COVID-19 SIGNS AND SYMPTOMS, VARIANTS
REINFECTION AND VACCINES

This document provides the NHTI College community a current overview on Coronavirus (COVID-19) signs and symptoms, variants, reinfection and vaccinations. COVID-19 is a relatively new virus (SARS-CoV-2) that continues to be studied by researchers globally to better understand how it is transmitted, its short and long term effects on the human body and how it evolves. The body of scientific knowledge, medical treatment for, and the epidemiologic understanding of the virus changes rapidly and this guidance will update as information is available.

What is COVID-19?
COVID-19 is a contagious respiratory illness that is caused by infection with a new coronavirus called SARS-CoV-2.

How the Virus (SARS-CoV-2) that Causes COVID-19 Spreads
When a COVID-19 positive person coughs, sneezes, sings, talks, or breathes they produce respiratory droplets. Exposure to respiratory droplets may cause infection when a person is in close contact with a COVID-19 positive person.

COVID-19 spreads very easily from person to person, both symptomatic and asymptomatic, most commonly during close contact situations. Situations where close contact occurs:

- When people are physically near (within 6 feet) a COVID-19 positive person for a cumulative time period of ten (10) minutes during the period of infection. Infection period is up to ten (10) days.
- When a person has direct physical contact with a COVID-19 positive person.

Persons in close contact situations are at highest risk for developing COVID-19 infection. In general, the more closely a person interacts with others and the longer that interaction, the higher the risk of COVID-19 spread. Other ways COVID-19 can spread:

- Airborne Transmission
  - COVID-19 spread can occur at distances greater than six (6) feet within enclosed spaces with inadequate ventilation either by being in the same space during the same time or shortly after the person with COVID-19 had left. This is not believed to be a common way that COVID-19 spreads.
- Contaminated Surfaces
  - By touching a surface or object that has the virus on it and then touching their own mouth, nose, or eyes. This is not believed to be a common way that COVID-19 spreads.
- Between People and Animals
  - A small number of pets worldwide, including cats and dogs, have been infected with COVID-19, mostly after close contact with COVID-19 positive persons. The risk of COVID-19 spreading from animals to people is considered to be low. CDC guidance for Coronavirus (COVID-19) and pets, other animals and services and therapy animals
COVID-19 Signs and Symptoms, MIS-C, and COVID-19 Long Term Effects

Coronavirus (COVID-19)

Common Symptoms
People with Coronavirus (COVID-19) have had a wide range of symptoms reported from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19. Common symptoms include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

Emergency Symptoms
The following are COVID-19 emergency symptoms. Seek emergency medical care immediately if you have any of the following symptoms:

- Trouble breathing
- Inability to wake or stay awake
- Persistent pain or pressure in the chest
- Bluish lips or face
- New confusion
- Fatigue
- Joint pain
- Chest pain
- Shortness of breath
- Cough
- Difficulty with thinking and concentration ("brain fog")
- Fast-beating or pounding heart (heart palpitations)
- Depression
- Intermittent fever
- Muscle pain
- Headache
- Headache

For more information on signs and symptoms

Multisystem Inflammatory Syndrome in Children (MIS-C)
Multisystem inflammatory syndrome in children (MIS-C) impacts children from birth through to age twenty (20) and is a condition where different body parts can become inflamed. It is rare, however, it has been linked to COVID-19. For a list of the signs and symptoms please click here.

Long Term Effects of COVID-19
A lot is currently being studied about the entire range of short and long-term health effects associated with COVID-19. Much has been learned over the past year about the impact COVID-19 has to other organs besides the lungs. Most persons with COVID-19 recover and return to normal health; however, some people, even those that have had mild illness, can experience persistent or late symptoms. The most commonly reported long-term symptoms include:

- Fatigue
- Shortness of breath
- Cough
- Joint pain
- Chest pain

Other reported long-term symptoms include:

- Difficulty with thinking and concentration ("brain fog")
- Depression
- Muscle pain
- Headache
- Fast-beating or pounding heart (heart palpitations)
- Intermittent fever
- Headache
More serious long-term complications appear to be less common, but have been reported. These have been noted to affect different organ systems in the body. These include:

- Cardiovascular: inflammation of the heart muscle
- Neurological: smell and taste problems, sleep issues, difficulty with concentration, memory problems
- Renal: acute kidney injury
- Respiratory: lung function abnormalities
- Psychiatric: depression, anxiety, changes in mood
- Dermatologic: rash, hair loss

For more information on long term effects.

**Emerging COVID-19 Variants of Concern**

To date six COVID-19 variants of concern have emerged worldwide. These have been detected emerging between September 2020 and January 2021. All six are currently detected in the United States. Due to the recent emergence of these variants little is known on impacts they will have on transmission, an individuals' health, and vaccines at this time. An overview of the three most concerning variants is outlined below.

**United Kingdom Variant (B.1.1.7)**

- Reported in 33 U.S. states
- ~50% more transmissible than COVID-19 (SARS-CoV-2)
- UK has reported this variant may be associated with increased risk of death. Additional, studies are needed to confirm this finding.
- Disproportionately affects persons under 20
- Not believed to impact effectiveness of current vaccines (still being studied)

**South African Variant (B.1.351)**

- Reported in two states
- Believed more transmissible than COVID-19 (SARS-CoV-2)
- No evidence more severe illness or increased risk of death
- Some vaccines and treatments may be less effective against this variant.

**Brazilian Variant (P.1)**

- Reported in one state
- Believed more transmissible than COVID-19 (SARS-CoV-2)
- Believed to cause increased rates of reinfection

**Reinfection with COVID-19**

Current research supports that limited duration antibody immunity occurs for some persons who have had COVID-19. Reinfection may occur 90 days after initial symptom onset or a positive test result. However, reinfection can occur sooner and must be evaluated by a healthcare professional to determine if testing is needed if a person has any COVID-19 symptoms within the 90 days.

**COVID-19 Vaccinations**

Currently there are two COVID-19 vaccinations that have received Federal Drug Administration Emergency Use Authorization (EUA). The State of New Hampshire is following guidance from the
federal government and sets all guidelines and determines final eligibility for the distribution of these vaccines.

**Vaccines**

Please see the [CDC website vaccine page](https://www.cdc.gov/vaccines) for COVID-19 vaccine information.

**New Hampshire Vaccine Allocation Plan – Dated Jan. 16, 2021**

Please see the [New Hampshire Vaccine Allocation Plan](https://www.health.gov.nh.us/doh/covid19/vaccine/allocationplan/index.html) for information on when you may be eligible for a vaccinations. Currently New Hampshire has completed Phase 1A and is in Phase 1B. This phase is expected to continue into March.

While current mRNA vaccines are highly effective they are not 100% effective and there are a lot of unknowns, including possibly being a carrier of COVID-19 and being able to transmit to others, duration of vaccine efficacy, impact of variants on vaccine effectiveness.

Having received the vaccine does not exempt anyone from following all other COVID-19 measures including wearing a facemask, social distancing, handwashing/sanitizing, reporting illness, etc.

**Campus Community Expectations and Other Information**

**General Expectations**

Everyone has a role to play in slowing the spread and protecting themselves, their family, and their community. COVID-19 is not limited to the NHTI campus and there is the expectation that employees and students practice public health measures while on and off campus.

**Animals and Pets in NHTI Buildings**

All animals and pets are prohibited from NHTI buildings except:

- Service animals which are defined as dogs that are individually trained to do work or perform tasks for people with disabilities.
- Approved Emotional Support Animals (ESA) for Residence Hall students as covered under the Fair Housing Act.

All handlers of Service and ESA animals must follow [CDC COVID-19 safe handling guidelines](https://www.cdc.gov/coronavirus/2019-ncov/daily-living-guidance/animal-handling.html) to protect themselves, others and the animal.

**Additional Information**

Please refer to the [NHTI websites COVID-19 page](https://www.nh.gov/coronavirus) for additional information on all NHTI COVID-19 policies and procedures including:

- COVID-19 Transmission Mitigation – Social Distancing, Facemasks and Hand Hygiene
- Reporting COVID-19 Cases
- Symptoms and Close Contact, Contact Tracing and Response
- Classroom Management and Safety Procedures

For additional information on how COVID-19 is spread, how to protect yourself and other information please see the [CDC website](https://www.cdc.gov).

If you have additional questions contact the NHTI Campus Safety Department at [NHTICampusSafety@ccsnh.edu](mailto:NHTICampusSafety@ccsnh.edu)
All information in this document was obtained from the CDC, New Hampshire Department of Health and Human Services websites.

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