

TO YOUR HEALTH

B<sub>12</sub> AND SLEEP 2

INSULIN INSENSITIVITY AND 3

B<sub>12</sub> TESTING AND COGNITION 4

HEALTH QUESTIONNAIRE 5

IS GREEN TEA GOOD FOR YOUR HEART? 6

IMPROVING RESULTS OF CARDIAC SURGERY

A small study appearing in *Heart Lung and Circulation* (2006; 15(3): 172-81)

looked at recovery after cardiac surgery in 16 patients. For a period of 36 days prior to the surgery, the patients were given 300 milligrams of alpha-lipoic acid, 1200 milligrams of magnesium orotate, three grams of omega-3 fatty acids and 300 milligrams of coenzyme Q10 per day. The patients also received physical therapy, in the form of stretching and light exercise. The patients were also given stress reduction and music therapy over the 36 day period.

The patients were assessed for quality of life at the beginning of the study,

prior to the operation and four weeks after the surgery. Scores for overall quality of life, physical health and mental health improved in the period between baseline and immediately before the operation. The benefits of the combined therapy extended into the post operative period as well.

A second group that did not receive these therapies prior to surgery was also evaluated. They experienced declines in scores that evaluated physical and mental health, and quality of life. The group receiving the intervention also tended to have lower blood pressure and less oxidative stress.



## B<sub>12</sub> AND SLEEP

According to the CDC, approximately 29% of American adults report sleeping for less than seven hours per night. According to the National Sleep Foundation, adults need 7–9 hours of sleep each night. Between 50 and 70 million have chronic sleep and wakefulness disorders. In a survey taken by the CDC, over 400,000 people responded with 30.7% reporting sufficient sleep over the past 30 days, 41.3% reported insufficient sleep for 1-13 days of the past 30 days, 16.8% reported insufficient sleep for 14-29 days of the 30 days and 11.1% reported insufficient sleep for the entire 30 days.

There are some small studies that show that vitamin B<sub>12</sub> supplementation may be beneficial to patients with problems sleeping. One study that appeared in the *Japanese Journal of Psychiatry and Neurobiology* (1991;45(1):165-166) looked at five patients between the ages of 14 and 60 with a variety of sleep problems, including insomnia, delayed sleep-phase syndrome, non-24-hour sleep-wake rhythm disorder and depression. The patients were successfully treated with 4.5 milligrams of vitamin B<sub>12</sub> per day, divided into three equal doses. Vitamin B<sub>12</sub> levels increased two to four fold during the therapy. Another study, that was presented at the 5th World Congress of Biological Psychiatry in 1991, had eight subjects between the ages of 12 and 63, with a variety of

sleep-wake rhythm disorders. Two of the patients had 24-hour sleep-wake rhythm disorder, four had delayed sleep-phase syndrome and two had insomnia. Patients were given 1.5 milligrams of vitamin B<sub>12</sub> three times per day. Symptoms improved in the patients with the sleep-wake rhythm disorder, in the patients with insomnia and in one of the patients with the delayed sleep-phase syndrome. In 1 case phototherapy was utilized at 2500 lux every morning for 2 hours when vitamin B<sub>12</sub> therapy was not beneficial during the first month. The light therapy produced a significant improvement in the sleep disorder. The authors of the second study noted that patients with sleep issues who respond to B<sub>12</sub> therapy are not necessarily deficient in vitamin B<sub>12</sub>. It is also noted that the sleep-wake rhythm disorder relapsed several days or a few weeks after discontinuation of the medication.

A study appeared in *Blood* (August 15, 1998;92(4):1191-1198) that looked at 38 patients who were diagnosed with vitamin B<sub>12</sub> deficiency. The patients were given either a 1 milligram intramuscular injection of cobalamin (on days 1, 3, 7, 10, 14, 21, 30, 60 and 90) or a two milligram oral dose for four months. After four months of therapy, cobalamin levels were higher, and homocysteine levels and methylmalonic acid levels were lower in the group receiving the oral therapy.

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## INSULIN INSENSITIVITY AND SLEEP

Research published in *Family Practice News* (April 1, 2005:1,4) looked at 44 healthy adults and their sleep patterns. Half of the group slept a normal amount of time each night (averaging 7 hours, 52 minutes of sleep each night) and half of whom were described as chronic "short sleepers", averaging only 5 hours and 16 minutes of sleep each night. Overall, the short sleepers tended to have lower insulin sensitivity when compared to the group who slept normally. In general, obesity is inversely related to the amount of time spent sleeping. Sleep deprived individuals generally experienced improved results on glucose tolerance tests when they increase the amount of sleep they get.

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## VITAMIN B<sub>12</sub>, TESTING AND COGNITION

Testing for serum cobalamin may not be the best way to check for a B<sub>12</sub> deficiency. Research appearing in the *American Journal of Hematology* (1990;34:99-107) found that elevated homocysteine and elevated methylmalonic acid occurred in 95% of patients with cobalamin deficiency, whereas only 69% of these patients demonstrated a low serum cobalamin. The study reviews 419 cases of B<sub>12</sub> deficiency. The subjects were determined to have a B<sub>12</sub> deficiency based on symptoms. Vitamin B<sub>12</sub> deficiency was determined as a syndrome affecting the tongue, nervous system and/or hematopoietic system that responded to B<sub>12</sub>. A dozen of the subjects had symptoms of B<sub>12</sub> deficiency, but serum cobalamin was higher than 200 pg/ml. The authors of the study concluded that measuring homocysteine or methylmalonic acid is a much better way to determine B<sub>12</sub> levels than serum cobalamin. Serum cobalamin is normal in a significant number of patients who are B<sub>12</sub> deficient. It should be noted that homocysteine may be elevated due to a folic acid deficiency, and that will not respond to B<sub>12</sub> alone.

Vitamin B<sub>12</sub> levels tend to decrease with age, this was verified by research appearing in the *Archives of Family Medicine* (October 1994;3:918-922). Many problems with depression, cognition or other mental issues that are experienced by the elderly may be due to vitamin B<sub>12</sub> or

folic acid deficiency. One study that appeared in the *European Journal of Clinical Investigation* (1994;24:600-606), looked at 296 elderly patients diagnosed with mental disease. Serum folate, homocysteine, and cobalamin were measured. Over 7% of these patients had normal serum cobalamin levels, but high homocysteine. Treatment of these patients with vitamin B<sub>12</sub> injections reduced homocysteine levels. Addition of folic acid to the treatment also lowered homocysteine in patients with low folate.

Vitamin B<sub>12</sub> does seem to help with cognitive function. A small pilot study, appearing in the *Journal of the American Geriatric Society* (February 1992;40(2):168-172) looked at 22 subjects with low serum B<sub>12</sub> levels in conjunction with cognitive dysfunction. The subjects received B<sub>12</sub> injections (1000 milligrams) daily for one week, weekly for four weeks then monthly for a period of six months. At the beginning of the study and after at least six months of therapy, the subjects were evaluated with the Mattis Dementia Rating Scale. Of the 18 patients who finished the study, 11 showed improvement. The amount of improvement experienced by the subjects correlated with the amount of time they had exhibited symptoms. The authors of this study believe that there is a narrow window of opportunity to treat patients with cognitive problems due to vitamin B<sub>12</sub> deficiency and that elderly patients should be regularly screened. Research has shown that high oral doses of B<sub>12</sub> works as well as injection.

One of the first duties of the physician is to educate the masses not to take medicine.

Sir William Osler

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## **IS GREEN TEA GOOD FOR YOUR HEART?**

A study that appeared in *Clinical Research in Cardiology* (March 10, 2010, epublished), looked at the effect epigallocatechin-3-gallate (also called EGCG, which is an antioxidant extract [polyphenol] from green tea) had on patients with amyloidosis involving the heart. Amyloidosis is a disease that occurs when proteins accumulate abnormally in the organs. Amyloid protein is an abnormal protein that is produced by cells in the bone marrow. Amyloidosis affects different organs in different people and can affect the heart, liver, spleen, kidneys or nervous system. The disease begins in the bone marrow. One of the roles of bone marrow is to make antibodies, which are proteins that help protect against infection. In amyloidosis, the body has trouble breaking down those proteins. The proteins accumulate and are deposited in various organs. The signs and symptoms of amyloidosis vary, depending upon

which organs are affected. Symptoms may include swelling of the lower extremities, extreme fatigue, weakness, shortness of breath, numbness or tingling in the hands or feet, weight loss, enlarged tongue, irregular heartbeat, difficulty swallowing, purplish patches around the eyes, skin changes (including thickening of the skin and easy bruising), irregular heartbeat and protein in the urine.

The subjects of the study were 59 patients who had amyloidosis, with cardiac involvement. The subjects were placed in one of two groups. One group consumed green tea, the other, acting as a control, did not. The group that consumed the green tea had a decrease in the thickening of the heart wall and a decrease in the size of the left ventricle. They also had improvement in cardiac efficiency (increase in the left ventricular ejection fraction). The control group enjoyed none of these improvements.