Chronic Fatigue Syndrome

No single cause for chronic fatigue syndrome (CFS) has been identified; therefore, it is defined by symptoms and by eliminating other known causes of fatigue, which needs to be done by a healthcare practitioner. Suggested causes include chronic viral infections, food allergy, adrenal gland dysfunction, and many others. None of these have been convincingly documented in more than a minority of sufferers. The current definition is disabling fatigue lasting more than six months, reducing activity by more than half. In some people there is also difficulty sleeping, swollen lymph nodes, and/or mild fever. When there is muscle soreness, fibromyalgia may be the actual problem. Although CFS is considered a modern diagnosis, it may have existed for centuries under other names, such as “the vapors,” neurasthenia, “effort syndrome” (diagnosed in World War I veterans), hypoglycemia, and chronic mononucleosis.

Lifestyle changes that may be helpful: Exercise is important to prevent the worsening of fatigue. Many patients report feeling better after undertaking a moderate exercise plan.1 2 If exercise seems to lead to consistently worsening fatigue, individuals should consult a physician before continuing. Highly stressful situations should be avoided; coping mechanisms for dealing with stress can sometimes be maximized by behavioral therapy.3
**Dietary changes that may be helpful:** Some nutritionally oriented doctors believe that for people with CFS who have low blood pressure, salt should not be restricted. In CFS sufferers who have a form of low blood pressure triggered by changes in position (orthostatic hypotension), some have been reported to be helped by additional salt intake.4 People with CFS considering increasing salt intake should consult a nutritionally oriented doctor before making such a change. See the section on herbs for more information on blood pressure and CFS.

**Nutritional supplements that may be helpful:** The combination of potassium aspartate and magnesium aspartate has shown benefits for chronically fatigued people in several studies.5 6 Usually 1 gram is taken twice per day. Results have been reported within one to two weeks.

Magnesium levels have been reported to be low in CFS sufferers.7 In that double blind trial, injections with magnesium improved symptoms for most people. Oral magnesium supplementation has also improved symptoms in those people with CFS who had low magnesium levels in another report, although magnesium injections were sometimes necessary.8 These researchers report that magnesium deficiency appears to be very common in people with CFS. Nonetheless, several other researchers report no evidence of magnesium deficiency in people with CFS.9 10 11 The reason for this discrepancy remains unclear. If people with CFS do consider magnesium supplementation, it makes sense to have magnesium status
checked beforehand by a nutritionally oriented doctor. It appears that only people with magnesium deficiency benefit from this therapy.

Vitamin B12 deficiency can cause fatigue. Occasionally, however, reports,12 even double blind,13 have shown that people who are not deficient in B12 nonetheless have increased energy following a series of vitamin B12 injections. Some sources in conventional medicine have discouraged such people from getting B12 shots despite evidence to the contrary.14 However, some nutritionally oriented doctors have continued to take the limited scientific support for B12 seriously.15 In one unblind trial, 2,500–5,000 mcg of vitamin B12 given by injection every two to three days, led to improvement in 50–80% of a group of people with CFS; most improvement appeared after several weeks of B12 shots.16 While the research in this area remains preliminary, people with CFS considering a trial of vitamin B12 injections should consult a nutritionally oriented doctor. Oral or sublingual B12 supplements are unlikely to obtain the same results as injectable B12 because the body’s ability to absorb large amounts is relatively poor.

Carnitine is required for energy production in the powerhouses of the cells (the mitochondria). There may be a problem in the mitochondria in people with CFS. Deficiency of carnitine has been seen in some CFS sufferers.17 One gram of carnitine taken three times daily led to improvement in CFS symptoms in a recent preliminary investigation.18
NADH (nicotinamide adenine dinucleotide) helps make ATP, the energy source the body runs on. One study suggested that NADH may help people with chronic fatigue syndrome. In the double blind portion of that report, almost one third of people with CFS showed evidence of significant improvement. Some nutritionally oriented doctors suggest amounts of at least 2.5 mg per day. However, research in this area remains preliminary.

**Are there any side effects or interactions?** Refer to the individual supplement for information about any side effects or interactions.

**Herbs that may be helpful:** Newer research suggests that CFS may be partially due to low adrenal function resulting from different stressors (e.g., mental stress, physical stress, and even viral illness) impacting the normal communication between the hypothalamus, pituitary gland, and the adrenal glands. Licorice root is known to stimulate the adrenal glands and to block the breakdown of active cortisol in the body. One case report found that taking 2.5 grams of licorice root daily led to a significant improvement in a man with CFS. While there have been no large clinical trials to test licorice in patients with CFS, it may be worth a trial of six to eight weeks using 2–3 grams of licorice root daily.

Adaptogenic herbs such as Asian ginseng and Eleuthero may also be useful for CFS patients—they not only have an immunomodulating effect but also help support the normal
function of the hypothalamic-pituitary-adrenal axis, the hormonal stress system of the body. These herbs are useful follow-ups to the six to eight weeks of licorice root and may be used for long-term support of adrenal function in persons with CFS.

**Are there any side effects or interactions?** Refer to the individual herb for information about any side effects or interactions.

**References:**