

# Omicron:

A variant of concern, not panic

by Tata 1mg

10 Jan 2022

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# Worried about the rapidly spreading Omicron variant?



Here are some evidence-based answers to the most common queries about the new SARS-CoV-2 variant, Omicron.

We have compiled this e-book based on the advisories of MoHFW (Govt. of India), WHO, Ministry of Health (South Africa), and data from peer-reviewed journals like Lancet and our discussions with various medical experts.

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Disclaimer: All the content, data and analysis herein is for informational and awareness purposes only, it is not a substitute to any professional medical advice, or the Govt. of India guidelines around similar contexts.

# What is Omicron?

Omicron (scientific name B.1.1.529) is the new COVID variant, first reported by the South African scientists to the WHO on 24th November, 2021

- **Highly mutated variant**

**Around 50 mutations in total.** 26–32 changes in the spike proteins alone<sup>[1]</sup>. Spike protein is a structure on the virus surface that helps viruses enter body cells.

Notably, **the Delta variant** had around 17 mutations including 9 on the spike protein.<sup>[2]</sup>

- Classified as a “Variant of Concern” (VOC) **by the WHO** on 26 November 2021.<sup>[3]</sup> **Previous VOCs include Alpha, Beta, Gamma, and Delta.**

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**Sources:**

1. PIB Briefing. Dated December 2, 2021 <https://www.youtube.com/watch?v=4u29-xWkPFY>

2. <https://gvn.org/covid-19/delta-b-1-617-2/>

3. [https://www.who.int/news/item/26-11-2021-classification-of-omicron-\(b.1.1.529\)-sars-cov-2-variant-of-concern](https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern)

# Why is Omicron a Variant of Concern (VOC)?

The World Health Organization has designated a system for tracking emerging COVID variants and how they pose risk to global public health.

A VOC is the highest category in this tracking system.

**Early data suggests that Omicron may be associated with:**



Increase in transmission rate



Decrease in effectiveness of vaccine or evasion of immunity acquired through previous COVID infection or vaccine

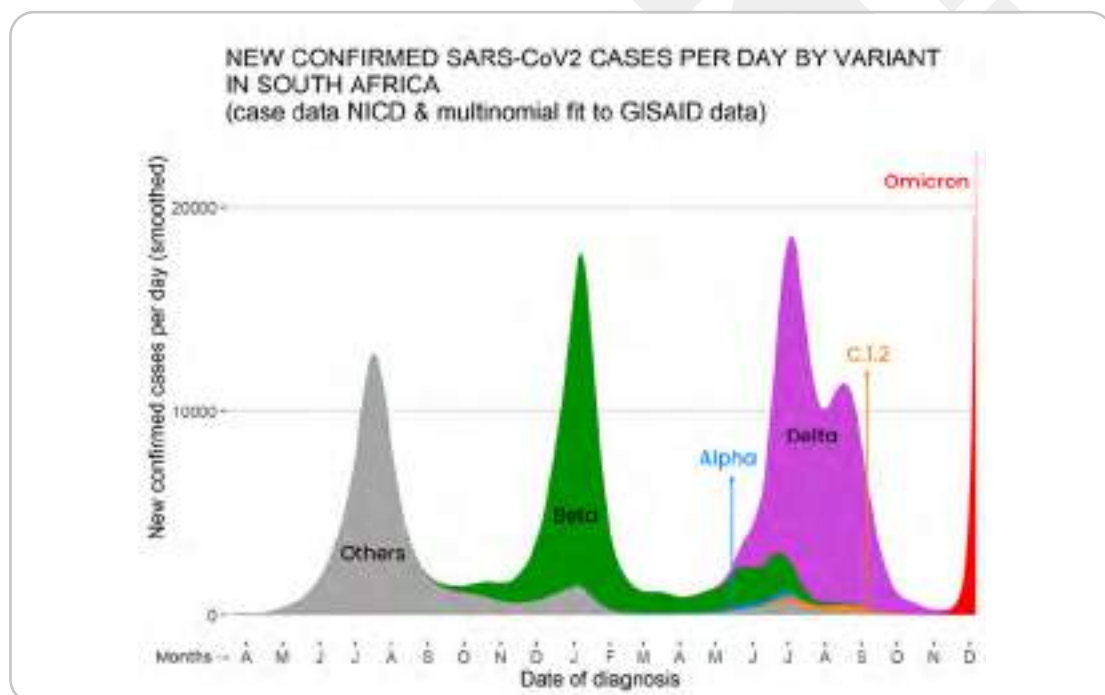
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**Sources:**

FAQs on Omicron, MoHFW.

# Omicron in South Africa: A brief background

- First detected on **11 November 2021** in Botswana, & subsequently in South Africa on 14 November 2021<sup>[1]</sup>
- A **sharp and exponential increase in COVID cases in South Africa** since the detection of Omicron in the Gauteng Province of South Africa.<sup>[2]</sup>



Around **5 fold increase** in the number of daily infections in 1 week. Cases rose from ~2.8k on November 26 to ~16.4k on December 3.

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#### Sources:

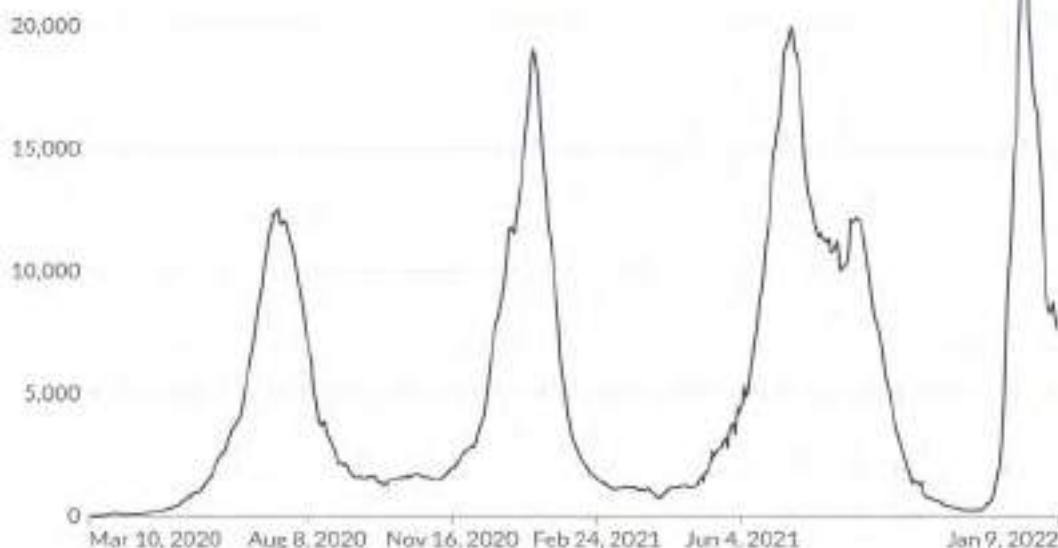
1. <https://ourworldindata.org/grapher/daily-covid-cases-deaths-7-day-ra?country=~ZAF>
  2. <https://gis.nicd.ac.za/portal/apps/opstdashboard/index.html#/15eb33988f104b73867606c1248578ff>
- \* Graph from <https://twitter.com/TWenseleers/status/1468223367333527552>

# A quick look at the latest update

- **In South Africa**, daily COVID infections are on a rapid decline now. Between Dec 26 and Jan 1, new cases **declined by 48.1%** compared to the previous week. <sup>[1]</sup>
- However, globally, the number of new cases **increased sharply by 71%** between 27 December 2021 to 2 January 2022. <sup>[2]</sup>

## Daily new confirmed COVID-19 cases in South Africa

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

### Sources:

1. <https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-epidemiological-brief/>

2. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---6-january-2022>

Graph from <https://ourworldindata.org/coronavirus/country/south-africa>

# Could Omicron be causing the surge in cases in India?

## ICMR Director said:<sup>[1]</sup>



*It's very clear that an upsurge of infections is happening... An exponential growth is there. **It has also been seen that the virus in these cities is predominantly Omicron.***



- Notably, Delhi's genome sequencing report of Dec 30–31 showed that **Omicron was found in 84% samples**<sup>[2]</sup>. While, in Mumbai, **Omicron was found in 55% samples.**<sup>[3]</sup>
- Till January 10, 2022, 27 states across India have recorded a total of 4033<sup>[4]</sup> Omicron cases.
- Please note that **only a certain percentage of COVID positive samples are sent for genome sequencing**, an advanced test to confirm for the COVID variant.

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#### Source:

1. PIB COVID briefing dated January 5, 2022 <https://www.youtube.com/watch?v=QgBLVNGSyxk> (timestamp: 48:45)
2. [https://twitter.com/PTI\\_News/status/1477926055998410754?t=A7eqo-o6AwKGkfpwe3C5IQ&s=09](https://twitter.com/PTI_News/status/1477926055998410754?t=A7eqo-o6AwKGkfpwe3C5IQ&s=09)
3. <https://www.thehindu.com/news/national/other-states/55-of-cases-are-of-omicron-variant-bmc/article38083957.ece>
4. [https://twitter.com/MoHFW\\_INDIA/status/1480397372261691392?t=EMQAYIt4hJGyLqCOCac9A&s=19](https://twitter.com/MoHFW_INDIA/status/1480397372261691392?t=EMQAYIt4hJGyLqCOCac9A&s=19)

# Does the Omicron variant of COVID-19 spread too fast?

# Yes!

- The Omicron variant has **>2x the number of bad changes** on spike proteins than the Delta variant.<sup>[1]</sup>
- Evidence shows that the **Omicron variant is nearly 3-fold more infectious than Delta**<sup>[2]</sup> with **case numbers doubling in nearly 2-3 days**.<sup>[3]</sup>

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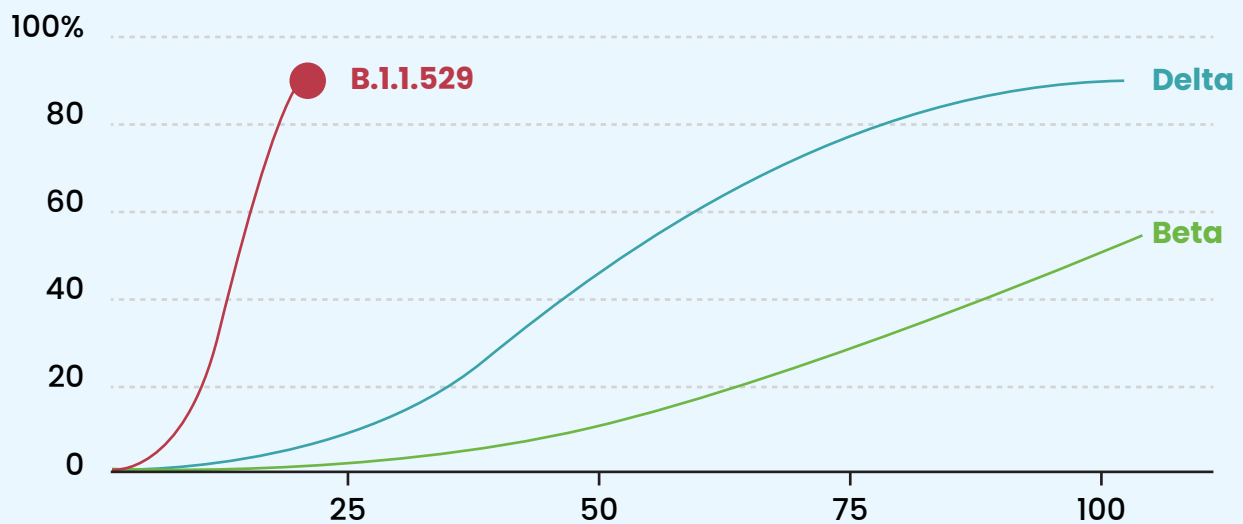
#### Sources:

1. PIB Briefing. Dated December 2, 2021 <https://www.youtube.com/watch?v=4u29-xWkPfY>
2. [https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-\(b.1.1.529\)-technical-brief-and-priority-actions-for-member-states](https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-(b.1.1.529)-technical-brief-and-priority-actions-for-member-states)
3. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---28-december-2021>



# Early data suggests that Omicron can become the dominant circulating variant much faster than previous variants of concern did.<sup>[1]</sup>

Share of all sequenced cases\* in South Africa accounted for by each variant, by number of days since it passed 1%



\*Growth of B.1.1529 (Omicron) is modelled from SGTF data rather than full genomic sequences  
Source: FT analysis of data from Gisaidd and the South African National Health Laboratory Services

## Note:

A caveat in this graph is that the Omicron graph is for a period when the number of overall COVID-19 cases were low.

Source:

1. Analysis by Dr Eric Feigl Ding. <https://twitter.com/DrEricDing/status/1464119235655970819/photo/2>

# Are the Omicron symptoms any different than the other COVID variants?

## No unusual symptoms reported as yet. <sup>[1]</sup>

As per Dr. Angelique Coetzee, South African Medical Assn. Chairperson, who is also credited to detect the first case of Omicron <sup>[2]</sup>:

*Omicron symptoms would mostly be **fatigue**. It would be **body aches & pains**. Some of them got quite a **severe headache & tiredness**. But nobody mentioned loss of smell/taste, severely blocked nose or severe temperature.*

- Some people may have no symptoms.
- As identified by many doctors, majority of people are reporting **an itchy/scratchy throat as a common symptom** of the Omicron infection

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#### Sources:

1. <https://www.nicd.ac.za/frequently-asked-questions-for-the-b-1-1-529-mutated-sars-cov-2-lineage-in-south-africa/>
2. <https://twitter.com/ANI/status/1466456912749162507?t=xGKpBr16IHxcuyLWsOFtdw&s=09>

# Is Omicron supposed to cause more severe disease or worse symptoms?

## No alarming concerns raised so far<sup>[1]</sup>

- Initial reports suggest Omicron **is less severe than Delta** <sup>[2]</sup>. UK and South Africa-based studies show that as compared to Delta, infection with **Omicron is 50–70% less likely to cause hospitalization.**<sup>[3]</sup>
- However, further data are needed to understand severity.<sup>[4]</sup>
- It must be noted that **severe COVID-19 cases typically present a few weeks after the initial symptoms associated with mild disease.** **So, caution should be practiced.**

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#### Sources:

1. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02758-6/fulltext?dgcid=raven\\_jbs\\_etoc\\_email](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02758-6/fulltext?dgcid=raven_jbs_etoc_email)
2. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/science-in-5/episode-63---omicron-variant>
3. [https://www.bmj.com/content/375/bmj.n3151?int\\_source=trendmd&int\\_medium=cpc&int\\_campaign=usage-042019](https://www.bmj.com/content/375/bmj.n3151?int_source=trendmd&int_medium=cpc&int_campaign=usage-042019)
4. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---28-december-2021>

# Can currently available RT-PCR Tests detect COVID infection with Omicron?

## Yes, just like other COVID variants

- RT-PCR can detect COVID infection but not the type of variant causing it. Confirmation of the variant only comes through genome sequencing.
- RT-PCR tests typically detect at least 2-3 different COVID genes. This serves as a backup in the case of a mutation arising in one.<sup>[1, 2]</sup>

**Tata MD has developed a real-time RT-PCR test, OmiSure, for quick detection of the Omicron variant.<sup>[3]</sup>**

It has two checks to detect the Omicron variant in the sample without compromising the ability to detect other COVID variants.

This can help as a proxy for further genome sequencing.

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#### Sources:

1. [https://www.who.int/news/item/26-11-2021-classification-of-omicron-\(b.1.1.529\)-sars-cov-2-variant-of-concern](https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern)
2. <https://www.mohfw.gov.in/pdf/FAQsonOmicron.pdf>
3. [https://twitter.com/ICMRDELHI/status/1478721680285392898?t=mc\\_c\\_ZbXfytd81TSaTnCw&s=09](https://twitter.com/ICMRDELHI/status/1478721680285392898?t=mc_c_ZbXfytd81TSaTnCw&s=09)

# Are current COVID treatments still effective against Omicron?

# Yes!

- No change in current COVID-19 treatment protocols and therapeutics has yet been reported. <sup>[1]</sup>
- However, early data shows that the new class of drugs, namely, monoclonal antibodies may be less able to neutralize the Omicron variant. <sup>[2]</sup>
- Additional scientific studies are in progress to understand whether some specific drugs would work against the variant or not.

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#### Sources:

1. Omicron SARS-CoV-2 variant: a new chapter in the COVID-19 pandemic. [www.thelancet.com](https://doi.org/10.1016/S0140-6736(21)02758-6) Published online December 2, 2021  
[https://doi.org/10.1016/S0140-6736\(21\)02758-6](https://doi.org/10.1016/S0140-6736(21)02758-6)

2. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---28-december-2021>

# Will the immunity gained through vaccines or natural infection remain effective?

Based on current understanding, vaccines remain effective to prevent severe disease, hospitalization and deaths.<sup>[1, 2]</sup>

- However, infections in fully vaccinated (vaccine breakthrough) and previously infected people (re-infections) are possible.<sup>[1, 2]</sup>
- The breakthrough infections and re-infections are possible with previous variants as well. However, compared to Delta, the **risk of reinfection with the Omicron variant was estimated to be 5.4 fold higher.**<sup>[3]</sup>
- More data and research is awaited to know whether these rates are higher with Omicron.

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#### Sources:

1. Omicron SARS-CoV-2 variant: a new chapter in the COVID-19 pandemic. [www.thelancet.com](https://doi.org/10.1016/S0140-6736(21)02758-6) Published online December 2, 2021  
[https://doi.org/10.1016/S0140-6736\(21\)02758-6](https://doi.org/10.1016/S0140-6736(21)02758-6)
2. Pulliam, R. C. J. et al. Preprint at MedRxiv <https://doi.org/10.1101/2021.11.11.21266068> (2021).
3. [https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-\(b.1.1.529\)-technical-brief-and-priority-actions-for-member-states](https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-(b.1.1.529)-technical-brief-and-priority-actions-for-member-states)

# Have no doubts: COVID Vaccination is crucial.



- Vaccination and natural infection lead to the formation of neutralizing antibodies in the body. Mutations may make it harder for these antibodies to target and kill the virus.
- However, **immunity acts not only by neutralizing antibodies but also by T-cell response**. T-cells are a type of immune cells that can target and destroy viruses.
- This cellular immunity, beyond antibodies, continues to impart protection.

## Note:

There is emerging scientific evidence that the hybrid immunity of natural infection and vaccine induced immunity continue to provide protection from the Omicron variant as well.

# Will the available vaccines be able to protect against Omicron?

While there is no evidence to suggest that existing vaccines are not effective against Omicron, the mutations reported in this variant may decrease the efficacy of the vaccines to some extent.

- Specific laboratory studies in India are ongoing to test the efficacy of vaccines being used in India against the Omicron variant.
- To quote Director General, Indian Council of Medical Research (ICMR):

*The scientific understanding indicates that a whole-killed virus-based vaccine may have a wider antigenic presentation and broad spectrum of protective effect against the newly emerging variants.*

Source:

PIB Briefing. Dated December 2, 2021 <https://www.youtube.com/watch?v=4u29-xWkPfY> (timestamp: 53:05)



# What are the guidelines about precaution doses?

## Precaution dose will be available from 10 January 2022<sup>[1]</sup> for:

- Healthcare and frontline workers
- People above 60 years of age with comorbidities
- Beneficiaries should have completed 9 months i.e. 39 weeks after their second dose of COVID vaccine to be eligible for the precaution dose.<sup>[1]</sup>
- The precaution dose will be the same as the vaccine administered earlier. No mix and match is recommended.<sup>[2]</sup>

**On January 3, 2022, India flagged off COVID vaccination for children aged 15–18 years with Covaxin ONLY. Over 2.4 crore children have been vaccinated since then<sup>[3]</sup>.**

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Source:

1. <https://www.youtube.com/watch?v=pIMJybrJaDU> (timestamp: 20:41)

2. <https://www.youtube.com/watch?v=QgBLVNGSyxk> (timestamp: 30:10)

3. <https://dashboard.cowin.gov.in/>

# TRIVIA FACT

## Why the name Omicron?



**The WHO has been using Greek letters to refer to the most widely prevalent coronavirus variants, which otherwise carry long scientific names.**

It had already used 12 letters of the Greek alphabet before the newest variant emerged in South Africa.

After Mu, the 12th letter of the Greek alphabet, it **skipped the 13th & 14th letters Nu & Xi** respectively and **selected the 15th letter Omicron.**

Nu could have been confused with the word 'new' while Xi was not used because it is a common last name.



# Is India changing travel guidelines because of Omicron?

As per Guidelines for International arrivals dated January 7 2022, following is applicable from January 11:

**Travelers coming from “at risk” countries:**

**–Post-arrival RT-PCR**

Result is positive	Result is negative
<ul style="list-style-type: none"><li>- Isolated, sample sent for sequencing</li><li>- Treatment as per clinical protocol</li></ul>	<ul style="list-style-type: none"><li>- Home quarantine for 7 days, retest on 8th day, upload report on Air Suvidha Portal</li><li>- If negative even on 8th day, continue monitoring till 14th day</li></ul>

**Travelers coming from other than “at risk” countries:**

- 2% random passengers shall undergo post-arrival RT-PCR tests
- **Mandatory 7-day quarantine for all international travelers** (including 2% tested at random). Test on 8th day, **upload report on Air Suvidha Portal.**
- If positive, sample sent for sequencing and treatment as per clinical protocol. If negative, continue monitoring till 14th day.

Source:

<https://www.mohfw.gov.in/pdf/Algorithmforrevisedguidelinesforinternationalarrivals7thJanuary2022.pdf>

# Do your bit to stay safe.

COVID-appropriate precautions work against all variants including Omicron.

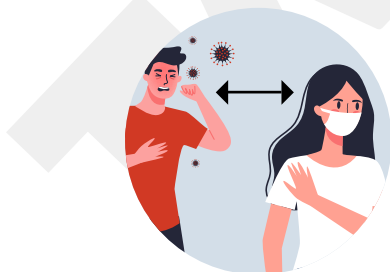
Along with getting vaccinated, FOLLOW the 4 Ws



**W**ear Your Masks Well,  
Covering Your Nose, Mouth And Chin



**W**ash Your Hands Often



**W**atch The Distance



Ensure Your Surroundings Are  
**W**ell-ventilated

# 3 things to keep in mind about Omicron

1. Viruses keep mutating, it's natural. No need to panic or overreact on that.
2. Testing and vaccines work. Get tested if you see symptoms.

**BOOK YOUR RT-PCR TEST**

3. Isolate and seek treatment if you test positive. Don't ignore the symptoms.

**CONSULT AN EXPERT**



# BE INFORMED. BE RESPONSIBLE. BE PREPARED.

If you found this information useful, please make sure to share it with your friends and family and help them be safe.

How questions or feedback?

**TELL US HERE**

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