





UBC Respiratory Illness Discussion

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The foolproof way to differentiate the infections...

COVID vs Flu vs. Common Cold vs. RSV: What You Need to Know

VIRUS	LEVEL OF INFECTIVITY	TIME FROM EXPOSURE TO INFECTION	SYMPTOMS	PREVALENCE IN CHILDREN	VACCINE AVAILABILITY
 <p>COMMON COLD <i>Rhinovirus</i></p>	<p>Less contagious</p> <p>Symptomatic individuals shed the virus during the first 2 to 3 days of infection.</p>	<p>2 to 3 days</p>	<p>Cough Low-grade fever Sneezing Sore throat Stuffy nose</p>	<p>Common</p> <p>Most children experience 2 to 4 colds per year; frequently associated with asthma exacerbations.</p>	<p>None</p>
 <p>SEASONAL INFLUENZA <i>Influenza virus (A and B)</i></p>	<p>Contagious</p> <p>Viral shedding occurs 24 hours before symptoms appear, peaking around day 3 of illness.</p>	<p>1 to 4 days</p>	<p>Body aches Chills Cough Fatigue Fever Headache Sore throat Stuffy nose</p>	<p>Common</p> <p>Children younger than 2 are at highest risk for more severe disease.</p>	<p>Multiple approved</p>
 <p>COVID-19 <i>Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)</i></p>	<p>More contagious</p> <p>Viral shedding occurs 2 to 3 days before symptoms appear, peaking around day 3 of illness. However, there can be viral shedding without ever developing symptoms.</p>	<p>2 to 14 days</p>	<p>Body aches Chills Cough Diarrhea Fatigue Fever Headache Loss of smell/taste Nausea/vomiting Shortness of breath Stuffy/runny nose</p>	<p>Becoming more common, and asymptomatic children are possible</p> <p>Typically children have mild symptoms, and rarely they develop multisystem inflammatory syndrome in children (MIS-C) weeks after a SARS-CoV-2 infection.</p>	<p>Two- and three-dose vaccine approved for ages 6 months–4 years</p> <p>Two-dose vaccine and booster approved for ages 5 and older</p> <p>Multiple vaccines and boosters approved for adults</p>
 <p>RSV <i>Respiratory syncytial virus</i></p>	<p>Very contagious</p> <p>Symptoms can last 7 to 10 days, but some kids can develop a cough that takes up to six weeks to clear</p>	<p>4 to 6 days</p>	<p>Cough Runny nose Sneezing Fever Wheezing</p>	<p>Common</p> <p>Infants are at high risk for severe disease, including pneumonia or bronchiolitis, an inflammation of the small airways in the lungs.</p>	<p>None</p>

So many (unhelpful) resources...

Comparing Symptoms

Symptoms	COVID-19	Flu	Cold	Allergies	RSV
Body aches	Sometimes	✓	✓	✗	✗
Chills	Sometimes	✓	Rarely	✗	Sometimes
Cough	✓	✓	✓	✓	✓
Fatigue	✓	✓	✓	Sometimes	✗
Fever	✓	✓	Rarely	✗	Sometimes
Headache	Sometimes	✓	Rarely	✓	✗
Itchy eyes	✗	✗	✗	✓	✗
Loss of taste/smell	✓	Sometimes	Rarely	Sometimes	✗
Nasal congestion	Rarely	✓	✓	✓	✓
Nausea/vomiting/diarrhea	Sometimes	Sometimes	✗	✗	✗
Runny Nose	Rarely	✓	✓	✓	✓
Sneezing	Sometimes	✓	✓	✓	✓
Sore throat	Sometimes	✓	✓	Sometimes	✓
Shortness of breath	✓	✓	Rarely	Rarely	Sometimes

Is It RSV, the Flu, or COVID-19?

How to Tell Based on Your Symptoms

	RSV	FLU	COVID-19
FEVER	○	●	●
COUGH	●	●	●
RED EYES	○	○	○
SNEEZING	○	○	○
BODY ACHES	○	●	●
SORE THROAT	○	○	●
HEADACHE	○	●	●
FATIGUE	○	●	●
RUNNY NOSE	●	●	○
STUFFINESS	●	●	○

KEY: ● YES ○ SOMETIMES

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Some EXTREMELY vague suggestions***

- RSV usually limited to respiratory tract. If systemic or other symptoms (rash, diarrhea, headache, myalgia, etc.), think flu or COVID-19
- Abrupt onset, think influenza. RSV and COVID-19 usually slow escalation
- If rapid symptom development after exposure, think influenza (incubation as short as one day)
- If runny or stuffy nose, COVID-19 less likely
- In older children, RSV less likely

What are We Seeing at BCCH?

- Influenza A positivity rate: >35%
- RSV positivity rate: ~30%
- COVID-19 positivity rate: ~3%
- EV positivity rate: ~17%

- Multiple cases of SEVERE influenza with serious sequelae:
 - myocarditis
 - necrotizing encephalitis
 - ARDS

Flu Vaccine reminder

- Encourage children to GET VACCINATED!
- Can be live (>2y) or attenuated (>6m) (NACI has no preference)
- If first time between 6m – 8y: 2 doses, 4w apart
- Takes 2 weeks to be beneficial – so start NOW

- Currently: ~20% of children (6m – 11y) have been fully vaccinated against influenza in Canada
- (LAIV Not just for kids!)

COVID-19 vaccine reminder

- NACI states it MAY be offered to kids 6m-4y (Pfizer), 6m-5y (Moderna)
- Not at same times as other vaccines. 8w after COVID infection

- NACI states it SHOULD be offered to kids 5y-11y
- Doses 8w apart
- Pfizer preferred to Moderna in this group

- NACI states it SHOULD be offered to adolescents 12-17y
- Doses 8w apart
- Pfizer preferred to Moderna in this group

COVID-19 Anti-virals

- Paxlovid (nirmatrelvir/ritonavir) NOT approved for kids <18y in Canada
- Even in older kids, drug interactions (esp. Tacrolimus) makes it impractical
- Remdesivir an option for severe COVID-19 and to prevent progression
 - Preventative remdesivir is IV over 3 days (impractical)
- Severe COVID requires steroids +/- immune modulators (tocilizumab, baricitinib) +/- remdesivir

Influenza antivirals

- Oseltamivir:
 - >5y: Only for progressive, severe, complicated influenza
 - 1-5y: As above. Also if risk factors (see box)
 - <1y: Not approved. Can be given (case by case)
- Ideally within 48h of symptoms. Can be given after that (case by case)
- GI and neuropsychiatric S/E
- Zanamivir:
 - As per oseltamivir. Can be inhaled. IV by special access

*Risk Factors for Influenza Complications

- Asthma or other chronic pulmonary disease
- Cardiovascular disease
- Malignancy
- Immunosuppression or immunodeficiency
- First Nations, Inuit and Metis children and youth
- Diabetes mellitus and other metabolic diseases
- Hemoglobinopathies such as sickle cell disease
- Neurological disease or neurodevelopmental disorders that compromise handling of respiratory secretions
- Chronic renal insufficiency
- Chronic liver disease
- Children or youth who reside in homes or other chronic care facilities
- Individuals <18 years of age who are on chronic acetylsalicylic acid therapy
- Obesity with BMI ≥ 40 kg/m² , OR a BMI ≥ 3 z-scores above the mean for age and gender

Summary

- Very difficult to differentiate flu vs COVID vs RSV vs EV in kids clinically or on history
- Very high rates of Flu and RSV positivity rates at BCCH
- Some children very sick

- BEST intervention is **vaccination**. Please encourage COVID-19 and influenza vaccines to (eligible) children
- Antivirals for select populations at select times