

CHRONIC FATIGUE SYNDROME



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DIAGNOSTICS



**CHRONIC FATIGUE
SYNDROME MUST BE
CONSIDERED AS A
SEPARATE CONDITION.**

CHRONIC FATIGUE SYNDROME

Up to 30 % of the population experiences fatigue and exhaustion from time to time, with women being significantly more affected than men. These symptoms can stem from various causes and are often a side effect of other illnesses. However, chronic fatigue syndrome (CFS) is distinct from general fatigue. CFS is a severe neuroimmunological disorder characterised by prolonged mental and physical exhaustion that does not hardly improves with rest, severely limiting the affected individuals' daily lives. Many sufferers are unable to work, and some become bedridden. Although CFS is relatively rare, affecting about 0.5 % of the population, chronic fatigue in a broader sense is much more common. It is important to distinguish CFS from typical tiredness or fatigue that accompanies other

illnesses. CFS is a separate and specific condition that requires its own consideration and treatment.

Symptoms:



FATIGUE



SWEATING



SLEEP DISORDERS



MUSCLE AND
JOINT PAIN,
HEADACHES



COGNITIVE
IMPAIRMENTS



IRRITABLE BOWEL
SYNDROME

OTHER ILLNESSES AS A CAUSE OF CHRONIC FATIGUE

The exhaustion and fatigue associated with CFS can often be symptoms of other underlying conditions. It is crucial to rule out common causes such as iron deficiency, anaemia, or hypothyroidism. For more information and diagnostic options, please visit our homepage or consult your trusted healthcare professional.

**THE FOLLOWING DISEASES CAN
LEAD TO GENERAL EXHAUSTION
AND FATIGUE:**

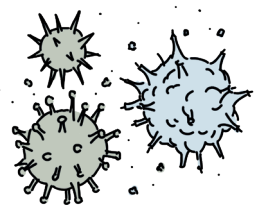
- diabetes
- autoimmune diseases
- adrenal fatigue
- iron deficiency
- anaemia
- hypothyroidism
- rheumatological diseases
- oncological diseases



Although the causes of CFS have not yet been elucidated completely, research provides good indications as to which factors may be relevant.

RELEVANT FACTORS:

- infections
- immunological defects
- poor gut health
- psychological stress
- nutrient deficiencies
- heavy metal exposure
- poor mitochondrial function



REACTIVATION OF VIRAL OR BACTERIAL INFECTIONS AND AUTOANTIBODY FORMATION

Scientists suspect that CFS symptoms may be due to the reactivation of latent viral infections. Autoantibodies are also considered a possible cause. To rule out such causes, biovis offers various screenings that show a reactivation of infections or the presence of relevant autoantibodies.

BIOVIS PROVIDES THE FOLLOWING SCREENINGS:

VIRAL CFS
REACTIVATION
SCREENING

CFS
AUTOANTIBODY
SCREENING

BORRELIA
FLUORESCENCE
ELISPOT

BORRELIA
SEROLOGY



GOOD TO KNOW

WHAT IS REACTIVATION?

Reactivation occurs when a virus, not completely eliminated during the initial infection, remains dormant in the body. After the initial infection is overcome, the viruses become inactive and typically do not cause any issues. However, under certain circumstances such as stress or a weakened immune system, they can become reactivated. The best-known examples of such viruses include the herpes simplex virus and the Epstein-Barr virus.

WHAT ARE AUTOANTIBODIES?

Antibodies are components of the immune system that bind to foreign particles (e.g., viruses) and mark them for disposal by immune cells. In contrast, autoantibodies are directed against the body's own tissues, leading to their destruction. Autoantibodies are characteristic of autoimmune diseases but are also associated with other conditions, including CFS.

TRYPTOPHAN METABOLISM

Tryptophan is an essential amino acid that serves as a precursor for many important compounds in the body, including serotonin and melatonin. Serotonin, often referred to as the 'happiness hormone', helps to regulate emotions and mood. Melatonin is a hormone that regulates the sleep-wake cycle, also known as the circadian rhythm. Tryptophan metabolism can also lead to the production of substances that are harmful to the nervous system. Therefore, alterations in tryptophan metabolism can have significant health implications.

GET TESTED BY US NOW:

TRYPTOPHAN
METABOLISM

including tryptophan, serotonin, and important metabolites and enzymes

THE ROLE OF GUT HEALTH IN CFS

Chronic Fatigue Syndrome is often associated with irritable bowel syndrome (IBS), which can cause inflammation and alter the gut microbiome. These changes can impair the absorption of nutrients, including tryptophan. Reduced tryptophan intake can affect the production of serotonin, a crucial neurotransmitter. An imbalance in intestinal bacteria can also lead to the development of bacterial uraemic metabolites, which are formed when intestinal bacteria break down amino acids. These metabolites can be harmful to the body, promoting inflammatory processes. biovis offers a screening for bac-

terial uraemic metabolites. If the results are positive, further gut-related testing may be warranted. For those with IBS, it is essential to examine digestive residues and markers for inadequate breakdown and absorption of food components. For more information about irritable bowel syndrome, please refer to the relevant patient flyer or consult your healthcare provider.

BIOVIS PROVIDES THE FOLLOWING SCREENINGS:

BACTERIAL
URAEMIC
METABOLITES

DIGESTIVE
RESIDUES

MALDIGESTION

MALAB-
SORPTION



GET YOUR GUT
BACK IN BALANCE.



MITOCHONDRIA - THE POWERHOUSES OF YOUR CELLS.

MITOCHONDRIAL FUNCTION

Mitochondria are responsible for producing the energy required by our cells and, consequently, our entire body. When our mitochondria do not function properly, energy production is reduced, leading to common symptoms such as tiredness and fatigue. Research has shown that important cofactors for energy production are often diminished in patients with CFS. In particular, coenzyme Q10, and NAD are essential for efficient energy production. biovis offers various screenings to analyse mitochondrial function. For further information, please contact your trusted healthcare professional.

OUR OFFER AT BIOVIS



To uncover the underlying causes of CFS, biovis offers a comprehensive profile alongside analyses of various individual parameters. The '**CFS Complete Profile**' provides all the crucial information needed to identify potential causes. In the **Basic** and **Midi profiles**, missing parameters are supplemented with empirical data. For further information, please contact your trusted healthcare professional.





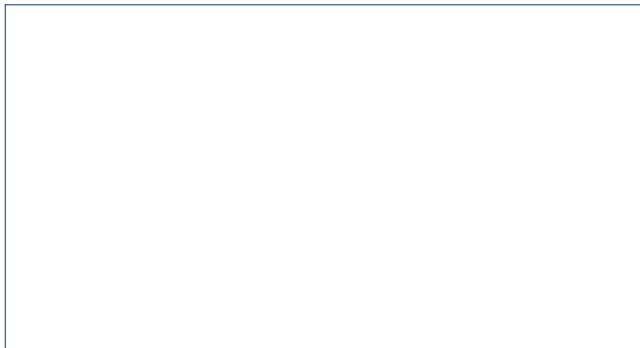
If you have any further
questions, please
contact the medical
professionals you
trust.



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Presented by



Practice stamp

Further information
can be found here:



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