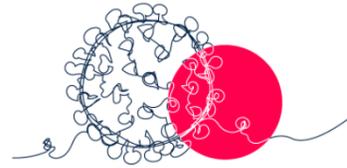


Webinar/Rounds

COVID-19 Pandemic: Preventing and Managing the Health Impacts on Kids



Dr. Ran Goldman, UBC, BC Children's Hospital

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- 1. COVID-19 in Children**
- 2. Post-COVID-19 multisystem inflammatory syndrome in children**
- 3. Post-COVID Vaccine Pericarditis/Myocarditis in Adolescents**
- 4. Resources**

COVID-19 in Children

- The COVID-19 global pandemic affects all ages, including very young infants. The latter may be at higher risk for complications
- Severe respiratory manifestations have been the mainstay of illness in adults, with what seems to be rapid deterioration necessitating mechanical ventilation. Not as severe in children
- Initially children consisted of only 5% of those sick, but now a much higher incidence in the pediatric population. Omicron affects more of everyone, and also more in children
- Some of the rise in rate among children is also testing the more than before
- Symptoms in children with all variants are similar - fever, dry cough, rhinorrhea, sore throat, and fatigue, and in 10% diarrhea or vomiting
- Rarely they have dyspnea or hypoxemia
- Blood tests and imaging have been shown to be of little value - do not order chest x-rays of CBC unless the child look sick on exam. Rule of thumb – order those test for children that need admission
- For the under 28 days of life – any FEVER 38+ means admission + full septic workup – with or without positive COVID test
- No specific therapy is available and supportive care with rest, fluids, and antipyretics
- Need to remember children with chronic illness and immunocompromised states – avoid COVID at all cost
- Recall the mental health impacts of COVID and address that – anxiety, depression, isolation

Post-COVID-19 multisystem inflammatory syndrome in children (MIS-C)

- We do not understand well the phenomenon
- Challenge to clinicians, can appear suddenly
- Febrile syndrome characterized by systemic hyperinflammation, persistent fever, and multisystem organ dysfunction
- It is a rare but potentially severe condition seen in children approximately 2 to 6 weeks after COVID
- Only 1/3-2/3 of children with the syndrome have a proof of COVID in the past
- There are reports of about 5000 children in the US alone; 269 cases reported to the Public Health Agency of Canada between March 11, 2020 and October 2, 2021
- Common signs and symptoms include persistent fever, systemic hyperinflammation, gastrointestinal symptoms (eg, abdominal pain, vomiting, diarrhea), mucocutaneous changes (eg, rash, conjunctivitis), headache, or cardiac dysfunction.
- In CANADA - reported in infants as young as 1 week to youth as old as 18 years, with a median age of 6 years
- Cases were more likely to occur in males than females (58% vs 42%, respectively; $p=0.006$).
- 99% required hospitalization and 36% required intensive care unit admission
- No deaths have been reported to date
- Since many children present as asymptomatic or with mild symptoms of COVID-19, the development of MIS-C can seem sudden and surprising to families and providers
- Although children with MIS-C usually require hospitalization, the outcomes are largely favourable with prompt recognition and intense therapy

Post-COVID Vaccine Pericarditis/Myocarditis in Adolescents

- There were cases of myocarditis and pericarditis in adolescents and young adults after mRNA COVID-19 vaccination
- Several hundreds documented in Canada
- Clinical presentation was mostly mild, with rare instances of admission to the hospital
- Usually male adolescents 16 years of age and older
- Took place within several days after second dose of the vaccine
- Symptoms of chest pain, shortness of breath, or palpitations
- If someone is complaining – evaluate with physical examination, electrocardiogram and cardiac troponin levels

- If abnormal, echocardiogram, or cardiac magnetic resonance imaging should be considered
- Myocarditis and pericarditis after vaccines are much less common, and much milder, than cardiac complication of the COVID-19 infection, and vaccines should continue to be recommended to all those eligible.

Resources

Canadian Family Physician paper - Post-COVID-19 **multisystem inflammatory syndrome** in children - <https://www.cfp.ca/content/cfp/67/8/594.full.pdf>

Canadian Family Physician paper - - **Coronavirus** disease 2019 in children - <https://www.cfp.ca/content/cfp/66/5/332.full.pdf>

Summary about Canadian children with multisystem inflammatory syndrome - <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2021-47/issue-11-november-2021/multisystem-inflammatory-syndrome-children-canada.html>

Canadian Family Physician paper - Parental **vaccine hesitancy** - <https://www.cfp.ca/content/cfp/67/5/339.full.pdf>

UBC led research on willingness of parents to vaccinate their children (COVIPAS) –

Willingness to vaccinate to COVID - <https://www.mdpi.com/1660-4601/18/19/10224/pdf>

Influenza vaccination plans during COVID - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7410815/>

Willingness to expedite research - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8639474/>

Delay coming to care due to COVID - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8366744/>

Parents' questions, as from recent Media –

Speaking with parents about vaccines - <https://www.ctvnews.ca/health/coronavirus/pediatrician-urges-parents-to-have-the-covid-19-talk-as-omicron-cases-hit-new-highs-1.5731128>

Back to school Omicron - <https://bc.ctvnews.ca/video?clipId=2357707>

Enhance vaccines for children - <https://globalnews.ca/video/8498141/pediatric-experts-urge-parents-to-vaccinate-their-children-against-covid-19>

Vaccination - <https://vancouver.sun.com/news/covid-19-nearly-half-of-five-to-11-year-olds-havent-been-registered-in-b-c-for-vaccine-appointments>

Transmission in schools - <https://www.cbc.ca/listen/live-radio/1-91-the-early-edition/clip/15888362-transmission-schools>