COVID-19 pre-exposure prophylaxis in adults

SARS-CoV-2 causes mild respiratory symptoms in most cases but can progress to severe illness leading to ARDS and multi-organ failure. **Vaccination against the virus remains the most effective way to prevent severe infection**; however severely immune-compromised individuals who are unable to mount an appropriate immune response to vaccination may develop severe infection. In such patients, ***pre-exposure*** prophylaxis with neutralizing antibody preparations targeting SARS-COV2 may be indicated.
The only product currently approved by Health Canada for pre-exposure prophylaxis is **Tixagevimab/Cilgavimab (Evusheld**). This product is **not a substitute for vaccination;** in some instances, it may be given as early treatment of infection or as post-exposure prophylaxis**.** The management of infected patients is described under "COVID-19 Management guidelines – suspected and confirmed COVID-19".

WHO SHOULD RECEIVE PRE-EXPOSURE PROPHYLAXIS?

Individuals with **NO symptoms** of COVID-19 (fever and/or new/exacerbation of respiratory symptoms and/or new onset of diarrhea) and not known positive for SARS-CoV2 (by PCR or rapid antigen test within last 2 weeks).
While supplies are limited, ***priority should be given to highest-risk individuals (listed in Box 1)***

HIGHEST PRIORITY, irrespective of vaccination status:

- Solid organ recipient (kidney, liver, heart, lungs), or
- Recipient of Allo or Auto-SCT within <1 year**,** or on treatment for CGVHD
- Recipient of CAR-T therapy within <1 year, or
- Hematologic malignancy on chemotherapy and/or immunotherapy, or
- Severe primary immunodeficiency (CVID, DiGeorge, Wiskott-Aldrich, HyperIgE), hypogrammaglobulinemia,
- Receiving B-cell depleting agent (ex. Rituximab) for any condition, or
- Receiving cyclosphosphamide for any condition, or
- Receiving > 20mg/d Prednisone for > 3 weeks

Unvaccinated or incompletely vaccinated (≤ 2 doses of mRNA vaccines) AND contra-indication to further vaccination (eg. Severe adverse events to vaccination) AND

- Active solid organ malignancy (undergoing chemotherapy /radiotherapy/immunotherapy)
- Serious cardiovascular disease (unstable CAD, uncontrolled CHF (NYHA II-IV), severe arrhythmia)
- Severe lung disease (severe asthma, COPD, CF, pulmonary fibrosis)
- Chronic kidney disease on dialysis
- Chronic liver disease
- Sickle cell disease
- Poorly controlled Diabetes, Obesity (BMI ≥35)
- Down Syndrome (trisomy 21)
- HIV infection with CD4<200
- Age > 60y

ADMINISTRATION:

Tixagevimab/cilgavimab[1]**: tixagevimab 300 mg AND cilgavimab 300 mg** IM as 2 distinct IM injections sites, preferably the two gluteal[2] muscles
Should be administered at least 2 weeks after COVID vaccination[3]
Dose may be repeated in 6 months if ongoing community transmission of SARS-CoV2.

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ADDITIONAL NOTES

[1]Tixagevimab/cilgavimab (T/C):

- Active vs α,β, λ, γ, ο including BA2 variant (but less active vs BA1 variant);
- Dose may be increased depending on predominant variant (eg. BA1); Viral evolution will affect T/C efficacy; optimal dosing not well established.
- Caution is recommended in patients with history of significant cardiovascular disease.
- Insufficient data to recommend use in pregnant women
- Potential adverse events include injection site reactions and hypersensitivity reactions
- Not expected to interact with any drugs, and is not renally excreted or metabolized by cytochrome P450

[2] **Injection site** : if the gluteal muscles are not available, another large muscle capable of accepting the injection volume, such as the vastus lateralis, would be acceptable.

[3] **Timing in relation to COVID vaccination**: T/C should be administered at least 2 weeks after COVID vaccination, but optimal delay between vaccination and T/C is still not well documented

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