Leading Cause Of Death

"Malnutrition with resultant immunodeficiency and infection is the world's leading cause of death."

The Merck Manual, 17th Edition, 2000

Vitamin supplements protect against colon cancer: February 8, 2012

Multivitamin and minerals protect you against colon cancer – but only when you take supplements. Hoping to get all the nutrients we need from a 'balanced diet' just isn't good enough, despite what the doctor may say.

The supplements almost halve the risk, and help the immune system ward off carcinogens, or cancer-causing agents, say researchers from the King Saudi University in Riyadh, Saudi Arabia.

Although the results are based on tests with laboratory rats, the characteristics of colon cancer are similar to those found in humans. Two groups of rats were fed high-fat, low-fiber diets, but one was also given multivitamin and mineral supplements every day over a 32-week period.

Both groups were exposed to carcinogens, but only the non-supplement group developed pre-cancerous lesions; the supplement group had almost no lesions, and none developed into tumors.

The researchers believe the supplements worked synergistically to create a protective effect that would not be possible from eating a balanced diet, because much of the food we eat is depleted of nutrients, they say.

In an accompanying editorial, Dr Grant Pierce says the study points the way forward for everyone with cancer.

(Source: Canadian Journal of Physiology and Pharmacology, 2012; 90: 45-54).

Daily Supplement Protocol

All Around daily for Adults and Children

6 Catalyn

3 Multi- Mins

3 Linum B6 or 3 Tuna Oil

1 Boswellia Complex

4 Catalyn

1 Multi- mins

2 Tuna Oil or Linum B6

½ Boswellia

Fish oils reverse adolescents' learning problems and withdrawal: February 13,2012

Omega-3 fish oils are doing what drugs can't for adolescents – they're helping them overcome serious mental problems such as learning difficulties, forgetfulness, hearing voices and withdrawal. Around 300 adolescents with mental problems are showing "substantial improvements" after taking the supplements. Around one in 10 children suffers from a serious mental illness, and the ratio is higher in adolescents aged 12 years and older.
The study has been so successful that researchers from the Recognition and Prevention (RAP) program are extending it to treat adolescents and young adults aged up to 25 years with psychiatric problems.
The researchers say that omega-3 supplements are already a natural alternative to pharmaceuticals for the treatment of childhood mental problems.

(Source: The North Shore-Long Island Jewish Health System, February 8, 2012).

Autism is a gut problem – and can be reversed with a no-wheat, no-dairy diet

Autism can be improved – and even reversed – without drugs. Children just need to stop eating wheat and dairy, researchers have discovered this week – because the problem is related to the gut and immune system.

Children with autism may be more allergic, and have more gut problems, than other children – and this may be the key to reversing the problem, say researchers from Penn State.

When autistic children are given a gluten-free and casein-free diet – no wheat and no dairy - their symptoms improve. The Penn State researchers made the discovery when they asked 397 parents with autistic children to introduce a restricted diet. The parents reported big improvements in their children's social behaviour, language skills, eye contact and attention span.

Most doctors believe that autism is a neurological disorder, treatable with drugs.

(Source: Nutritional Neuroscience, 2012; February 16, 2012; doi: 10.1179/1476830512Y). **05 March 2012**

Researchers falsifying data to make dangerous drugs seem safe: January 18 2012

Researchers are deliberately falsifying data to make it seem that a drug is safe and effective. As a result, doctors who believe the 'science' are putting their patients' lives at risk by prescribing them the drug.

The practice is so widespread that some doctors and scientists are calling for a new regulatory body that solely roots out 'dirty science', which is usually undertaken at the behest of a study's sponsor, the manufacturer of the drug.

In a survey of 2,700 scientists and researchers, 13 per cent – or 351 – said they had direct experience of a colleague manipulating data to make it appear that a drug was safe or helpful when, in fact, it was useless or dangerous, or both.

The British Medical Journal, which carried out the survey, fears the UK may gain a reputation for 'dirty science' unless it creates more controls that are already being introduced in other countries.

(Source: British Medical Journal, 2012; 344: e14).

Bad science: - Why so many medical studies are flawed

- Doctors who point the finger at alternative medicine comfort themselves with the thought that, whatever its faults, conventional medicine is at least a science. Drugs and procedures are weighed and analyzed in strictly-controlled trials that are conducted by researchers who are beyond reproach.
  Sadly, this reassuring view is far removed from the real world. **A new study has discovered that a third of American scientists had been guilty of serious misconduct while undertaking medical research in the last three years. Misdeeds have included falsification of data, hiding or removing data that didn't fit the findings, and failing to reveal commercial links with the sponsor (usually a drug company).** More than 15 per cent also admitted changing the study's conclusions to meet the expectations of the sponsor. Not that there are many whistle-blowers among them. Many said they turned a blind eye when colleagues have falsified data.
  That's the trouble with conventional medicine. It's so unscientific

Forget the apologists, HRT is a major cause of breast cancer: February 28, 2012

HRT (hormone replacement therapy) is a major cause of breast cancer, researchers have established this week – kicking into touch recent efforts by doctors to resurrect the discredited treatment for post-menopausal women.

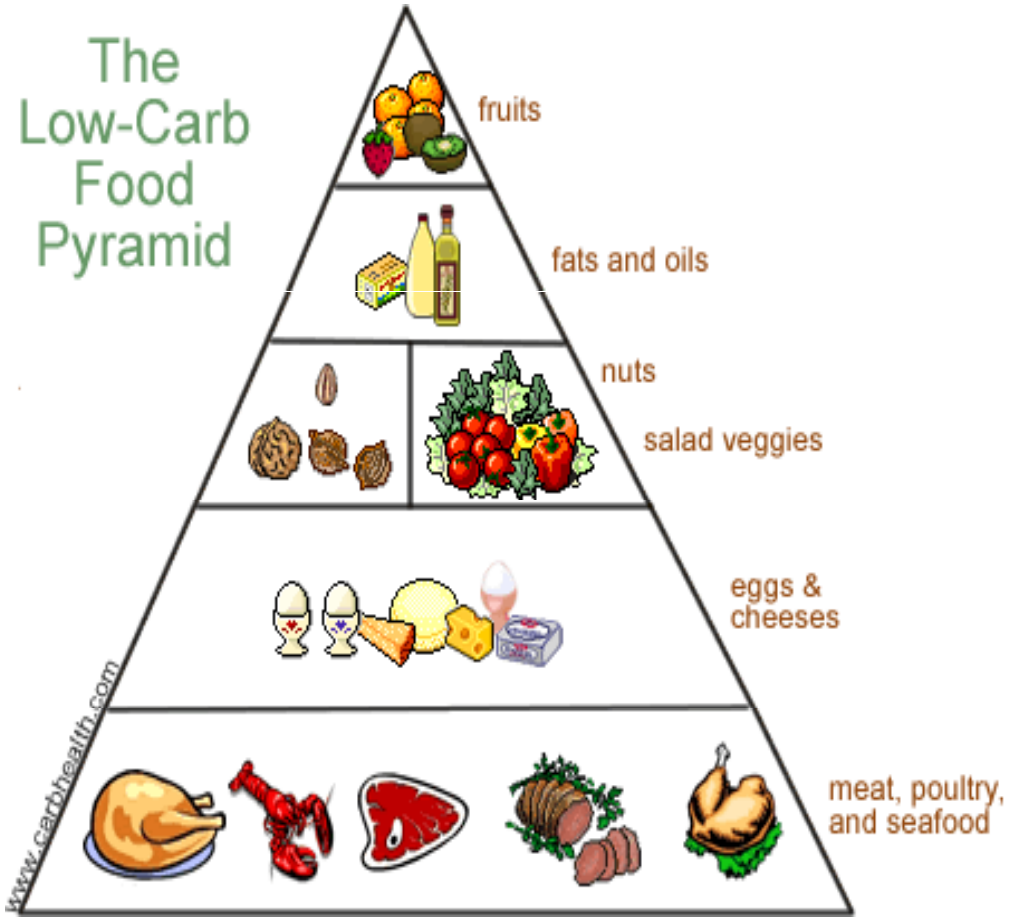
The number of cases of new breast cancers dropped dramatically in 2002, the year when the first major health alerts about HRT were published. The therapy appears to encourage tumour growth, say researchers from the Breast Cancer Surveillance.

Since the publication of studies into HRT dangers, some doctors have tried to restore the therapy to its former prominence by downplaying the cancer connection. One argument is that former HRT users have had less screening, and so cancers have not been detected.

But, says research team leader Diana Buist, the reverse is true: former HRT users tend to go for more screenings.

(Source: Cancer Epidemiology, Biomarkers & Prevention, 2012; doi: 10.1158/1055-9965).

The Dukan Diet by Dr. Pierre Dukan



Chiropractic and Alternative Health Services Web Page

www.wholehealthamerica.com/drkrygier

Web Page info:

- **Newsletter (Better Health News)**
- **Research**
- **Lecture topic**
- **New changes @ Office**
- **New Patient forms**

Curcumin inhibits formation of Abeta oligomers and fibrils and binds plaques and reduces amyloid in vivo.

- Curcumin was a better Abeta40 aggregation inhibitor than ibuprofen and naproxen, and prevented Abeta42 oligomer formation and toxicity between 0.1-1.0 muM.

- In vivo studies showed that curcumin injected peripherally into aged Tg mice, crossed the blood brain barrier and bound plaques. When fed to aged Tg2576 mice with advanced amyloid accumulation, curcumin labeled plaques and reduced amyloid levels and plaque burden.

- Hence, curcumin directly binds small ss-amyloid species to block aggregation and fibril formation in vitro and in vivo. These data suggest that low dose curcumin effectively disaggregates Ass as well as prevents fibril and oligomer formation, supporting the rationale for curcumin use in clinical trials preventing or treating AD.

J Biol Chem. 2004 Dec 7; GRECC (VA Medical) and Medicine, University of California Los Angeles, North Hills, CA 91343.
Yang F, Lim GP, Begum AN, Ubeda OJ, Simmons MR, Ambegaokar SS, Chen PP, Kayed R, Glabe CG, Frautschy SA, Cole GM.

OPENS CHEMICAL, PESTICIDE & HORMONE DETOX PATHWAYS

4 per day

2/2x per day on empty stomach

Magnesium, CoQ10, Lipoic Acid, Omega-3s and Selenium Benefit Heart Surgery Patients

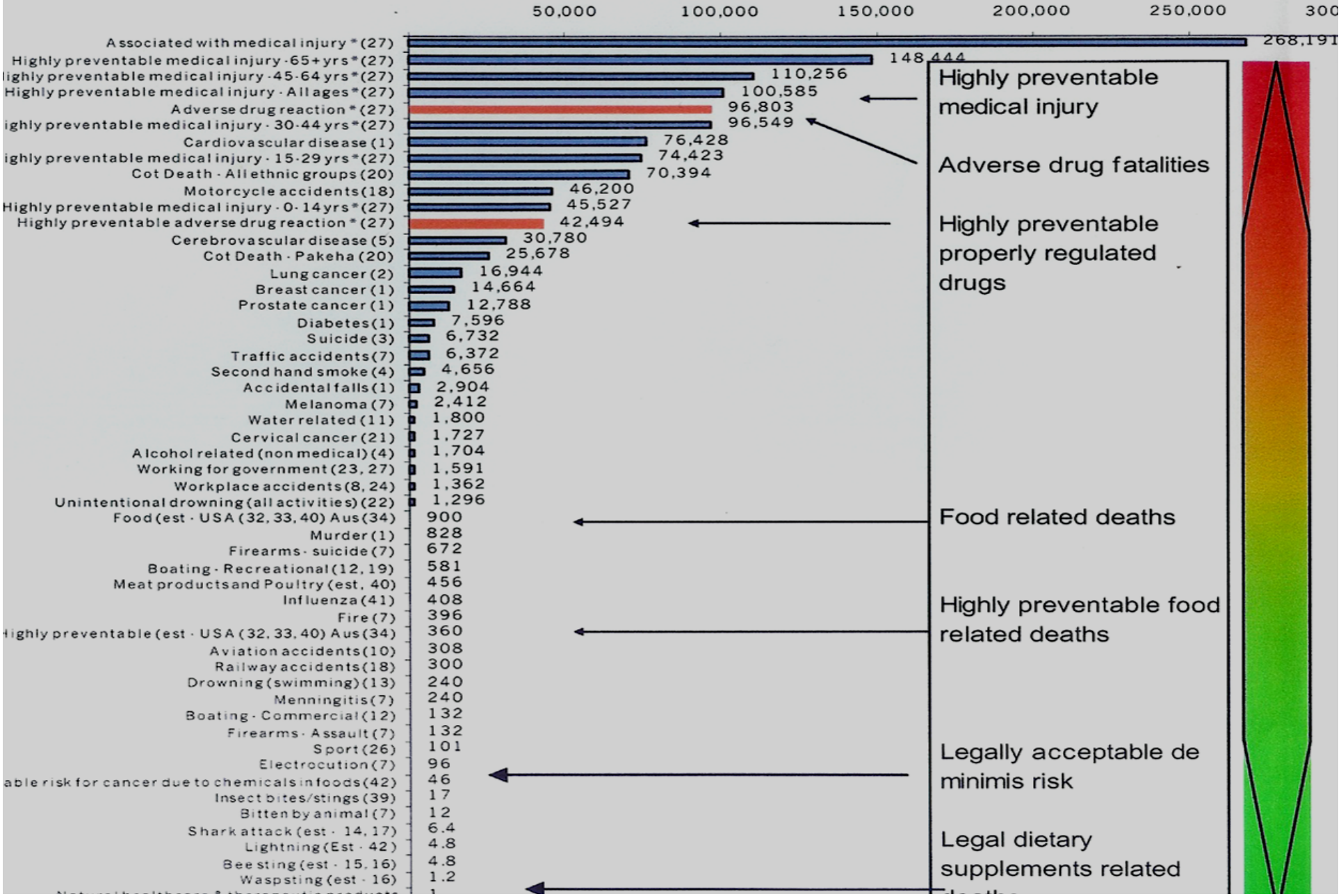
- We often hear doctors state that we are just wasting our money on nutritional supplements and that we can get all of our necessary nutrients from food. New Australian research has found, however, that for heart disease patients, some supplements provide dramatic benefits.

- This randomized, double-blind study involved 117 patients with an average age of 65. Participants were scheduled for bypass and/or valve surgery. For approximately 76 days prior to their surgery, one group was told to take coenzyme Q10, magnesium, lipoic acid, omega-3 fatty acids and selenium. The other group received a placebo.

- The researchers found that these supplements increased the patients' pre-surgery antioxidant levels, which protected them against the physical, mental and emotional stressors of surgery. Twenty-four hours after their surgeries, tests also indicated that the patients in the group who took nutritional supplements had lowered levels of troponin, a blood marker for potential heart damage. In addition, their average hospital stay was shortened by 1.2 days, dropping to 6.9 days from the 8.1 days of the patients who did not take supplements.

- The authors concluded last July in the *Heart, Lung and Circulation* journal that pre-operative therapy involving these supplements is safe and inexpensive, improves antioxidant levels, reduces heart damage and shortens hospital stays.

Risk relative to legal dietary supplements



Mexicans prove that calories have nothing to do with it – it's processed food that puts on the pounds: March 7th 2012

Good news for people who don't want to spend their lives in the gym in order to burn off the fat – they're wasting their time. Putting on weight is more to do with what you eat than how much, as researchers have demonstrated this week.

The real cause of weight gain and obesity is the Western diet of processed foods and drinks. To prove the point, researchers from the University of South Carolina compared the lifestyles and health profiles of first-generation and second-generation Mexicans now living in the USA. The second-generation Mexicans – who had adopted the standard American diet of fast and processed foods and sugared drinks – were 2.5 times more likely to be obese than first-generation Mexicans, who were still eating their traditional diet of corn, beans, meat, vegetables and fruits.

The study looked at the lives of 2,300 second-generation Mexicans aged between 12 and 19 years. They had all turned their backs on their traditional diets, and instead were eating processed foods high in saturated fat and sodium, and drinking sweetened beverages.

The results are yet another example to demonstrate that the standard calorie-intake model for weight gain and loss is simplistic.

(Source: Journal of Nutrition, 2012; 142: 298-305).

Functional Thyroid

Described first by Thomas Wharton (1616-1673)

Largest Endocrine Gland

Weighing 15 – 20 g

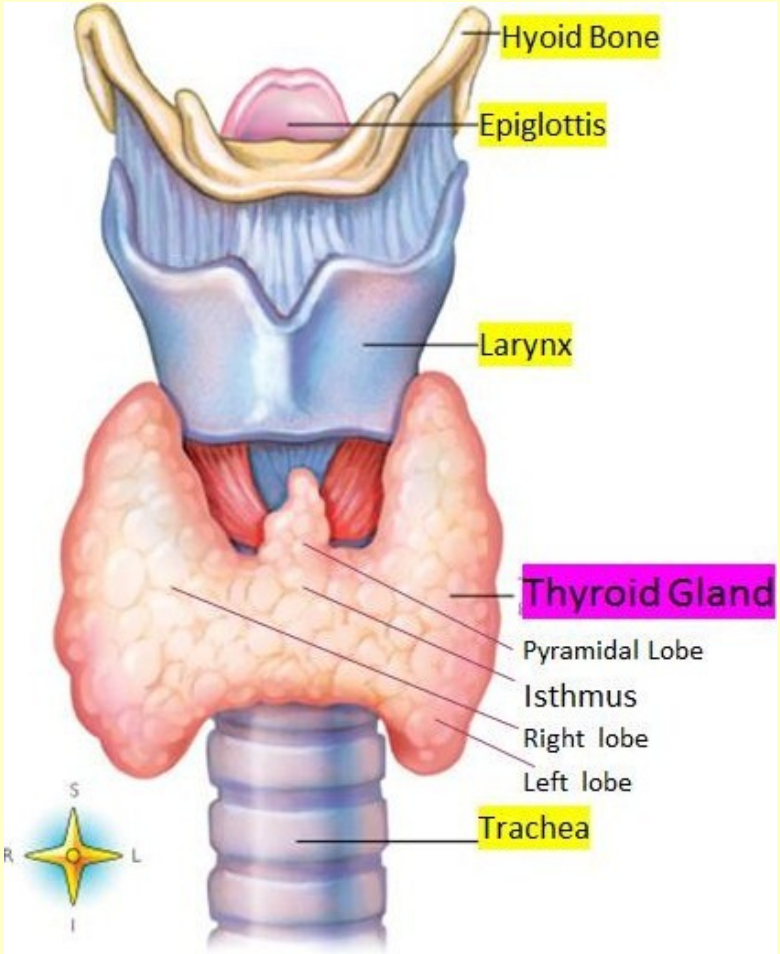
Highly Vascular (5 ml / g / min).

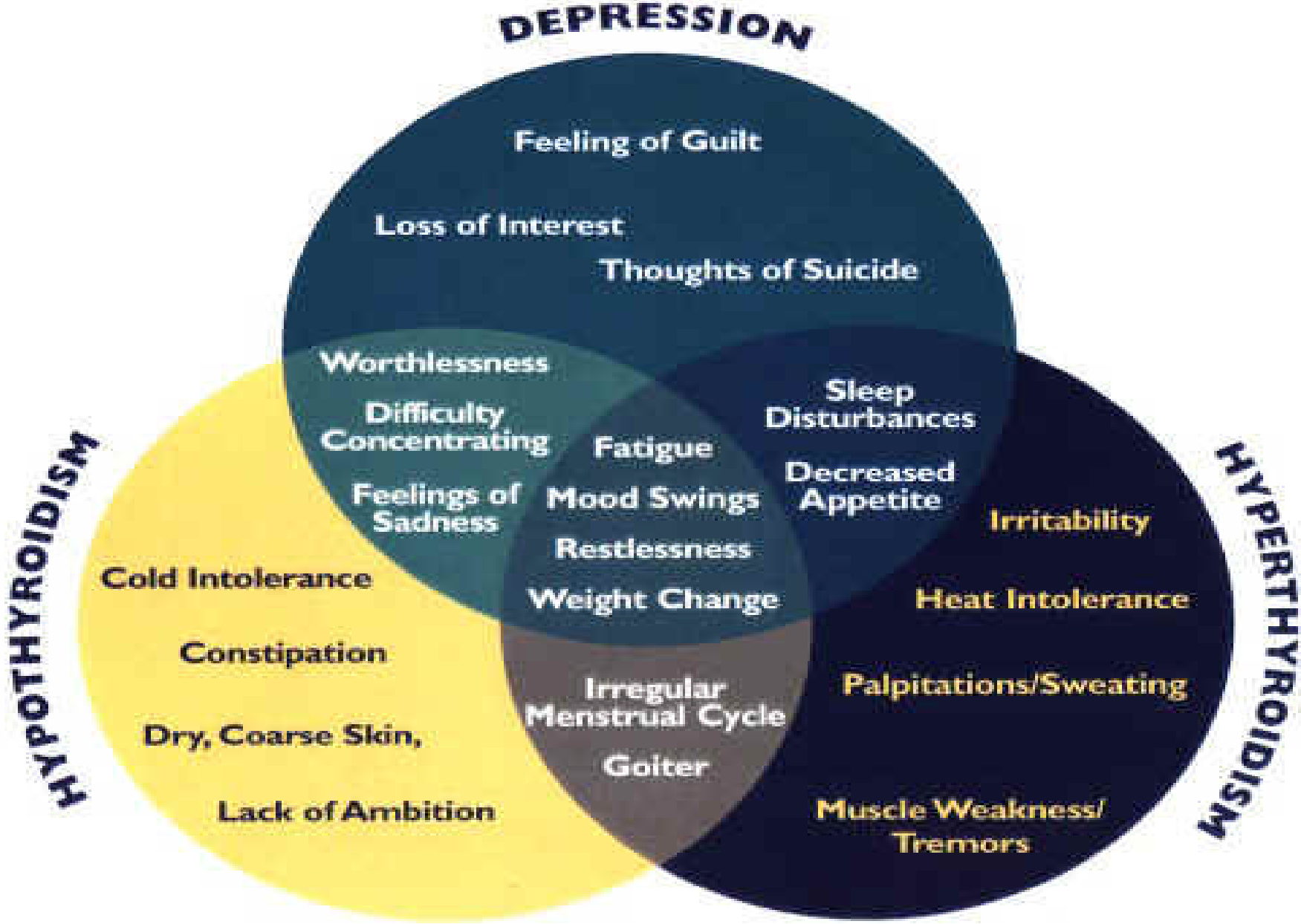
Thyroid : shield

Two lobes are connected by isthmus in front of the larynx

Receives highest rate of blood flow per gram of tissue

<u>Histologicaly</u> made up of multiple of closed follicles (acini): 100 – 300 µm.




DEPRESSION
Feeling of Guilt
Loss of Interest
Thoughts of Suicide
Worthlessness
Difficulty Concentrating
Feelings of Sadness
Fatigue
Mood Swings
Restlessness
Weight Change
Sleep Disturbances
Decreased Appetite
Irritability
Heat Intolerance
Palpitations/Sweating
Muscle Weakness/ Tremors
Irregular Menstrual Cycle
Goiter
HYPERTHYROIDISM
HYPOTHYROIDISM
Cold Intolerance
Constipation
Dry, Coarse Skin,
Lack of Ambition

HPTA-L Axis

- Hypothalamus (TRH)
- Ant. Pituitary (TSH)
- Thyroid (T4 and T3)
- Adrenal
- Liver (Most Conversion)

Hypothyroidism

1. *Hypothyroidism--(natural)*
2. *Hypothyroidism--after RAI treatment*
3. *Hypothyroidism--after thyroidectomy*
4. *Hypothyroidism--thyroiditis*
5. *Hypothyroidism--Hashimoto's*
6. *Hypothyroidism--with goiter*
7. *Hypothyroidism--TSH is normal with hypothyroid symptoms only*
8. *Hypothyroidism-- patients sensitive / alert to hormone replacement*
9. *Hypothyroidism—Thyroid gland completely destroyed by Total Thyroidectomy or RAI*

Thyroid Conditions

- **Goiter: A general term for thyroid swelling. Goiters can be harmless, or can represent iodine deficiency or a condition associated with thyroid inflammation called Hashimoto's thyroiditis.**
- **Thyroiditis: Inflammation of the thyroid, usually from a viral infection or autoimmune condition. Thyroiditis can be painful, or have no symptoms at all.**
- **Hyperthyroidism: Excessive thyroid hormone production. Hyperthyroidism is most often caused by Graves disease or an overactive thyroid nodule.**
- **Hypothyroidism: Low production of thyroid hormone. Thyroid damage caused by autoimmune disease is the most common cause of hypothyroidism .**
- **Graves disease: An autoimmune condition in which the thyroid is overstimulated, causing hyperthyroidism.**
- **Thyroid cancer: An uncommon form of cancer, thyroid cancer is usually curable. Surgery, radiation, and hormone treatments may be used to treat thyroid cancer.**
- **Thyroid nodule: A small abnormal mass or lump in the thyroid gland. Thyroid nodules are extremely common. Few are cancerous. They may secrete excess hormones, causing hyperthyroidism, or cause no problems.**
- **Thyroid storm: A rare form of hyperthyroidism in which extremely high thyroid hormone levels cause severe illness.**

Thyroid Tests

- Anti-TPO antibodies: In autoimmune thyroid disease, proteins mistakenly attack the thyroid peroxidase enzyme, which is used by the thyroid to make thyroid hormones.
- Thyroid ultrasound: A probe is placed on the skin of the neck, and reflected sound waves can detect abnormal areas of thyroid tissue.
- Thyroid scan: A small amount of radioactive iodine is given by mouth to get images of the thyroid gland. Radioactive iodine is concentrated within the thyroid gland.
- Thyroid biopsy: A small amount of thyroid tissue is removed, usually to look for thyroid cancer. Thyroid biopsy is typically done with a needle.
- Thyroid stimulating hormone (TSH): Secreted by the brain, TSH regulates thyroid hormone release. A blood test with high TSH indicates low levels of thyroid hormone (hypothyroidism), and low TSH suggests hyperthyroidism.
- T3 and T4 (thyroxine): The primary forms of thyroid hormone, checked with a blood test.
- Thyroglobulins: A substance secreted by the thyroid that can be used as a marker of thyroid cancer. It is often measured during follow-up in patients with thyroid cancer. High levels indicate recurrence of the cancer.
- Other imaging tests: If thyroid cancer has spread (metastasized), tests such as CT scans, MRI scans, or PET scans can help identify the extent of spread.

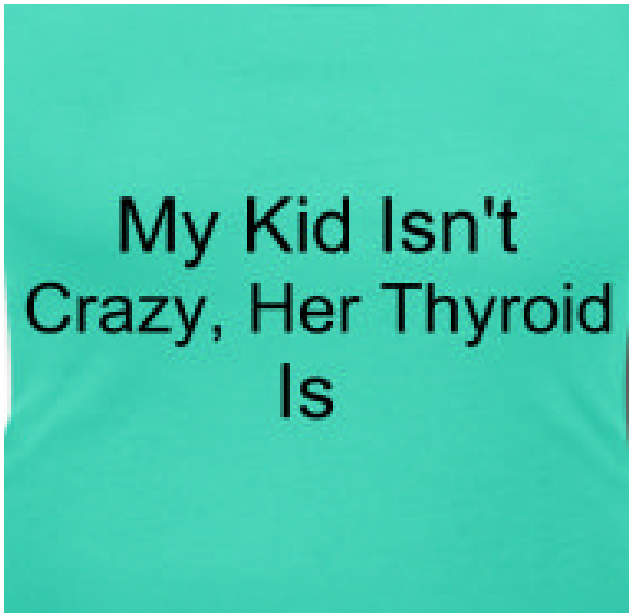
Subjective Thyroid Indicators

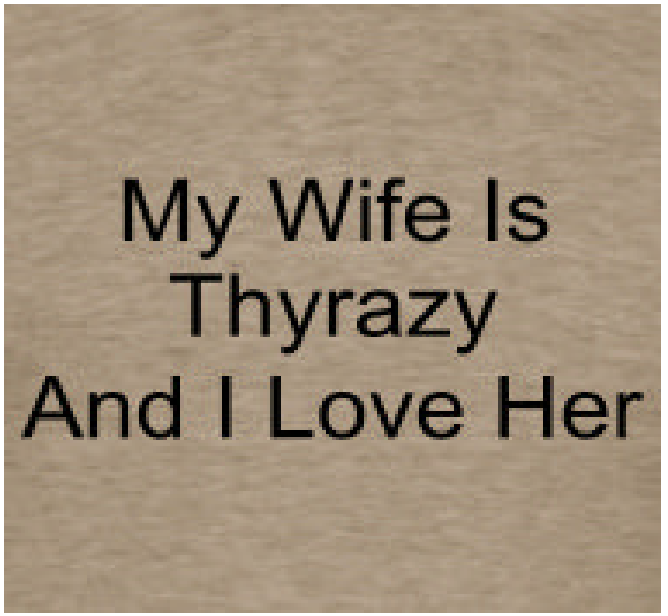
- Morning Headaches..
- Increase in weight while on diet.
- Overly Sensitive to cold weather.
- Dry brittle hair, hair falls out easily.
- Dry or itchy skin.
- Reduced initiative, mental confusion and poor memory.
- Ringing in ears due to LBP or PR
- Poor circulation, joint stiffness, numbness in hands or feet.
- Yellow palms
- Coarse skin-especially heels
- Inability to get fever.

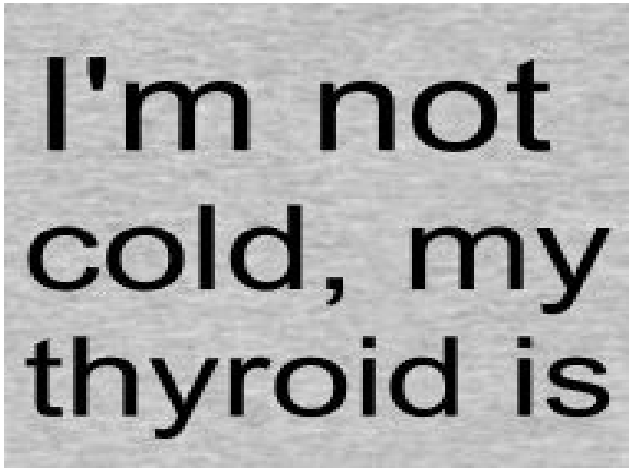
Subjective Thyroid Indicators

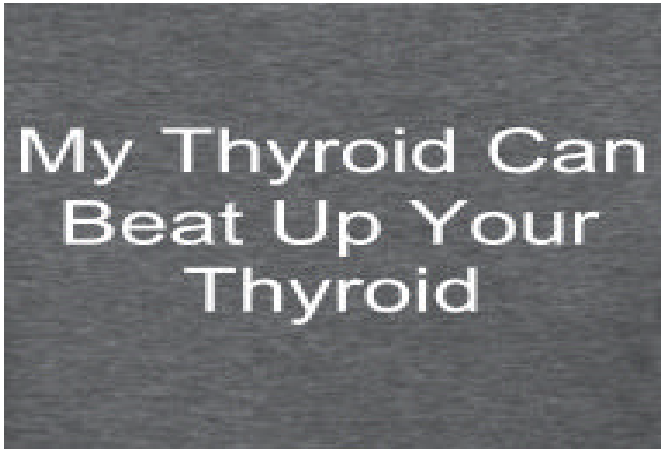
- Low axillary temperature (97.8 - 98.6)
- Muscle cramps while at rest.
- Catches infection and difficult recovery.
- Wounds heal slowly
- Require excessive amount of sleep to function normally.
- Chronic digestive problems.
- Edema especially facial.
- Loss of outside portion of eyebrows.
- Constipation
- Depression

http://dearthyroid.spreadshirt.com/p3









Hypothyroidism - Signs and Symptoms

Symptoms	%	Symptoms	%	Symptoms	%
❖ Weakness	99	Thick tongue	82	Dyspnea	55
❖ Dry skin	97	Facial edema	79	Peripheral edema	55
❖ Coarse skin	97	Coarse hair	76	Hoarseness	52
❖ Lethargy	91	Skin pallor	67	Anorexia	45
❖ Slow speech	91	Memory loss	66	Nervousness	35
❖ Eyelid edema	90	Constipation	61	Menorrhagia	32
❖ Feeling cold	89	Weight gain	59	Palpitations	31
❖ Less sweating	89	Hair loss	57	Deafness	30
❖ Cold skin	83	Lip pallor	57	Precordial pain	25
				Galactorrhea	

modified from Means, 1948

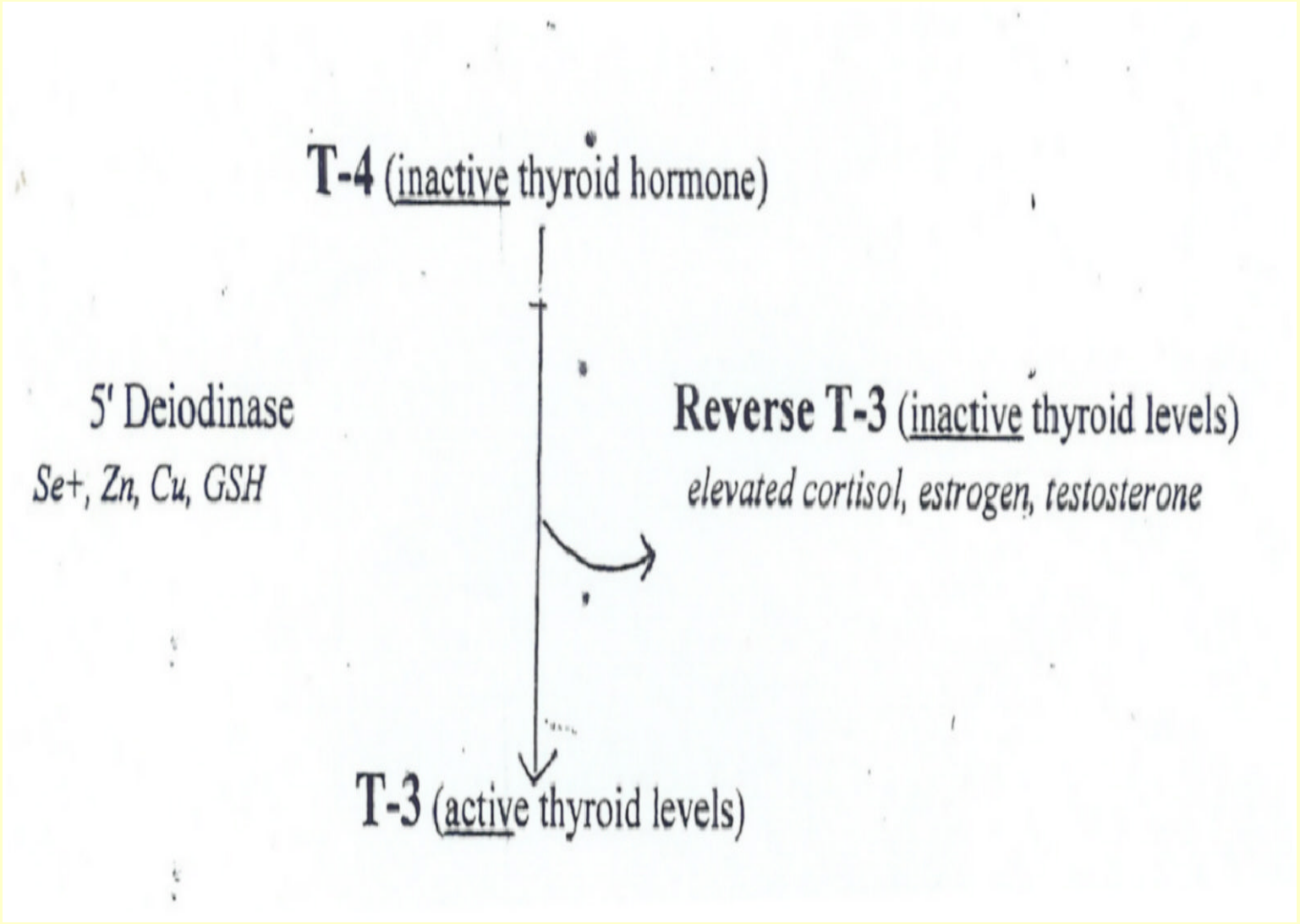
Frequency of Cutaneous Findings in Hypothyroidism*

Cutaneous Manifestations	Frequency (%)
Cold intolerance	50-95
Thickening & dryness of hair & skin	80-90
Edema of hands, face, and/or eyelids	70-85
Malar flush	55
Pitting-dependent edema	30
Alopecia (loss or thinning of hair)	30-40
Eyebrows	25
Scalp	20
Pallor	25-60
Yellow tint to skin	25-50
Decrease or loss of sweating	10-70

***modified from Freedberg and Vogel in Werner's and Ingbar's The Thyroid 6th ed.**

Thyroid function

- Lack of thyroid function decreases B12 absorption.
- It is necessary for carotene to Vitamin A
- It is essential for normal menstrual cycles and fertility.
- Increases tissue dilation for more circulation into the cells.
- Reduces reflex reaction time.
- Normalizes breast milk secretion.
- Lack of thyroid secretion in children causes defective myelin nerve sheath and mental retardation.


T-4 (inactive thyroid hormone)
5' Deiodinase
Se+, Zn, Cu, GSH
Reverse T-3 (inactive thyroid levels)
elevated cortisol, estrogen, testosterone
T-3 (active thyroid levels)

Convert T4 to T3

(5’ Deiodinase **inhibitors**)

- Selenium, Copper, Zinc Deficiency
- Starvation
- Stress (Cortisol)
- Inadequate Protein,
- High Carbohydrate Intake
- Chronic Infection
- Liver or kidney detoxification disrupted
- Cadmium, Mercury, Lead Toxicity
- Synthetic Hormones (Estradiol, Esterone)

Accelerators of T4 to T3 Conversion

- Minerals: Selenium, Potassium, Iodine, Iron
- Vitamins: A, B2, E
- Hormones: Growth hormone, androgens, insulin, glucagon, cortisol, melatonin.

Low T3 and High rT3

- Stress
- Fasting
- Anabolic hormone deficiency
- Immune activation (IL-6, TNF, IFN-2)
- Toxic Metal Exposure
- Diabetes
- Oxidative damage
- Aging

Important Point

- T4 is also converted to rT3 which is metabolically inactive but binds to same receptor as T3.

Glandular Supplements

"Glandular's are very effective tool for rebuilding and improving the function of glands and tissues." By supplying the specific protein configuration and other raw materials (nutrients known and unknown) needed by the gland, that gland has a better chance of regulating its hormone output and thus functioning properly. Such glandular feeding supports biochemical balance of both underactive and overactive conditions, getting to what is often the underlying cause of the imbalance or dysfunction."

Avoid

- Bromide, chloride and fluoride.
- Avoid Broccoli, Cauliflower, Kale, Brussels Sprouts, Cabbage, Mustard Greens, Radishes, Spinach, Strawberries, Peaches, Soy Based Foods and Peanuts.
- Avoid colorings and food preservatives.

The Celiac/Autoimmune Thyroid Connection

By Mary Shomon, About.com Guide

Updated October 17, 2008

Celiac disease is a disorder that causes the intestines to react abnormally to gluten, a protein found in wheat, rye, barley, oats, spelt, kamut, and other related grains.

"...researchers found that...organ-specific autoantibodies (i.e., thyroid antibodies) -- will disappear after 3 to 6 months of a gluten-free diet."

Impact for Thyroid Patients

This is important information for autoimmune thyroid disease patients (Hashimoto's Diseae, Graves' Disease) , who are typically told that there is nothing that can be done to reduce antibody levels, or to improve the "autoimmune" aspect of their thyroid conditions. While some recent books have reported on the impact of diet and nutrition on antibody levels, this research demonstrates scientifically how diet may in fact have a major role in autoimmune reactions.

To diagnose celiac disease, your doctor can do a blood test to measure the levels of antibodies to gluten. These antibodies are called antigliadin, anti-endomysium, and antireticulin. A preliminary diagnosis of celiac disease can be confirmed by the results of your going on a totally gluten-free diet, or, in more extreme cases, an intestinal biopsy.

Wheat: Glutein and Gliadin

- What explains the connection? It's a case of mistaken identity. The molecular structure of gliadin, the protein portion of gluten, closely resembles that of the thyroid gland. When gliadin breaches the protective barrier of the gut, and enters the bloodstream, the immune system tags it for destruction. These antibodies to gliadin also cause the body to attack thyroid tissue. This means if you have AITD and you eat foods containing gluten, your immune system will attack your thyroid.

Autoimmunity. 2005 May;38(3):235-45.

Infection, vaccines and other environmental triggers of autoimmunity.

Source

Department of Medicine B and The Center for Autoimmune Diseases, Sheba Medical Center, Tel-Hashomer, Israel.

Abstract

The etiology of autoimmune diseases is still not clear but genetic, immunological, hormonal and environmental factors are considered to be important triggers. Most often autoimmunity is not followed by clinical symptoms unless an additional event such as an environmental factor favors an overt expression. Many environmental factors are known to affect the immune system and may play a role as triggers of the autoimmune mosaic. Infections: bacterial, viral and parasitic infections are known to induce and exacerbate autoimmune diseases, mainly by the mechanism of molecular mimicry. This was studied for some syndromes as for the association between SLE and EBV infection, pediatric autoimmune neuropsychiatric disorders associated with streptococcal infection and more. **Vaccines, in several reports were found to be temporally followed by a new onset of autoimmune diseases. The same mechanisms that act in infectious invasion of the host, apply equally to the host response to vaccination. It has been accepted for diphtheria and tetanus toxoid, polio and measles vaccines and GBS. Also this theory has been accepted for MMR vaccination and development of autoimmune thrombocytopenia, MS has been associated with HBV vaccination.** Occupational and other chemical exposures are considered as triggers for autoimmunity. A debate still exists about the role of silicone implants in induction of scleroderma like disease. Not only foreign chemicals and agents have been associated with induction of autoimmunity, but also an intrinsic hormonal exposure, such as estrogens. This might explain the sexual dimorphism in autoimmunity. Better understanding of these environmental risk factors will likely lead to explanation of the mechanisms of onset and progression of autoimmune diseases and may lead to effective preventive involvement in specific high-risk groups. So by diagnosing a new patient with autoimmune disease a wide anamnesis work should be done.

PMID:

- 16126512
- [PubMed - indexed for MEDLINE]

FDA Sued Over Thyroid-Damaging Toxins in Antibacterial Soap

By Mary Shomon, About.com Guide **August 19, 2010**

- The Natural Resources Defense Council (NRDC) has announced that it is suing the U.S. Food and Drug Administration (FDA), alleging that the FDA has failed to regulate toxic chemicals that are found in antibacterial soaps and other toiletry products. According to the NRDC, two toxins -- triclosan and triclocarban -- act as endocrine disruptors, damaging reproductive organs, affecting the quality of sperm and interfering with the production of thyroid and reproductive hormones.
- According to the FDA, triclosan safety is currently being reviewed, but the agency says there is no evidence that these products are dangerous.
- At the same time, the Centers for Disease Control and Prevention (CDC) has recently released data showing that levels of triclosan have increased in humans by an average of 50 percent since 2004. And a new study has shown that both triclosan and triclocarban can enter the food chain through via contaminated wastewater or fertilizer used in agriculture.

Factors Affecting Endocrine Dysfunction

Endocrine Disruptors

- Pesticides
- Dioxins
- Fluoride
- Organochlorines
- Chlorinated benzenes

New Study Suggests Perchlorate is Thyroid Danger to 44 Million American Women

By Mary Shomon, About.com Guide

Updated October 05, 2006

- Researchers at the Centers for Disease Control and Prevention (CDC) have just released findings that show that American women -- and especially women with low iodine intake -- are at risk of hypothyroidism due to common exposure to the toxin perchlorate. For years, there have been concerns about perchlorate's effect on the thyroid. (I've been covering it for almost a decade here at the About.com Thyroid Site.) The subject is controversial, however, as government regulators, environmental groups, citizen advocates, the military, and defense contractors responsible for the contamination have gone back and forth over the actual health effects, guidelines for safe standards, and how much perchlorate is acceptable in our food and water.
- In a study released in 2005, a National Academy of Sciences panel determined that perchlorate affects the thyroid's ability to absorb iodine, but that the effects would only occur with exposure to high levels of perchlorate. This new CDC study, however, shows that not only is perchlorate exposure pervasive, but for the first time, has demonstrated that ***even low levels of perchlorate exposure -- levels common to many Americans -- can have harmful health effects on the thyroid***.
- Perchlorate is a byproduct of rocket fuel production that has been found to contaminate parts of the nation's drinking water supply, as well as fruits, vegetables and grains irrigated by perchlorate-contaminated water, and milk and milk products from cows that grazed on contaminated grasses.
- Perchlorate can inhibit the thyroid's ability absorb iodine from the bloodstream. Iodine is a building block of thyroid hormone. Low iodine levels, and/or the gland's inability to absorb iodine, can prevent the thyroid from producing enough thyroid hormone, resulting in an underactive thyroid -- hypothyroidism. Hypothyroidism can cause weight gain, fatigue, depression, infertility, miscarriage, and is considered a risk factor for heart disease. Babies of mothers who are hypothyroid are at increased risk of cognitive and developmental problems, or, in more severe cases, cretinism and birth defects
- . According to the CDC, the median level of perchlorate found in urine was 2.9 micrograms per liter (a microgram per liter is equal to 1 part per billion). With average urine output at about 1.5 liters per day, this translates to around 5 micrograms of perchlorate per day being ingested. Even at this low level, there were negative effects seen on the thyroid. ***The federal "safe dose" level, however, is almost ten times this dose.***

- **According to the Environmental Working Group, the CDC has found that perchlorate levels in water as low as 3 parts per billion — think of one teaspoon of water in an Olympic-sized swimming pool — can have an effect on women's health.**

The role of polyhalogenated aromatic hydrocarbons on thyroid hormone disruption and cognitive function: a review.

Thyroid hormones (TH) are essential to normal brain development, influencing behavior and cognitive function in both adult and children. It is suggested that conditions found in TH abnormalities such as hypothyroidism, hyperthyroidism and generalized resistance to thyroid hormone (GRTH) share symptomatic behavioral impulses found in cases of attention deficit hyperactivity disorder (ADHD) and other cognitive disorders. Disrupters of TH are various and prevalent in the environment. This paper reviews the mechanisms of TH disruption caused by the general class of poly halogenated aromatic hydrocarbons (PHAH)'s acting as thyroid disrupters (TD).

PHAHs influence the hypothalamus pituitary-thyroid (HPT) axis, as mimicry agents affecting synthesis and secretion of TH. Exposure to PHAH induces liver microsomal enzymes UDP-glucuronosyltransferase (UGT) resulting in accelerated clearance of TH. PHAHs can compromise function of transport and receptor binding proteins such as transthyretin and aryl hydrocarbon receptors (Ahr). Glucose metabolism and catecholamine synthesis are disrupted in the brain by the presence of PHAH. Further, PHAH can alter brain growth and development by perturbing cytoskeletal formation, thereby affecting neuronal migration, elongation and branching. The complex relationships between PHAH and cognitive function are examined in regard to the disruption of T 4 regulation in the hypothalamus -pituitary-thyroid axis, blood, brain, neurons, liver and pre and postnatal development.

Drug Chem. Toxicology. 2004 Nov; 27 (4):405-2

Chemicals linked to cat thyroid disease

Scientists from the U.S. Environmental Protection Agency have linked an epidemic of cat thyroid disease with common household flame retardants.

The chemicals known as polybrominated diphenyl ethers, or PBDEs, mimic thyroid hormones. They are commonly found on furniture cushions, electronics, mattresses and carpet padding.

Janice Dye and Marta Venier of the EPA's National Health and Environmental Effects Research Laboratory in North Carolina, wrote in their study published in the journal Environmental Science & Technology they tested 23 cats, including 11 with hyperthyroidism. They found the cats with hyperthyroidism had substantially higher levels of a PBDE compound, the Los Angeles Times reported.

"We know there is an association between indoor living for cats and hyperthyroidism," said Linda Birnbaum, a senior author of the study and the EPA's director of experimental toxicology.

The report said the study raises human concerns as well, as toddlers who crawl on floors and put objects in their mouths can also be highly exposed to the chemical-tainted dust, which is found in most U.S. homes.

Science Daily :RESEARCH PARK TRIANGLE, N.C., Aug. 16 (UPI)

Characterization of a Recombinant Yersinia enterocolitica Lipoprotein; Implications for its Role in Autoimmune Response against Thyrotropin Receptor.

Autoimmune Graves' disease (GD), which is characterized by hyperthyroidism, is mediated by autoantibodies to the thyrotropin receptor (TSHR). Yersinia enterocolitica (Ye.) has been shown to produce a lipoprotein (LP) that can cross-react with the TSHR and thus can act as a potential trigger of thyroid autoimmunity. In this study, to further characterize LP, we cloned the LP gene from Y. enterocolitica and expressed a recombinant LP. This recombinant LP was mitogenic for C3H/HeJ (LPS hyporesponsive) B cells and induced production and secretion of significant levels of IL-6 from splenocytes. A mouse antibody generated against the recombinant LP cross-reacted with TSHR as shown by western blot analysis. F ACS analysis of splenocytes from mice immunized with LP revealed that LP could induce increased expression of B7.1 and B7.2. The immunomodulatory effects of LP including up-regulation of B7.1 and B7.2 coupled with its ability to induce antibodies that can cross-react with the TSHR showed several potential mechanisms by which it can cause breakdown of self-tolerance to TSHR.

Autoimmunity. 2004 Oct-Nov; 37 (6-7):515-20.

Pre-Disposing Factors of Low Thyroid

- Poor Nutrition
- Unsaturated Fatty Acid Insufficiency
- Hormonal Imbalance
- Drinking Water containing Halogens
- Insufficient Protein Intake
- Stress
- Food Additives (erythrocine) Red Dye #3
- Medications

Specific Tests for Thyroid Function

Symptoms Plus:

- **Temperature**
- **Asyra Testing**
- **Hair Analysis**
- **Blood Work**

How to Tell How Efficient Your Thyroid Gland Is: Calcium(40) / Potassium(10) Ratio

Normal 4.0 100% Maximal Energy Level

Underactive (Slow)

- Energy Levels
- 40 or above 85% or more
- 20-40 75-85% energy loss
- 15-20 50-75% energy loss
- 10-15 30-50% energy loss
- 6-10 20-30% energy loss
- 4.7-6 10-20% energy loss

Overactive (Fast)

- 3.8-3.0 10-20% overstressed
- 3.0-2.5 20-30% overstressed
- 2.5-2.0 30-50% overstressed
- 2.0-1.5 50-75% overstressed
- 1.5-1.1 75-85% overstressed
- Less than 1.1 85% or more overstressed

If you have a hair test taken, you can tell immediately how healthy your thyroid gland is. All you have to do is to find your calcium (Ca) to potassium (K) ratio and then look on this chart. The closer your ratio is to 4.0 the more energy you will have.

If your reading says you have a 1O% energy loss, this is still a large loss of energy. Even a 10 energy loss ‘bill greatly affect your energy. If your reading says you are fast” beyond a certain point, this too is not healthy.

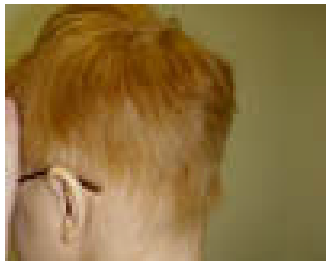
A fast gland is a gland that will eventually wear out completely because of too much stress.

It is extremely important to remember that to have maximum amounts of energy, your mineral ratio and your mineral levels must be normal. If you have a perfect ratio with poor mineral levels (too high or too low), it means your thyroid gland is weaker than the chart indicates.

DermAtlas.org

Contributor: Javad Khodadoust, MD ***Description:*** 39_year_old man was complaining of sever lassitude, weakness, drowsiness, constipation, dry skin clinical signs of a typical feature of hypothyroidism confirmed by lab data.

Contributor: Ajoy Biswas, MD ***Description:*** ptosis ***Comments:*** This elderly woman demonstrates ptosis as a manifestation of her hypothyroidism



Contributor: Will Sorey, MD ***Description:*** Thinning, coarse, dry, lusterless hair ***Comments:*** A 7 year old boy was evaluated for growth delay and hair loss. His mother reported, " He used to be as big as all his cousins. Now he is the smallest". Thinning hair and coarse skin resolved with thyroxine supplementation. Normal growth and development resumed.

Additional Picks

The book, *Type 2 Hypothyroidism,* by Mark Starr MD, has an excellent compilation of hypothyroid before-and-after treatment photos (www.type2hypothyroidism.com). It was my inspiration for starting to document clinical hypothyroidism. The endocrine volume of the Ciba Collection of Medical Illustrations by Frank Netter, MD, also has excellent illustrations.

A. Extensive fungal infection of the finger and toenails (onychomycosis) is often associated with hypothyroidism, a consequence of compromised cardiac contractility, leading to decreased blood flow to the extremities. The resulting low-oxygen state at the tips of the fingers and toes promotes fungal overgrowth.
B. Slow capillary refilling, demonstrable by applying firm finger pressure to areas of thin skin, is a manifestation of reduced cardiac inotropy. As thyroid levels decline, cardiac contractility decreases. The worse this condition is, the closer to the heart it will manifest. It usually begins in the extremities, and patient will experience cold hands and feet. By the time it manifests above the knee, the patient has quite serious circulatory compromise.
C. Poor capillary refilling, reflective of weak inotropy in the heart, leads to poor circulation at the extremities and facilitates fungal overgrowth in the nails. These signs are typical of longstanding hypothyroidism.
D. Fluid leakage into extracellular spaces, a result of reduced glycoaminoglycan production also results in a characteristic swollen, scalloped tongue, which is very common in hypothyroid people.
E. Conversion of beta-carotene to vitamin A is dependent on thyroid hormone. Thyroid deficiency will manifest as a yellowish buildup of carotene in the skin of the palms and soles. Poor circulation, also associated with hypothyroidism, facilitates fungal overgrowth between toes.
F. Thyroid hormone drives production of glycoaminoglycans, responsible for keeping water inside cells. In hypothyroidism, water tends to leak into extracellular spaces causing significant edema, easily recognized around the legs and ankles.
Photos: Roby Mitchell, MD, reproduced with permission.

The Clinical Picture of Hypothyroidism by Roby Mitchel MD, Contributing Vol. 9. No. 3, Fall 2008

“Energetic changes precede cellular changes if the illness has not progressed to the point where there are cellular or structural changes, conventional tests will usually reveal nothing.”

Thyroid Test

- Drawing from a clinical pool of 1,800 patients, E. Alan Jeppsen, M.D., and Steven G. Osguthorpe, N.D., conducted a double-blind study of over 600 randomly assigned patients, of which 100 were used as control subjects. **This study, "Effectiveness of the AsyraTM in Assessing Sub-Physiologic Thyroid Levels in Women 35 to 65 Years of Age," yielded a 97 percent correlation with blood chemistry.**

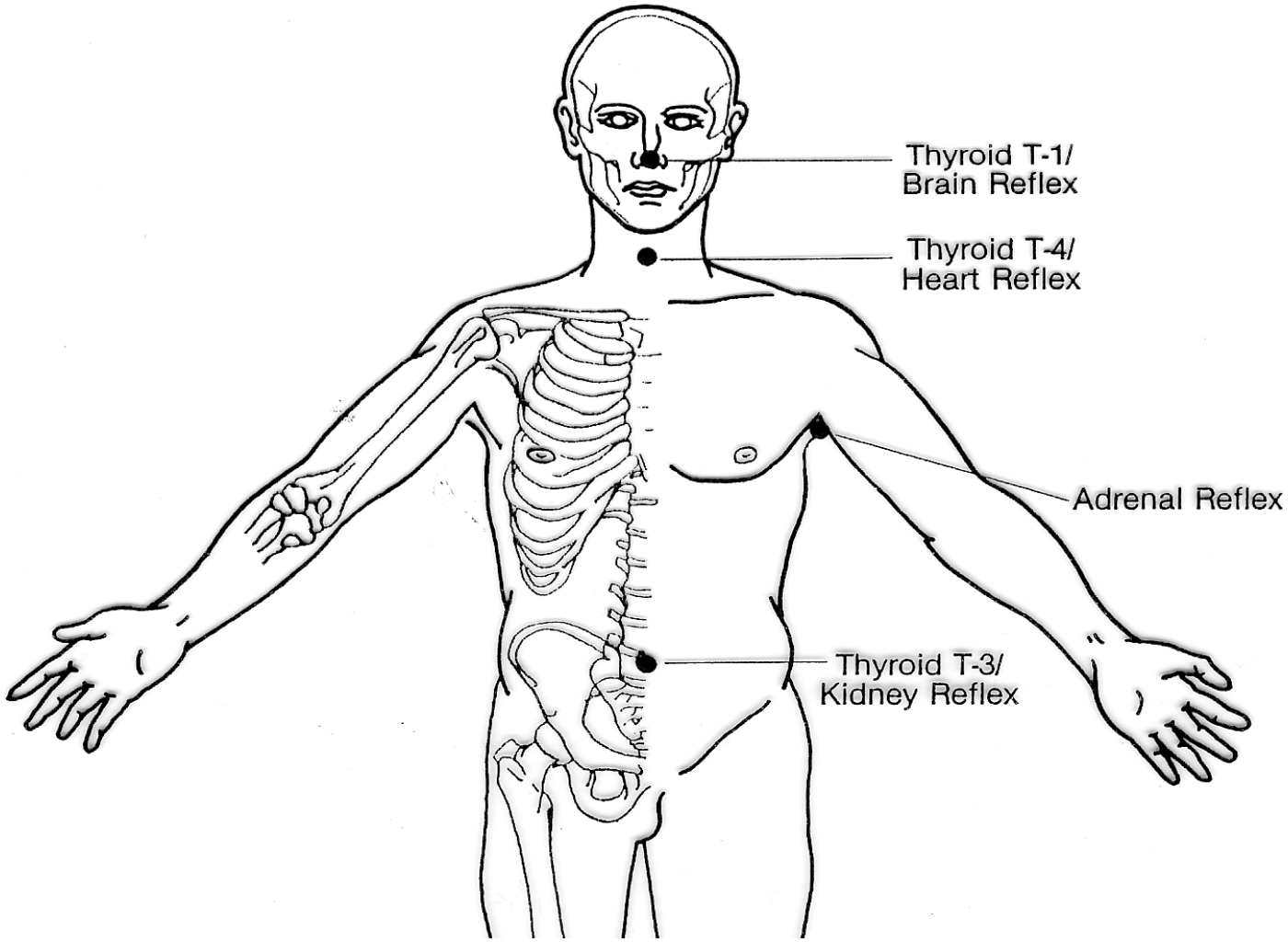
The EDS disturbances consistently found in the sub-physiologic hypothyroid patients but not in the controls:

- A. **Thyroid meridian** - Lower conductance (under active imbalance) - Degeneration
- T4, free T3
- B. **Metabolic meridian** - Lower conductance (under active imbalance) - Degeneration
- Thyroid
- C. **Female meridian** - Lower conductance (under active imbalance) - Degeneration
- Estrogen, HGH, Progesterone
- D. **Hormonal meridian** - Lower conductance (under active imbalance) - Degeneration
- DHEA, Testosterone

Results of Thyroid Test

This study has demonstrated the effectiveness of ElectroDermal screening with both the clinical and laboratory diagnosis in 500 patients with sub-physiologic hypothyroid have been compared to 100 normal age adjusted control subjects. The correlation between the EDS measured abnormalities, using standard deviation (SDI) criteria and patients with sub-physiologic hypothyroid state was statistically significant at 99.5% with a $P < 0.005$. **Thus EDS has demonstrated its effectiveness as a valuable tool for the analysis and diagnoses of sub-physiologic hypothyroid levels.**

THE 3 THYROID REFLEXES
AND
THE 1 ADRENAL REFLEX



- Iodine is an essential trace mineral crucial in the functioning of the thyroid gland, an organ that stores the minerals needed for the synthesis of our thyroid hormones. It is important to get adequate amounts of iodine in your diet to ensure the proper functioning of the this vital gland which controls much of our metabolism, detoxification, growth and development.
- Research has shown that a lack of iodine foods in your diet may lead to enlargement of the thyroid gland, lethargy, fatigue, weakness of the immune system, slow metabolism, autism, weight gain and possibly even mental states such as anxiety and depression.

- The Recommended Daily Allowance (RDA) for iodine is 150 micrograms daily for everybody over the age of 14. The RDA for children ages 1-8 is 90/mcg every day, ages 9-13 is 120/mcg every day. If you're pregnant or breastfeeding, it is recommended that you get 290/mcg every day.
- The following list will discuss the top foods with iodine.
- 1. Sea vegetables
- The ocean hosts the largest storehouse for iodine foods, including Kelp, Arame, Hiziki, Kombu, and Wakame. Kelp has the highest amount of iodine on the planet and one serving offers 4 times more than a daily minimum requirement. 1 tablespoon of Kelp contains about 2000/mcg of iodine, 1 tablespoon of Arame contains about 730/mcg of iodine, 1 tablespoon of Hiziki contains about 780/mcg of iodine, 1 one inch piece of Kombu contains about 1450/mcg of iodine, 1 tablespoon of Wakame contains about 80/mcg of iodine. I recommend sprinkling them in soups or on salads.
- 2. Cranberries
- This antioxidant rich fruit is another great source of iodine. About 4 ounces of cranberries contain approximately 400/mcg of iodine. I would recommend buying fresh organic berries or juice. If you buy cranberry juice from the store, be cautious of how much sugar is in it.
- 3. Organic Yogurt
- A natural probiotic, yogurt is an excellent iodine food you should add to your diet. One serving holds more than half of your daily needs. 1 cup contains approximately 90/mcg of iodine. Other than yogurt, here is a list of probiotic foods you should think about incorporating into your diet for added health benefits.

- 4. Organic Navy Beans
  Many beans are a great food source of iodine, but navy beans may top the list. Just 1/2 cup of these beans contain about 32/mcg of iodine. Beans aren't just an iodine food, they are also incredibly high in fiber.
- 5. Organic Strawberries
  This tasty red fruit packs up to 10% of our daily iodine needs in a single serving. 1 cup of fresh strawberries has approximately 13/mcg of iodine. Try buying fresh, organic strawberries from your local farmer's market.
- 6. Himalayan Crystal Salt
- This form of salt, also known as gray salt, is an excellent source of naturally- occuring iodine. While many types of table salt are iodine-enriched, they are also stripped of all their natural health properties, and are chemically processed. Just one gram of himalayan salt contains approximately 500/mcg of iodine.
- 7. Dairy products
  Milk and cheese are good sources of iodine, with one cup of milk holding around 55/mcg. To avoid many of the negative digestive effects of eating cow's milk and cheese, I personally would recommend opting for raw organic goat's milk and goat's cheese; a healthier alternative for extracting iodine from dairy.
- 8. Potatoes
- The common potato is an easy addition to most meals, and is one of the richest sources of iodine in the vegetable kingdom. With the skin, one medium-sized baked potato holds 60/mcg of iodine.

Hypothyroidism

Vitamin D3 from sunlight may improve the prognosis of breast-, colon- and prostate cancer (Norway).

OBJECTIVE: To investigate whether prognosis of breast-, colon- and prostate cancer may be related to vitamin D(3), induced from solar ultra-violet (UV) radiation, through studies on geographical and seasonal variations in UV radiation. METHODS: This study includes 115,096 cases of breast-, colon- or prostate cancer, diagnosed between 1964 and 1992. Among these, 45,667 deaths due to the cancer were registered. On the basis of a north-south gradient in solar UV radiation and geographical climatic differences, Norway was divided into eight residential regions. According to seasonal variations in UV radiation, four periods of diagnosis during the year were used. Case fatality according to residential region and to season of diagnosis was estimated using Cox regression. The effects of occupational sun exposure, childbearing pattern and educational level were also evaluated.

RESULTS: No geographic variation in case fatality was observed for the three cancer types studied. A significant variation in prognosis by season of diagnosis was observed. Diagnoses during summer and fall, the seasons with the highest level of vitamin D(3), revealed the lowest risk of cancer death. CONCLUSION: The results suggest that a high level of vitamin D(3) at the time of diagnosis, and thus, during cancer treatment, may improve prognosis of the three cancer types studied.

The Cancer Registry of Norway, Institute of Population-based Cancer Research, Montebello, 0310 Oslo, Norway.
trude.eid.robsahm@kreftregisteret.no

Breast cancer cell regulation by high-dose Vitamin D compounds in the absence of nuclear vitamin D receptor.

1alpha,25-dihydroxyvitamin D(3) (1,25D(3)) inhibits growth and induces apoptosis in breast cancer cells in vivo and in vitro. To examine the role of the Vitamin D receptor (VDR) in mediating the actions of 1,25D(3) at nanomolar and micromolar concentrations, mammary epithelial tumor cell lines generated in wild type (WT) and VDR knockout (VDRKO) mice were utilized. WT cells express VDR and are growth inhibited by 1,25D(3) and synthetic analogs EB1089 and CB1093 at 1nM concentrations, while VDRKO cells do not express VDR and are insensitive to Vitamin D compounds at concentrations up to 100nM. In the current studies, we have confirmed and extended these previous observations. At nanomolar concentrations of 1,25D(3) and all analogs tested, including EB1089, CB1093, MC1288, and KH1230, WT cells are growth inhibited and exhibit apoptotic morphology, while VDRKO cells show no growth inhibition or apoptosis. At concentrations of 1-10microM, however, 1,25D(3) and synthetic analogs induce growth inhibition and apoptotic morphology in both WT and VDRKO cell lines. These data indicate that nanomolar concentrations of 1,25D(3) and analogs mediate growth regulatory effects via mechanisms requiring the nuclear VDR, but that micromolar concentrations of Vitamin D compounds can exert non VDR-mediated effects.

J Steroid Biochem Mol Biol. 2004 May;89-90(1-5):221-5.
Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556, USA.

MAPK inhibition by 1alpha,25(OH)2-Vitamin D3 in breast cancer cells. Evidence on the participation of the VDR and Src.

J Steroid Biochem Mol Biol. 2004 May;89-90(1-5):287-90.

- 1alpha,25-Dihydroxyvitamin D(3), the hormonally active form of Vitamin D(3), has been shown to be a potent negative growth regulator of breast cancer cells both in vitro and in vivo. These data suggest that 1alpha,25(OH)(2)D(3) inhibits MAPK by inactivating Src tyrosine kinase through a so far unknown mechanism that seems to be mediated by the VDR.

Vitamin 1-25-D3 and Its Effects

- Induces differentiation
- Increases TGF-beta
- Induces apoptosis
- Induce p21 or p27
- Inhibits NF-alpha B
- Affects CAMs
- Improves gap junction communication
- Inhibit angiogenesis
- Inhibit cell migration

Implications for Vitamin D Use

- Cardiovascular Disease
- Hypertension
- Type 2 Diabetes
- Osteoarthritis
- Multiple Sclerosis
- Prevention of Type 1 Diabetes
- Depression
- Epilepsy
- Migraine Headaches
- Polycystic Ovary Syndrome
- Musculoskeletal Pain
- Critical Illness and Autoimmune / Inflammatory Conditions
- Cancer Prevention and Treatment

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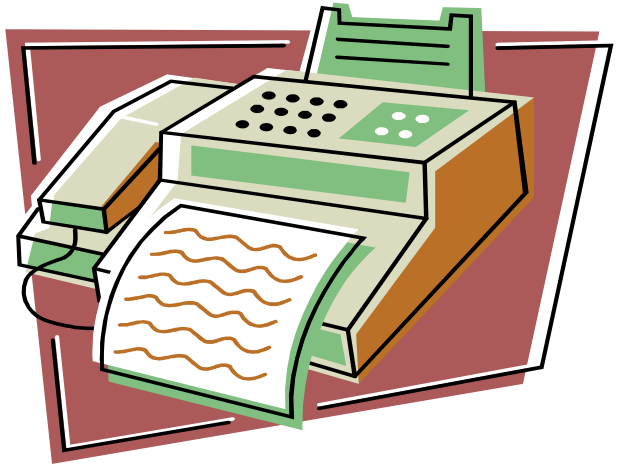

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