

Mutant Frogs, Microwave Dinners and Misperceived Notions

By

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1. ***Isn't it ironic that the food pyramid is still recommended by the USDA and nutritionists, while obesity rates are increasing exponentially.***

"We did change our eating habits in the wake of the new guidelines (food pyramid), endeavoring to replace the evil fats at the top of the food pyramid with the good carbs spread out at the bottom. The whole of the industrial food supply was reformulated to reflect the new traditional wisdom, giving us low fat pork, low fat Snackwell's, and all the low fat pasta and high fructose (yet low fat!) corn syrup we could consume. Which turned out to be a lot! Oddly, **Americans got really fat on their new low fat diet**—indeed, many date the current epidemic of obesity and diabetes to the late 1970's, when Americans began binging on carbohydrates, ostensibly as a way to avoid the evils of fat (1)."

Many other highly regarded health and nutrition professionals are of similar beliefs. According to Dr. Walter Willett, chair of the Prestigious Department of Nutrition at the Harvard School of Public Health and author of Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating, "The central advice is that all fat is bad and large amounts of starch are good. In fact, **we have known for 40 years that some types of fat, like the polyunsaturated fat found in nuts and soy and fish, are essential and can actually reduce cholesterol and the risk of heart disease.** And the Pyramid fails to distinguish clearly between carbohydrate sources, leading many people to eat large amounts of unhealthy carbs. And they've paid the price(2)".

Similarly, David S. Ludwig, an obesity researcher at Children's Hospital in Boston, says the pyramid and guidelines focus too much on reducing fat. He believes **people are getting fat because of overconsumption of refined carbohydrates**, such as white bread, which in turn makes them feel hungrier later, triggering them to crave food again. These eating habits (overconsumption of refined carbohydrates) have been shown to **increase the risk for obesity, metabolic syndrome, type 2 diabetes, heart disease and others**, according to his research in the Journal of the American Medical Association (4,5,6,7,8).

With regards to the actual design of the food pyramid itself, isn't it ironic that the food companies with the most money (and quite possibly least healthy products) have the largest recommended servings. Hmmmmm. Politics at work here?? 6-11 servings of grainy carbohydrates each day. Recently, General Mills (you know, Pillsbury, Cheerios, Lucky Charms, Fruit Roll-ups, and Haagen-Dazs) posted better than expected earnings for fiscal year 2009, and expects 2010 to be similar if not better. "For fiscal year 2010, ending in May, **General Mills expects net sales to be "comparable" to 2009, when it posted sales of about \$14.7 billion** (9)". One thing is clear, the obesity rates are climbing (right along with) the profits of the largest grain and carbohydrate manufacturers.

References

1. Pollan M. In Defense of Food. Pp 85-87. London, En. 2008.
2. Willett W. *Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating*. Free Press. 2005.
3. Augustin L, LaVecchia C, Brighenti F. **Rebuilding the food pyramid, by Willet et al.** *Eur J Clin Nutr.* 58(3); Pp 559-560. 2004.
4. Ludwig D. **Diet and the development of the insulin resistance syndrome.** *JAMA.* 12; Pp S4. 2003.
5. Ebbeling C, Leidig M, Feldman H, Lovesky M, Ludwig D. **Effects of a low-glycemic load vs low fat diet in obese young adults: a randomized trial.** *JAMA.* 297(19); Pp 2092-2102. 2007
6. Ludwig D, Neslde M. **Can the food industry play a constructive role in the obesity epidemic.** *JAMA.* 300(15); Pp 1808-1811. 2008.
7. Ludwig D eta al. **Childhood obesity as a chronic disease: keeping the weight off.** *JAMA.* 298(14); Pp 1695-1696. 2007.
8. Schulze M, Manson J, Ludwig D, Colditz G, Stampfer M, Willet W, Hu F. **Sugar Sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle aged women.** *JAMA.* 292(8); Pp 927-934. 2004
9. Sivaraman A. **General Mills profit tops view; 2010 outlook strong.** *Reuters.* July, 2009

2. *What some fitness professionals consider to be functional training, can actually make you dysfunctional.*



One can only imagine the potential injuries...



Yet to see any world renowned strength coaches recommend this one yet...

3. Isn't it ironic that many health clubs (note: not gyms) are owned by people who don't even workout.

Tough to find data on this, but stop by your local health (and racquet) club and ask to speak with the owner.

4. Isn't it ironic that certain breakfast cereals have FDA approval to advertise their cardiovascular health benefits.

1. Cordain L. **Cereal grains: humanity's double-edged sword.** *World Review of Nutrition and Dietetics.* 84; Pp 19-73. 1999

“Generally, in most parts of the world, whenever cereal-based diets first adopted as a staple food replacing the primarily animal-based diets of hunter-gatherers, there was a characteristic reduction in stature, an increase in infant mortality, a reduction in lifespan, an increased incidence of infectious diseases, an increase in iron deficiency anemia, an increased incidence of osteomalacia, porotic hypertosis and other bone mineral disorders, and an increase in the number of dental caries and enamel defects.”

“It is somewhat ironic that two of the major vitamin deficiency diseases which have plagued agricultural man (pellagra and beriberi) are almost exclusively associated with excessive consumption of cereal grains.”

“Consumption of high levels of whole grain cereal products impairs bone metabolism not only by limiting calcium intake, but by indirectly altering vitamin D metabolism. In animal studies it has been long recognized that excessive consumption of cereal grains can induce vitamin D deficiencies in a wide variety of animals including primates. Epidemiological studies of populations consuming high levels of unleavened whole grain breads show vitamin D deficiency to be widespread.”

“An increasing body of research has linked the intake of cereal grains to autoimmune diseases like celiac disease, dermatitis herpetiformis, type 1 diabetes, Sjogren's syndrome, and rheumatoid arthritis, as well as with psychological and neurological illnesses like epilepsy, autism, and schizophrenia. Physicians and nutrition specialists in the US and Norway have cautioned against the widespread consumption of cereal grains.

5. Isn't it ironic that soy is considered a health food.

Here we go again, picking on soy..

1. Tuohy PG. **Soy infant formula and phytoestrogens.** *Journal of Pediatrics and Child Health.* 2003 Aug;39(6):401-5.

“Soy infant formula contains high levels of the isoflavones, genistein and daidzein, which are commonly referred to as phytoestrogens. Infants consuming soy formula have high levels of circulating isoflavones. These are an order of magnitude greater than the levels of isoflavones which have been shown to produce physiological effects in adult women consuming a high soy diet. Against this generally positive view there is an increasing number of recent reports that suggest that in experimental animals, phytoestrogens have adverse effects with respect to carcinogenesis, reproductive function, immune function, and thyroid disease. Despite the absence of adequate scientific research that quantifies the level of risk to infants, most would argue for a precautionary approach to be taken in situations where there are potential developmental effects from the consumption of pharmacologically active compounds in infancy and childhood.”

2. Doerge DR, Sheehan DM. **Goitrogenic and estrogenic activity of soy isoflavones.** *Environmental Health Perspectives.* 2002 Jun;110 Suppl 3:349-53.

“soy effects on the thyroid involve the critical relationship between iodine status and thyroid function. In rats consuming genistein-fortified diets, genistein was measured in the thyroid at levels that produced dose-dependent and significant inactivation of rat and human thyroid peroxidase (TPO) in vitro. Although safety testing of natural products, including soy products, is not required, the possibility that widely consumed soy products may cause harm in the human population via either or both estrogenic and goitrogenic activities is of concern.”

3. [Allred CD](#), [Ju YH](#), [Allred KF](#), [Chang J](#), [Helferich WG](#). **Dietary genistin stimulates growth of estrogen-dependent breast cancer tumors similar to that observed with genistein.** *Carcinogenesis*. 2001 Oct;22(10):1667-73.

“The estrogenic soy isoflavone, genistein, stimulates growth of estrogen-dependent human breast cancer (MCF-7) cells in vivo. The glycoside genistin, like the aglycone genistein, can stimulate estrogen-dependent breast cancer cell growth in vivo. Removal of genistin or genistein from the diet caused tumors to regress.”

4. [Yellayi S](#), [Naaz A](#), [Szewczykowski MA](#), [Sato T](#), [Woods JA](#), [Chang J](#), [Segre M](#), [Allred CD](#), [Helferich WG](#), [Cooke PS](#). **The phytoestrogen genistein induces thymic and immune changes: a human health concern?** *Proceedings of the National Academy of Sciences of the United States of America*. 2002 May 28;99(11):7616-21

“These results raise the possibility that serum genistein concentrations found in soy-fed infants may be capable of producing thymic and immune abnormalities, as suggested by previous reports of immune impairments in soy-fed human infants.”

5. [Peeters PH](#), [Keinan-Boker L](#), [van der Schouw YT](#), [Grobbee DE](#). **Phytoestrogens and breast cancer risk. Review of the epidemiological evidence.** *Breast Cancer Research and Treatment*. 2003 Jan;77(2):171-83.

“For an evaluation of the effect of phytoestrogens on breast cancer risk we reviewed the analytical epidemiological data. A total of 18 studies were included. Up to now, there are 13 studies that have assessed the direct relation between the individual dietary intake of soy products and the risk of breast cancer.”

6. ***Isn't it ironic that ads for Lipitor can be found on the cholesterol page of Webmd. ([Click Here](#))***

Surely there are other alternatives as statins have been related to some serious health risks. From his excellent book *Achieving Victory Over a Toxic World*, author Mark Schauss explains “our bodies don't produce LDL in order to cause heart attacks. For an organism to purposely create a metabolic process over a long period of time with no beneficial purpose or only for a negative one is patently ludicrous. Yet if you listen to the media and the advertising for the statin drugs, you'd think that. Any study that even hints at that is trumpeted from on high through every media channel imaginable. Anything to the contrary is relegated to a cold case file packed far away with no chance to hit the light of day (10).”

Schauss goes on to state “ the truth of the day is that almost half of all the people who have a heart attack have normal blood pressure, normal cholesterol, normal blood sugar and normal triglycerides!. So according to the experts, there is nothing wrong with them (10).” In her book, *The Cholesterol Hoax*, Dr. Sherry Rogers warns against the dangers of Statins and cholesterol lowering medications. She states, “statin drugs work by poisoning a liver enzyme that makes cholesterol (11).” They also lower the bodies levels of Vitamin E (4), CoQ10 (4, 9), beta carotene (4), negatively affect your insulin sensitivity (4), damage the folic acid receptors (5), as well as having been linked to Alzheimers and memory loss (6,7).

Rogers sums it up best, stating “Cholesterol drugs guarantee an avalanche of new symptoms, especially cancer and more serious heart disease. When you don't have enough cholesterol, it damages the receptors on the surface of every cell that transports crucial vitamins to the inside of the cell. Folic

acid is a pivotal B vitamin, because it protects our genetics from damage by environmental chemicals. When there is not enough folic acid, genetic damage results in cancer, birth deformities, mental illness, arteriosclerosis, accelerated aging, heart disease, colitis, cervical dysplasia, depression, Parkinson's disease, Alzheimer's and multiple other medical problems (11)". Many researchers have shown that low cholesterol levels can damage the folic acid receptors (5)."

"Too low a cholesterol triggers an avalanche of seemingly unrelated symptoms. In the cell membrane that has enough cholesterol, electrically charged channels pump calcium in and out of the cell. When there is insufficient cholesterol, the calcium pumps no longer work (8). This causes irregular heartbeat, chest pain, high blood pressure, and shortness of breath and ankle swelling (congestive heart failure) (11)."

Could you imagine if the general public and medical profession/ non- pharmaceutical industry (see irony 9 and 10) were aware of this. What would that do the profits from Lipitor alone? "In 2006, Pfizer's Lipitor (atorvastatin) generated global revenues of \$13.6bn, making it the best selling drug in pharmaceutical history (Wikipedia.com)."

1. Newman T, Hulley S. **Carcinogenicity of lipid lowering drugs.** *JAMA.* 275(1); Pp 55-60. 1996.

"All members of the two most popular classes of lipid-lowering drugs (the fibrates and the statins) cause cancer in rodents, in some cases at levels of animal exposure close to those prescribed to humans."

"the results of experiments in animals and humans suggest that lipid-lowering drug treatment, especially with the fibrates and statins, should be avoided except in patients at high short-term risk of coronary heart disease."

2. Mega J, Morrow D, Cannon C, Murphy S, Cairns R, Ridker P, Braunwald E. **Cholesterol, C-reactive protein, and cerebrovascular events following intensive and moderate statin therapy.** *J Thromb Thrombolysis.* 22(1); Pp 71-76. 2006.

"In PROVE IT--TIMI 22, achieved LDL levels did not appear to independently impact the rate of CVE. In contrast, patients with elevated CRP levels were at higher risk of stroke or transient ischemic attack, reinforcing the link between inflammation and CVE. The goal of this PROVE IT-TIMI 22 sub-study was to examine the relationship between cholesterol, CRP, and CVE in patients on intensive and moderate statin therapy. The achieved lipid levels were similar in patients with and without a CVE; however, the achieved levels of CRP were higher in patients who subsequently developed a stroke or TIA. These findings further support the relationship between inflammation and CVE."

3. Ridker P, Rifai N, Rose L, Buring J, Cook N. **Comparison of C-reactive protein and low density lipoprotein cholesterol levels in the prediction of first cardiovascular events.** *New England Journal of Medicine.* 347(20); Pp 1557-1565. 2002

"These data suggest that the C-reactive protein level is a stronger predictor of cardiovascular events than the LDL cholesterol level and that it adds prognostic information to that conveyed by the Framingham risk score."

4. Jula A, Marniemi J, Huupponen R, Virtanen A, Rastas M, Ronnema T. **Effects of diet and simvastatin on serum lipids, insulin, and antioxidants in hypercholesterolemic men: a randomized controlled trial.** *JAMA.* 287(5); Pp 598-605. 2002

“Simvastatin decreased levels of total cholesterol by 20.8%, LDL cholesterol by 29.7%, triglycerides by 13.6%, apolipoprotein B by 22.4%, alpha-tocopherol by 16.2%, beta-carotene by 19.5%, and ubiquinol-10 by 22.0% (P<.001 for all) and increased levels of HDL cholesterol by 7.0% (P<.001) and serum insulin by 13.2% (P =.005).”

5. Chang W, Rothberg K, Kaman B, Anderson R. **Lowering cholesterol content of MA104 cells inhibit receptor-mediated transport of folate.** *J Cell Biol.* 118; Pp 63-69. 1992.
6. Wagstaff L, Mitton M, Arvik B, Doraiswamy P. **Statin-associated memory loss: analysis of 60 case reports and review of the literature.** *Pharmacotherapy.* 23(7); Pp 871-880. 2003.
“About 50% of the patients noted cognitive adverse effects within 2 months of therapy. Fourteen (56%) of 25 patients noted improvement when the statin was discontinued.”
7. Meske V, Albert F, Richter D, Schwarze J, Ohm T. **Blockade of HMG-CoA reductase activity causes changes in microtubule-stabilizing protein tau via suppression of gerylgeranylpyrophosphate formation: implications for Alzheimer’ disease.** *Eur J Neurosci.* 17(1); Pp 93-102. 2003.
8. Fujimoto T. **Calcium pump of the plasma membrane is localized in caveolae.** *J Cell Biol.* 120; Pp 1147-1157. 1993.
9. Folkers K, Langsjoen P, Tamagawa H. **Lovastatin decreases coenzyme levels in humans.** *Proc Ntal Acad Sci USA.* 87; Pp 8931-8934. 1990.

“All data from the three protocols revealed that lovastatin does indeed lower levels of CoQ10. The five hospitalized patients, 43-72 years old, revealed increased cardiac disease from lovastatin, which was life-threatening for patients having class IV cardiomyopathy before lovastatin or after taking lovastatin.”

“lovastatin does have side effects, particularly including liver dysfunction, which presumably can be caused by the lovastatin-induced deficiency of CoQ10.”

10. Schauss M. *Achieving Victory Over A Toxic World.* Pp 148. Bloomington, Ind. 2008.
11. Rogers S. *The Cholesterol Hoax.* Pp 4, 10, 21. Sarasota, Fl. 2008.

7. Isn't it ironic that organic stevia is not allowed as a food additive, while other chemical artificial sweeteners are.

Certain, well known, artificial sweeteners have been linked to brain tumors, migraines, cancers, and a host of other health problems while stevia has been linked to.....(Couldn't find anything on the FDA website except for toxicology concerns). Perhaps “it's a conspiracy, man”, with research data being taken out of context, as an organic sweetener would cut dramatically into the profits of chemical synthetics being added to our foods. After all, Stevia still has not been granted GRAS (Generally Regarded as Safe) by the FDA. It is quite interesting though, that Coca Cola and Pepsi have products out now, Truvia and Nuvia respectively.

Below is a copy of a letter to the FDA from Dr. Mauro Alvarez, the scientist whose research the FDA based it's warnings on.

January 19, 1998
Mauro Alvarez
Parque Tecnológico Agro-Industrial do Oeste
Phone/Fax: (045) 227 1220
Cascavel-Pr. - Brasil

“Recently I obtained a copy of a letter from the United States Food and Drug Administration's Center for Food Safety and Applied Nutrition...which I felt compelled to answer to get the facts straight. FDA's letter to you is regarding a request you made from that agency to list studies that allege Stevia or Steviosides are detrimental to the health of consumers. “

“FDA (has) included in the list some of the studies in which I was the primary researcher and studies in which I participated as collaborator, and as a scientist with over 15 years researching the safety of Stevia and of many other plants used as food or food ingredients, I can assure that our conclusions in these various studies indicate that Stevia is safe for human consumption as per intended usage, that is, as a sweetener. “

“The first misunderstanding is the confusion between Stevia tea (grounded leaves) and the purified sweeteners as stevioside or rebaudiosides. Effects attributed to concentrated Stevia tea or impure extracts cannot be extended to pure sweeteners stevioside and rebaudioside.”

“The other equivocation found in their reply to your request is the admission that FDA's scientists have not reviewed any of these studies. If they have not reviewed these studies why do they keep on reporting to the American public that the results of the studies show a detrimental effect?”

“Even if they have reviewed these studies, the only possible way to report that the results showed detrimental effects is by taking information out of context. If this is the case one concludes that these FDA scientists are incompetent and irresponsible, or if not, they must belong to some sort of conspiracy group to carry on a sinister agenda against this plant with the objective to keep it away from American consumers by attributing to it safety issues that do not exist.”

Sincerely yours,

Prof. Mauro Alvarez Ph.D

1. Brusick D. **A critical review of the genetic toxicity of steviol and steviol glycosides.** *Food Chem Toxicol.* 46; Pp 83-91. 2008.

“Stevioside and steviol have been subjected to extensive genetic testing. The majority of the findings show no evidence of genotoxic activity. Neither stevioside nor its aglycone steviol have been shown to react directly with DNA or demonstrate genotoxic damage in assays relevant to human risk.”

2. Geuns J. **Stevioside.** *Phytochemistry.* 64(5); Pp 913-921.2003.

“The conclusion is that Stevia and stevioside are safe”

8. Isn't it ironic that some people still view competitive endurance athletes as the epitomy of optimal health.

1. Cosca DD, Navazio F. **Common problems in endurance athletes.** *Am Fam Physician.* 2007 Jul 15;76(2):237-44.

“Common overuse injuries in runners and other endurance athletes include patellofemoral pain syndrome, iliotibial band friction syndrome, medial tibial stress syndrome, Achilles tendinopathy, plantar fasciitis, and lower extremity stress fractures. Endurance athletes also are susceptible to exercise-associated medical conditions, including exercise-induced asthma, exercise-associated collapse, and overtraining syndrome”

2. Lehmann MJ, Lormes W, Opitz-Gress A, Steinacker JM, Netzer N, Foster C, Gastmann U. **Training and overtraining: an overview and experimental results in endurance sports.** *J Sports Med Phys Fitness.* 1997 Mar;37(1):7-17.

“An increased risk of overtraining syndrome may be expected around 3 weeks of intensified/prolonged endurance training at a high training load level. Heavy training loads may apparently be tolerated for extensive periods of time if athletes take a rest day every week and use alternating hard and easy days of training. Persistent performance incompetence and high fatigue ratings may depend on impaired or inhibited transmission of ergotropic (catabolic) signals to target organs, such as: (I) decreased neuromuscular excitability, (II) inhibition of alpha-motoneuron activity (hypothetic), (III) decreased adrenal sensitivity to ACTH (cortisol release) and increased pituitary sensitivity to GHRH (GH release) resulting in a counter-regulatory shift to a more anabolic endocrine responsibility, (IV) decreased beta-adrenoreceptor density (sensitivity to catecholamines), (V) decreased intrinsic sympathetic activity, and (VI) intracellular protective mechanisms such as increased synthesis of heat-shock proteins (HSP 70) represent a complex strategy against an overload-dependent cellular damage.”

3. Izquierdo M, Ibanez J, Hakkinen K, Kraemer W, Ruesta M, Gorostiaga E. **Maximal strength and power, muscle mass, endurance and serum hormones in weightlifters and road cyclists.** *Journal of Sports Sciences.* 22(5); Pp 465-478. 2004.

“Basal serum total testosterone and free testosterone concentrations were lower in elite amateur cyclists than in age-matched weightlifters or untrained individuals.”

4. Smith R, Rutherford O. **Spine and total body bone mineral density and serum testosterone level in male athletes.** *European Journal of Applied Physiology and Occupational Physiology.* 67(4); Pp 330-334. 1993

“Serum testosterone levels were significantly lower in the triathletes than in the controls.”

9. Isn't it ironic that those train the most are often the weakest.

1. Harridge S, Magnusson G, Saltin B. **Life-long endurance trained elderly men have high aerobic power, but have similar muscle strength to non-active elderly men.** *Aging (Milano).* 9(1-2); Pp 80-87. 1997.

“endurance-based physical exercise may be of little value in maintaining muscle strength.”

2. Häkkinen K, Alen M, Kraemer WJ, Gorostiaga E, Izquierdo M, Rusko H, Mikkola J, Häkkinen A, Valkeinen H, Kaarakainen E, Romu S, Erola V, Ahtiainen J, Paavolainen L. **Neuromuscular adaptations during concurrent strength and endurance training versus strength training.** *Eur J Applied Physiology.* 89(1); Pp 42-52. 2003.

“even the low-frequency concurrent strength and endurance training leads to interference in explosive strength development”

3. Pääsuke M, Saapar L, Erelaine J, Gapeyeva H, Requena B, Oöpik V. **Postactivation potentiation of knee extensor muscles in power- and endurance-trained, and untrained women.** *Eur J Applied Physiology.* 101(5); Pp 577-585. 2007.

“PAP (postactivation potentiation) in knee extensor muscles is enhanced in PT (power trained) but not in ET (endurance trained) female athletes”

10. Isn't it ironic that those who listen to strength training advice the least, are hurt the most.

1. Cosca DD, Navazio F. **Common problems in endurance athletes.** *Am Fam Physician.* 2007 Jul 15;76(2):237-44.

“Common overuse injuries in runners and other endurance athletes include patellofemoral pain syndrome, iliotibial band friction syndrome, medial tibial stress syndrome, Achilles tendinopathy, plantar fasciitis, and lower extremity stress fractures. Endurance athletes also are susceptible to exercise-associated medical conditions, including exercise-induced asthma, exercise-associated collapse, and overtraining syndrome”

2. O'Toole ML. **Prevention and treatment of injuries to runners.** *Med Sci Sports Exerc.* 1992 Sep;24(9 Suppl):S360-3
“Many otherwise healthy runners are prevented from participating fully in their chosen endurance sport because of overuse injuries. 2) The most important risk factor for incurring an overuse injury is a training error, such as excessive mileage, sudden change in training distance or intensity, too much hard interval training, improper footwear, and running on chambered surfaces. 3) Although the knee is the most frequent site of injury in runners, any part of the lower extremity may be affected. 4) Tendinitis, muscle strain, and stress fractures are the most common overuse injuries in endurance athletes.”
3. Lehman WL Jr. **Overuse syndromes in runners.** *Am Fam Physician.* 1984 Jan;29(1):157-61.
“The increase in strenuous sports participation among adult Americans has led to a high incidence of overuse syndromes. Common running-related problems include iliotibial tract tendinitis, chondromalacia patellae, “shinsplints,” stress fractures and various heel and foot syndromes. Most causes of overuse syndromes can be traced to training errors, anatomic factors, poor shoes and uneven running surfaces.”
4. Renström P, Johnson RJ. **Overuse injuries in sports. A review.** *Sports Med.* 1985 Sep-Oct;2(5):316-33.
“Trial and error methods of treatment and too little attention to basic research have resulted in less than optimum solutions. We do know that these maladies most frequently result from overload or repetitive microtrauma stemming from extrinsic factors such as training errors, poor performance, poor techniques and inappropriate surfaces or intrinsic factors including malalignment and muscle imbalance. Overuse injuries involving the muscles include compartment syndromes and muscle soreness; while those involving the tendons result from a variety of degenerative and inflammatory processes. Overstress of bone results in stress fractures, apophysitis and periostitis.”
5. Lehmann MJ, Lormes W, Opitz-Gress A, Steinacker JM, Netzer N, Foster C, Gastmann U. **Training and overtraining: an overview and experimental results in endurance sports.** *J Sports Med Phys Fitness.* 1997 Mar;37(1):7-17.
“Persistent performance incompetence, persistent high fatigue ratings, altered mood state, increased rate of infections, and suppressed reproductive function have been described as key findings in overtraining syndrome. An increased risk of overtraining syndrome may be expected around 3 weeks of intensified/prolonged endurance training at a high training load level. Heavy training loads may apparently be tolerated for extensive periods of time if athletes take a rest day every week and use alternating hard and easy days of training. Persistent performance incompetence and high fatigue ratings may depend on impaired or inhibited transmission of ergotropic (catabolic) signals to target organs, such as: (I) decreased neuromuscular excitability, (II) inhibition of alpha-motoneuron activity (hypothetic), (III) decreased adrenal sensitivity to ACTH (cortisol release) and increased pituitary sensitivity to GHRH (GH release) resulting in a counter-regulatory shift to a more anabolic endocrine responsibility, (IV) decreased beta-adrenoreceptor density (sensitivity to catecholamines), (V) decreased intrinsic sympathetic activity, and (VI) intracellular protective mechanisms such as increased synthesis of heat-shock proteins (HSP 70) represent a complex strategy against an overload-dependent cellular damage.”
6. Taunton JE, Ryan MB, Clement DB, McKenzie DC, Lloyd-Smith DR, Zumbo BD. **A retrospective case-control analysis of 2002 running injuries.** *Br J Sports Med.* 2002 Apr;36(2):95-101.
“Being less than 34 years old was reported as a risk factor across the sexes for patellofemoral pain syndrome, and in men for iliotibial band friction syndrome, patellar tendinopathy, and tibial stress syndrome. Patellofemoral pain syndrome was the most common injury, followed by iliotibial band friction syndrome, plantar fasciitis, meniscal injuries of the knee, and tibial stress syndrome”
7. Burns J, Keenan AM, Redmond AC. **Factors associated with triathlon-related overuse injuries.** *J Orthop Sports Phys Ther.* 2003 Apr;33(4):177-84.
“Fifty percent of triathletes sustained an injury in the 6-month preseason at an injury exposure rate of 2.5 per 1000 training hours. Thirty-seven percent were injured during the 10-week competition season at an injury exposure rate of 4.6 per 1000 training hours. Overuse accounted for 68% of preseason and 78% of competition season injuries reported.”

8. Egermann M, Brocai D, Lill CA, Schmitt H. **Analysis of injuries in long-distance triathletes.** *Int J Sports Med.* 2003 May;24(4):271-6.
“Questionnaires were sent to all German speaking participants of the Ironman Europe 2000. With a response rate of 35 %, 656 questionnaires met the inclusion criteria. At least one injury was experienced by 74.8 % (95 %-CI: 71.3-78.1) of all respondents during their active time in triathlon. 51.1 % (95 %-CI: 47.2-55.0) suffered one or more contusion/skin-abrasions, 33.1 % (95 %-CI: 29.5-36.8) muscle-/tendon-injuries, 29.0 % (95 %-CI: 25.5-32.6) ligament-/capsule-injuries and 11.9 % (95 %-CI: 9.5-14.6) fractures.”
9. Shaw T, Howat P, Trainor M, Maycock B. **Training patterns and sports injuries in triathletes.** *J Sci Med Sport.* 2004 Dec;7(4):446-50.
“At least one injury was reported by 37% of the participants. The most frequently affected sites were the ankle/foot, thigh, knee, lower leg and the back. Overuse was the reported cause in 41% of the injuries, two-thirds of which occurred during running. The likelihood of an injury was positively associated with experience in triathlon. Average injury rate was 5.4 injuries per 1000 h of training (95% confidence interval: 4-7.2) and 17.4 per 1000 h of competition (95% confidence interval: 10.9-27.9). Injury incidence was unrelated to the mean amount of weekly training or competition, intensity or frequency of training.”
10. Gudas CJ. **Patterns of lower-extremity injury in 224 runners.** *Compr Ther.* 1980 Sep;6(9):50-9.
“Knee problems are the most common injury sustained in both male and female runners. Other problems include toe and forefoot injuries, inferior heel and arch pain, shin splints, ankle pain, calf and Achilles tendon pain, groin and hip pain, and stress fractures. The average total treatment for all injuries required 4.2 physician visits. Orthotics were used for more than 60% of the injuries, with successful results “
11. Pinshaw R, Atlas V, Noakes TD. **The nature and response to therapy of 196 consecutive injuries seen at a runners' clinic.** *S Afr Med J.* 1984 Feb 25;65(8):291-8
“We studied a series of 196 running injuries to determine the nature of the common injuries, the type of runners with the different injuries, specific factors causing the most common injuries, and the response of these injuries to correction of the biomechanical abnormalities believed to cause them. The four commonest injuries were 'runner's knee' (peripatellar pain syndrome) (22%), 'shin splints' (posterior tibial stress syndrome) (18%), the iliotibial band friction syndrome (12%), and chronic muscle injuries (11%). Within 8 weeks of following the biomechanically based treatment regimen, between 62% and 77% of the runners with the commonest injuries were completely pain-free and running almost the same training distance as before injury. Only 13% of runners were not helped at all, but most of these had not adhered to the prescribed treatment.”

11. Beer has the reputation as a “man’s” drink.

According to author of the Anti-Estrogenic Diet Ori Hofmekler “The double wham effect of beer can be overwhelming. High alcohol intake combined with highly estrogenic substances can devastate the body with a strong estrogenic effect, often leading to an increase in size of estrogen-sensitive fatty tissues in the belly, leading to the so-called “beer belly (3)”. On that note, it is also ironic that people continue to drink beer when trying to get rid of that so-called “beer belly”.

1. KAREN OERTER KLEIN, MONA JANFAZA, JEFFREY A. WONG, AND R. JEFFREY CHANG **Estrogen Bioactivity in Fo-Ti and Other Herbs Used for Their Estrogen-Like Effects as Determined by a Recombinant Cell Bioassay.**
“Measurable estrogenic activity was demonstrated in red clover, fo-ti, hops, soy,”
2. Milligan SR, Kalita JC, Heyerick A, Rong H, De Cooman L, De Keukeleire. **Identification of a potent phytoestrogen in hops (*Humulus lupulus* L.) and beer.** *J Clin Endocrinol Metab;* 83:2249–2252. 1999
“We have identified a potent phytoestrogen in hops, 8-prenylnaringenin, which has an activity greater than other established plant estrogens. The estrogenic activity of this compound was reflected in its relative binding affinity to estrogen receptors from rat uteri.”
3. Hofmekler O. The Anti-Estrogenic Diet. Pp.144-145. Berkely, Ca. 2007

12. Isn't it ironic that the experts tell us we don't need to worry about toxic exposures from chemicals, while other animals are mutating and dying from those same exposures.

According to author Randall Fitzgerald, "Hermaphrodite fish began turning up in the great lake (also turning up in many of the offspring of the seagulls that ate them) about the same time as feminized wildlife made an appearance in Florida's Lake Apopka, where male alligators have been born without phalluses and turtles have hatched with intersex sex organs. Hermaphrodite shellfish have been turning up along the northeastern coast of Chesapeake Bay. A high proportion of wild Chinook salmon in the Columbia river of Washington state have reversed their sex, switching their sexual characteristics from male to female. In 84 percent of fish tested, chromosomal males had female reproductive tracts. Concentrations of estrogen-mimic chemicals such as plasticizers and the pesticide atrazine were detected in the river (7)."

He goes on to write "the entire male fish population of many European rivers has been feminized as well. "We are finding this problem right across northern Europe; it is clearly widespread," says Alan Pickering of Britain's Natural Environmental Research Council (7)."

Most are probably saying, "yeah, but those are animals with different immune and endocrine systems." Take a peek at irony number 14.

1. Cone M. **Abnormalities in Fish off L.A. coast.** *Los Angeles Times.* November 2005.
2. Hayes T, Lee M, Mendoza M, Noriega N, Stuart A, Vonk A. **Hermaphroditic, demasculinized frogs after exposure to the herbicide Atrazine at low ecologically relevant doses.** *Proc Natl Acad Sci USA.* 99(8); Pp 5476-5480. 2002.

"We hypothesize that atrazine induces aromatase and promotes the conversion of testosterone to estrogen"

3. Pelton T. **Drug traces found in water pose problems for wildlife.** *Baltimore Sun.* October 2005.
4. Leblanc G. **Assessing deleterious ecosystem level effects of environmental pollutants as a means of avoiding evolutionary consequences.** *Environ Health Perspect.* 102(3); Pp 266-267. 1994.
5. Andrade A et al. **A dose response study following in utero and lactational exposure to di-(2-ethylhexyl) phthalate (DEHP): reproductive effects on adult male offspring rats.** *Toxicology.* 228(1); Pp 85-97. 2006.

"our results show that in utero and lactational DEHP exposure reduces daily sperm production and has the potential to induce reproductive tract abnormalities."

6. Raloff J. **New PCBs? Throughout life, our bodies accumulate flame retardants, and scientists are starting to worry.** *Science News.* October 25, 2003.

"A record 80 papers on brominated flame retardants were presented in August at an international meeting in Boston called Dioxin2003. Although presentations linked all five major classes of brominated flame retardants with some animal toxicity, the majority of studies focused on the three PBDE classes--related chemicals with different commercial applications and toxicity profiles. Especially troubling were reports indicating that relatively lowdose exposures to PBDEs in the womb or shortly after birth could irreparably damage an animal's reproductive and nervous

systems. Earlier test-tube studies had indicated that the compounds could alter concentrations of thyroid hormones--agents that play a pivotal role in growth and development.”

7. Fitzgerald R. The Hundred Year Lie: How to protect yourself from the chemicals that are destroying your health. Pp 152-153. New York, NY. 2007

13. Isn't it ironic that an increasing number of men are being diagnosed with breast cancer. (And "they" said we don't need to worry about phytoestrogens in our environment. The increasing rates of thyroid cancer and prostate cancer are even more discerning!)

1. Giordano S, Cohen D, Buzdar A, Perkins G, Hortobagyi G. Breast carcinoma in men: a population based study. *Cancer*. 101(1); Pp 51-57. 2004

“the incidence of breast cancer in men increased significantly, from 0.86 to 1.08 cases per 100,000 men over 25 years.”

2. Contractor K, Kaur K, Rodrigues G, Kulkarni D, Singhal H. Male breast cancer: is the scenario changing. *World J Surg Oncol*. 6; Pp 58. 2008

“There is a scenario of rising incidence, particularly in urban US, Canada and UK.”

3. American Cancer Society. Breast Cancer Facts and Figures 2007-2008.

“Nearly 2,000 men are expected to be diagnosed in 2007, according to the American Cancer Society (ACS)”

4. Breast Cancer in Men. Yourtotalhealth.ivillage.com . Reviewed by Dr. Mark Oren and Dr, Martin Liebling.

“The incidence rate of breast cancer among men has been rising. Between 1975 and 2002, the rate increased by 1.1. percent annually. Researchers are unsure of the reasons for the increase, although it is not attributed to increased detection.”

14. Isn't it ironic that you can microwave vegetables while still inside the plastic bag they came in.

Don't the plastics mimic estrogen (see? And they may leech into those vegetables we are about to eat? Hmmmm.. OK, let me get this straight. All you have to do is mix the healthy vitamins and minerals from the vegetables with the endocrine disrupting chemicals from the plastic bag, and viola, microwavable vegetables in a bag.

15. Isn't it also ironic that a brand of microwave dinners that are cooked in the plastic container they come in are named Healthy Choice.

16. Isn't it ironic that drinking from a sturdy plastic water bottle on a hot beach day can actually be bad for one's health.

Bisphenol A. According to Schauss, some of the major health effects include:

- Damage to reproductive organs
- Obesity implications
- Sperm Damage
- Premature Puberty

- Down's Syndrome
- Multiple birth defects

Can you believe that “on average, humans ingest approximately 6.3 micrograms per day of Bisphenol-A from the linings of food cans. Bisphenol-A is one of the top 50 chemicals produced in the U.S., with over 1.6 billion pounds of this hormone disruptor being produced in 1995 (1).”

1. Schauss M. Achieving Victory over a Toxic World. Pp 121-122. Bloomington, Ind. 2008.

17. Isn't it ironic that the U.S. is supposed to have the best health care in the world, but is ranked much lower

“The World Health Organization (WHO), in 2000, ranked the U.S. health care system as the highest in cost, first in responsiveness, 37th in overall performance (just ahead of Slovenia at number 38), and 72nd by overall level of health (among 191 member nations included in the study) (1).”

1. **World Health Organization assess the world's health system.** Press Release WHO/44 21 June 2000.

18. Isn't it ironic that we readily take medications to mask the symptoms, but are not recommended to take the vitamins or minerals for which a deficiency in causes the problem in the first place.

Omega 3 deficiency has been linked to ADD

B vitamin deficiency has been linked to cognitive functioning

Vitamin D deficiency has been linked to immune function

Magnesium deficiency has been linked to numerous health disorders (read Magnesium Miracle by Dr. Carolyn Dean)

Zinc deficiency has been linked to low testosterone

The list goes on and on.....

19. Isn't it ironic that in a single year, the top 10 pharmaceutical companies made a greater profit than the other 490 companies in the fortune 500.

“the combined profits for the ten drug companies in the Fortune 500 (\$35.9 billion) were more than the profits for all the other 490 businesses put together (\$33.7 billion)(1).”

1. Public Citizen Congress Watch, "Drug Industry Profits: Hefty Pharmaceutical Company Margins Dwarf Other Industries," June 2003 (www.citizen.org/documents/Pharma_Report.pdf). The data are drawn mainly from the Fortune 500 list in *Fortune*, April 7, 2003, and drug company annual reports

20. Isn't it ironic that most continuing education for doctors is sponsored by pharmaceutical companies.

In his book *Overdosed America*, Medical Doctor and Harvard Professor Dr. John Abramson explains how the first 2 years of medical school the student learns about disease and health problems and the last

2 years they learn about how to treat the disease and health problem. What about how to prevent the problem in the first place??? Ah, that may pose a conflict with the pharmaceutical companies whose products these future doctors will be recommending to treat the ailments.

To see where much of the continuing education occurs for the busy new doctor loaded with school loans, just sit in a busy doctors office and watch the well dressed, well manicured, well educated pharmaceutical reps walk through the door for 10 minutes of the doctors time to educate about new products and reeducate about one's already used in practice.

There are also the conferences. Not to delve too deep into this topic, try reading articles by Dr. Marcia Angell or her phenomenal book *The Truth About the Drug Companies: How they deceive us and what to do about it*.

**One note about Dr. Angell. She was the former Editor in Chief of the *New England Journal of Medicine* when she began exposing conflicts of interest between the pharmaceutical industry and the medical health and research industries. (You will notice when you perform a www.pubmed.com search, that many of her articles do not even have abstracts available without subscription..)

1. Angell M. **Relationships with the drug industry: Keep at arm's length.** *BMJ*. 338; Pp 222. 2009
2. Relman AS, Angell M. **America's other drug problem: how the drug industry distorts medicine and politics.** *New Repub*. 227(25); Pp 27-41. 2002

21. Isn't it ironic that most scientific research on pharmaceuticals is funded by the company that manufactures the drug.

You guessed it, more of the same here. Check out Abramson's book (*Overdosed America*) for a more in-depth description of how manipulations occur with regards to findings, omissions, partial data, and financial conflicts of interest.

1. Angell M. **Industry sponsored clinical research: a broken system.** *JAMA*. 300(9); Pp 1069-1071. 2008
2. Angell M. **Academic medical centers and conflicts of interest.** *JAMA*. 295(24); Pp 2848. 2006
3. Angell M, Kassirer J. **Conflict of interest.** *Epidemiology*. 8(6); Pp 686-687. 1997.

22. Isn't it ironic that we often don't train our weakest muscles.

Walk into any gym on a Monday and count the number of people performing bench presses versus those performing any external rotator or trap 3 exercises.

23. Isn't it ironic that a butterfinger candy bar has actually never slipped out of somebody's hand.

Hard to find any research on this.

24. Isn't it ironic that avocados can actually make you leaner.

1. Westman E, Yancy W, Edman J, Tomlin K, Perkins C. **Effect of 6-month adherence to a very low carbohydrate program.** *American Journal of Medicine*. 113(1); Pp 30-36. 2002.

"A very low carbohydrate diet program led to sustained weight loss during a 6-month period."

2. Volek J, Sharman M, Love D, Avery N, Gomez A, Scheet T, Kraemer W. **Body composition and hormonal responses to a carbohydrate restricted diet.** *Metabolism*. 51(7); Pp 864-870. 2002

“Fat mass was significantly ($P \leq .05$) decreased (-3.4 kg) and lean body mass significantly increased (+1.1 kg) at week 6. There was a significant decrease in serum insulin (-34%), and an increase in total thyroxine (T(4)) (+11%) and the free T(4) index (+13%).”

“we conclude that a carbohydrate-restricted diet resulted in a significant reduction in fat mass and a concomitant increase in lean body mass in normal-weight men”

3. Volek, J. et al. **Comparison of energy restricted very low carbohydrate and low-fat diets on weight loss and body composition in overweight men and women.** *Nutr Metab (Lond)*. 1(1); Pp 13. 2004.

“This study shows a clear benefit of a VLCK over LF diet for short-term body weight and fat loss, especially in men. A preferential loss of fat in the trunk region with a VLCK diet is novel and potentially clinically significant but requires further validation.”

25. Isn't it ironic that the sunscreen we load on our skin may actually be worse for us than the rays from the sun.

According to the experts at the Environmental Working Group (www.ewg.org which is one of the best resources on the web for information on toxins and health) 139 commercially sold sunscreen products have the combination of the following actives

- AVOBENZONE (PARSOL 1789/BUTYL METHOXYDIBENZOYLMETHANE, HOMOSALATE, OCTISALATE, OCTOCRYLENE and last but not least, OXYBENZONE (BENZOPHENONE-3), which has “**been shown to disrupt the endocrine system and release reactive oxygen species that could contribute to skin cancer.** Up to 9% of oxybenzone applied to the skin absorbs into living tissues and blood vessels below the surface (5).”

1. Shaw DW. 2006. **Allergic contact dermatitis from octisalate and cis-3-hexenyl salicylate.** *Dermatitis* 17(3): 152-5.
2. Carrotte-Lefebvre I, Bonneville A, Segard M, Delaporte E, Thomas P. 2003. **Contact allergy to octocrylene - First 2 cases.** *Contact Dermatitis* 48(1): 46-47.
3. Odio MR, Azrimeehan S, Robison SH, Kraus AL. 1994. **Evaluation of Subchronic (13 Week), Reproductive, and in-Vitro Genetic Toxicity Potential of 2-Ethylhexyl-2-Cyano-3,3-Diphenyl Acrylate (Octocrylene).** *Fundamental and Applied Toxicology* 22(3): 355-68.
4. Soeborg T, Basse L, Halling-Sorenson B. **Risk assessment of topically applied products.** *Toxicology*. 236(1-2); Pp 140-148. 2007.

“the risk associated with use of 3-BC and 4-MBC containing sunscreen with regards to endocrine disrupting effects was found to be high and more data is urgently needed in order to fully assess the human risk of 3-BC and 4-MBC in commercial sunscreen”

5. Environmental Working Group. 2009 Sunscreen Investigation. www.ewg.org. 2009

26. Isn't it ironic that infants (in towns which do not put it in the water) are often prescribed sodium fluoride to increase their health.

Trying to keep those teeth healthy and strong may make the rest of you weak and brittle.

1. Ismail A, Bandekar R. **Fluoride supplements and fluorosis: a meta-analysis.** *Community Dent Oral Epidemiol.* 27(1); Pp 48-56. 1999.

“in non-fluoridated communities the use of fluoride supplements during the first 6 years of life is associated with a significant increase in the risk of developing dental fluorosis.”

2. Refsnes M, Kersten H, Schwarze P. **Involvement of Protein Kinase Z in Fluoride induced apoptosis in different types of lung cells.** *Annals of the New York Academy of Sciences.* 973; Pp 218-220. 2002

“The lung is a target for fluoride-induced toxicity. Fluoride is known to induce apoptosis in different cell types. We previously showed that sodium fluoride (NaF) induced apoptosis in a human epithelial lung cell line (A549) and in epithelial type 2 cells isolated from rat lung, the type 2 cells being most sensitive.”

3. Mullenix P, Denbesten P, Schuner A, Kernan W. **Neurotoxicity of sodium fluoride in rats.** *Neurotoxicol Teratol.* 17(6); Pp 685-688. 1995

“Fluoride exposures caused sex- and dose-specific behavioral deficits with a common pattern.”

27. Isn't it ironic that we consider certain "substances" to be food, while even fly larvae (maggots) won't eat touch them.

Try this at home experiment. Leave a stick of margarine with your trash outside. Check it each day to see if any bugs or fly larvae have even touched it.

28. Isn't it ironic that in many cases heartburn may be caused by levels of stomach acid which are too low.

Renowned health expert/author Dr. Carolyn Dean explains, “the elderly as well as people with arthritis, asthma, depression, diabetes, gallbladder disease, osteoporosis, or gum disease are often deficient in hydrochloric acid. ***The roiling and burning in the gut from sugary junk food and greasy fast food is being inappropriately blamed on too much stomach acid. In many cases, heartburn is due to sugar fermentation in the stomach and a backflow of pancreatic enzymes from the small intestine.*** By neutralizing normal stomach acid levels, antacids make it impossible for us to absorb minerals or digest food properly (1).”

1. Dean Carolyn. *The Magnesium Miracle.* New York, 2007. Pp 30.

29. Isn't it ironic that some of the worst tasting things can be the best for you while some of the best tasting things can be the worst for you

Wheatgrass vs homemade vanilla Heath Bar ice cream....

30. Isn't it ironic that some of the author's best thoughts come while watching "Little Einsteins" with his son.

31. Isn't it ironic that the most appealing body parts have a tendency to put on the most fat.

Besides the fact that many hormones play a significant role in fat storage (3,4,5,6,7 along with hundred of others), there are also other factors at play making the task of losing body fat all the more difficult. A brief introduction to Alpha-2 and Beta-2 adrenoreceptors and the hard to lose fat that goes along with them may be the next best place to start after hormonal regulation (Check out the many articles on the net about Charles Poliquin's Biosignature). The easiest way to describe this is your Beta-2 receptors increases fat mobilization (lipolysis) as well as the flow of blood to the adipose tissue, while the alpha-2 receptors do the opposite, decreasing the blood flow to the tissue and inhibiting the mobilization of fat cells. Why does this matter? Because different areas of the body have greater ratios of these adrenoreceptors. With a higher ratio of alpha-2 to beta-2 the fat will be increasingly more difficult to lose. The opposite is true for sites with more beta-2 to alpha-2 receptors.

1. Mauriege P, Galitzky J, Berlan M, Lafontan M. **Heterogenous distribution of beta and alpha-2 adrenoreceptor binding sites in human fat cells from various fat deposits: functional consequences.** *Eur J Clin Invest.* 17(2); Pp 156-165. 1987.

2. Arner P. **Differences in lipolysis between human subcutaneous and omental adipose tissues.** *Ann Med.* 27(4); Pp 435-438. 1995.

"Decreased action of beta 2-adrenergic receptors and increased activity of alpha 2-adrenergic adrenoreceptors in combination with defects in hormone sensitive lipase function inhibits the lipolytic effect of catecholamines in subcutaneous fat cells"

3. Arner P. **Site differences in human subcutaneous adipose tissue metabolism in obesity.** *Aesthetic Plast Surg.* 8(1); Pp 13-17. 1984

"There are also regional differences in the hormonal regulation of fat metabolism in obesity. The action of insulin is most pronounced in the femoral region whereas that of catecholamines is most marked in the abdominal area. The regional differences in hormone action are further enhanced during therapeutic fasting. These differences may partly explain why adiposity is more catching in some fatty regions than in others and also why some obese areas are resistant to slimming."

4. Votruba S, Jensen M. **Regional fat deposition as a factor in FFA metabolism.** *Annu Rev Nutr.* 27; Pp 149-164. 2007.

5. Bjorntorp P. **The regulation of adipose tissue distribution in humans.** *Int J Obes Relat Metab Disord.* 20(4); Pp 291-302. 1996.

"With visceral fat accumulation multiple endocrine perturbations are found, including elevated cortisol and androgens in women, as well as low growth hormone (GH) and, in men, testosterone (T) secretion. These abnormalities probably derive from a hypersensitive hypothalamo-pituitary-adrenal axis, with hyperinsulinemia related to a marked insulin resistance as a consequence. These hormonal changes exert profound effects on adipose tissue metabolism and distribution"

6. Votruba S, Jensen M. **Sex differences in abdominal, gluteal, and thigh LPL activity.** *Am J Physiol Endocrinol Metab.* 292(6); Pp 1823-1828. 2007.

"Fat cell size was greater in females than males in thigh (P < 0.005) and gluteal (P < 0.05) regions but not in the abdomen."

7. Imbeault P, Couillard C, Tremblay A, Despres J, Mauriege P. **Reduced alpha-2 adrenergic sensitivity of subcutaneous abdominal adipocytes as a modulator of fasting and postprandial triglyceride levels in men.** *J Lipid Res.* 41(9); Pp 1367-1375. 2000.

“a low abdominal adipose cell alpha(2)-adrenergic sensitivity is associated with high TG levels.”

32. Isn't it ironic that at points in your life when you seem to need the most sleep, you get the least.

Rather than prescription sleep meds which come with their negative side effects, a combination of magnesium and Reishi Mushroom extract prior to bedtime can do the trick.

33. Isn't it ironic that one of the most effective methods for low back pain is often the least (if ever) recommended.

Before taking various painkillers and anti-inflammatories, try the Static Back exercise. Postural Expert and author of numerous books including Health Through Motion and Pain Free, Pete Egoscue has used this exercise to help thousands of people to alleviate both acute and chronic low back pains. Here's how to do it.

Lay flat on your back on the floor with your feet up on a chair, bench, or couch. Position your body so you have a ninety degree angle at both the hips and knees, with your calves resting on top of the bench/chair (your butt should be up against the chair/bench). From here, put your arm by your sides with your palms facing upward. Keeping your head resting on the floor, just lie there and allow your body to relax. In this position your spine and hips are pulled into a “natural” position through the actions of gravity. Try to lay there for 1 hour at the most or until you cannot take the burning sensation in your low back.

34. Isn't it ironic that the hottest states have the fattest people.

Mississippi had the highest rate of adult obesity, 32.5 percent, for the fifth year in a row.

Alabama, 31.2 percent; West Virginia, 31.1 percent; and Tennessee, 30.2 percent.

1. Trust for America's Health and the Robert Wood Johnson Foundation., (<http://www.cdc.gov/obesity/data/trends.html>)

35. Isn't it ironic that peanuts actually aren't nuts.

“The **peanut**, or **groundnut** (*Arachis hypogaea*), is a species in the legume family (Fabaceae) native to South America, Mexico and Central America.” (Wikipedia.com)

Who knew!!!! Well, that's enough irony for now.