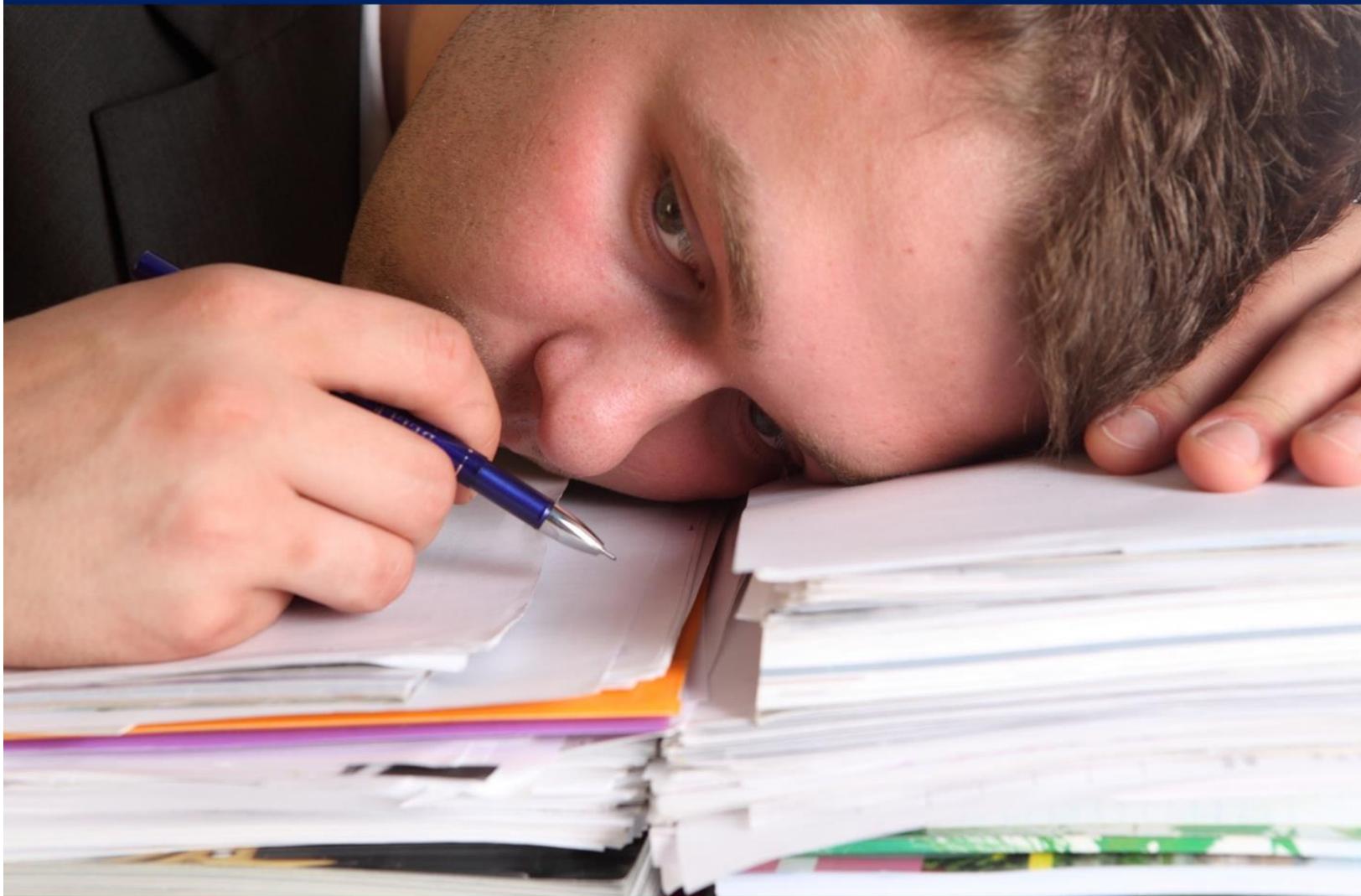


# **CHRONIC FATIGUE SYNDROME**



**Medical Reasons For Constant  
And Long Term Exhaustion**

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## What Is Chronic Fatigue Syndrome

Chronic fatigue syndrome is a complicated and debilitating physical disorder that results in extreme fatigue that is chronic, cyclical, and unimproved by resting. Physical activity or mental stress can worsen the symptoms, so that there are mind as well as body symptoms.

CFS can affect the muscles, memory, concentration, and sleep abilities so that it ends up being a vicious cycle of sleep deprivation, worsened symptoms, and even less sleep.

Participation in daily activities becomes too difficult and the individual becomes more debilitated as time goes on. The condition can be devastating to the sufferer and his or her family.

Bed rest does not improve the symptoms and any type of mental exertion or physical activity can make the symptoms worse so that the level of activity of the individual suffering from CFS is markedly decreased when compared to their pre-illness levels.

Other common symptoms of CFS is aching muscles, memory impairment, post-exertional malaise lasting in excess of 24 hours, insomnia, and concentration difficulties that can last for many years.

To make matters worse, the exact cause of chronic fatigue syndrome has not yet been identified. There are no tests for the disease. It is considered a diagnosis of exclusion, meaning that other causes of the symptoms need to be ruled out in order to make the diagnosis of CFS.

**The Centers For Disease Control uses a specific set of criteria that must be met in order to meet the diagnostic criteria for chronic fatigue syndrome. These include:**



- The presence of severe and chronic fatigue lasting at least six consecutive months or more that is unassociated with heavy exertions or another medical problem.
- The chronic fatigue greatly interferes with work or other daily activities.
- The sufferer has four out of eight symptoms:
  - Sleep that does not refresh the individual

- Malaise after exertion that lasts more than a day
- Muscle aches
- Short term memory loss or concentration deficit
- Joint pain unassociated with redness or swelling
- Sore throat that is recurring or happens frequently
- Sore lymph nodes in the axilla or neck
- Headaches different from pre-illness headaches

The symptoms need to have occurred during the six months that the fatigue began and can't have appeared first before the onset of the fatigue.

## Prevalence

- ✓ It is estimated that 4 million people suffer from chronic fatigue syndrome (CFS) in the US with about 85% of them being undiagnosed.
- ✓ It is a condition that affects people from all populations, including all races, socioeconomic levels, ethnicities, and location of residence.
- ✓ Women have about 3-5 times the incidence of the disease when men, with a peak age at onset of between 40 and 59 years.
- ✓ It can be seen in children but at a much less likelihood.
- ✓ CFS places a great impact on economics in the US, resulting in \$9 billion USD per year in disability benefits, lost wages, and medical costs.
- ✓ For each family affected by chronic fatigue syndrome, there is a loss of \$20,000 USD per year.
- ✓ Partial recovery from CSF is possible in about half of all cases. If it is not treated early enough, the course of the disease is longer and the prognosis for recovery is poorer.

The complications of not treating the disease is a reduction in the ability of natural killer cells in the body, which can lead to an increase in certain types of cancer in women, especially cervical cancer. A lack of immune function abilities can contribute to cancers that are related to poor immune function.

## Possible Causes

There has been a lot of research as to the cause of CFS; however, there has been no specific cause of the condition identified. Some researchers believe there is a single trigger for the disease, while others believe there might be several different triggers. Possible causes for CFS have been speculated upon, including the following:

- Dysfunction of the immune system
- Infections causing the fatigue
- Neurally-mediated hypotension (Extremely low blood pressure)
- Some kind of nutritional deficiency
- Excess stress that activates the hypothalamic-pituitary-adrenal axis leading to adrenal release of epinephrine, norepinephrine, and cortisol, and which can result in adrenal insufficiency



### Possible Causes Of CFS In Depth:

- **Infection.** There have been many different types of infection implicated in the causation of CFS. These include Epstein-Barr virus, which is the same virus that leads to mononucleosis. There is also Human herpesvirus 6 infection, which is a virus that seems to be more prominent in patients with immune suppression, such as those with HIV or organ transplantation patients. Enterovirus infections, which gives flu-like symptoms has been implicated as has rubella infections. Some believe a fungal cause of CFS could be *Candida albicans*, while others have studied bornaviruses, which lead to neurological infections. *Mycoplasma* infections have been looked at as well as Ross River virus, *Coxiella burnetti* (Q fever infections), human retrovirus infections, and xenotropic murine leukemia virus-related virus, which is a retrovirus. Researchers are looking for previously unknown viruses. Some of

the above infections do lead to illnesses that meet the criteria for CFS but they aren't found universally in all patients who have CFS.

- **Allergies and the Immune System.** There has been research looking into the effect of immune system disturbances and the development of CFS. It has been suspected that stress on the body or viral infections can lead to cytokine production, causing symptoms of CFS. Autoantibodies have been detected in some CFS patients. There hasn't been any associated tissue damage as is seen in other cases of autoimmune disease. Things like opportunistic infections or cancer as is seen in immunosuppressed patients hasn't been universally seen in CFS. In some cases, T-cell activation markers are different in CFS patients but this, too, hasn't been consistent. Allergies may cause CFS symptoms in some people but not all CFS patients have been shown to have allergies.
- **HPA Axis Effects.** CFS is directly affected by the central nervous system. Certain kinds of emotional or physiological stress have been found to pre-date the onset of CFS in some people. It has been found that some CFS patients make less cortisol than is found in healthy controls. This has been found in those who have related diseases like fibromyalgia. This, however, is not universally the case so researchers are left to wonder what the relationship is between the HPA axis and CFS.
- **Neurally mediated hypotension.** CFS patients have a higher risk of neurally mediated hypotension with symptoms of lightheadedness and low blood pressure when going from a lying to standing position. Hot showers or other warm places also trigger neurally mediated hypotension. Unfortunately, not all CFS patients will have neurally mediated hypotension but may have worsened symptoms with changes in position, an increase in activity, or lack of fluid intake.
- **Nutritional deficiency.** There is no real evidence that poor diets contribute to chronic fatigue system but it is currently recommended that CFS patients get a well-balanced diet and are free of nutritional deficiencies for the best possible physical health.

## Statistics Of Diagnosis

According to the CDC, four million US citizens have chronic fatigue syndrome. It is more commonly diagnosed than lupus, multiple sclerosis, and many types of cancerous conditions. The disease is four times more common in women than in men but affects both men and women. People of all ages can get chronic fatigue syndrome but it often begins when a person is in their 40s or 50s. Adolescents get the disease more commonly than younger children.

CFS is a global disease, affecting all ethnic and racial groups. The incidence of CFS is the same among African-Americans, Caucasians, and Hispanics. It affects people of all different income levels. While it can be seen in members of the same family, this doesn't mean that the condition is contagious in any way. Genetics remains a possibility, however, but a link among family members hasn't been shown.

Because of the high incidence of CFS, it is clear that more research needs to be done in order to identify who gets the disease and who doesn't. It isn't even clear yet that CFS is a single disease. It may be a cluster of diseases that have similar symptoms or a condition with multiple etiologies.

## Signs And Symptoms In Men

Men and women have basically the same symptoms when they have CFS. The major symptom in both genders is unrelenting and unexplained fatigue that lasts for at least six months. This fatigue is unimproved by rest and is worsened by mental activity and increases in physical exertion. Men with CFS have declining stamina and a reduction in physical activity due to fatigue. Some men do not have fatigue as the most annoying symptom and instead are more bothered by some of the other symptoms of CFS.

**At least four of the classic eight symptoms must be present for a man to have the diagnosis of CFS.**

**These include:**

- Malaise lasting at least 24 hours after exertion
- Sleep that does not relieve the symptoms
- Short term memory loss and a lack of concentration
- Muscle pain
- Joint pain with no other arthritic symptoms
- New onset headaches that did not predate the fatigue
- Sore lymph nodes
- Recurrent sore throat



These are the core symptoms of CFS in both men and women. There are other symptoms that go along with CFS that are not considered core symptoms but go along with the disease in many cases.

## Signs And Symptoms In Women

Men and women have basically the same symptoms when it comes to CFS. Besides the core eight symptoms used in the diagnosis of CFS, the following symptoms can be associated with CFS and can be even more bothersome than the fatigue.

**Other symptoms seen in CFS include the following:**

- Depressive symptoms
- Irritable bowel syndrome
- Anxiety disorders
- Night sweats
- Chills
- Visual changes
- “Brain fog”
- Dizziness
- Problems being upright
- Fainting spells
- Allergic symptoms
- Food, odor, chemical, noise, and medication sensitivity



Because CFS has such a wide variety of symptoms, it can often be misdiagnosed or even overlooked altogether. Fatigue is a difficult thing to diagnose because it often shows up in many other conditions. Classically, the fatigue in CFS can be differentiated from that seen in other diseases because things like bed rest do not resolve the fatigue. Any type of mental or physical exertion can make the fatigue much worse. A person’s overall stamina level is decreased in CFS and this is independent of resting. It affects social activities, personal activities, work and educational activities. While the symptoms can wax and wane, they are usually present for at least six months straight.

Some people have more severe CFS than others. Some can stay active in spite of their fatigue while others have such an impact on them that they cannot participate in any physical activity without extreme symptoms. CFS can be as debilitating as many physical illnesses, such as COPD, end-stage kidney disease and multiple sclerosis.

CFS is often cyclical in nature with episodes of severe symptoms and episodes of feeling better. Some people will go into a sort of remission, only to have recurrences of their symptoms at a later date. It's often when they overexert themselves that the symptoms start up again.

## Risk Factors For Chronic Fatigue Syndrome

Because the cause of chronic fatigue syndrome is not really known, it is difficult to do anything about decreasing your risk factors for the disease.

Nevertheless, there are some risk factors for CFS that may be amenable to change. The main risk factors for chronic fatigue syndrome include the following:

- **Age.** Chronic fatigue syndrome is a condition that can happen to anyone at any time in his or her lives. Those at greatest risk for developing the condition, however, include people who are between 40 and 60 years of age. Unfortunately, this is an unchangeable risk factor.
- **Gender.** Women seem to have a higher risk of developing CFS when compared to men. The exact breakdown of CFS in men and women is not completely clear because women are more likely to see a doctor and explain their symptoms than men are.
- **Stress.** This is perhaps a changeable risk factor. People who can't manage stress may put themselves at risk for getting chronic fatigue syndrome. Stress seems to be a precursor to getting the disease in the first place.



CSF may in fact be avoidable in people who might otherwise be at risk for the disease but do what it takes to avoid stress in their lives.

How is chronic fatigue syndrome (or systemic exertion intolerance disease) diagnosed?

There is no x-ray, blood test or scan that can show the presence or absence of chronic fatigue syndrome. This means that chronic fatigue syndrome is considered a “diagnosis of exclusion”.



The challenges of diagnosing CFS besides the fact that there are not blood tests or markers for the disease are that fatigue and related symptoms are common to other physical and mental diseases. The symptoms may not be particularly obvious, further confusing the diagnosis. People with CFS have episodes of relapse and remission so they can appear well at times. The actual cluster of symptoms differs from person to person. Because of these challenges, only 20 percent of the 4 million people estimated to have CFS are properly diagnosed.

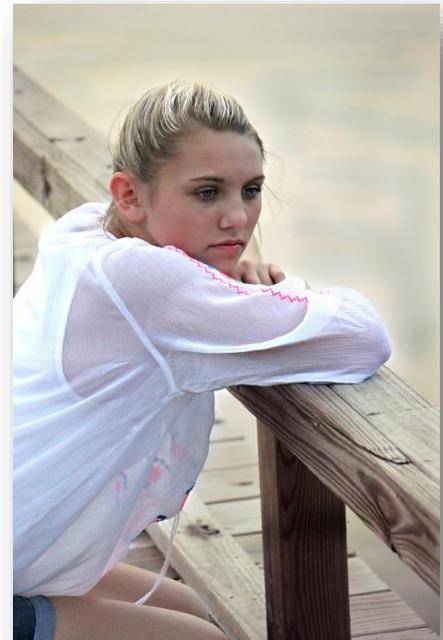
These factors have contributed to a low diagnosis rate. Of the one to four million Americans who have CFS, less than 20% have been diagnosed. It is important for those who think they may have CFS not to self-diagnose the disease but to seek professional medical assistance in order to identify whether or not they have the disease.

## Prognosis

Once an individual develops chronic fatigue syndrome, the disease tends to remain for the life of the individual even though it is not considered a fatal disease. One of the hallmarks of chronic fatigue syndrome is its waxing and waning status. The individual is marked with severe symptoms, often lasting more than six months at a time, in which they have significant impairment of their job, social relationships and activities of daily living. They may then have periods of lesser symptoms and perhaps periods of complete remission where they can function normally in their daily activities.

Exertion tends to bring on the symptoms so that the individual with CFS may overdo it at some point and will redevelop the same or similar symptoms all over again. The person may not have the same symptoms with each relapse but the phenomenon of fatigue that interferes with daily living is usually always present.

The good news is that the disease does not usually progress over time. People don't just get worse with age although they may tolerate their symptoms less as they get older. This is a chronically relapsing disease with few people actually recovering completely from the disease. A long period of time might pass between relapses but they occur nonetheless, especially if activity is overdone, even during a period of remission.



## IS IT POSSIBLE TO PREVENT CFS?

Without a definable etiology for chronic fatigue syndrome, it is difficult to identify ways to prevent the disease. So far, the best prevention is to avoid stress, which seems to pre-date getting the disease. This means that one can possibly avoid getting the disease by de-stressing your life.

You can reduce the amount of stress in your life by focusing on changing those life situations that are causing stress in your life. You can also reduce the amount of stress in your life by doing things like engaging in moderate physical activity (before the disease occurs), practicing meditation, practicing guided imagery, relaxing when over stressed, engaging in yoga as a mild form of relaxation and activity, and engaging in Asian forms of exercise, such as Tai chi and qi gong. These things can reduce the amount of stress in your life or can help you handle stress better. Stress reduction may do a great deal in helping avoid the onset of chronic fatigue syndrome and some of these techniques (those that don't involve strenuous exercise) can help you cope with chronic fatigue syndrome once it occurs.

Stress reduction is, as yet, not considered a cure for the disease but it may make having the symptoms more tolerable and reduce the stress of suffering from this chronic medical condition.

## Treatment of Chronic Fatigue Syndrome

There is no cure for chronic fatigue syndrome so that once you have the disease; you are at risk for relapses at any time in your life after that. Managing the disease can be complicated. There are medications that can be used to treat CFS symptoms and which can increase the symptom-free periods. People who have chronic fatigue syndrome need to keep track of their symptoms and talk to their doctor if there are any big changes in symptoms so that treatment modalities can be altered for the better.

Chronic fatigue syndrome should be managed using a team approach. The patients with CFS usually do better when they are managed by a group of doctors as well as rehabilitation specialists, mental health professionals, physical therapists, and exercise experts. This group of specialists can individualize the care of the individual with CFS using various combinations of therapeutic techniques that help the client cope with the disease, manage their day-to-day activities, and deal with their symptoms.



Because CFS affects people in unique ways, the actual treatment plan given to any one individual with the disease should be specifically tailored to the individual and the symptoms they present. The goal of treatment of chronic fatigue symptoms is to relieve the patient of their symptoms to the greatest disease possible. On the other hand, expecting that the CFS patient will be able to return to their pre-illness activities is not considered an immediate goal because it involves increasing one's physical and mental stamina usually results in an aggravation of the disease process and worsened symptoms in the long run. It's a delicate balance that requires the skill and expertise of seasoned professionals who are excellent at managing patients with the disorder.

Remember that chronic fatigue syndrome is a complex disease with the management of the disease best handled by a variety of skilled health professionals. This includes the assistance of the person's primary care physician who receives input from the various professionals in order to put together a specific program of mental and physical therapy that together can identify exactly what needs to be done.

## The Problems of Living with Chronic Fatigue Syndrome

It is an understatement to say that living with chronic fatigue syndrome is hard. It is similar to living with any other chronic and debilitating disease in that it requires a drastic change in the way the individual adapts to the condition. There are many new limitations in one's life that didn't exist before the onset of the condition.

### Typical problems associated with having CFS include:

- Coping with unpredictable and ever-changing physical and mental symptoms
- Handling a significant decrease in stamina that can lead to being debilitated
- Having memory and concentration difficulties that negatively impact school performance and work activities
- Struggling with a loss of independence, including a possible loss of job and economic health.
- Having a drastic change in one's relationships, including those with life partners, the rest of the family, work relationships, and relationships with friends.
- Having ongoing worries about how to raise one's family with a disability
- The person with CFS commonly deals with anxiety, guilt, angry feelings, feelings of abandonment and isolation. These feelings are typical of the disease but can lead to



unhealthy emotions and increased stress that can worsen the disease process.

Medications used to treat CFS can have side effects that can make recovering from the disorder all that much more difficult.

### **Treatment and Management Options for CFS Patients**

There are many different and successful treatment options for dealing with CFS so that the individual can have a much better quality of life.

One treatment tip involves managing the most difficult symptoms first, which usually involves managing:

- Pain
- Insomnia
- Fatigue
- Depression/Anxiety
- Memory difficulties
- Concentration difficulties
- Light headedness and dizziness

People with chronic fatigue syndrome must avoid extremes of activity and stress, have a reasonable activity program, and must partake in modified exercise programs for people who have severe, chronic illness.

Some things that are particularly helpful in the management of chronic fatigue system include the use of cognitive behavioral therapy or other professional therapy and support groups, which can do wonders in helping chronic fatigue syndrome patients come to grips with their disease.