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Turmeric
Turmeric(2) is a spice used in cooking in almost every dish in Indian cooking(3), and is an ingredient in various curry powders(4) and masalas(5) available in Indian and international groceries. In addition to daily use in cooking, due to its medicinal value, turmeric has been used for millennia in Ayurveda(6), the Indian ancient medicine still practiced in India.

One of the ingredients of turmeric is curcumin that gives its yellow color and many medicinal properties(7). Since its isolation and characterization(8), curcumin became a very common lab chemical used in biological assays for its anti-cancer properties, e.g., curcumin inhibits cell viability in colorectal cancer stem cells and new and improved derivatives of curcumin are being investigated by various research labs(9). Colorectal cancer is the third leading cause of cancer-related deaths in the United States. For patients with advanced colon cancer, the 5-year survival rate is less than 10%.

Testosterone, Myths and Facts(10)

A potent androgenic steroid and major product secreted by the Leydig cells of the testis. Its production is stimulated by luteinizing hormone (LH) from the pituitary gland. In turn, testosterone exerts feedback control of the pituitary LH and follicle stimulating hormone (FSH) secretion. Both sexes produce testosterone, controlled by the brain's hypothalamus and pituitary gland, but women produce less of it.
Depending on the tissues, testosterone can be further converted to dihydrotestosterone or estradiol (11). High testosterone levels can cause problems in women, including irregular menstrual cycles, increases in body hair and acne, and a deepening of the voice. Women with polycystic ovarian syndrome have high levels of male hormones, including testosterone, which can be a cause of infertility.

Low testosterone levels can cause problems in men. It's estimated that between 2 million and 6 million men in the U.S. have low testosterone, i.e., about 1 to 4 men out of 100 American men. However, a decline in testosterone levels, lower sex drive and fewer spontaneous erections are natural with aging, beginning in 40s, when testosterone levels start to fall about 1% a year, which is normal, and should not be considered a problem.

Low testosterone levels are levels that are considerably lower than what's normal for the age. That's not a normal part of aging. It can affect the quality of life and health. Testosterone helps build bone, keep muscles strong, produce red blood cells, boosts mood, and aids thinking. Low testosterone may cause anemia, depression, trouble concentrating, frail bones and osteoporosis, painful breasts or breast enlargement, losing body hair or less shaving need, hot flashes, shrinkage of testicles, erectile dysfunction (ED) and little or no libido, or may not have any symptoms at all.

Only a blood test can tell what the testosterone levels are. The Endocrine Society considers 300 to 1,200 nanograms per deciliter (ng/dL) normal and less than 300 low. The normal recommendation is healthy and have no symptoms of low testosterone, there is no need to get tested for it, and men with type 2 diabetes, infertility, chronic obstructive pulmonary disease (COPD), or osteoporosis or a fracture from a trauma should be tested. Research has shown that nearly 40% of obese men over age 45 have a low testosterone blood level and about 50% of obese men who also have diabetes have a low testosterone level. Men with metabolic syndrome are also at high risk. Metabolic syndrome is when three of these five risk factors: high blood pressure, high blood sugar, high triglycerides, unhealthy cholesterol levels, and abdominal obesity.

Doctors usually use a blood test and a number of symptoms to make a diagnosis and determine whether treatment is needed. However, there is problem with broad average ranges for the entire mankind. The Western medicine depends on such broad ranges to diagnose diseases such as low or high testosterone (normal: 300-1200 ng/dL), low or high TSH (thyroid malfunction; normal: 1-5), hypertension (above 120), etc., without having an individual base line to compare and diagnose a problem. Someone who was normal at 300 ng when young, may naturally show 250 ng due to aging may be diagnosed with low
testosterone problem, while an individual who was normal at 1200 ng when young and may show 400 ng when old without being diagnosed for low testosterone problem. Therefore, it may be good idea to check for normal levels when young for a personalized care when things go wrong, such as low/high TSH, BP, testosterone etc.

Testosterone replacement therapy has been used since the 1940s. Injections, usually given every few weeks, are one of the oldest ways to increase testosterone. Gels are used widely in the U.S. They are applied daily to the shoulder, abdomen, or upper arm. The general goal of treatment is to raise the blood testosterone level only into the mid-normal range about 400-700 ng/dL. Other methods include patches, oral adhesive tablets and TESTOPEL (testosterone pellets), which is a pellet that is injected subcutaneously and can last 3-6 months. Studies show that it may improve energy, mood, thinking, muscle strength and mass, and help treat osteoporosis. Testosterone replacement therapy may make some medical conditions worse, such as sleep apnea, prostate cancer, male breast cancer, and congestive heart failure.

Alcohol is directly toxic to the testicles, where testosterone is produced, and it seems to affect the release of other hormones related to men's sexual function and fertility. Shrunken testicles are a common sign of low testosterone in alcoholic men with liver disease, as well as lower libido and sexual potency. Enlarged breasts are common in heavy drinkers because alcohol may help convert testosterone into estrogen.

Drugs used to treat advanced prostate cancer can lower testosterone levels. Anabolic steroids, used by athletes and weightlifters, mimic the body's natural testosterone in bulking up muscles, can actually lower testosterone, increase aggression in men, cause severe acne or trembling, shrink testicles and sperm count, and cause baldness. Other drugs can lower testosterone. These include corticosteroids such as prednisone, used for inflammatory conditions, and long-acting narcotics, like oxycodone and morphine. Finasteride, used to treat male pattern baldness, can increase testosterone blood levels.

**Myths and Men**

There is a lot of cultural misinformation circulating about men, their physiques and testosterone. Contrary to the myths, low testosterone doesn't cause male pattern baldness and testosterone therapy may not help treat it or ED caused by other causes, e.g., diseases of the nerves and blood vessels can also cause ED.
About 43 percent of men reported thinking about sex about a couple times a week to a couple times a month, and obviously, 57 percent of men thought more about sex; but that is not even close to the myth or the urban legend that men think about sex every seven seconds; in one of the nation's most comprehensive surveys about sexual habits in the United States, 1994.

Contrary to the myth that semen is “very important” and is loaded with calories; seminal fluid is made up of water and nutrients such as vitamin C, calcium, magnesium and fructose, about 5 to 7 calories worth per serving(12). A male praying mantis provides more sustenance to the female, as she eats him after mating(13).

Another myth is that certain parts of the body correlate with the size of penis or clitoris, which is, of course, false according to a 2002 study reported by urologists who measured the stretched penile length of 104 men and related this to their shoe size. The median stretched penile length for the sampled British population was 13 cm (5 inches) and the median UK shoe size was 9. No correlation was found(14).

Soy has some myths to add also. Soy contains isoflavones. Soy Isoflavones, usually Genistein and Daidzein, are Bioflavonoids found in soy products and other plants that are able to interact with various hormones such as estrogen. Isoflavones may cause impairment of enzymatic activity may cause developmental impairment, if taken in large amounts, as much as 9 kg per day for a man weighing about 200 pounds or 90 kg (15).

The term soy isoflavones refers to three molecules that are present in food, although most famously contained in soy products; this includes: Genistein, and its glycoside Genistin at 30-60% of total soy isoflavones; Daidzein and its glycoside Daidzin at 40-60% of total soy isoflavones; Glycetein, and its glycoside Glycitin at around 1-13% of total isoflavones. The food bound glycosides Daidzin (Daidzein glycoside) and Genistin (Genistein glycoside) are enzymatically hydrolyzed in the small intestine by B-galactosidases. Intestinal bacteria to metabolize Daidzein into Equol, and individuals who have the bacteria are more likely to experience estrogenic effects from soy. Many actions on steroid metabolism come from Genistein's interactions with the aromatase enzyme. This is the rate-limiting enzyme that converts androsterone and testosterone to estrone and estradiol(15).

A study found that both genistein and daidzin were able to inhibit some degree of serotonin reuptake(16). Another study found that consuming isoflavones reduces the levels of various markers of cardiovascular
disease in normal post-menopausal women\(^{(17)}\), associated with a decreased fasting blood glucose\(^{(18)}\), with suppression of inflammation and allergies\(^{(19)}\).

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**Nappuccino: Coffee and Siesta**

**Nappuccino**

*Enjoy a cup of Joe and then take your nap. As you sleep, the caffeine will begin to kick in (it reaches peak effectiveness about 30 minutes after you drink it), so that when you wake, you’ll be feeling your most refreshed\(^{(20)}\).*

**Coffee**

Coffee, after water, is the most widely consumed beverage in the United States, and is the principal source of caffeine intake among adults. About 150 million Americans drink coffee on a daily basis. It is well known that intake of coffee, one of the most common beverages worldwide, reportedly is a cardiovascular risk factor\(^{(21)}\). Acute intake of coffee or beverages containing caffeine can increase blood pressure, heart minute volumes, and cardiac index, as well as activate the sympathetic nervous system in nonhabitual coffee drinkers. Interestingly, this is not observed in habitual coffee drinkers. Restriction of coffee or caffeinated beverages is no longer indicated in the seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) guidelines for the treatment of hypertension. In fact, no clear association between coffee and the risk of hypertension, myocardial infarction, or other cardiovascular diseases has been demonstrated.

In contrast to early studies, recent research indicates that habitual moderate coffee intake does not represent a health hazard and may even be associated with beneficial effects on cardiovascular health and may offer protection against heart failure and stroke\(^{(22)}\). Coffee and its components offer protection against diabetes, itself the cause of degraded endothelial function and cardiovascular diseases and cancer. Coffee helps prevent the development of breast cancer by favorably increasing the ratio of estrogen’s protective metabolite 2-hydroxyestrone compared to its more dangerous metabolite called 16-hydroxyestrone\(^{(23)}\).

According to a recent research presented at ESC Congress, 29 August 2015, heavy coffee drinking by sick patients with hypertension had a four-fold increased risk while moderate drinkers tripled their risk, the
patients had untreated stage 1 hypertension (systolic blood pressure between 140 and 159 mmHg and/or diastolic blood pressure between 90 and 99 mmHg)(25).

**Siesta**

The siesta is one of the most famous aspects of Spanish life, when people go to sleep. For tourists in Spain, siesta is a cause of frustration and confusion between the hours of 2 pm and 5 pm, as Spain shuts down to rest after a long and hectic morning and prepare for the busy afternoon. However, siesta brings on a sense of calm and tranquility amidst the hustle and bustle of everyday life in Spain. *La siesta* is a short nap of 15-30 minutes.

The traditional reason for the siesta is to seek shelter from the mid-afternoon heat in Spain, a very hot country. Workers in the fields would be refreshed after the siesta and would work longer than they would have worked otherwise. This practice is known in many other hot countries including the countries in South America, Africa and Indian Continents(21).

**REFERENCES AND NOTES:**

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Om! Asatoma Sadgamaya, Tamasoma Jyotirgamaya, Mrityorma Amritamgamaya, Om Shantih, Shantih, Shantih!
(Aum! Lead the world from wrong path to the right path, from ignorance to knowledge, from mortality to immortality, and peace!)