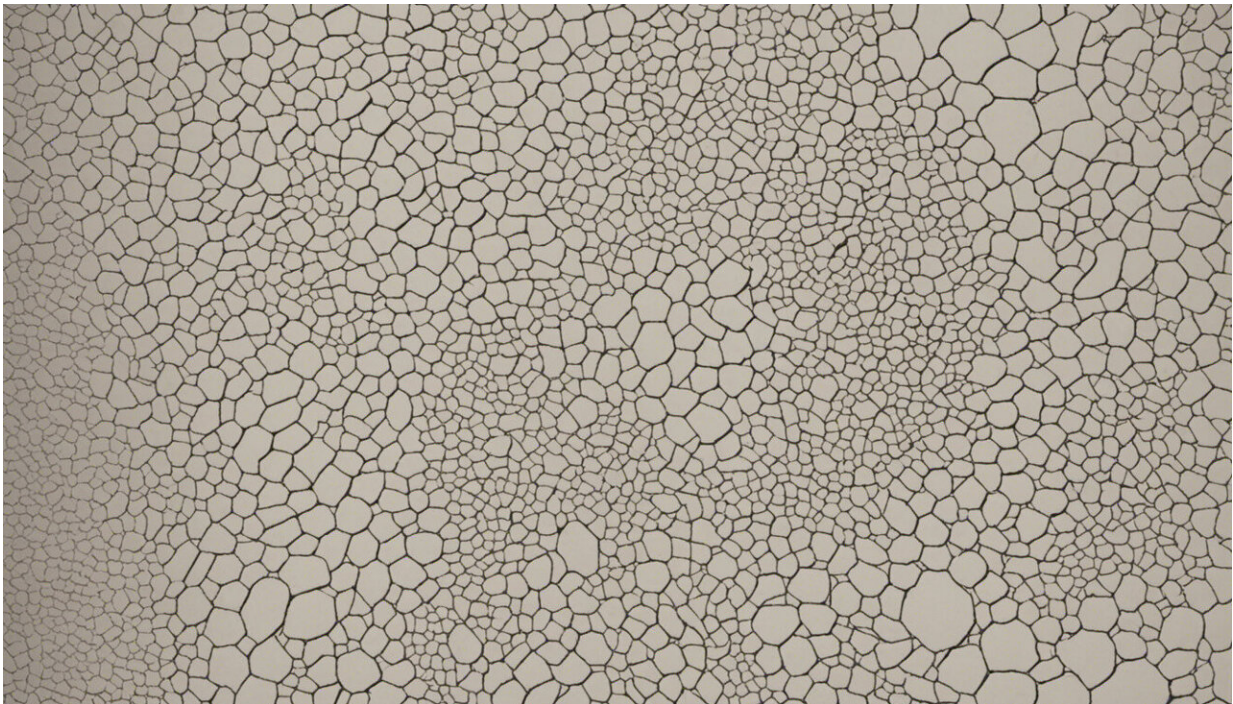


Got COVID again? Your symptoms may be milder, but this won't always be the case

May 17 2022, by Lara Herrero



Credit: AI-generated image

So you're starting to feel unwell. Your throat hurts, your head aches, you feel tired and you've developed a cough.

You've recently had COVID but as we now know, it's possible to be reinfected.

But how sick will you get the second time?

While your symptoms are likely to be less severe, in some cases they can be worse. Here's what we know so far.

Two more kids I know tested positive for COVID today for the second time in four months. Both got it at school. Again.

I wish we had an actual idea of what kind of impact getting infected repeatedly has on kids BEFORE we took away all the mitigations.

— Sarah Allen (@Mssarahmssarah) [May 3, 2022](#)

After COVID, you don't need to test for 12 weeks

Current [guidelines](#) define you as a "cleared case" for [12 weeks after](#) ending COVID isolation. If you develop COVID-like symptoms in that 12 weeks, you don't need to be tested.

The science behind this 12-week timeframe is evolving. The original idea was that if you have recovered from COVID, and you have a healthy immune system, you will have developed immunity against reinfection. And this will protect you for at least 12 weeks.

As case numbers in Australia increase, the reports of reinfections are also on the rise. And it's likely reinfection is occurring sooner than we first thought.

What's happening?

In order for a person to fight off re-infection with any virus, they must have developed a protective immune response.

Two main factors decide whether a person will have a protective immune response:

1. How long a person's immune memory lasts.
2. How well that memory recognizes the virus, or a slightly different virus.

Immune memory is made up of many critical parts, which each play a role in the protective army of your immunity. The biggest players in protective immunity memory are your B-cells (which mature to make antibodies) and your T-cells (which destroy virus-infected host cells).

So far, the evidence suggests immune memory for SARS-CoV-2, the virus that causes COVID, lasts for [months](#) or even [years](#) when it comes to B-cells and the antibodies they produce.

Similarly, [current evidence](#) shows the memory T-cells can last over a year.

This means that for a healthy person, immune memory for SARS-CoV-2 appears to last for a year, against reinfection with the exact same virus.

So why the reinfections?

One clear explanation for reinfection is the virus is mutating. SARS-CoV-2 replicates fast and in doing so makes replication errors. We refer to these errors as mutations. Over time, the mutations accumulate and a new sub-variant is born.

Since the start of the pandemic we have seen the parental Wuhan strain mutate to alpha, beta, delta and now omicron.

The current theory is that immunity from one variant may not provide

enough protection from another.

Data so far suggest the [omicron variant](#) is [better at immune escape](#) than its predecessors. This means omicron is "escaping" the immune memory created by SARS-CoV-2 infections from other variants such as delta, beta or alpha.

Emerging data is now showing sub-variants of omicron can also escape immunity from a previous omicron variant. This means a person might be able to get an omicron reinfection.

Immune escape has to do with mutations affecting key binding sites from cAbs. Alpha and Delta had negligible immune escape—maybe reducing VE by 10%.

But Omicron has MANY mutations—FAR more than any previous variant. And this strongly interferes with immune response ...

— Prof Jeffrey S Morris (@jms2334) [May 8, 2022](#)

A small, yet-to-be-peer-reviewed [study from Denmark](#) found that in unvaccinated people, reinfection with omicron BA.2 is possible following a primary infection with omicron BA.1. Despite this finding, the study also concluded reinfection rates were low and therefore rare.

With winter approaching and case numbers climbing, we're also [seeing](#) the emergence of [new sub-variants](#) such as BA.4 and BA.5. Early evidence [shows](#) these new sub-variants are even better at escaping immune memory than the parental BA.1 omicron.

What about severity?

For those who get a reinfection, disease severity appears to be [milder](#) and less likely to result in hospitalization. This is likely because the immune memory can recognize at least part of the re-infecting virus.

However it's difficult to measure disease severity on a [population level](#). A [systemic review](#) of case studies found that while some second infections were milder, this was not so in all cases. Some reinfections resulted in worse outcomes, including death. (During this study period, one of the [original strains](#), B.1, caused most primary infections, with reinfections caused by alpha or beta variants.)

But while omicron appears to be causing [more reinfections](#) than other variants, there isn't enough robust data to make firm conclusions about the [severity of reinfection](#) with omicron or other variants.

What we know for certain is we need more data from more people to say that [reinfection is less severe](#).

We also know from several studies that being vaccinated does provide [protection from reinfection](#), including in previously infected people who then receive subsequent vaccines.

Another reason to get boosted

A [recent study](#) that's yet to be peer-reviewed found immunity from omicron BA.1 [variant](#) drops around 7.5 fold with the new omicron BA.4 and BA.5 variants. This means the antibodies you produce from a BA.1 infection, which are able to detect and neutralize the BA.1 virus, are 7.5 times less able to recognize and neutralize BA.4 and BA.5 than BA.1.

This study also found vaccination plus natural exposure to omicron BA.1 gave five times greater protection to [omicron](#) BA.4 and BA.5 than the immunity from natural exposure to BA.1 alone.

Data [also shows](#) the strongest protective immunity comes from a mix of triple vaccination and natural infection.

A further study [found](#) this type of hybrid immunity protects better against both [reinfection](#) and hospitalization than natural immunity alone, highlighting the importance of vaccination and vaccine boosters.

So the question remains: if our immune [memory](#) lasts for a year, but is too specific to recognize the new variants, will we need a new vaccine every year? Time will tell.

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