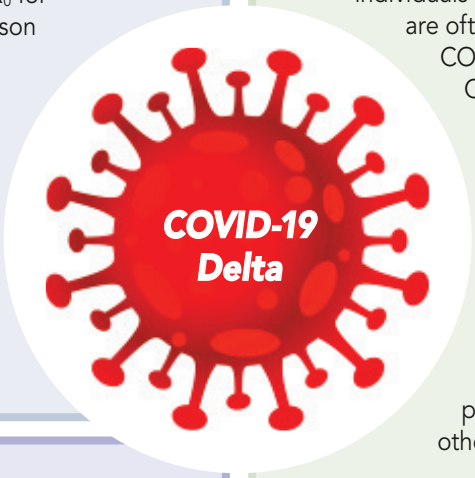
Understanding the COVID-19 Delta Variant

What is Delta

The COVID-19 B.1.617.2 strain, more commonly known as 'Delta,' is a variant of the SARS-CoV-2 virus responsible for causing COVID-19. This variant has quickly become the dominant strain of the virus in British Columbia.[i] Current data shows that Delta is highly transmissible and may lead to more serious illness.[ii,iii] This particular variant was first sequenced in India in late 2020, became a 'variant of interest' (VOI) in April 2021, and later became a 'variant of concern' (VOC) in May 2021 as genetic sequencing detected this strain around the world.[iv]

How Quickly It Spreads

Viruses each have their own 'basic reproduction number' – the average number of people that an infected person will spread the virus to in a given setting. This is also called R_0 (r-naught). Recent studies estimate that the R_0 for Delta is 6.4.[v] This means that an infected person will likely spread the virus to at least 6 other people around them. The original strain of SARS-CoV-2 had an estimated R_0 of approximately 2.6-3,[vi] meaning the Delta variant is roughly twice as contagious. An R_0 of 6.4 is also very high in comparison to other viruses. Compare this to the R_0 other known illnesses: Seasonal Influenza 1-2, Ebola 1.5-1.9, Common Cold 2-3, Chickenpox 10-12, Polio 10-12.[vii]



How New Variants Develop

All viruses are expected to mutate over time. Some change frequently and others only a few times over a period of years.[viii] When viruses mutate, small changes occur in one or more different parts of the virus's makeup. In some instances, these changes do not affect the overall severity or transmissibility of infection while in other cases these features may be enhanced, such as with Delta. SARS-CoV-2 is still spreading rapidly, therefore it is able to mutate more frequently. The best way to stop the spread of these variants is through vaccination.

Why It Is Called Delta

In May 2021, the WHO started referring to COVID-19 variants based on Greek alphabet nomenclature.[ix] As new variants are discovered, they are named in the same order as the Greek alphabet.

Stopping the Spread of Delta

The most important things you can do are to follow public health measures and get vaccinated! The same public health measures we've followed since the onset of COVID-19 such as washing your hands, wearing a mask and practicing social distancing are also effective against the Delta variant. As well, two doses of the Pfizer-BioNTech, Moderna, or Oxford-AstraZeneca COVID-19 vaccines provide very good protection against the Delta variant, especially against severe illness and hospitalization.[x] Current data shows that COVID-19 case rates are 10 times higher in unvaccinated individuals than those who are vaccinated, and hospitalization rates are 17 times higher in unvaccinated individuals.[xi]

Breakthrough Infections

A breakthrough infection occurs when a fully vaccinated individual contracts COVID-19. Breakthrough infections in those individuals with two doses of a vaccine remain rare and are often asymptomatic, however they can still spread COVID-19. Real world data has shown us that COVID-19 vaccines provide very good protection against serious illness requiring hospitalization and death from COVID-19 and the vaccines approved for use in Canada are serving their purpose – to prevent severe illness resulting in hospitalization or death. Widespread vaccination is required to contain this this virus and reduce the development of additional variants. It was through mass immunization programs that illnesses such polio, measles, mumps, and pertussis, among others have been largely eradicated.

More Information

For more information, be sure to follow the science and refer to peer-reviewed, evidence-informed resources such as: BC Centre for Disease Control: COVID-19 Variants, Public Health Agency of Canada: Variants of Concern, and WHO Tracking SARS-CoV-2 Variants.

[i] Ghahary, A. COVID-19: Delta Variant – Your Questions Answered. Dr Ali Ghahary Inc. Aug 10, 2021.
[ii] Ghahary, A. *COVID-19: Delta Variant – Your Questions Answered.* 2021.
[iii] Mallapaty, Smriti. Delta's rise is fuelled by rampant spread from people who feel fine. *Nature.* August 19, 2021.
[iv] World Health Organization (WHO). Tracking SARS-CoV-2 variants. 2021.
[v] Mallapaty, Smriti. *Delta's rise is fuelled by rampant spread.* 2021.
[vi] Mahase, Elisabeth. Covid-19: What is the R number? *BMJ.* May 12, 2020.
[vii] Shabir, Osman. What Is R0? *Medical Life Sciences.* February 16, 2021.
[viii] BC Centre for Disease Control (BCCDC). COVID-19 Variants. 2021.
[ix] WHO. Tracking SARS-CoV-2 variants. 2021.
[x] BCCDC. *COVID-19 Variants.* 2021.
[xi] BC Centre for Disease Control (BCCDC). BCCDC Data Summary: Aug 19, 2021. 2021.

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