higher your blood level of homocysteine, the higher your risk of suffering a heart attack. New studies from Harvard show that if you want to dramatically lower your risk of heart disease, you must decrease high levels of homocysteine. This discovery partly explains why so many "healthy" men with cholesterol levels between 180 and 200 have heart attacks.

There are several types of elevated homocysteine levels. The most dramatic, which leads to life threatening vascular abnormalities at a young age, is due to rare (genetic) enzymatic defects at various points in a metabolic pathway. High serum cholesterol levels are an important risk factor for coronary disease, but most patients with (heart attacks) have normal cholesterol levels.

New England *Journal* of Medicine, February, 1995 editorial by Meir J. Stampfer, M.D.

JAMA 12/8/1993; *Circulation* 1990,81:20046-Hyperhomocysteinemia a common and easily reversible risk factor for occlusive atherosclerosis.

News from England

The first soft drink to carry the seal of approval of Britain's dentists was launched in April. Ribina Tooth Kind is the first soft drink to be accredited by the British Dental Association (BDA). Accreditation means BDA experts confirmed maker SmithKline Beecham's scientific claims and entitles the drink to carry the organization's name and logo.

Until now, there have been no soft drinks that do not promote dental erosion or encourage tooth decay. The drink contains no added sugar and is lower in the fruit acids which have been blamed for helping to cause dental erosion. It is also high in Vitamin C. A 1996 survey for the health education authority showed dental erosion by acidic drinks and other sources of acids now affects 30% of thirteen year olds.

Ribina Tooth Kind can be purchased from Myers of Keswick, telephone: 212-691-4194.



A Short, Potted History of the Clan Sutherland

**Residence of the Chief, Elisabeth,
Countess of Sutherland:
Dunrobin Castle, Sutherland**

Clan Badge: the wild cat

Motto: Sans peur

**Battle Cry: The head of the little
bridge.**

The clan was known as "the clan of the cat" from the Viking. It is impossible to list all the turmoil, joy and fury surrounding the clan and its various chiefs. Suffice to list some interesting moments.

Clan Sutherland was involved in a skirmish on its southern border. Feuding enemies the Sinclairs took this opportunity to storm the cathedral city of Domoch (now famous for its golf course), seize the bishop and roast him. The result, a burning cross, summoned the clan's fighting men to muster at "the head of the little bridge", hence the clan war cry. The irate clan wrecked havoc on the Sinclair and their towns, plus a little roasting of their own.

The clan was renowned not only for its ferocity in battle but also for its wisdom when it came to preserving Sutherland lands. Robert Lee Bruce, the King of Scotland, was loosing to the English. So the clan sided with Edward I, King of England, but when the boot was on the other foot, and Bruce needed the Sutherland fighting power, he got it at Bannockburn, June 13, 1314, crushing the English army. Thus providing Scotland peace from "the old enemy" for almost half a century.

This peace was not maintained within Scotland's border. The clans feuded with each other, the claymore swung, the clash of steel upon steel rang out over the land. To be continued in our next issue.

Ian Wilson is a descendant of the Sutherland Clan from Scotland and is a freelance writer.

New Marker For Identifying Women At Risk for Breast Cancer

In a study conducted by Susan Hankinson, Sc.D., at Harvard Medical School's Channing Laboratory, premenopausal women up to age 54 or 55 with higher levels of insulin-like growth factor-1 (IGF-1) were more than twice as likely to develop breast cancer. The risk was even higher for women under age 50. No association was seen among postmenopausal women. (The Lancet, 1998:351:1393-1396)

IGF-1 is produced by the liver and helps cells grow while blocking natural cell death. It may also play a role in tumor growth. The researchers studied IGF-1 levels in serum samples from 620 healthy women and 397 patients diagnosed with breast cancer an average of four to five years after providing the samples. The participants were part of the Nurses Health Study.

Relative risk for breast cancer for women with IGF-1 levels was 2.88 among premenopausal women and 7.28 among those under age 50. Other studies have found that levels of IGF-1 dropped in women who take Tamoxifen.

Jeff Holly, Ph.D., a professor of surgery at the Bristol Royal Infirmary in Bristol, England, noted that the new study, as well as the previous one on prostate cancer, both add great weight to the theory of IGF-1 as a risk factor for cancer.

When the growth hormone is not functioning properly, cells can continue to grow and the cancer can develop. Patients with high IGF-1 levels and low binding protein 3 (IGFBP-3) tend to incur the greatest cancer risk.

If the study is confirmed and IGF-1 has a strong association with cancer, then we can think of designing ways of altering or avoiding cancer by controlling the hormone or other factors that control IGF-1 concentration. Significant improvement was noted in survival among women who had breast cancer resected in the luteal phase (post-ovulatory).

Estrogen Update

There is not a cell in the brain that is not estrogen sensitive directly. Every experimental study published so far indicates a life-long relationship between sex hormones and the brain.

Better Predictor for Prostate Cancer

Plasma insulin-like growth factor (IGF-1) and prostate specific antigen (PSA) values predict prostate cancer more accurately than PSA alone.

Ginkgo Biloba is the world's oldest living species of tree. Ginkgo leaf extract has been used in Chinese medicine for at least 5,000 years. Also known as the Maidenhair tree, Ginkgo thrived during the Dinosaur Age 250 million years ago. The trees grow to about 100 feet high and lives as long as 1,000 years or more. Its leaves have health enhancing qualities. The tree is resilient to insects, disease and pollution. Ginkgo Biloba extract contains natural ingredients—flavonoids, glycosides and ginkgolides. Numerous studies involving hundreds of geriatric patients with chronic cerebral insufficiency found improved brain function, mental alertness, memory enhancement, some regression of depression and fatigue. Also, Ginkgo in doses of 80mg, 3 times a day is useful for erectile dysfunction.

A New Pill To Double Weight Loss

Orlistat (Xenical) will help women to double their weight loss when dieting. An international trial of Orlistat was reported in The Lancet and the Journal's editorial described the study as "a milestone in the study to treat obesity effectively."

Orlistat is the first anti-obesity drug that is not a centrally acting appetite suppressant. It inhibits the lipases—the fat splitting enzymes—and reduces the absorption of dietary fat by 30%.

In the trial reported, 688 patients took an Orlistat tablet 3 times a day and were also put on a low calorie diet. Those who followed the diet and took Orlistat lost 10% of their body weight in a year, whereas those who only followed the diet, lost 6%. One year later, those patients that continue to use Orlistat regained only half as much weight as those who were given a placebo.

Possible disadvantages of Orlistat are likely to focus on the consequences of increasing the fat content of a patient's feces by 30%. The long term affect of this on the lining of the bowel can not be predicted.

While scientists from Roche have been working on fat absorption from the gut, neuroscientists from Yerkes Primate Research Center in the U.S. have been looking for a neurotransmitter that controls appetite. Such a neurotransmitter has been found and named the CART peptide.

Many chemicals in the brain regulate food intake but it seems likely that if one is neutralized, the brain will learn to compensate and the effect will not be lasting. Experiments

with rats have shown that those given CART lost their appetite. When the intake of CART as reduced, the appetite returned. However, rats are unlike human beings in that their appetite is prompted by hunger; ours is dependent on habit and social conditioning. CART was discovered while researching the effect of cocaine on the brain.

Hunger Hormones May Hold Key to Obesity

Scientists are predicting that weight could be controlled in the future with hormone treatment. American researchers have identified hormones in the brain they claim are responsible for controlling appetite. By manipulating the levels of two chemicals they believe eating could be inhibited, providing a direct means of controlling weight and eating disorders.

Scientists at the university of Texas Southwestern Medical Center, Dallas, conducted experiments on laboratory rats in which the hormones, orexin-A and orexin-B, were applied to the brains. The results showed the chemicals stimulated the rats' appetites, promoting them to eat more food than previously. When food intake was limited the rats were found to produce more of the hormones as they became hungrier. Tests are now under way to see if the rats' appetite can be decreased by inhibiting the hormone.

Woman's Point of View

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Key Points On Folic Acid

- Low folate levels are associated with the presence of stroke.
- Low serum folate is common in all types of dementia.
- Low serum folate associated with a history of weight loss, lower body mass index, and lower serum albumin concentration may reflect inadequate nutrition in cognitively impaired subjects.
- Folate is a co-factor for Homocysteine metabolism and individuals with low folate levels have increased serum Homocysteine. (See article on page 6.)

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