

Biologic therapy and the COVID-19 vaccine

Advice for individuals with asthma



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Clinical Immunology

What is biologic therapy for asthma?

- Biologics target specific inflammatory pathways in the body that cause asthma and can help to improve asthma control and substantially reduce exacerbations (**asthma attacks**).
- Different biologics target different cells and inflammatory pathways in the lungs, depending on the type of asthma you have — allergic and/or eosinophilic.

Which patients with asthma might be treated with a biologic?

- Those with physician-diagnosed severe asthma
- Whose symptoms remain uncontrolled despite being adherent to their regular inhaler medications
- Or who require multiple bursts or maintenance treatment with oral prednisone
- Or have had any Emergency Room visits or hospitalizations because of their asthma within the last year
- Those patients with asthma where the biologic is prescribed for another reason (bad eczema, nasal polyps, etc.)

Approved biologic therapies for asthma in Canada:

- Cinquair (reslizumab injection – anti-IL5 – eosinophilic asthma)
- Dupixent (dupilumab injection – anti-IL4/13 – eosinophilic/type 2 asthma)
- Fasenra (benralizumab injection – anti-IL5Ra – eosinophilic asthma)
- Nucala (mepolizumab injection – anti-IL5 – eosinophilic asthma)
- Xolair (omalizumab injection – anti-IgE – allergic asthma)

Which patients with asthma should not receive a biologic?

- Those who have not yet been assessed by a lung specialist or allergy specialist
- Those who do not take their prescribed inhaler medications on a daily basis
- Those who are allergic to the biologic medication

Risk Assessment

There is no evidence of safety or efficacy concerns for patients with asthma on biologic therapy.

There is no biological rationale as to why anti-IgE, anti-IL5, anti-IL5Ra, or anti-IL4/13 therapies should place patients at higher risk of adverse events.

Many patients with severe asthma also have a history of severe allergies and anaphylaxis.

Health care professionals should engage their patients in a shared decision-making process to discuss risks and benefits of receiving a COVID-19 vaccine.

NACI preferentially recommends that a complete two-dose vaccine series with an mRNA COVID-19 vaccine (Pfizer-BioNTech, Moderna) should be offered to individuals in the authorized age group, including those who are immunosuppressed, have an autoimmune condition, are pregnant or are breastfeeding. If they are not able to receive an mRNA vaccine, for example because of an allergy, another authorized COVID-19 vaccine should be offered.

Individuals with a history of severe allergic reaction to a component of the COVID-19 vaccine should not receive the COVID-19 vaccine.

Timing Considerations for Biologic Therapy and COVID-19 Vaccination*

CTS and CSACI recommend that:

- The COVID-19 vaccine should not be administered on the same day as a biologic for asthma *where possible*.
- Patients with asthma should ideally receive a COVID vaccine 72 hours apart from their regular biologic, to make it easier to tell what injection may have caused a problem if the patient has a reaction.
- Individuals with a history of reaction to injectable medications, or a previous COVID-19 vaccine must advise the staff at the vaccination site.

Considerations following COVID-19 vaccination

Following COVID-19 vaccination, patients should continue to observe public health guidelines and other preventive measures to decrease risk of virus transmission by:

- washing hands regularly or using alcohol-based hand sanitizers,
- wearing face masks in indoor public places
- practicing physical distancing
- monitoring for symptoms of COVID-19 and getting tested if symptoms present

Household members and other frequent, close contacts of patients with asthma should undergo COVID-19 vaccination when available to them to facilitate a 'bubble effect' that may help protect them.

Observations

Serious adverse events are rare, but do occur. They include anaphylaxis which has been reported 69 times for all COVID-19 vaccines across Canada as of the end of May 2021. To access a summary or weekly reports on side effects following COVID-19 vaccination in Canada consult the Government of Canada website at: <https://health-infobase.canada.ca/covid-19/vaccine-safety/>.