

Victoria's 'unusual' recent coronavirus case could be a false positive or re-infection, CHO says

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Brett Sutton said one of the new cases was a person who tested positive back in July.

One of Victoria's recent coronavirus cases, a person who first tested positive back in July, could be an "extremely rare" case of re-infection, the state's Chief Health Officer says.

The case was among [four new infections reported yesterday](#) and was still being investigated by health officials.

If it's not a re-infection, the person could still be shedding non-infectious fragments of the virus that they caught in July, Chief Health Officer Brett Sutton said.

"There are those individuals who can continue to shed the virus, it is not a transmissible virus, it's a dead virus essentially," he said.

"This may be a case in point, but we need to make sure, so we need to exclude the possibility that it is reinfection with a new virus for this individual.

"But if there is nothing that indicates epidemiologically that this person has been exposed to a known case, and if the fuller laboratory results really point to this just being the tail end of a really long infection, then that will come off as a false positive, but it's early days."

Either way experts say it is an unusual case.

Key points:

- One of the four new cases reported in Victoria yesterday is still under investigation
- Health officials are determining whether it's a confirmed re-infection, or a person still shedding the virus months after being infected
- If it is the "tail-end of a really long infection", the case will be removed as a false positive

It could be one of the longest non-infectious viral-shedding periods recorded in the country, or possibly the first confirmed person to get infected twice in Australia.

[A separate case reported today may also be a person shedding the virus, Premier Daniel Andrews has said.](#)

Confirmed re-infections 'exceptionally rare'

Despite more than 40 million coronavirus infections being recorded globally since the pandemic began, a very small number of re-infections have been confirmed.

There [have been reports of people testing positive twice](#), but many could be attributed to ongoing viral shedding weeks after being infected (we'll get to that later), rather than actually getting infected with a different strain of COVID-19.

[Hong Kong reported the first documented re-infection back in August](#), and the United States recorded its first case of someone catching coronavirus twice last week.

"It is only a handful of cases reported around the world, so it seems to be exceptionally rare, but it does happen," Professor Sutton said.

"We need to explore the possibility of it happening."

If this new case in Victoria does turn out to be a re-infection, it could be the first one confirmed in Australia.

But experts globally are still developing an understanding of how likely it is for someone to be re-infected with COVID-19, infectious diseases epidemiologist and Professor of Mathematical Biology James McCaw said.

"That will take more time as the virus continues to spread around the world," he said.

"To understand how long immunity is, how likely we are to get it twice — all that will take more time for us to understand, and that will ultimately be influential in how this virus will interact and co-exist with humans over the long-term."

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Bryan Williams, a scientist who runs a research lab at the Hudson Institute of Medical Research, said some people's immune systems could adapt after catching COVID-19, making them less likely to become unwell if they got infected again.

"We've got to keep in mind that your ability to respond to this virus very much depends on your own immune response," Professor Williams said.

"And we know from recent published data there are individuals who are carrying not necessarily mutations, but changes, in the genes, that allow them to respond effectively to the virus."

'Extremely unusual' but no cause for concern over long shedding

While getting infected with coronavirus twice is rare, shedding fragments of the virus for months is

also uncommon.

Most coronavirus cases stop being infectious about 10 days after developing symptoms, but some people can continue shedding fragments of the virus weeks after they have recovered.

A longer-than-average viral shedding period could indicate that the person initially had a severe infection, said Professor Williams.

But he said a non-infectious person shedding viral fragments for three months would be "extremely unusual" and "unexpected".

"There are cases of it going up to about 60 days, but normally you ... would expect most people to have stopped shedding after 30 days," he said

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- [Aussie festivals are pledging to get you back partying despite coronavirus](#)
- [Five experts weigh in on Victoria's new COVID rules](#)

Professor Williams said if this latest case was a test that detected residual COVID-19 fragments, it could be one of the longest periods of shedding recorded in Australia.

But as unusual as it is, does it matter if someone is still shedding virus remnants three months after getting infected?

There is no risk of a non-infectious shedder spreading coronavirus to other people, and if they are clinically well there is no cause for concern, Professor McCaw said.

Ultimately, it would not mean much from a public health perspective.

"While it would be an interesting thing, and it's good to know as much about this as possible from a science point of view, it doesn't necessarily have any direct implications for how we in Australia continue to respond to and manage the pandemic," he said.

Professor Sutton also said it was hard to tell just how frequently long shedding periods occurred, because not everyone who recovers from COVID-19 gets tested again weeks later.

As for what this new case turns out to be, we'll have to wait until Victoria's Health Department completes its investigation.

In a pandemic where millions of people have been infected worldwide, Professor McCaw said there would be some unlikely events — including detecting coronavirus in a person three months after they first got infected.

What you need to know about coronavirus:

- [Who needs to wear a face mask in Victoria and when](#)
- [The symptoms](#)
- [The number of cases in Australia](#)

- [Global cases, deaths and testing rates](#)