

Pocket Guide for Immunizers: Pregnancy and Breastfeeding



The purpose of this pocket guide is to serve as a tool for health care providers to learn more about the administration of vaccines during pregnancy and breastfeeding, enabling them to make strong recommendations to their patients.



The risks associated with vaccine-preventable diseases are particularly serious during pregnancy and in the early postnatal months. Pregnancy is associated with an altered immune state – along with changes that affect the heart and lungs – that can increase susceptibility to some infectious diseases, and the transmission of infection to the fetus or infant can cause severe life-threatening complications and even death.

Vaccination protects the pregnant person from infectious diseases that may complicate the pregnancy or be passed on to the unborn child. Protective antibodies can be passed to the fetus or newborn both transplacentally and through breast milk, conferring additional immune protection to the child at a time when they are too young to be immunized or to mount an optimal immune response from the vaccines directly. This additional protection is especially important as certain vaccine-preventable diseases, such as pertussis, are most severe in young infants.

The benefits of vaccination during pregnancy and breastfeeding have been well studied and documented in the scientific literature. Further, there is no published data or theoretical model that predicts any adverse effect on the fetus or infant from the administration of currently authorized non-live vaccines during pregnancy.

Ensuring that all pregnant people are adequately immunized with all recommended vaccines is the best way to protect the good health of both the pregnant person and the child, both before and after birth. This has become standard of care.

This pocket guide references recommendations made in the [Canadian Immunization Guide Chapter on Immunization in Pregnancy and Breastfeeding](#) from the National Advisory Committee on Immunization (NACI) and commentary made by expert reviewers. Supplementary documents referenced in this guide also include: [Updated guidance on COVID-19 vaccines for individuals who are pregnant or breastfeeding](#), [Recommendations on the use of Novavax Nuvaxovid COVID-19 vaccine](#), [Respiratory syncytial virus \(RSV\): Canadian Immunization Guide](#), and [Product Monograph: ABRYSVO™](#)

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WHAT VACCINES ARE RECOMMENDED DURING PREGNANCY?

It is strongly recommended that all pregnant people receive both the **non-live flu (influenza)** and **Tdap (tetanus toxoid, diphtheria toxoid, acellular pertussis) vaccines** during each pregnancy, regardless of previous immunization status. Immunization with these vaccines during pregnancy has been shown by robust research to protect the child—both prenatally and postnatally—against the serious complications of infection, from premature birth and low birth weight to stillbirth or later death.



COVID-19 vaccines are also recommended for all pregnant people. As pregnant people were not included in COVID-19 vaccine trials, informed consent should include a conversation where it is made known to the patient that **mRNA COVID-19 vaccines** have been used in many pregnant and breastfeeding people, and that real-world evidence has been collected on their safety and effectiveness. The patient should also be informed that there is currently limited evidence on the safety and efficacy of **protein subunit COVID-19 vaccines** during pregnancy; however, ongoing evidence is being monitored.



The Respiratory Syncytial Virus (RSV) vaccine ABRYSVO™ was authorized for use in Canada in December 2023 for people 32 to 36 weeks pregnant to assist in the prevention of lower respiratory tract disease (LRTD) and severe LRTD infection caused by RSV in neonates and babies up to 6 months of age. The information in this pocket guide related to RSV vaccination in pregnancy will be updated as the National Advisory Committee on Immunization (NACI) releases more information.

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Table 1: Preparations Recommended During Pregnancy

Class Code	Class Details	Vaccine Names
Influenza	Non-live seasonal influenza vaccine	<ul style="list-style-type: none"> • Afluria® Tetra • Flulaval® Tetra • Fluzone® Quadrivalent • Influvac® Tetra
		<ul style="list-style-type: none"> • Flucelvax® Quad
		<ul style="list-style-type: none"> • Supemtek™
Tdap	Adsorbed tetanus toxoid, diphtheria toxoid, and acellular pertussis vaccine	<ul style="list-style-type: none"> • ADACEL® • BOOSTRIX®
COVID-19	mRNA COVID-19 vaccine	<ul style="list-style-type: none"> • Comirnaty® Omicron XBB.1.5 • Comirnaty® Original and Omicron BA.4/BA.5
		<ul style="list-style-type: none"> • Spikevax® XBB.1.5
Respiratory Syncytial Virus (RSV)	RSV subunit vaccine	<ul style="list-style-type: none"> • ABRYSVO™

For all above listed preparations for the influenza, Tdap, RSV, and the Spikevax® XBB.1.5 vaccines, **dosage is 0.5mL administered intramuscularly (IM)**. For the Comirnaty® Omicron XBB.1.5 and Comirnaty® Original and Omicron BA.4/BA.5 vaccines, **dosage is 0.3mL administered intramuscularly (IM)**.

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WHAT ADDITIONAL VACCINES MAY BE INDICATED DURING PREGNANCY?

Pregnancy provides a valuable opportunity to review and evaluate the immunization status of the pregnant person. Even though pregnancy constitutes an altered immune state, the response to vaccines among pregnant people remains robust.

Non-live (inactivated) vaccines are considered safe to administer during pregnancy. **Live attenuated vaccines** do present a theoretical risk to the fetus, and are therefore not recommended during pregnancy. However, in certain circumstances (such as unavoidable travel to an endemic area or a local outbreak of a vaccine-preventable disease), the risk of not vaccinating can be much higher.

In addition to the **influenza, Tdap, COVID-19 and RSV vaccines, which are all recommended in all pregnancies**, any other approved non-live vaccine may also be given if there are circumstances of elevated risk due to exposure, travel, underlying medical conditions, or other factors.

Hepatitis A

Hepatitis A vaccine should be considered for pregnant people when indicated for post-exposure prophylaxis, for travel to locations where hepatitis A is endemic, or in cases of other exposure risks.



Hepatitis B

All pregnant people should be tested for hepatitis B surface antigen during each pregnancy, unless they are already known to be immune to—or carriers of—hepatitis B virus. A pregnant person who has no markers for hepatitis B infection but is known to be at high risk (due to factors including sexual relations with multiple partners, use of injection drugs, travel to a location where hepatitis B is endemic, or close family contact with a hepatitis-B-infected person) should be offered a complete series of hepatitis B immunization at the first opportunity during the pregnancy.

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Haemophilus influenzae type b (Hib)

Hib vaccine should be considered in pregnancy if indicated for a medical condition known to cause high risk for Hib disease, including asplenia or hyposplenism, sickle cell disease, use of a cochlear implant, congenital primary immunodeficiency, HIV, HSCT, malignant hematological disorders, and solid organ transplants.

Meningococcal

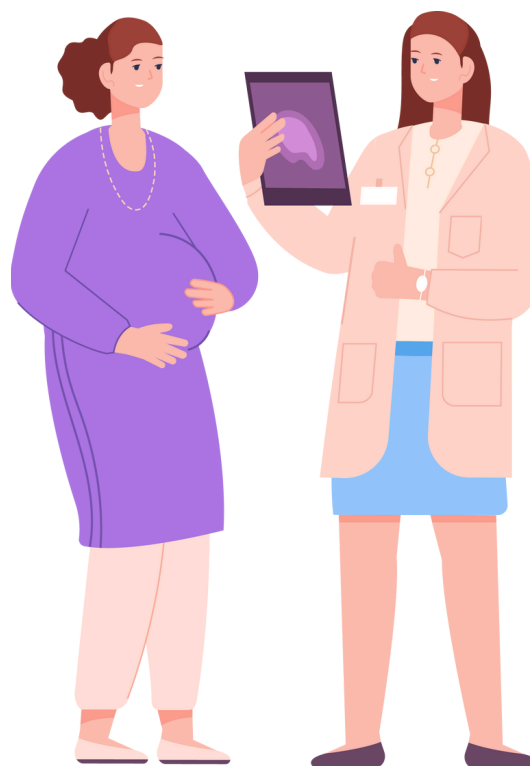
Meningococcal vaccines, including the meningococcal B vaccine, should be considered for pregnant people when indicated for post-exposure prophylaxis, for travel to locations where meningococcal risk is elevated, in cases of a local outbreak, or when underlying medical conditions (including anatomic asplenia, sickle cell disease, combined T and B cell immunodeficiencies, antibody deficiencies, and HIV) create elevated risk of meningococcal disease.

Pneumococcal

Appropriate pneumococcal vaccines should be considered for pregnant people at high risk of invasive pneumococcal disease due to factors such as being immunocompromised, living with chronic health conditions, or working in a long-term or acute care facility.

Poliomyelitis

Non-live poliomyelitis vaccine (IPV) may be considered for non-immune pregnant people at increased risk of exposure to wild poliovirus.

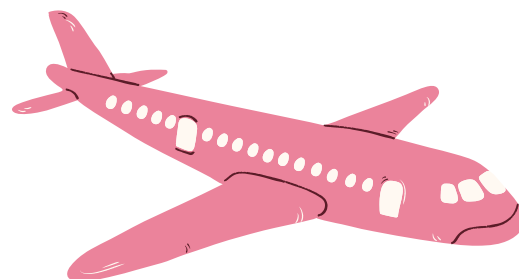


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WHAT ABOUT TRAVEL VACCINES?

Non-live vaccines that are indicated due to travel are generally considered safe to administer during pregnancy, though many have not been specifically studied in pregnant populations. Live vaccines are generally contraindicated except in cases where risk of exposure to disease is both high and unavoidable.



Japanese encephalitis in particular carries a high risk of intrauterine infection and miscarriage. Pregnant people are advised to avoid travel to locations where the risk of Japanese encephalitis infection is elevated. When such travel is unavoidable, immunization against Japanese encephalitis should be administered.

Administration of **non-live typhoid vaccine** should be considered for pregnant people travelling to areas where typhoid is endemic, if risk factors for severe disease are present. Live typhoid vaccine should not be used during pregnancy.

Cholera and enterotoxigenic *Escherichia coli* (travellers' diarrhea) vaccine should be considered for those at risk of severe disease if infection occurs.

Yellow fever vaccine is contraindicated during pregnancy and should be avoided unless travel to a location with high risk of yellow fever transmission is absolutely necessary and a high level of protection against mosquito exposure is not feasible.



WHAT ABOUT IMMUNOGLOBULIN PRODUCTS?

Immunoglobulin products that provide **pre-exposure or post-exposure prophylaxis** against dangerous illnesses such as **measles, varicella, hepatitis A, hepatitis B, tetanus, and rabies** may be administered to pregnant people as necessary. There is no known or theoretical risk to the pregnant person or the child from these products.

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WHAT VACCINES SHOULD NOT BE GIVEN DURING PREGNANCY?

The use of **live attenuated vaccines during pregnancy** must be carefully evaluated on a case-by-case basis for risks and benefits. In situations where an alternative non-live vaccine is available, that formulation should be administered instead.

Measles, Mumps, and Rubella (MMR)

Administration of MMR vaccine is generally contraindicated during pregnancy, although the potential benefit of immunization may outweigh the risks in situations such as local measles or rubella outbreaks. Pregnant people at risk of rubella should receive MMR vaccine in the immediate post-partum period/before discharge from hospital. If your patient is planning on getting pregnant, you should discuss the possibility of their receiving the MMR vaccine before pregnancy. Your patient should avoid becoming pregnant for at least 4 weeks following immunization with the MMR vaccine.

Varicella

Administration of monovalent varicella vaccine is contraindicated during pregnancy. Pregnant people at risk of varicella should receive varicella vaccine in the immediate post-partum period, with the first dose administered before discharge from hospital. If your patient is planning on getting pregnant, you should discuss the possibility of their receiving the varicella vaccine before pregnancy.



WHAT VACCINES SHOULD NOT BE GIVEN DURING BREASTFEEDING?

Most vaccines can be safely administered to individuals who are breastfeeding and, indeed, the immediate post-partum period is an ideal time to catch up on missed immunizations that may have been identified but contraindicated during pregnancy.

There are, however, a few instances in which immunization **is not recommended** in breastfeeding people (please see table 2).

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Table 2: Vaccines not recommended for breastfeeding people

Vaccine	Considerations
Yellow fever vaccine	There have been three reported cases of probable transmission of yellow fever vaccine-strain virus through breast milk, and so yellow fever vaccine should not be administered unless absolutely necessary.
Live oral typhoid vaccine	The safety of live oral typhoid vaccine in breastfeeding people has not been investigated, and so non-live typhoid vaccine should be administered in its place.
Bacille Calmette-Guérin vaccine	It is not known whether Bacille Calmette-Guérin vaccine may be excreted in breast milk, and so caution is advised.
Ebola vaccine	It is not known whether Ebola vaccine virus may be excreted in breast milk and so, as a precaution, breastfeeding should be discontinued for six weeks in cases where Ebola vaccine is indicated in the parent, unless vaccination has also been indicated for the breastfeeding infant.
Live replicating smallpox vaccine	Breastfeeding people should not receive live replicating smallpox vaccine except in emergency situations. If smallpox vaccine must be given for emergency post-exposure prophylaxis, breastfeeding should be discontinued until the scab has fully separated from the vaccination site.