# UBC Respiratory Illness Discussion

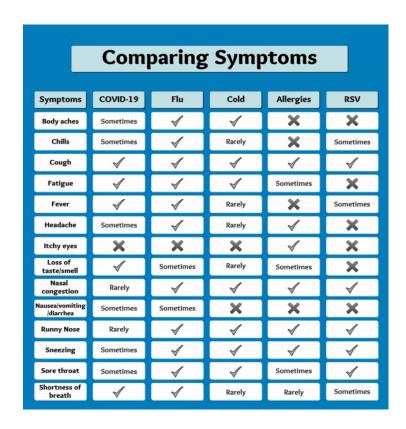
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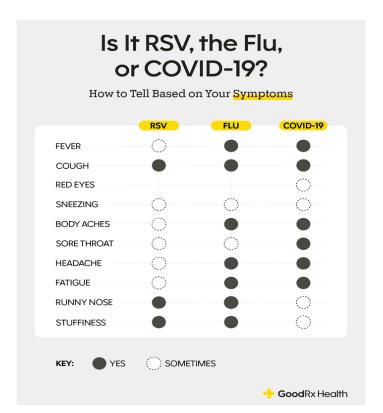
# The foolproof way to differentiate the infections...

#### 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
COMMON COLD Rhinovirus	Less contagious Symptomatic individuals shed the virus during the first 2 to 3 days of infection.	2 to 3 days	Cough Low-grade fever Sneezing Sore throat Stuffy nose	Common  Most children experience 2 to 4 colds per year; frequently associated with asthma exacerbations.	None
SEASONAL INFLUENZA Influenza virus (A and B)	Contagious  Viral shedding occurs 24 hours before symptoms appear, peaking around day 3 of illness.	1 to 4 days	Body aches Chills Cough Fatigue Fever Headache Sore throat Stuffy nose	Common  Children younger than 2 are at highest risk for more severe disease.	Multiple approved
COVID-19 Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)	More contagious  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.	2 to 14 days	Body aches Chills Cough Diarrhea Fatigue Fever Headache Loss of smell/taste Nausea/vomiting Shortness of breath Stuffy/runny nose	Becoming more common, and asymptomatic children are possible  Typically children have mild symptoms, and rarely they develop multisystem inflammatory syndrome in children (MIS-C) weeks after a SARS-CoV-2 infection.	Two- and three-dose vaccine approved for ages 6 months—4 years Two-dose vaccine and booster approved for ages 5 and older Multiple vaccines and boosters approved for adults
RSV Respiratory syncytial virus	Very contagious  Symptoms can last 7 to 10 days, but some kids can develop a cough that takes up to six weeks to clear	4 to 6 days	Cough Runny nose Sneezing Fever Wheezing	Common  Infants are at high risk for severe disease, including pneumonia or bronchiolitis, an inflammation of the small airways in the lungs.	None

# So many (unhelpful) resources...





# 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

- <u>Paxlovid</u> (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
- 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 acetylsalicyclic 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 <u>vaccination</u>. Please encourage COVID-19 and influenza vaccines to (eligible) children
- Antivirals for select populations at select times