Guidance to health care professionals

FOR CHILDREN WITH CHRONIC MEDICAL CONDITIONS RETURNING TO SCHOOL DURING COVID-19 PANDEMIC

19 August 2020 update

COVID-19 will be part of our lives for a long time and measures to balance risk of infection and risk of continued confinement will require ongoing evaluation. The risk of acquiring COVID-19 varies across Canada and in each jurisdiction.

The risk of transmission of COVID-19 in schools is **directly** linked to overall active community transmission. Continuing to follow public health recommendations of hand washing, physical distancing, face covering, respiratory etiquette and limiting exposures in order to decrease infection prevalence are paramount in planning the safe return of students to school. There is currently no licensed COVID-19 vaccine nor is there clear evidence of herd immunity.

WHAT HAS HAPPENED WHEN OTHER JURISDICTIONS REOPENED SCHOOLS?

March 13th 2020 was the last day of school for Ontario students and they have not returned since. Quebec schools reopened on May 11th 2020. Many countries in Europe and Asia have successfully reopened schools without a significant increase in COVID-19 cases using various risk mitigation strategies. However, there have also been reports of large school outbreaks in the context of increasing transmission in the community, and lack of robust screening, physical distancing and masking policies.

WHAT IS CURRENTLY KNOWN ABOUT COVID-19 IN CHILDREN?

- Studies suggest that approximately 1-10% of COVID-19 cases are in children.
- Children of all ages are susceptible to infection and are likely to transmit infection to variable degrees with some reports suggesting higher transmission of SARS-CoV-2 if the index patient is 10–19 years of age compared with under 10 years.
- COVID-19 infections in infants, children and adolescents are consistently reported to be virtually always mild or even asymptomatic.
- Albeit rare, severe disease and deaths have occurred. Large studies in both China and the United States suggest severe and critical outcomes may be more common in children under the age of one and those with underlying chronic medical conditions.
- Children with malignancy or immunosuppression have had higher rates of hospital admission but their overall clinical course has generally been favorable.

- In May 2020, a new pediatric clinical syndrome called the multisystem inflammatory syndrome in children (MIS-C) or pediatric multisystem inflammatory syndrome (PIMS) was described. MIS-C/PIMS is thought to be a post-infectious hyperinflammatory syndrome associated with past COVID-19 infection. This syndrome is rare, can be severe, but seems to respond well to appropriate therapies.

In summary, the vast majority of children infected with COVID-19 have had either no symptoms or mild disease, with clinical symptoms very similar to any other viral upper respiratory tract infection.

This document will be updated as new information and evidence is available. Last revised August 19th 2020

SPECIFIC POPULATIONS:

At this time, we consider certain specific groups of children as potentially at higher risk of developing severe disease or complications of COVID-19. This list may change as new evidence becomes available. The following chronic medical conditions were stratified into 3 risk categories. See Table 1 for details.

1. **Red Zone:** Children at **high risk** of severe disease or complications from COVID-19 infection:
   - Recommendations are to remain isolated at home and proceed with virtual online learning.
   - For some children benefits of school may still outweigh the risks of infection and a risk/benefit discussion should take place with their primary care provider and subspecialist team.
2. **Yellow Zone:** Children with **possible risk** of severe disease or complications from COVID-19 infection
   - These children may return to in person learning following discussion with their subspecialist team.
   - Each case is unique and requires the expertise of the care team to assess the patient's severity, past history and other particularities of the patient. Not all children with the listed conditions will have the same risk.
3. **Green Zone:** Children have **similar risk** as children without underlying medical conditions
   - Children could return to in-person learning unless other considerations exist.

IMPORTANCE OF OPTIMIZING THE TREATMENT OF THE UNDERLYING MEDICAL CONDITION:

SARS-CoV2, like any other viral infection can worsen an underlying disease or trigger a flare of an underlying condition. As such, it is crucial at this time that children with chronic medical conditions continue their maintenance medication and optimize the control of their underlying illness, including steroids. Pediatric patients on monoclonal antibody medication for IBD and rheumatologic conditions appear to have no worse outcomes than same-age peers with only mild COVID-19 disease observed to date. However, children with very active inflammatory diseases who are on higher than usual dosages of immune modulating medications, or those with other coexisting conditions, may be at higher risk. When in doubt, it is best to confer with their subspecialist for specific advice.

GUIDANCE:

- In general, children who were attending school prior to the COVID-19 pandemic, even despite their underlying chronic medical condition, should be able to attend in person learning at school with public health precautions.
- Choosing between online learning versus in person learning is a complex and personal decision and should consider the child's health; educational, social, and behavioural needs; the ability of the child to follow infection prevention measures; the child's and family's ability to accommodate virtual learning and the potential exposures to high-risk individuals in the household.

- This decision should also be influenced by current epidemiology, level of community transmission, ability for the school to follow public health recommendations (physical distancing, hand hygiene, proper ventilation) and the capacity for prompt testing, isolation and contact tracing of index cases.
- There are very few children that would be exempt from wearing a face covering for medical reasons. For example, children or youth with cognitive, sensory or mental health issues, who cannot tolerate a non-medical mask should not wear one. Face shields may also be an alternative. Otherwise, children and youth should follow provincial and local public health recommendations regarding the use of face coverings.
- There may be patients that are not on this risk stratification list but are at higher risk of severe disease or complications with COVID-19. When in doubt, it is best to confer with their subspecialist for specific advice.
- Review of immunization status – to avoid vaccine-preventable diseases; this will importantly include the seasonal influenza vaccine once it is available in the fall of 2020.

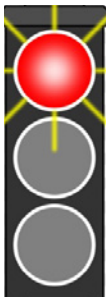
IN SUMMARY

- Very few medical conditions would preclude a child from attending school in person.
- There are tremendous benefits of children attending school and potential risks of children not attending school for prolonged periods of time.
- COVID-19 very rarely causes severe disease in children; like other respiratory viral diseases, severe disease occasionally happens even in previously-healthy children.
- The return to school should be associated with the continued promotion of principles of infection prevention and control within the schools and outside the home. Physical distancing, hand hygiene, face covering cloth masking, respiratory etiquette and limiting large gatherings should be maintained as best as possible during this time.
- It is paramount that ill individuals with potential COVID-19 illness remain at home and not be present at school or in the workplace in order to limit community spread of infection.
- We recommend remaining up-to-date about COVID-19 using reputable web resources.
- The ultimate decision should be made by each family, with support and guidance from their primary care team and/or subspecialist. Each child and situation are unique.

Table 1. Risk stratification for severe disease or complications from COVID-19 infection

High risk of severe disease or complications from COVID-19 infection

Red Zone



Patients highly recommended to remain in isolation:

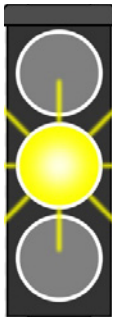
- Cancer patients on intensive chemotherapy
- Post hematopoietic stem cell transplantation (HSCT) on immunosuppression and/or evidence of graft vs-host disease (GVHD) (especially in the first year).
- Post solid organ transplant (within 3-6 months, and/or receiving high doses of immunosuppression, such as for treatment of rejection in the last 3 to 6 months)
- Severe Combined Immunodeficiency without treatment
- Patients awaiting HSCT in the upcoming 1-2 months
- Severe Aplastic Anemia on full-dose immunosuppression

Patients at risk of severe disease or complication that may still benefit from in -person learning. Requires a clear risk: benefit discussion with specialist which should be updated regularly according to current community rates of COVID-19.

- Severe neurological disease with impaired cough efficacy, bulbar dysfunction and/or respiratory technology (oxygen, CPAP, tracheostomy)
- Severe chronic lung disease:
  - Uncontrolled/Systemic steroid-dependent asthma
  - Chronic interstitial lung disease
  - Advanced cystic fibrosis

Possible risk of severe disease or complications from COVID-19 infection

Yellow Zone



- Cancer patients not on intensive chemotherapy
- Primary immunodeficiency (PID) other than selective IgA deficiency
- Children receiving nocturnal CPAP or BIPAP for sleep disordered breathing
- Children with tracheostomy +\- ventilation
- Chronic lung disease
  - Severe but controlled asthma, cystic fibrosis and bronchopulmonary dysplasia
- Severe chronic liver disease
- HIV with CD4 T cells < 200 in children >5 years or < 15% in children </= 5 years of age
- Patients with specific cardiac conditions:
  - Single ventricle patients after Fontan operation, patients with chronic cyanosis or significantly depressed ventricular function, patients with severe pulmonary hypertension, patients who have undergone heart transplant, and infants with unrepaired significant congenital heart disease
- Inflammatory bowel disease (IBD) such as Crohn's or ulcerative colitis **with** the following criteria:
  - Newly diagnosed IBD
  - Severe active inflammation
  - On higher dose steroid medications (>0.5 mg/kg/day prednisone equivalent dose) (excluding steroid enemas/creams or budesonide)
- Sickle cell disease
- Intractable or severe epilepsy
- Neurodegenerative and neuromuscular conditions
- Dermatology and Rheumatology patients with the following criteria:
  - Significant active inflammation
  - Corticosteroids >0.5 mg/kg/day prednisone equivalent dose
  - Combination of immunemodulating medication (except MTX and one Biologic)
  - Cyclophosphamide
  - Patients suffering from other co-existing conditions
- Patients with Chronic kidney disease (CKD) with the following:
  - Glomerular kidney disease on immunosuppression
  - CKD stage 4 (GFR <30 ml/min/1.73 m2)
  - Receiving hemodialysis or peritoneal dialysis

Risk is similar to other children without chronic medical condition

Green Zone

- Mild-moderate asthma
- Type 1 diabetes
- Conditions requiring replacement corticosteroid therapy
- Selective IgA deficiency
- Cancer patients who have completed therapy
- HSCT or gene therapy patients more than 2 years after completion of therapy and with adequate immune reconstitution
- Mild-moderate epilepsy
- Gastroenterology, Dermatology, Rheumatology, Neurology, Respirology, Cardiology, Hematology/Oncology patients not mentioned in the red and yellow categories

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