The Insulin - Exercise Connection

Book Review

The late twentieth century Western world has achieved the most sedentary lifestyle for the mass of humanity in all human history. Our sedentary modern world also provides a glutton's feast of cheap sugar-and starch-rich breads, chips, pastas, cakes, cookies, candy, etc. so abundantly available that even those on welfare can afford to feast on these hyperinsulinemia-promoting carbo-riches. It is perhaps no coincidence that in order to rapidly (and cheaply) fatten cattle and hogs before slaughter, they are confined in crowded feed-lots where the animals have virtually no room to move, while being fed all the CHO-rich grain they can eat.

Modern obese humans routinely suffer from the unique twentieth century “disease” - hypokinesis - i.e. too little bodily movement. The late twentieth century Western epidemic of obesity is as much due to widespread chronic hypokinesis, as it is to the CHO/caloric excess typical of modern humans. Thus Thompson and colleagues note: “Body fat is significantly affected by a program of prescribed exercise in both sexes at all age levels... Exercise has been shown to produce body fat loss without caloric restriction in both animals... and humans... although the loss is usually more pronounced with caloric restriction.

In fact, reductions in activity level are strongly correlated with body fat increases, even if caloric intake is significantly reduced... In addition, exercise decreases storage fat rather than LBM [lean body mass], whereas dietary interventions [i.e. dieting [tend to reduce both [body fat and LBM]].”

Studies done in the 1970’s with both men and women found that significant body fat loss could be produced simply through a regular (i.e. at least four days/week) long-term walking program, without any dieting. “Vigorous regular walking has resulted in reduced body fat stores, reduced... insulin requirements (a 36% decrease in the ratio of insulin/glucose concentration occurred), and [spontaneously] reduced food intake.” A key feature of the essentiality of moderate aerobic exercise, i.e. walking (the primary “natural” form of “exercise” engaged in of necessity by virtually all of humanity prior to the twentieth century) to preventing/ reducing obesity is that “exercise increases insulin sensitivity and decreases insulin resistance”.

The reason for this is quite simple. Actively exercising muscles may take in up to 30 times more blood sugar than they do when at rest, and this cellular uptake of glucose occurs without insulin! Thus walking provides the body with an alternative method to remove excess glucose from the bloodstream without the usual need for insulin secretion. Taking a brisk long walk 30-60 minutes after a large meal may help blunt the otherwise inevitable massive insulin surge large [CHO-rich] meals normally induce.

The anti-insulin program

a. Seriously reduce (better yet, eliminate) from the diet all processed, refined, junk food, high sugar (sucrose, fructose, glucose), high white flour “foods”: bread, pasts, cake, pie, candy, ice cream, crackers, cereal, corn/potato chips, snack bars, waffles/pancakes, soft drinks, doughnuts, sweet syrups, ad infinitum.

b. Minimize intake of salt, especially salty CHO-foods: pretzels, chips, crackers, etc. “Salt increases plasma glucose and insulin response to starchy foods.”

c. Increase glucagon - stimulating with lean protein: low-fat (ideally range-fed, organic) beef, lamb, chicken, turkey, fish etc.

d. Reduce CHO-intake from the typical American/British levels of 250-400 grams/day to 75-150 grams/day. These carbohydrates should be mainly vegetables, with small amounts of brown rice, millet, beans, almonds, pumpkin seeds and other unrefined, high-fibre natural foods.

e. Take 40-60 minute brisk walks, 4-6 days/week. Avoid walking in highly polluted areas and/or times of day, as toxins from auto exhaust may inhibit mitochondrial burning of fuel (i.e. fat) for energy.

f. Take various supplements discussed in this article - Vitamin C, B6, B3, Zinc, Magnesium, and GLA.

Additional nutritional/pharmacologic aids to fat loss/ insulin reduction

i. Chromium picolinate

This form of chromium is well absorbed, and has been shown in various animal and human studies to aid in fat loss while at least modestly enhancing lean body mass. "The ability of chromium picolinate to enhance insulin responsiveness has been demonstrated in rat myoblast cell cultures. 72-h pre-incubation with chromium picolinate (50ng Cr/ml) resulted in a 60% increase in insulin binding, and markedly enhanced glucose and leucine uptake". Dosage: 200mcg Chromium (as picolinate) two or three times daily for women; 200mcg three times daily or 400mcg twice daily for men.

Obesity, aging, chronic dieting, genetics, lack of exercise and lack of cold exposure may all lead to "subclinicial" hypothyroidism, often involving deficient conversion of less active T4 to T3. T3...
The Insulin - Exercise Connection

Tony Salvitti is originally from Los Angeles, California, and attended and graduated high school in Kaiserslautern, in Vogelweh West Germany. Where he was trained in Muay Thai-competitive

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.

Biography

Caffeine, whether from coffee or as a “drug”, has many benefits for aiding fat loss. However, excessive doses (probably 300mg/day and up, on average) may pose risks of “cafeinism”, with such symptoms as headaches, restlessness, irritability, insomnia, anxiety, excessive urination, gut irritation, heart palpitations, and muscle tremors. A thermogenic/fat burning dose is probably 100-200mg daily - i.e. the equivalent of one to two cups of coffee/day, or two to four cups made with half decaf and half regular. Caffeine taken with a meal may induce increased thermogenesis - burning fat to make heat. It may increase resting metabolic rate - our resting metabolism burns 60-70% of our total daily energy consumption. Caffeine preadministration 45-60 minutes before exercise has been shown to spare liver/muscle glycogen and to enhance fatty acid burning in humans. Caffeine taken after at least an eight hour fast, i.e. in the morning after arising, may be especially effective when combined with a 40-60 minute brisk walk, to enhance burning of stored body fat.
against U.S. Army soldiers in the light heavyweight division (later becoming a heavyweight in natural bodybuilding at 230 ripped lbs.), hatha yoga, Judo, and lettered in track and field. From there he went to college, before being recruited in the U.S. Navy in 1981 (with the awesome crew of the U.S.S. Peoria LST-1183 Assault Squadron Seven San Diego, CA, and later the TWR-1 Diamond Norfolk, VA) served with pride and honor. Trained in Japan, Korea, and China, Thailand, Philippines, Australia, Singapore, Hong Kong, Taiwan, (years later returning to Japan to train under Sensei Yamada). In martial arts as well as being a natural heavyweight bodybuilder. Then worked for the U.S. government in Langlely, VA. Until 1986. Trained on the weekends at “Vince’s gym” in Studio City, CA under the tutelage of the great trainer Vince Gironda. Later moving to Norfolk, VA. Becoming an accomplished stone mason, building marble and granite mausoleums and installing monuments markers, from Virginia Beach, VA. to North Carolina. Also working with nuclear weapons and reactors, as well as the latest in composite materials for aircraft. During which he traveled around the world over 6 times. Became a diver and retrieved torpedo’s for nuclear fast attack submarines on the east coast of the USA. A devoted student to his late Sifu~Kwan Li, becoming his number one student and later holding the rank of “Sifu” in both Tai Chi Chuan, and Black Dragon Kung Fu(A Southern Style of Hsing-i Chuan or Xing Yi Quan) training for over 45 years in martial arts (specialized in Iron palm, and Dragon claw kung). A competitive natural bodybuilder since 1976 who’s first contest was in San Diego, CA 1982 and last contest was in Sacramento, CA July 22, 2000 “The 2000 INBF Capital City Natural Bodybuilding Championships”. Built his first new home in 1985 in Virginia Beach, VA. After getting out of the U.S. Navy active duty. Becoming a freelance writer, and writing technical books and articles for the U.S. Government.

He became an avid treasure hunter/metal detecting both on land and under water, as a hobby, which he still does to this day. Some of his other interests and specialties besides natural bodybuilding, Occult, magic, witchcraft, Taoist sorcery, Development of esoteric powers, Chinese herbalist medicine, certified master of acupressure, rank of Sifu in Tai Chi Chuan, and Hsing-i chuan(Xing Yi Quan),World Black Belt Bureau member, Japanese archery (Kyudo, and Kendo), All types of cooking, wine tasting and gardening fresh food, hypnosis, binaural beat-frequency and brain wave activity, animals, artwork for other author’s book covers, photography, archeology, rock climbing, drawing, painting, sculpting, woodworking, welding, designing new equipment and devices and exploring distant geographic points of interest and learning about new cultures and customs. The “Black Dragon Chi Kung Dojo”, is where he will be found teaching students “Chi Kung” (Qi Gong), and being a personal trainer to all natural bodybuilders, and his wife Jacqueline in Roy, Utah, USA.

References

5. www.pravda.ru/health