



Going viral – the differences between a cold, flu and COVID-19

Lynn Lambert
Amayeza Info Services

The past year has been one that will forever be etched in history. At the beginning of the COVID-19 pandemic, very little was known about this fast-spreading, devastating virus. Experts throughout the world together expedited research so that we could understand this virus and illness in order to reduce its spread and the number of cases and deaths. As this pandemic continues to evolve, we find ourselves learning more about this illness while adapting to a “new normal” life.

Newsfeeds and social media remain abuzz with information about COVID-19 often leaving people overwhelmed and panic-stricken. Sifting out fake from legitimate information is an ongoing challenge as well as stopping the spread of misinformation. For healthcare workers, it is critical to ensure that patients and the public are well informed. While COVID-19, the common cold and influenza (flu) are all viral infections affecting the respiratory tract, the degree and nature of infection differ. This article aims to summarise the key differences between these viral illnesses.

Table 1: Definition and causes of the cold, flu and COVID-19

	The common cold	Flu	COVID-19
Definition	An acute, usually afebrile, self-limiting viral infection causing upper respiratory symptoms	An acute, highly contagious infection of the respiratory tract	A highly contagious respiratory disease
Cause	Rhinoviruses, adenoviruses, coronaviruses or parainfluenza viruses	Influenza A, B or C viruses	Novel* coronavirus, known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

* COVID-19 is a new disease, caused by a novel (or new) coronavirus that has not previously been seen in humans.

Not all viruses are equal

A virus is an infectious microorganism that invades a living cell to reproduce (replicate). A viral infection occurs when the cells of the body are affected, and signs and symptoms of an illness (characteristic of the virus) appear.

The common cold, flu and COVID-19 are all contagious respiratory illnesses and while they present with similar symptoms, each illness is caused by different viruses. The way each of these infections spread is similar. These viruses are transmitted by contact, droplets and fomites (inanimate objects). Therefore, good hand hygiene and good respiratory etiquette (coughing into your elbow or a tissue and immediately disposing of the tissue), are important actions to prevent these infections.

In addition to hand hygiene, wearing a mask and social distancing are preventative measures for COVID-19.

Is it a cold, flu or COVID-19?

The definition of each illness and the cause thereof are summarised in Table 1.

How long do symptoms appear after exposure and infection?

Incubation period is the time from infection to appearance of symptoms and is:

- 1 to 3 days for colds,
- 1 to 4 days, with an average of 2 days for flu, and
- 5 to 6 days, or as late as 14 days for COVID-19.

Table II: Differences and similarities between COVID-19, colds and flu

Symptom	COVID-19	Common cold	Flu
Fever	Common	Uncommon	Common
Headache	Common	Sometimes	Common
Fatigue	Common	Uncommon	Common
Body aches	Common	No	Common
Runny nose	Uncommon	Common	Common
Sneezing	Rare	Common	Sometimes
Cough	Common (intense)	Sometimes (mild)	Common
Sore throat	Common	Common	Common
Diarrhoea	Sometimes	No	Uncommon
Shortness of breath	Sometimes	No	Sometimes
Change or loss of taste or smell	Common	No	No

These differences imply that it will take a person with COVID-19 longer to develop symptoms than if they had a cold or flu. The incubation period for COVID-19 may vary as, on average, a person with COVID-19 may develop symptoms five days after being infected but symptoms can sometimes appear as early as 2 days after infection or as late as 14 days after infection.

COVID-19 appears to be more contagious than a cold or flu and can spread quickly and easily to many people and result in continuous spreading among people as time progresses.

How long can the virus be spread?

In general, patients with a cold or flu can transmit the respective virus to other people at least a day before to approximately five to seven days after symptoms begin. Understanding the period of contagiousness of COVID-19 is an area of ongoing investigation, but current information shows that it is possible for people to spread this virus for about two days before experiencing signs or symptoms and for at least 10 days after signs or symptoms appear.

Approximately 1 in 5 cases of COVID-19 are asymptomatic but still contagious. Asymptomatic patients or patients who recover (before ten days) can still spread the virus for at least 10 days after testing positive for COVID-19.

What are the characteristic symptoms?

In general, viral infections of the respiratory tract present with similar symptoms, ranging from asymptomatic illness to severe symptoms. The differences and similarities between COVID-19, the cold and flu are summarised in Table II.

It's complicated!

A cold is generally a mild and uncomplicated illness. While flu is uncomplicated for most people, complications may arise. Both flu and COVID-19 can result in severe illness and complications including:

- Pneumonia
- Respiratory failure
- Acute respiratory distress syndrome (fluid in the lungs)
- Sepsis
- Cardiac injury (for example, heart attacks and stroke)

- Multiple-organ failure (respiratory failure, kidney failure, shock)
- Worsening of chronic medical conditions (involving the lungs, heart or nervous system, or diabetes)
- Inflammation of the heart, brain, or muscle tissues
- Secondary bacterial infections

In addition to these complications, COVID-19 has also been associated with blood clots in the veins and arteries of the lungs, heart, legs or brain. The data suggest that 80% of COVID-19 infections are mild or asymptomatic, 15% are severe, requiring oxygen and 5% are critical.

Emergency warning signs for COVID-19*

- Trouble breathing
 - Persistent pain or pressure in the chest
 - New confusion
 - Inability to wake or stay awake
 - Bluish lips or face
- *This may not be an all-inclusive list of warning signs

Conclusion

The cold, flu and COVID-19 are viral infections of the respiratory tract, and while many symptoms overlap, there are important differences. Compared to flu, COVID-19 has a higher rate of mortality and morbidity. With over 105 million global cases of COVID-19 and over 2 million global deaths, this pandemic continues to cripple healthcare systems worldwide. Understanding that COVID-19 is not "just a cold or flu" is an important message that must be understood by all populations and communities to help curb the spread of COVID-19.

Bibliography

- Adenoviruses. Centers for Disease Control and Prevention (CDC) [Internet]. c2020. Available from: <https://www.cdc.gov/adenovirus/hcp/clinical-overview.html>. Accessed 4 Feb 2021.
- Cennimo J. What is COVID-19? [Internet]. January 2021. Available from: <https://www.medscape.com/answers/2500114-197401/what-is-covid-19>. Accessed 4 Feb 2021.
- Cold versus flu. Centers for Disease Control and Prevention (CDC) [Internet]. c2020. <https://www.cdc.gov/flu/symptoms/coldflu.htm>. Accessed 4 Feb 2021.
- Coronavirus disease (COVID-19): Similarities and differences with influenza. World Health Organization. [Internet]. Mar 2020. Available from: <https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19-similarities-and-differences-with-influenza>. Accessed 4 Feb 2021.
- Coronavirus. World Health Organization. Available from: https://www.who.int/health-topics/coronavirus#tab=tab_1. Accessed 4 Feb 2021.
- Human parainfluenza viruses. Centers for Disease Control and Prevention (CDC)

- [Internet]. c2020. Available from: <https://www.cdc.gov/parainfluenza/hcp/clinical.html>. Accessed 4 Feb 2021.
- Influenza. Centers for Disease Control and Prevention (CDC) [Internet]. c2020. Available from: <https://www.cdc.gov/vaccines/pubs/pinkbook/flu.html>. Accessed 4 Feb 2021.
 - Influenza. National Institute of Communicable Diseases (NICD) [Internet]. Apr 2020. Available from: <https://www.nicd.ac.za/wp-content/uploads/2020/04/INFLUENZA-GUIDELINES-2020.pdf>. Accessed 4 Feb 2021.
 - Jacobs SE, Lamson DM, St. George K, Walsh TJ. Human rhinoviruses. *Clinical Microbiology Reviews*. 2013;26:1. <https://doi.org/10.1128/CMR.00077-12>.
 - Lim YX, Ng YL, Tam JP, et al. Human coronaviruses: a review of virus-host interactions. *Diseases*. 2016;4:26. <https://doi.org/10.3390/diseases4030026>.
 - Similarities and differences between flu and COVID-19. Centers for Disease Control and Prevention (CDC) [Internet]. Jan 2021. Available from: <https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm>. Accessed 4 Feb 2021.
 - Tesini BL. Common cold. [Internet]. c2020. Available from: <https://www.merckmanuals.com/professional/infectious-diseases/respiratory-viruses/common-cold>. Accessed 4 Feb 2021.
 - Unpacking rhinitis and asthma confusions in the time of COVID-19. *Medical Academic*.
 - Van Schoor J. Colds, flu and coughing: a review of over-the-counter cold and flu medicines. *S Afr Pharm J*. 2014;81(4). <https://doi.org/10.1080/20786204.2013.10874372>.
 - Weatherspoon D, editor. Common cold causes. [Internet]. c2020. Available from: <https://www.healthline.com/health/common-cold-causes>. Accessed 4 Feb 2021.