

**Recommended for persons with Chronic Fatigue Syndrome  
(or Fibromyalgia) □  
who are anticipating surgery**

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Chronic Fatigue Syndrome (CFS) is a disorder characterized by severe debilitating fatigue, recurrent flu-like symptoms, muscle pain, and neurocognitive dysfunction such as difficulties with memory, concentration, comprehension, recall, calculation and expression. A sleep disorder is not uncommon.

- All of these symptoms are aggravated by even minimal physical exertion or emotional stress, and relapses may occur spontaneously.
- Although mild immunological abnormalities (T-cell activation, low natural killer cell function, dysglobulinemias, and autoantibodies) are common in CFS, subjects are not immunocompromised and are no more susceptible to opportunistic infections than the general population.
- The disorder is not thought to be infectious, but it is not recommended that the blood or harvested tissues of patients be used in others.
- Intracellular magnesium and potassium depletion has been reported in CFS. For this reason, serum magnesium and potassium levels should be checked pre-operatively and these minerals replenished if borderline or low. Intracellular magnesium or potassium depletion could potentially lead to cardiac arrhythmias under anesthesia.
- Up to 97% of persons with CFS demonstrate vasovagal syncope (neurally-mediated hypotension) on tilt table testing, and a majority of these can be shown to have low plasma volumes, low RBC mass, and venous pooling. Syncope may be precipitated by catecholamines (epinephrine), sympathomimetics (isoproterenol), and vasodilators (nitric oxide, nitroglycerin,  $\alpha$ -blockers, and hypotensive agents). Care should be taken to hydrate patients prior to surgery and to avoid drugs that stimulate neurogenic syncope or lower blood pressure.
- Allergic reactions are seen more commonly in persons with CFS than the general population.

For this reason, histamine-releasing anesthetic agents (such as pentothal) and muscle relaxants (curare, Tracrium, and Mevacurium) are best avoided if possible. Propofol, midazolam, and fentanyl are generally well-tolerated.

- Most CFS patients are also extremely sensitive to sedative medications—including benzodiazepines, antihistamines, and psychotropics—which should be used sparingly and in small doses until the patient’s response can be assessed.
- Herbs and complementary and alternative therapies are frequently used by persons with CFS and Fibromyalgia (FM). Patients should inform the anesthesiologist of any and all such therapies, and they are advised to withhold such treatments for at least a week prior to surgery, if possible.
- Of most concern are garlic, ginkgo, and ginseng (which increase bleeding by inhibiting platelet aggregation); ephedra or ma huang (may cause hemodynamic instability, hypertension, tachycardia, or arrhythmia), kava and valerian (increase sedation), St. John’s Wort (multiple pharmacological interactions due to induction of Cytochrome P450 enzymes); and Echinacea (allergic reactions and possible immunosuppression with long term use).
- The American Society of Anesthesiologists recommends that all herbal medications be discontinued 2-3 weeks before an elective procedure. Stopping kava may trigger withdrawal, so this herbal (also known as awa, kawa, and intoxicating pepper) should be tapered over 2-3 days.
- Finally, HPGA Axis Suppression is almost universally present in persons with CFS, but rarely suppresses cortisol production enough to be problematic. Seriously ill patients might be screened, however, with a 24 hour urine free cortisol level (spot or random specimens are usually normal) or Cortrosyn stimulation test, and provided cortisol supplementation if warranted. Those patients who are being supplemented with cortisol should have their doses doubled or tripled before and after surgery.

### **Summary Recommendations**

- Insure that serum magnesium and potassium levels are adequate.
- Hydrate the patient prior to surgery.
- Use catecholamines, sympathomimetics, vasodilators, and hypotensive agents with caution.
- Avoid histamine-releasing anesthetic and muscle-relaxing agents if possible.
- Use sedating drugs sparingly.

- Ask about herbs and supplements, and advise patients to taper off such therapies at least one week before surgery.
- Consider cortisol supplementation in patients who are chronically on steroid medications or who are seriously ill.
- Relapses are not uncommon following major operative procedures, and healing is said to be slow but there is no data to support this contention.

I hope that you have found these comments useful, and that they will serve to reduce the risk of surgical procedures.

Yours truly,

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### **Bibliography**

Bates DW, Buchwald D, et al., "*Clinical laboratory findings in patients with CFS*," 1995 Jan 9, *Arch Int Med* 155:97-103

Klimas NG, Salvato FR, et al., "*Immunologic abnormalities in CFS*," 1990 Jun, *J Clin Microbiol* 28(6): 1403-1410

Caligiuri M, Murray C, Buchwald D, et al., "*Phenotypic and functional deficiency of natural killer cells in patients with CFS*," 1987 Nov 15, *J Immunol.* ;139(10):3306-13

Cox IM, Campbell MJ, Dowson D, "Red blood cell magnesium and CFS," 1991 Mar 30, *Lancet* 337: 757-760.

Burnet RB, Yeap BB, Chatterton BE, Gaffney RD, "Chronic fatigue syndrome: is total body potassium important?" *Med J Aust.* 1996 Mar 18;164(6):384.

Bou-Houlaigah I et alia, "The relationship between neurally mediated hypotension and the chronic fatigue syndrome," *JAMA* 1995; 274:961-967

Streeten D & Bell DS, "Circulating blood volume in CFS," *J of CFS* 1998; 4(1):3-11

Kowal K, Schacterle RS, Schur PH, Komaroff AL, DuBuske LM, "Prevalence of allergen-specific IgE among patients with chronic fatigue syndrome,"  
*Allergy Asthma Proc*  
. 2002 Jan-Feb;23(1):35-39

Ang-Lee MK, Moss J, Yuan CS, "Herbal medications and perioperative care," 2001 Jul 11, *JAMA* 286(2):208-216

Demitrack MA, Dale JK, Straus SE et alia, "Evidence for impaired activation of the hypothalamic-pituitary-adrenal axis in patients with chronic fatigue syndrome," *J Clin Endocrinol Metab*  
. 1991 Dec;73(6):1224-34

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