INDICATIONS FOR OSTELAMIVIR USAGE FOR THE 2022-23 INFLUENZA SEASON

BACKGROUND

This winter, BC is dealing with a trio of viral infections caused by influenza (Flu) respiratory interstitial virus (RSV) and coronavirus (COVID-19). During the respiratory season, children and families should continue to practice personal prevention measures: clean hands often, monitor for symptoms of illness, stay home when sick and practice respiratory etiquette, such as wearing a mask in indoor public spaces if you have symptoms. Encouraging routine seasonal influenza vaccination and the COVID-19 vaccine for eligible children and family members is an important role for health care providers working with infants, children and youth (**http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/Immunization/Vaccine%20Info/Summary_Influenza_Season_Updates.pdf**).

If a child does become unwell with symptoms of flu or an influenza like illness, it may be appropriate to prescribe the anti-viral agent oseltamivir (Tamiflu) within the first 48 hours of symptoms, if the child is from a high risk population (table 1), admitted to hospital or living in a remote community (see special considerations).

SIGNS AND SYMPTOMS OF INFLUENZA LIKE ILLNESS

An influenza like illness is characterized by the rapid onset of constitutional and respiratory signs and symptoms;

- Fever
- Myalgia
- Headache and malaise
- Nonproductive cough
- Sore throat, and rhinitis
- Gastrointestinal symptoms particularly diarrhea may be seen

Secondary bacterial infections are not uncommon. This should be considered when assessing a child who has a febrile illness. Consider secondary bacterial infections particularly in those with:

- Prolonged fever – lasting > 4 days
- Fever not responding to antipyretics
- Fever returns after > 24h resolution
- Fever and rash
- Evidence of pneumonia on clinical exam/CXR
- Any signs of sepsis

WHO TO TEST?

Given the high prevalence of Influenza in the community, treatment should be based on clinical suspicion for those at risk. Testing may be performed on:

- Hospitalized patients of all ages and disease severity.
- Outpatients: if test results will alter clinical management or patient has risk factors (Table 1).

WHO TO TREAT?

With influenza circulating widely in the community, there is a high positive detection rate. A decision to initiate therapy with oseltamivir (Tamiflu) for individuals with possible infection should be based on their risk factors and the severity of their clinical presentation.

For the 2022/23 season, oseltamivir (Tamiflu) may be prescribed for all patients admitted to hospital. Children and youth highlighted in Table 1 with suspected or confirmed mild or uncomplicated influenza illness within 48 hours, or those who live in a remote community. In some patients, initiation of antiviral therapy should not wait for laboratory confirmation of influenza infection. Refer to treatment algorithm (figure 1) and dosing guidelines (table 2). If the NAAT test for influenza is negative, therapy can be discontinued.

Oseltamivir (Tamiflu) is a Pharmacare benefit for children with risk factors in table 1. The prescriber DOES NOT have to submit a Special Authority form.

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TABLE 1

Consideration for treatment as an outpatient if presenting with a positive influenza test and/or influenza like symptoms and the following:

Risk factors for Influenza complications

- Asthma and other chronic pulmonary disease, including bronchopulmonary dysplasia, cystic fibrosis, home ventilation/tracheostomy,
- Cardiovascular disease
- Malignancy
- Immunosuppression or immunodeficiency
- Diabetes mellitus and other metabolic diseases
- Hemoglobinopathies such as sickle cell disease
- Neurological disease and neurodevelopmental disorders that compromise handling of respiratory secretions
- Chronic renal insufficiency
- Chronic liver disease
- Individuals aged younger than 18 years who are on chronic aspirin therapy
- Obesity with a BMI ≥40 or a BMI >3 z-scores above the mean for age and gender

Populations at increased risk of Influenza complications

- Children and Youth residing in homes or chronic care facilities
- Children and Youth residing in rural and remote communities*
- First Nations, Inuit and Métis children and youth**

* For 2022/23 influenza season

** Impacts of colonization on social determinants of health place this population at higher risk of complications.

TABLE 2

Oseltamivir dosing for treatment of influenza:

Children <12 months: 3 mg/kg/dose PO twice daily x 5 days

Children ≥12 months to <13 years:

•≤15 kg:	30 mg PO twice daily x 5 days
•>15 kg to ≤23 kg:	45 mg PO twice daily x 5 days
•>23 kg to ≤40 kg:	60 mg PO twice daily x 5 days
•>40 kg:	75 mg PO twice daily x 5 days
•Adolescents ≥13 years and adults:	75 mg PO twice daily x 5 days

Dose interval and duration adjustment in renal impairment:

Patients with GFR <30 mL/min: once daily x 5 days

Patients on HD or PD: give single dose per above dosing recommendations, then consult pharmacist for post dialysis re-dose.

***For neonatal dosing refer to BCCH and Womens formulary**

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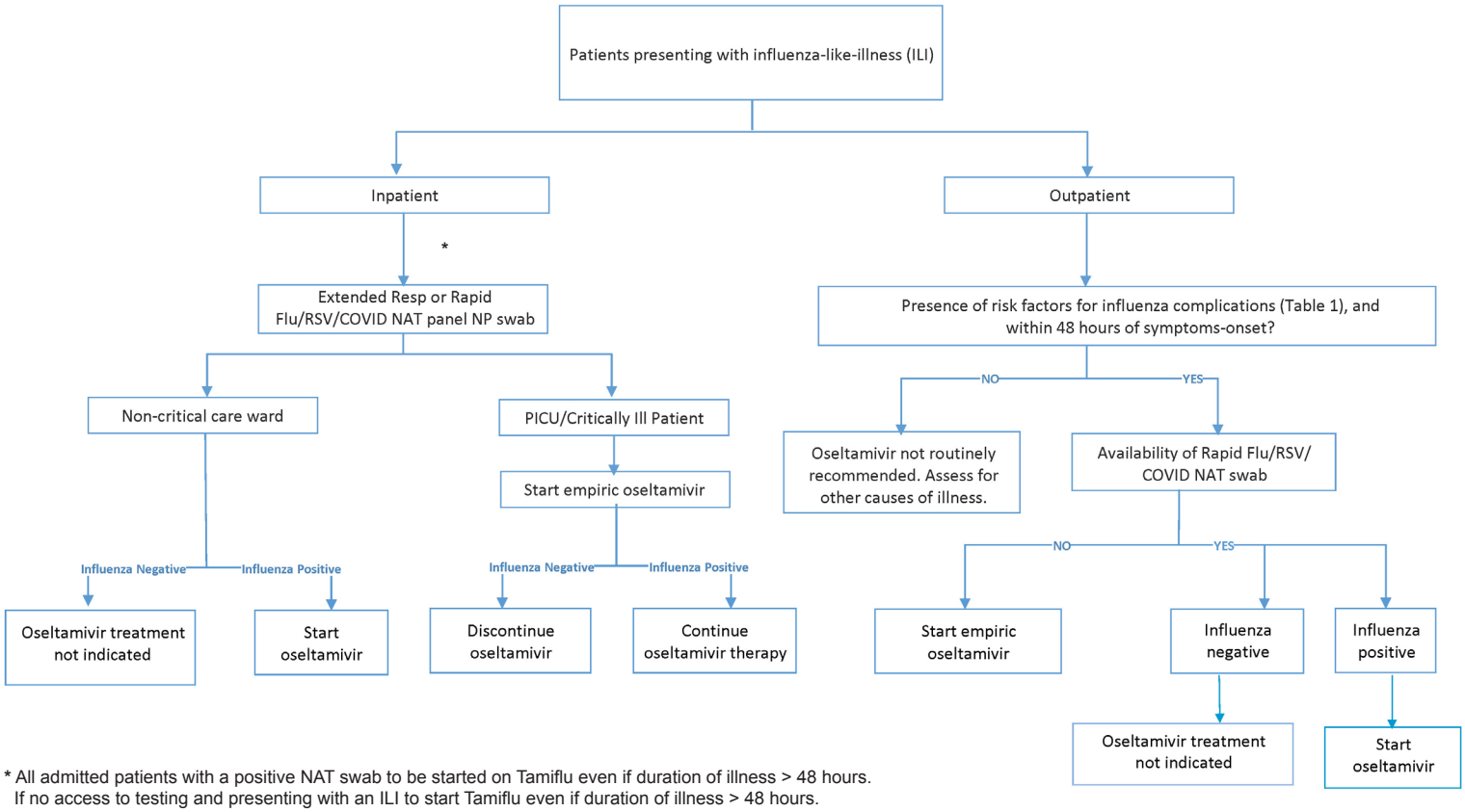
FIGURE 1



* All admitted patients with a positive NAT swab to be started on Tamiflu even if duration of illness > 48 hours.
If no access to testing and presenting with an ILI to start Tamiflu even if duration of illness > 48 hours.

Notes:

SPECIAL CONSIDERATIONS FOR THOSE LIVING IN A REMOTE COMMUNITY

In times of high levels of circulating influenza (such as the fall of 2022), where testing is not available in a timely manner, empiric treatment may be required.

- **Aged younger than 1 year:**
  In Canada, neuraminidase inhibitors (NAIs) are currently not approved for the routine treatment of seasonal influenza illness in this age group. Because infants aged younger than 6 months are not vaccinated for influenza, it is important to immunize their household and other close contacts to indirectly protect them from disease. Influenza immunization during pregnancy should be promoted to protect infants during their first 6 months of life. However, these infants are at highest risk of severe infection. Consideration for treatment with oseltamivir (Tamiflu) should be made and can be discussed with a local pediatrician in the first instance. Any additional concerns from the local pediatrician can be discussed with the BCCH pediatric infectious disease physician oncall (604-875-2345; page Infectious Disease oncall physician).
  *For neonatal dosing refer to BCCH and Womens formulary: **http://www.pedmed.org/DrugApp/index.html**
- **Aged >1 years:**
  Children who are otherwise healthy, whose influenza is mild, and who do not require hospitalization do not routinely require antiviral therapy. For these children, treatment (using oseltamivir/Tamiflu) is optional. Children with conditions listed in Table 1 should be treated, and this may need to be started empirically if testing is not available.

REFERENCES

1) **http://shop.healthcarebc.ca/phsa/BCWH_2/Pharmacy,%20Therapeutics%20and%20Nutrition/C-05-01-60137.pdf**
2) *2021–2022 AMMI Canada guidance on the use of antiviral drugs for influenza in the COVID-19 pandemic setting in Canada doi:10.3138/jammi-2022-01-31*
3) Use of antiviral drugs for seasonal influenza: Foundation document for practitioners—Update 2019. doi:10.3138/jammi.2019.02.08
4) Truth and Reconciliation Committee of Canada. Honouring the Truth, Reconciling the Future. Summary of the Final Report of the Truth and Reconciliation Commission of Canada [Internet]. 2015. [cited 2023 Jan18]. Available from: **https://ehprnh2mwo3.exactdn.com/wp- content/uploads/2021/01/Executive_Summary_English_Web.pdf**