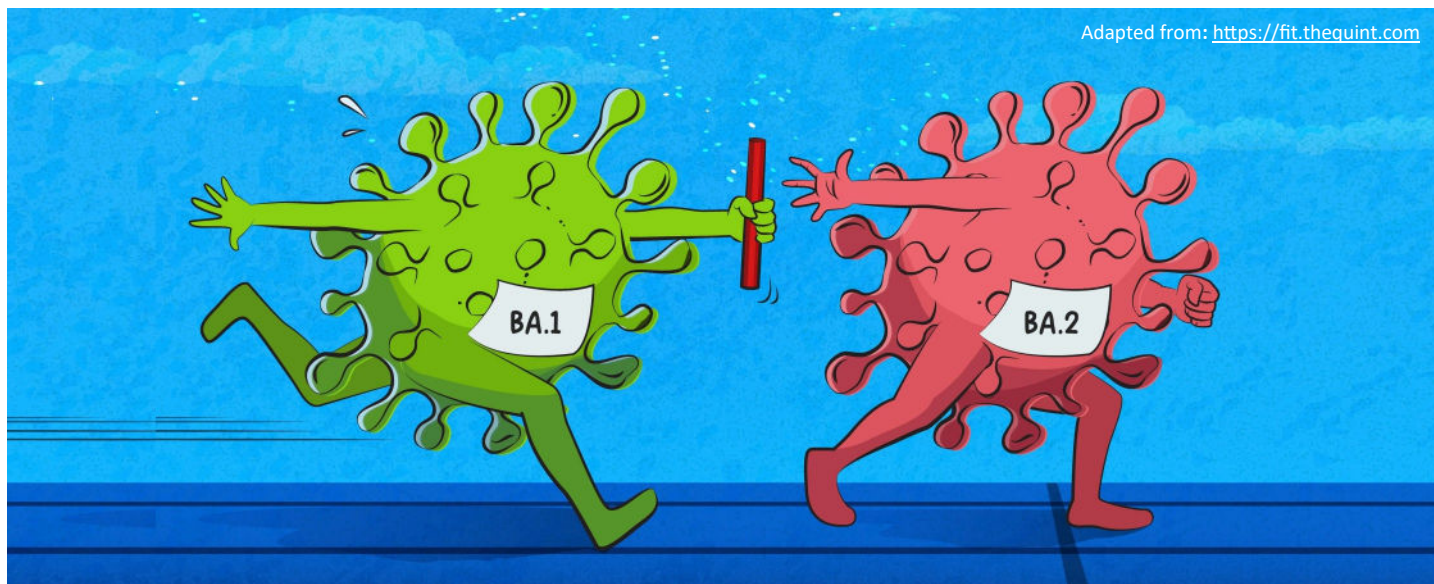


Adapted from: <https://fit.thequint.com>

WHAT DO WE KNOW ABOUT THE BA.2 SUB-VARIANT SO FAR?

Ontario is currently in the middle of the 6th wave of the pandemic with the Omicron sub-lineage BA.2 becoming the dominant strain since mid-March 2022. It is more transmissible than the previous Omicron sub-lineages BA.1 and BA.1.1, and growing evidence suggests that high viral load may play a role in the increased transmissibility. Below are some key points about the BA.2 sub-variant that we know so far¹.

- Early evidence indicates that the BA.2 has similar severity compared to BA.1 in adult population but is between 30% and 50% more contagious than BA.1^{1,2}.
- BA.2 lineage shares many of the 60 mutations or genetic changes that are there in BA.1. However, it has 28 distinct mutations of its own, 4 of them in the spike protein, making it better at immune evasion².
- As with the BA.1 lineage, **three doses** of a COVID-19 vaccine provides greater protection against symptomatic infection caused by BA.2 sub-variant compared to two doses. The vaccine efficacy does wane in a few months for symptomatic infection but there is less waning against severe illness¹.
- Initial evidence suggests that reinfection with BA.2 after BA.1 does occur but is rare². Majority of reinfections are occurring in people who were previously infected with Alpha or Delta variants.
- Post-acute COVID-19 syndrome (PACS) or long COVID is a set of symptoms or conditions that persists in some people for more than a four weeks after initial recovery from COVID-19. This even includes people who had mild version of the disease. Growing evidence shows elevated risk and prevalence of autoimmune conditions, cardiovascular disease, neuropathology and other chronic conditions after infection with previous SARS-CoV-2 variants of concern¹. Based on the similarity with BA.1, it is likely that BA.2 may cause PACS in individuals, like other SARS-CoV-2 infections³.
- Wearing a well-fitting, high-quality mask (not a cloth mask) at a population level can help in reducing transmission, especially in closed, indoor settings. This public health measure was effective for previous variants of concern and is also effective against the BA.2 sub-variant¹.

1. Source: www.publichealthontario.ca | 2. Source: www.scientificamerican.com | 3. Source: www.publichealthontario.ca

INFECTIOUS VIRAL LOAD IN VACCINATED VS UNVACCINATED INDIVIDUALS – **NEW STUDY**

A new peer-reviewed study from University of Geneva was published on April 08, 2022 in *Nature Medicine* that quantified the infectious viral particles (not just viral RNA) in vaccinated and unvaccinated individuals during the first 5 symptomatic days. The individuals got infected either with pre-variant of concern (pre-VOC) SARS-CoV-2 in 2020, Delta in 2021, or Omicron in 2022 and below are some key findings:

- There was low correlation between viral RNA copies and infectious viral titres or the amount of infectious viral particles detected.
- Infectious viral load (VL) was higher in unvaccinated individuals when infected with Delta variant compared to pre-VOC SARS-CoV-2.
- Individuals with 2 doses of mRNA vaccine who had a Delta breakthrough infection had infectious VL that was 5-times less and was cleared more rapidly than in the unvaccinated with Delta.
- Individuals with 2 doses of mRNA vaccine with breakthrough Omicron BA.1 infection had comparable infectious VL to the unvaccinated. However, individuals with a 3rd dose had a **5-fold reduction** in infectious VL when infected with BA.1.
- Taking the recommended doses of COVID-19 vaccine with at least a 3rd dose not only offers significantly higher level of protection against severe illness, but also reduces the amount of infectious viral particles shed during an active infection, limiting transmission to others.
- With respect to the Omicron, a booster dose of the COVID-19 mRNA vaccines provides stronger protection at individual level but also protects others by decreasing the VL and reducing the clearance time during the symptomatic phase of an active infection.

Source: [Puhach, O. et al. Infectious viral load in unvaccinated and vaccinated individuals infected with ancestral, Delta or Omicron SARS-CoV-2. Nat Med \(2022\).](#)

EDUCATION AND TRAINING FOR IPAC LEAD IN A LONG-TERM CARE HOME – **NEW**

The new [Fixing Long-Term Care Act, 2021](#) (FLTCA) came into effect on April 11, 2022 that replaced the previous *Long-Term Care Homes Act, 2007* as the governing legislation for all long-term care homes (LTCH) in the province of Ontario. With respect to infection prevention, legislation now includes additional mandatory training and education for designated IPAC leads for all long-term care homes, and certification in infection control (CIC®) within the next three years.

However, the current guidelines from the Ministry of Long-Term Care (MLTC) does not specify the education or training courses that IPAC leads can take to meet all the requirements. [IPAC Canada](#) has a list of courses that provide basic and essential education on various IPAC practices, including infectious diseases, epidemiology, data collection & trend analysis, surveillance, cleaning and disinfection, and outbreak management. These IPAC courses are provided by various academic institutions within the country, most of them now available online. The [list](#) is sub-divided into IPAC Canada **sponsored**, **acknowledged**, and **endorsed** courses. Keeping in mind the requirement of CIC certification in the following three years, the IPAC Canada acknowledged course *may not* provide sufficient training to prepare for the exam.

TESTING AND ISOLATION REQUIREMENTS FOR RESIDENTS IN LTCH

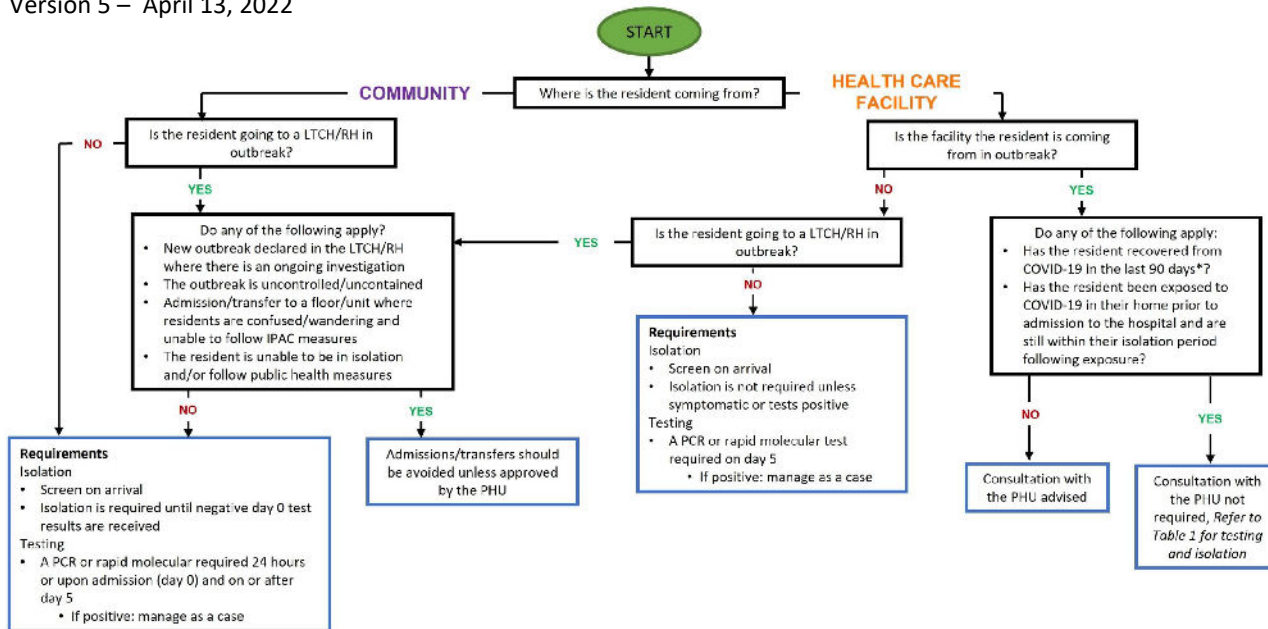
The Ministry of Long-Term Care released their updated guidelines for LTCHs in the second week of April, including requirements for testing and isolation for residents who go on day or overnight absences. These new requirements came into effect as of April 11, 2022 and are meant to reduce the psychological burden of isolation on residents and improve their mental health and well being.

- For day and overnight absences, **no isolation** is required for the resident unless the individual has a known exposure to a COVID-19 positive case or a symptomatic person while on his/her absence.
- A polymerase chain reaction (PCR) test should be done on day 5 following the absence.
- For residents who go on absences on a frequent or daily basis, a PCR test should be done two times per week, on the same two days of the week. For example, a PCR test could be done on a Monday and the second one on a Thursday. If timely PCR testing is not available, two rapid antigen tests (for each PCR) that are done 24 hrs apart may be used as an alternative.
- If a resident has a known exposure during the absence, he/she should be treated as a high-risk contact and immediately isolated upon return until a negative PCR test result is obtained on day 5 if the individual is up to date with the recommended doses of COVID-19 vaccine. If not, the resident should be isolated for *10 days* with a PCR test on day five.

Source: www.ontario.ca

ALGORITHM FOR ADMISSIONS AND TRANSFERS IN LTCH AND RH – APPENDIX E

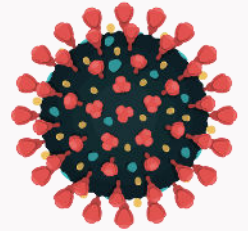
Version 5 – April 13, 2022



NOTE: If timely PCR is not available, 2 negative RATs may be taken 24 hours apart on day 5 and day 6

RAPID REVIEW OF POST-ACUTE COVID-19 SYNDROME OR 'LONG-COVID'

On April 20, 2022, Public Health Ontario (PHO) published a rapid review on the condition called post-acute COVID-19 syndrome (PACS) that is also referred to as long COVID, post-COVID syndrome, and chronic COVID syndrome (CCS). The publication examined the results from multiple meta-analyses and systematic reviews to assess the prevalence of PACS, common symptoms endured after acute infection, and the risk factors identified. Some of the essential findings are summarized below:



- On average, **51% to 80%** individuals infected with SARS-CoV-2 experienced some form of PACS.
- Long COVID affected multiple organs of the body, resulting in outcomes including malaise, chronic fatigue, respiratory disorders, metabolic disorders, neurological disorders, cardiovascular disorders, and gastrointestinal outcomes.
- Neurological outcomes included cognitive impairment, memory impairment, problems in focusing, smell and/or taste dysfunction, headaches, sleep disorder, depression and post-traumatic stress disorder (PTSD).
- Chronic respiratory sequelae included shortness of breath, cough, nasal congestion, production of sputum, and increase of oxygen requirement.
- Cardiovascular outcomes ranged from build-up of excess fluid in the pericardium (fibrous sac) of the heart, palpitations, tachycardia, and chest pain.
- Primary risk factors associated with long COVID were increase disease severity during the acute phase of infection (identified in 8 out of 11 analyzed studies) and female sex (identified in 6 out of 11 studies). However, long COVID also occurs in individuals who had mild symptoms during acute infection with SARS-CoV-2.
- Historically, similar long-term consequences have been also observed with other viral infections, including SARS-CoV-1 and MERS-CoV.

Source: [Rapid Review—Post-Acute COVID-19 Syndrome \(PACS\) in Adults, 2022](#). Public Health Ontario

WHEN RESTRICTIONS ARE RELAXED

AVOID THE 3 C'S!

The risk of infection and outbreaks increases when the 3 C's overlap.



1
CLOSED spaces with poor ventilation



2
CROWDED places with many people nearby



3
CLOSE-CONTACT settings such as close-range conversations