

# What causes chronic fatigue? What we know, don't know and suspect

May 24 2018, by Mark Guthridge

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The term chronic fatigue underemphasises the full scope of symptoms sufferers face. Credit: vladislav muslakov unsplash

Around [200,000 people in Australia](#) suffer from a debilitating illness often branded with the unfortunate name of chronic fatigue syndrome (CFS). I say "unfortunate" because this implies patients are simply tired, run-down, burnt-out or overly stressed.

But myalgic encephalomyelitis, or ME/CFS as it is now more commonly called, is a serious and incapacitating disease that can have a devastating impact on a patient's life. [Symptoms](#) include:

- profound and unexplained fatigue for more than six months
- memory or concentration difficulties
- muscle pain (myalgia) and weakness
- joint pain
- sleep disturbances
- flu-like symptoms
- light headedness, palpitations, breathlessness
- headaches
- heightened sensitivity to light and sound
- tender lymph nodes, sore throats
- new sensitivities to food, medicines or chemicals.

Initially bewildered by their incapacitating fatigue, many ME/CFS patients continue trying to go about their daily lives. But such efforts come at a severe cost. Even small amounts of activity can trigger "crashes" called [post-exertional malaise](#) that worsen symptoms, sometimes for many days.

Simple activities such as showering, grocery shopping or meeting a friend for coffee become difficult, if not impossible. Sadly, for around [25% of patients](#), symptoms are so severe they remain bed-bound or house-bound, and [suicide](#) risk is elevated.

Most patients face a [major challenge](#) getting a diagnosis. One UK study

found [less than half of doctors](#) were confident with the diagnosis or treatment of ME/CFS and [more than 85%](#) of patients go from doctor to doctor for over two years without a diagnosis.

## What we know

The underlying causes of ME/CFS have proved difficult to pinpoint. For many patients, blood and pathology testing are entirely normal.

This has led some to suggest ME/CFS is a psychological condition. In 2011, the findings of a [clinical trial](#) suggested patients [could recover](#) through psychological therapy (cognitive behavioural therapy or CBT) and graded exercise therapy. These findings have fuelled debate as to whether ME/CFS might be a [disease of the mind](#).

But a [landmark US study](#) examining nearly 10,000 research publications suggested otherwise, concluding that ME/CFS is a serious, chronic, complex and systemic disease.

Criticisms of psychological and exercise therapy for ME/CFS have been widespread, with over 50 published letters in leading scientific journals ([BMJ](#), [Journal of Health Psychology](#), [Nature](#), [Lancet](#)) raising serious concerns about the [robustness of the claims](#).

[Australian guidelines](#) continue to recommend exercise and CBT therapies despite the US [Centers for Disease Control and Prevention](#) discontinuing these recommendations.



Credit: Ann H from Pexels

While exercise can clearly benefit patients with a wide range of illnesses, physical activity can cause a rapid [deterioration of symptoms](#) in patients with ME/CFS.

## **What we don't know**

There are no laboratory tests available to categorically diagnose someone with ME/CFS. But Australian research is playing a leading role in the discovery of possible diagnostic markers. For example, inflammatory blood proteins such as [activin B](#) and [interferon](#) are increased in ME/CFS. Other studies have shown [metabolic waste products](#) from some gut

bacteria accumulate in ME/CFS patients and so may also provide diagnostic information in the future.

Women are [four times](#) more likely to be diagnosed with ME/CFS than men, but the reason for this is unclear. Also, having a first-degree relative with ME/CFS [more than doubles the risk](#) of developing the disease, but the role of genetics is not known.

For some, the onset of symptoms is slow. In others, ME/CFS begins with [infections](#) causing [glandular fever](#) (infectious mononucleosis), [respiratory or gastrointestinal illnesses](#).

While ME/CFS patients have [immune disruptions](#) and [abnormal inflammatory responses](#), the underlying causes remain elusive. The vicious cycles of tissue damage typical of autoimmune diseases such as multiple sclerosis or lupus don't seem to occur in ME/CFS.

One theory is that ME/CFS patients have a "chink" in their immunological armour, possibly leading to [persistent "smouldering" infections](#) and chronic inflammation.

But it's remarkably difficult to find direct evidence for such ongoing infections in [most ME/CFS patients](#). And [antiviral drugs](#) or [antibiotics](#) seem to have very modest activity in ME/CFS despite their life-saving activities in many other infectious diseases.

ME/CFS [patients](#) also have metabolic defects in the way [energy](#) is generated in their bodies—pointing to one reason why they rapidly succumb to muscle fatigue during exercise. But whether this metabolic defect is due to immune attack, chronic infection or some other cause is unknown.

With no approved treatments or cures for ME/CFS, more research is

urgently needed. So far, clinical trials examining the effects of [immunosuppressive drugs](#), [antibody therapies](#), [anti-viral drugs](#), [attention deficit hyperactivity disorder therapies](#) and [anti-depressants](#) have not led to major improvements.

[Diets and nutritional supplements](#) also seem to provide little help. While some dietary supplements involved in generating [metabolic energy](#) seem to improve some ME/CFS symptoms, larger and better studies are required.

A [reboot of ME/CFS research](#) is now underway. Sufferers are hopeful the recent establishment of a [National Health and Medical Research Council ME/CFS Advisory Committee](#) will reinvigorate Australian biomedical ME/CFS research to find new treatments and possibly a cure.

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