

# What is, and what isn't, 'brain fog?'

October 25 2022, by Sarah Hellewell

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Credit: [Unsplash/Uday Mittal](#), [CC BY](#)

The COVID pandemic has introduced many scientific and medical terms into our everyday language. Many of us are now fluent in conversations about viral strains, PCR tests and mortality rates. "Brain fog" has joined these ranks to describe a now-familiar symptom of COVID and long COVID.

But what exactly is brain fog, and is it limited to COVID?

## **It is what it sounds like**

Brain fog is not a [medical diagnosis](#), but rather the description patients tend to use for their symptoms. Brain fog is what doctors refer to as "[cognitive dysfunction](#)". This describes problems with [closely linked tasks](#) such as concentration, [information processing](#), memory, thinking and reasoning, and making sense of language.

Brain fog is exactly what it sounds like: a feeling something like being shrouded by a thick fog, not quite able to grasp ideas, feeling confused or disoriented, and having trouble concentrating or recalling memories.

Sufferers [describe experiences](#) with brain fog as lapses in memory and concentration, with [some saying](#) they "put food on the gas stove and walked away for over an hour, only noticing when they were burning".

Other people say they "forget how to do normal routines like running a meeting at work".

Brain fog can make even simple tasks like grocery shopping very difficult: navigating the car park, remembering a list of items to buy, switching attention between products and prices, and reading ingredients can be confusing, overwhelming and exhausting.

Brain fog can be unpleasant in the short term, but over time can make it difficult to work and maintain social activities. Brain fog can also take a toll on relationships, and change the way we see ourselves [personally and professionally](#).

One recent study asked people with long COVID about their experiences [with brain fog](#). They reported feeling guilt and shame, especially about how brain fog had affected their ability to return to work and their relationships.

While the symptoms of brain fog can be similar to those experienced by

people with Alzheimer's disease and other conditions associated with older age, brain fog can affect people of any age. Brain fog doesn't usually worsen over time, and may not last forever.

## Linked to COVID

Brain fog was one of the most common symptoms to emerge in the [first months](#) of the COVID pandemic.

Recent reports suggest [20–30%](#) of people have brain fog three months after infection. [Up to 85%](#) of people with long COVID also have brain fog.

Although we're hearing a lot about brain fog in relation to COVID, people experience the symptom with many other diseases and disorders.

Scientists aren't sure whether the same biological processes underpin brain fog in different illnesses; however, brain fog is common among people recovering from [traumatic brain injury](#), experiencing [persistent post-concussion symptoms](#), with [myalgic encephalomyelitis/chronic fatigue syndrome](#), [fibromyalgia](#), [HIV](#), [postural tachycardia syndrome](#), [lupus](#), [post-treatment Lyme disease syndrome](#), and as a side-effect of [chemotherapy](#). People with [coeliac disease](#) may even experience brain fog after consuming gluten. It's also been reported as a symptom of menopause.

"the most commonly reported symptoms included breathlessness, palpitations, chest pain and 'brain fog,' or reduced mental acuity"  
<https://t.co/wx1E0MzaRG>

— Garance Franke-Ruta (@thegarance) [October 13, 2022](#)

## What causes it?

While COVID may cause [shrinkage of some brain areas](#), brain fog itself has not been linked to brain volume changes on magnetic resonance imaging (MRI) [scans](#).

However, a new case report of two people found that while they had normal clinical MRI findings, they also had [decreases in oxygen use](#) in a specific part of the brain called the [cingulate cortex](#). This area, within the [limbic system](#), is thought to be involved in attention and memory.

There isn't one single test for brain fog, so it can be difficult to diagnose. Although there are combinations of tests that can be used, formal testing may not always be helpful because symptoms can look different for each person, and some days may be worse than others.

## How do you know if you have it?

Traditional [assessments](#) can test a person's executive function and cognitive status. But findings have been mixed in people with brain fog due to COVID.

Some studies have found more problems with attention and executive function in people who have [had COVID](#). Cognitive deficits linked to brain fog have also been reported as worse for those with [more severe COVID infection](#).

But other researchers have found standard cognitive screening tests don't show good specificity for brain fog (that is, they might not detect the absence of the condition and produce false negatives) and may not determine the [severity of brain fog](#).

A new [study](#) suggested conflicting findings in studies on brain fog might be due to the brain functions assessed by different tests. People with both mild and more severe cases of COVID might experience problems with processing speed, reasoning, verbal and overall performance, but no problems with memory. So studies that use tests for memory are less likely to show the effects of brain fog, no matter the severity.

Outside of scientific studies, brain fog diagnosis is most likely to be based on the symptoms and experiences people report once other causes, such as not sleeping enough, stress or hormonal changes, have been ruled out.

If you think you may be experiencing brain fog, it would be worthwhile to note down your symptoms and track them over several weeks, alongside any changes in stress, diet or sleep. This information can help your doctor understand your symptoms and help you manage them.

## **How to manage**

For people experiencing brain fog, developing coping strategies and prioritizing time to rest may help to [manage symptoms](#). Coping strategies could involve making lists, using visual reminders (such as calendars, digital alerts and timers), and altering work duties where possible.

Clinical trials are underway for [naltrexone](#), a medication used for alcohol and opioid drug addiction, which has shown promise in reducing brain fog. While not currently available as a brain fog treatment in Australia, initial [research](#) in Ireland shows it is safe and effective in low doses.

Aside from getting enough sleep, people are often encouraged to approach recovery from brain fog holistically. This means looking at their entire health picture and prioritizing exercise and a healthy diet. If

you are concerned about [brain fog](#), your GP can refer you to a neurologist or neuropsychologist for further assessment and management.

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