

**PRACTICE POINT**

Paediatric asthma and COVID-19

Principal author(s)

Elissa Abrams, Geert 't Jong, Connie Yang, Canadian Paediatric Society Allergy Section, Drug Therapy Committee, Respiratory Health Section

COVID-19 is a predominantly respiratory infection, and there are concerns regarding the effects of this virus on children and youth with asthma. No evidence to date suggests that young people with asthma are at increased risk for COVID-19 infection ^{[1][2]}. However, there is a theoretical possibility that a child or youth with asthma infected with COVID-19 could experience an asthma exacerbation and serious morbidity due to combined effects on the respiratory tract ^{[3]-[5]}.

In Canada, children with asthma should remain on their current asthma medications. This recommendation is supported by multiple international organizations, including the Centers for Disease Control and Prevention, the Global Initiative for Asthma, and the North American consensus guideline on allergy care during COVID ^{[3][5][6]}. Other precautionary practices include reviewing proper inhaler technique (<https://asthma-education.com/how-to-use/>), avoiding known asthma triggers, frequent handwashing, and physical distancing ^[3]. There is no evidence that wearing a face mask causes asthma exacerbations ^[7].

Concerns have also been raised regarding oral corticosteroid use in individuals infected by COVID-19, based on the possibility of increased viral replication ^[8]. Such concerns must be weighed against the general consensus that asthma exacerbations should be treated aggressively, and in accordance with current best practices ^[6]. The Global Initiative for Asthma guidelines recommend using oral steroids as required, and in keeping with the child's current asthma action plan, during the COVID-19 pandemic ^{[6][9]}.

Medication shortages, including shortages of asthma medications, already exist in Canada. In the event of a shortage of inhaled corticosteroid (ICS) controller medications, the Canadian Thoracic Society has a table of comparative ICS medication doses (<https://cts-sct.ca/wp-content/uploads/2018/01/ASTHMA-GUIDELINE-APRIL-2012.pdf>) to help guide alternate prescribing ^[10]. In case of a salbutamol MDI shortage, substituting another short-acting beta agonist, such as salbutamol via diskus or terbutaline via turbuhaler, is advised. Because these are both dry powder inhalers, children need to be old enough to produce enough inspiratory force to use the device properly (<https://asthma-education.com/how-to-use/>), which is more consistent in children aged 6 to 8 years and older.

To optimize deposition and portability, a metered-dose inhaler (MDI) with valved holding chamber and/or a dry powder inhaler (i.e., turbuhaler or diskus) is preferred to nebulizer use. Practitioners should be aware that nebulizing medication is an aerosol generating medical procedure (AGMP) and can increase the risk of COVID-19 transmission ^{[11][12]}. Nebulized salbutamol should only be considered when no other option is available ^[11], and proper adherence to all appropriate infection control protocols can be assured. For adolescents aged 12 and older, use of ICS-formoterol for both maintenance and reliever therapy is an option supported by the Global Initiative for Asthma 2019 update ^{[13][14]}.

To summarize, children and youth living with asthma should remain on their current controller medications. Asthma exacerbations should be aggressively treated, including the use of oral corticosteroids when needed. Nebulization should be avoided, if possible, due to transmission risk. Close monitoring of medication shortages is required and ongoing ^{[13][14]}.

Information on COVID-19 will be reviewed and updated in CPS documents as this pandemic and its literature evolve.

Elissa Abrams, Geert 't Jong, Connie Yang, Allergy Section, Drug Therapy and Hazardous Substances Committee, Respiratory Health Section, Canadian Paediatric Society

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Disclaimer: The recommendations in this position statement do not indicate an exclusive course of treatment or procedure to be followed. Variations, taking into account individual circumstances, may be appropriate. Internet addresses are current at time of publication.

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