

## Coronavirus Singapore

# Vaccinated people protected, but can pass on Covid-19

Though they generally do not become seriously ill, they can still transmit virus to others: Study

Audrey Tan  
Science Correspondent

People who are fully vaccinated against Covid-19 generally do not get seriously ill even if they get infected with the virus; however, they could still transmit it to others.

Associate Professor Raymond Lin, director of the National Centre for Infectious Diseases (NCID) National Public Health Laboratory, told The Straits Times that this was the centre's observation from studying the serology test results of those diagnosed with Covid-19.

Serology tests detect antibodies in the patient's blood sample— anti-

bodies being the soldiers of the immune system which help the body defeat the invader.

As such, these tests can detect past infections or whether a person has been vaccinated.

This differentiates serology tests from other diagnostic tests that flag current infections.

The latter include polymerase chain reaction tests, which look for snippets of the virus' genetic code, and antigen rapid tests that pick up the presence of viral proteins in a sample.

In some cases, serology tests help scientists and clinicians determine whether the antibodies were produced by natural infection or through vaccination.

Knowing this can help public health officials identify "vaccine breakthrough" cases – or those who get Covid-19 even after being fully vaccinated against it.

Said Prof Lin: "Defining vaccine breakthroughs will help us study

## IDENTIFYING RISKS

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ASSOCIATE PROFESSOR RAYMOND LIN, director of the National Centre for Infectious Diseases National Public Health Laboratory, on using serology tests.

how often (such cases) occur, whether they can transmit infection, whether they develop severe disease, and whether new variants infect vaccinated subjects more easily."

He added: "So far, we observe that some infected but vaccinated subjects may transmit the virus to others. Generally, vaccinated subjects do not develop severe disease when they are infected."

Similar to how soldiers, sailors and airmen are mobilised in times of war, the immune system also summons different types of antibodies to get rid of the invading pathogen.

Vaccinations mimic this fight.

The Moderna and Pfizer-BioNTech/Comirnaty messenger ribonucleic acid (mRNA) vaccines – both currently under the national vaccination programme – work by delivering instructions for the human cells to begin producing the viral spike (S) protein. This S protein studs the surface of the virus, and is what the pathogen uses to begin infecting cells.

When S protein fragments are produced, the body recognises them as invaders and so summons antibodies that target the S protein. Explained Prof Lin: "Therefore, the serology tests should detect anti-S antibodies as evidence of vaccination."

However, when natural infection occurs, the body is exposed to the whole virus and has to summon antibodies to deal with other viral proteins and not just the S protein.

If someone has already been infected by the coronavirus, serol-

ogy tests will pick up the presence of antibodies against the virus' nucleocapsid (N) protein – which is found wrapped around the viral genetic code.

In essence, people who receive the mRNA shots will show the presence of antibodies against the S, but not the N, protein, unless they have been infected before. However, vaccines such as Sinovac's whole virus one will prompt the body to begin producing antibodies against the S and N proteins.

Whole virus vaccines work by using a weakened or deactivated form of the virus to trigger protective immunity to it.

For instance, Sinovac's vaccine comprises a whole coronavirus that is killed chemically before being injected into the body. The virus can no longer replicate, but its proteins are intact. In this way, the immune system is exposed to the coronavirus' various proteins.

Prof Lin said it may not be possible to tell in such cases whether antibodies are produced as a result of vaccination or natural infection. "However, we have not had enough of such cases to study the expected antibody response," he added.

Sinovac's Covid-19 vaccine was recently made available under the Special Access Route, although it does not come under the national vaccination programme.

The first of the Sinovac shots were administered at some private clinics on June 18.

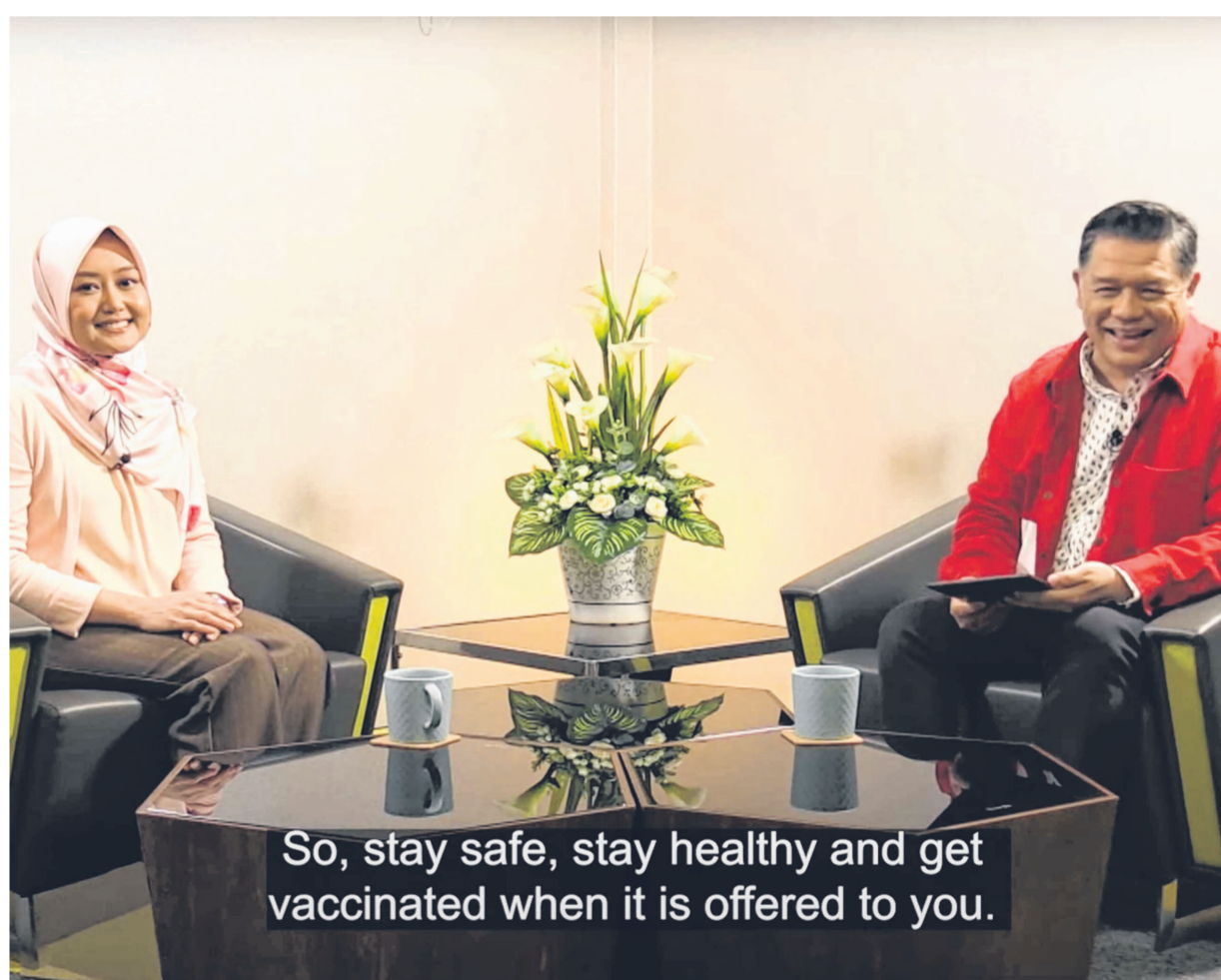
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Health Minister Ong Ye Kung conversing in Mandarin with actress Zoe Tay in a video that encourages seniors to get their Covid-19 vaccine jabs. It is part of a new online series by Gov.sg which also features other ministers and celebrities.

好像在讲疫苗的事情



Another video in Malay has Parliamentary Secretary for Health and Communications and Information Rahayu Mahzam teaming up with radio DJ Abdul Razak, better known as DJ RZ. PHOTOS: GOV.SG/YOUTUBE

So, stay safe, stay healthy and get vaccinated when it is offered to you.

## Politicians team up with celebs to persuade seniors to get jabs

Rei Kurohi

An umbrella cannot totally prevent you from getting wet, but it is still better to have one when it rains as you will get drenched otherwise.

In the same way, Covid-19 vaccines cannot completely prevent one from getting infected, but they can still lower the risk and ward off severe illness.

This was the analogy offered by Communications and Information Minister Josephine Teo in a two-minute Cantonese skit with vet-

eran actress Xiang Yun.

It is part of a new video series by Gov.sg which features politicians teaming up with celebrities to encourage seniors to get their jabs.

The videos can be viewed on the Gov.sg YouTube channel and Facebook page.

Some of the videos, including Mrs Teo's, racked up tens of thousands of views within a day of being posted.

Other videos feature Health Minister Ong Ye Kung conversing in Mandarin with actress Zoe Tay and in Hokkien with actor Cavin Soh, and Senior Minister of State for Health and Manpower Koh Poh

Koon speaking in Teochew with actor Rayson Tan.

The Tamil video features Transport Minister S. Iswaran with pilot and variety show host Saravanan Ayyavoo.

The Malay video sees Parliamentary Secretary for Health and Communications and Information Rahayu Mahzam teaming up with radio DJ Abdul Razak, better known as DJ RZ.

The videos address common questions about the safety and efficacy of Covid-19 vaccines.

They also make the point that inoculation protects the person's family members and the wider society.

The videos stress that older people are more susceptible to severe illness and complications if they have Covid-19, and that there is no evidence that the vaccines can lead to heart attack and stroke in elderly people.

For seniors worried about the inconvenience, the videos also state that those aged 60 and above can go to any vaccination centre without an appointment.

The multi-ministry task force tackling Covid-19 announced last week that the Government would ramp up its vaccination programme – from about 47,000 doses administered daily to up to 80,000 from last Saturday.

At a press conference last Thursday, Mr Ong said that about 75 per cent of seniors aged 60 and above had received at least one dose, but added that this was not enough.

The ministers chairing the task force stressed that unvaccinated

seniors remain the most vulnerable to new infections as Singapore continues to ease restrictions in its reopening, and urged seniors to get their jabs as soon as possible.

Finance Minister Lawrence Wong noted that many of the cases in recent clusters in Bukit Merah View involved elderly people and that such outbreaks can easily happen in other areas.

Trade and Industry Minister Gan Kim Yong said seniors will face greater risks as measures are eased.

He added: "We have to be aware that once we allow more activities to resume, the risks will go up."

"Those who are vaccinated will continue to be protected but those who are not vaccinated, especially the seniors, will face a higher risk of infection and higher risk of severe disease."

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## Guidelines for visiting most CGH patients unchanged

Ng Wei Kai

Guidelines for visits to Changi General Hospital (CGH) remain unchanged for most patients after some hospital staff tested positive for Covid-19.

Patients in general wards are still able to receive one visitor at a time, with a cap of one visit per person a day.

Only the patients who are close

contacts of those who tested positive have been placed in isolation, said CGH in an update on Facebook yesterday.

CGH posted the update after an article on Mothership.sg incorrectly said the visiting guidelines had changed after the positive tests.

"CGH is aware of a post by Mothership.sg stating that no visitors are allowed into our inpatient wards after Covid-19 cases among staff," it said in the Facebook post. "This is not accurate."

CGH also said outpatient appointments are continuing.

The article by Mothership.sg, dated June 27, 11.08am, now carries an editor's note which says: "A previous version of this article's headline said that visitors would not be allowed into CGH's inpatient wards."

"We have since corrected the headline to reflect that only visitors of patients who are isolated after being identified as contacts of Covid-19 cases will not be allowed.

We have also updated the article with further clarification on CGH's visitation guideline," it said.

This comes after three more hospital workers at CGH were reported to have tested positive for the Sars-CoV-2 virus by the Ministry of Health (MOH) on Saturday.

They are a 21-year-old nurse and two porters.

The nurse's infection has been classified as an unlinked case, while the porters, aged 48 and 66, have had their infections linked to

the cluster at the hospital. There are now five cases in the cluster.

The other cases in the cluster are also hospital porters, with the first patient, a 35-year-old man, having tested positive on June 22.

In a separate post on Facebook on Saturday night, CGH said its infection control protocols have been activated since the positive tests. "Contact tracing and ongoing surveillance swab tests are in progress, and focused enhanced surveillance swabs have been con-

ducted for relevant staff in CGH," it said.

"Staff who have been in close contact have been placed on quarantine orders or on leave of absence pending further investigations."

CGH also said it was conducting more swab tests for patients in the hospital and was stepping up its monitoring of patients who develop fevers or symptoms of respiratory infection.

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