## <u>Do We Know Anything About Chronic Fatigue Syndrome?</u> Jeannette Guerrasio, MD

Chronic fatigue syndrome (CFS) is defined as a feeling of moderate to severe fatigue lasting half of the time for at least six months. Other criteria include: worsening fatigue after exercise, unrefreshing sleep, cognitive impairment, and low blood pressure related to body position. Some patients will have joint aches and feel feverish, despite a completely normal exam, normal examination of muscles under a microscope and normal nerve conduction tests. While fatigue is very common, CFS is much less common.

The cause of CFS is unknown but multiple potential avenues have been studied including viruses, immune dysfunction, endocrine-metabolic dysfunction, and neuropsychiatric factors, which includes sleep disruption. Epstein-Barr Virus, retroviruses, human herpesvirus type 6 (HHV-6), enteroviruses, Ross river virus, and Borna disease virus have been investigated. Bacteria such as those that cause Q fever and Lyme disease have also been explored. Genetic studies suggest that a number of physical and emotional stressors could trigger CFS. The diagnosis is made by symptoms alone. If Dave and I thought you had CFS, we would would likely check other labs such as a complete blood count with differential count, chemistry screen, thyroid-stimulating hormone level, and creatine kinase (if muscle pain or weakness is present). The labs would be drawn to rule out other possible diseases. There are no tests to diagnose CFS.

There are still no curative treatments for CFS, and honestly given the broad diagnostic criteria, I suspect once we understand it better, we will learn that it is multiple diseases that have been lumped together. Currently, treatment is targeted at symptoms alone.

**Sleep disorders** — After evaluation for sleep disorders, patients need to establish healthy consistent sleep habits. Over the counter and prescription sleep aids may help. Some patients with CFS benefit from low dose nortriptyline to help with sleep.

**Pain** — Pain usually occurs in the form of tension headaches, muscle and joint aches, and sensitive skin. Tylenol, ibuprofen and naproxen are the treatments of choice. If those are unsuccessful, duloxetine is the next line of treatment.

**Depression and anxiety** — Depression and anxiety may occur as a consequence of CFS. Therapy, such as CBT, tends to be much more helpful for depression and anxiety in patients with CFS than medication.

**Cognitive difficulties** — The treatment is to improve sleep and treat depression and anxiety that can further compromise one's ability to think clearly.

**Dizziness and lightheadedness** — For these symptoms, patient with CFS need to keep themselves well hydrated. There may be a role for fludrocortisone and atenolol.

**Fatigue** — Physical activity is crucial but complicated since it can exacerbate CFS. Patients must determine their individual limits, which can then be pushed very gradually and incrementally. Consistency and persistence are the keys to success. The term is grade physical activity.

Several interventions were studied and found to be of no benefit: Dietary modifications, an antiviral medication called acyclovir, antibiotics, medication that inhibit inflammation like anakinra or rituximab, dementia medications like galantamine and amantadine, steroids, immune globulin to boost your immune system, ADD or ADHD medications to help with focus such as methylphenidate or modafinil, medications for heart burn like cimetidine, interferon, magnesium, B12, porcine liver extract, dialyzable leukocyte extract, essential fatty acids, evening primrose oil, Biobran MGN-3 (a natural killer cell stimulant), and removal of dental fillings.

Progress is slow. If you or someone you know has CFS, help them to be patient and support them in having the strength to hang in there. The short-term prognosis is disappointing with 73% having functional impairment in the first 6 months. By 2-4 years, 33% have functional impairments. The medical community understands the subtle chemical shifts that occur in the endocrine, immune and neuropsychiatric systems from CFS, but not enough yet to affect the how the disease impacts humans. Don't lose hope. It is definitely an abnormal response of the body and there are scientists and doctors working on it daily. Any day there may be a break through. Surely, in my lifetime (and even Dave's!) there will.