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Fatigue

According to a National Health Interview Survey, over 15% of women and 10% of men in the United States experience <u>fatigue</u>. Fatigue is a state of having a lack of mental or physical <u>energy</u>, low interest or motivation, and increased feelings of tiredness.

Common types of fatigue

There are various types of fatigue, commonly classified by the duration of symptoms, including:

• Acute fatigue: less than one month

• Chronic fatigue: over six months

• Subacute fatigue: one to six months

Chronic fatigue syndrome (CFS), also known as myalgic encephalomyelitis (ME), is a condition characterized by debilitating fatigue and symptoms lasting over six months.

Signs, symptoms, and complications

Symptoms of fatigue can range from mild to severe and significantly affect quality of life. There are several possible mental and physical symptoms of fatigue.

Mental symptoms include:

- Difficulty concentrating
- Impaired memory
- Sleep issues

Physical symptoms include:

- Lowered physical stamina
- Weakness
- Weight loss or gain



A diagnosis of CFS/ME requires eliminating other possible causes of fatigue and identifying the following symptoms:

- Cognitive impairment, pain, and/or sleep disturbances
- Exhaustion following exertion
- Immune, gastrointestinal, or genitourinary symptoms (e.g., longer recovery from infection, flu-like symptoms, and environmental or food sensitivities)
- Symptoms of energy production or energy transportation impairment (e.g., respiratory fatigue, intolerance to extreme temperature)

Causes and risk factors

While CFS/ME has no known cause, fatigue may be associated with various underlying health conditions or result from certain dietary and lifestyle habits, including:

- Certain health conditions (e.g., acquired immunodeficiency syndrome (AIDS), cancer, dementia, <u>fibromyalgia</u>, heart failure, multiple sclerosis (MS), Parkinson's disease)
- Certain medications (e.g., antihistamines, antidepressants, painkillers)
- Depression and/or anxiety
- Dysfunction of mitochondria (organelles in body cells that produce energy)

- Endocrine (hormonal) conditions (e.g., adrenal insufficiency, <u>hypothyroidism</u>)
- Excessive caffeine or alcohol intake
- Nutritional deficiencies (e.g., <u>B vitamins</u>, iron, magnesium)
- Sleep deprivation, insomnia
- <u>Traumatic brain injury</u> (TBI)

Preventing and addressing fatigue

Various dietary and lifestyle approaches may be used to improve energy levels and fatigue. Keep in mind that fatigue treatment often requires addressing factors that contribute to your personal experience of fatigue, such as treating an associated health condition.



Diet

An overall <u>anti-inflammatory diet</u>, high in <u>omega-3 fatty acids</u>, fiber, and polyphenol-rich vegetables, may improve disease-related fatigue symptoms. The following table summarizes supportive dietary components, their function, and their common sources.

Dietary component	Function	Dietary sources
<u>B vitamins</u>	Support reactions that convert the energy from food to usable energy	Beef liver Dairy products (e.g., milk, yogurt) Eggs Fish and seafood (e.g., clams, tuna) Legumes Meat (e.g., pork, poultry)
<u>Coenzyme Q10</u> (CoQ10)	A component of the energy production process in the mitochondria	Broccoli Cauliflower Meat (e.g., beef, pork) Oily fish (e.g., herring, sardines, trout) Oranges Organ meats (e.g., heart, liver, kidney)
Iron	Essential for oxygen transport in the blood; used in enzymes required for cellular energy production	Dark chocolate Legumes (e.g., beans, lentils, soy products) Oysters Spinach
<u>Magnesium</u>	Required for cellular energy production; mitochondria store high levels of magnesium	Nuts and seeds (e.g., almonds, cashews, chia seeds, pumpkin seeds) Legumes (e.g., black beans, peanuts, soy products) Potatoes Spinach
Omega-3 fatty acids	Structural component of cell membranes; support cognitive and cardiovascular function	Chia seeds Fish (e.g., herring, mackerel, salmon, sardines) Flax seeds Walnuts
<u>Vitamin C</u>	Acts as an antioxidant; vitamin C deficiency can lead to altered mitochondrial function	Bell peppers Broccoli Brussels sprouts Citrus fruit (e.g., grapefruit, oranges) Strawberries

Physical activity

Research shows that regular low- to moderate-intensity aerobic <u>exercise</u> (three times per week over several weeks) can help mitigate fatigue and increase energy. Examples of low- and moderate-intensity activities include cycling, swimming, and walking.

Sleep

The National Institutes of Health (NIH) recommends that adults sleep a minimum of seven to eight hours per night. Maintaining consistent sleep and wake times and practicing proper <u>sleep hygiene</u>, such as dimming lights and limiting screen time in the evenings, can help improve your sleep.

Stress management

Studies suggest that <u>mindfulness</u> interventions, such as one that combines mindfulness-based cognitive therapy (MBCT), physical exercise, and stress management, are associated with reduced fatigue in individuals with chronic fatigue syndrome.

Other lifestyle considerations

Minimizing reliance on stimulants, such as <u>sugar</u>, coffee, tea, and energy drinks, can help maintain balanced energy levels. While stimulants temporarily increase energy levels, long-term consumption can negatively affect sleep quality and result in fatigue.

Limiting alcohol consumption can also improve sleep and energy. Although alcohol does cause drowsiness, its consumption interferes with hormones and neurotransmitters essential to sleep quality, such as <u>melatonin</u> and gamma-aminobutyric acid (GABA).



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