

# SARS-CoV-2 vaccination in pregnancy

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## 1 Pregnancy is a risk factor for severe COVID-19

A 2021–2022 observational study found that a COVID-19 diagnosis during pregnancy increased risk of morbidity and death for the pregnant patient (relative risk [RR] 1.16, 95% confidence interval [CI] 1.03–1.31), and that SARS-CoV-2 vaccination was protective from severe disease and death. Unvaccinated pregnant patients were found to have a higher risk of morbidity and death (RR 1.36, 95% CI 1.12–1.65).<sup>1</sup>

## 2 Infants born to mothers with COVID-19 are at higher risk of severe outcomes

A 2020 systematic review and meta-analysis found that pregnant people with COVID-19 were at higher risk for stillbirth (odds ratio [OR] 1.81, 95% CI 1.38–2.37; absolute risk 351 stillbirths among 48877 offspring [0.4%, 95% CI 0.2%–0.6%]) than those without COVID-19, and that their infants were at higher risk of admission to the neonatal intensive care unit (OR 2.18, 95% CI 1.46–3.26, absolute risk 3088 of 17687 infants [25%, 95% CI 21%–30%]).<sup>2</sup> A recent observational study during the Omicron period also found increased perinatal mortality to infants born to patients with COVID-19.<sup>1</sup>

## 3 SARS-CoV-2 vaccination during pregnancy is safe for infants

SARS-CoV-2 vaccination during pregnancy has not been shown to increase the risk of miscarriage, congenital anomalies, preterm delivery or other adverse perinatal outcomes.<sup>3</sup>

## 4 SARS-CoV-2 vaccination during pregnancy reduces risk of infant hospital admission for COVID-19

A recent case-control test-negative study found that the effectiveness of the vaccine against infant hospital admission for COVID-19 was 52% (95% CI 33%–65%) overall, with higher effectiveness during the Delta wave (80%, 95% CI 60%–90%) and lower effectiveness during the Omicron wave (38%, 95% CI 8%–58%).<sup>4</sup>

## 5 All mRNA SARS-CoV-2 vaccines approved for use in Canada are recommended during pregnancy

SARS-CoV-2 vaccination is also recommended for people who are planning to become pregnant and while breastfeeding.<sup>5</sup>

### References

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**Competing interests:** Scott Halperin reports contracts for clinical trial research from GSK, Sanofi, Moderna, AstraZeneca, Pfizer, Merck, Entos, the Vaccine and Infectious Disease Organization, CanSino Biologics and VBI Vaccines. He has served on ad hoc advisory boards for Merck, Sanofi, GSK, Pfizer, AstraZeneca and Janssen, and on data safety monitoring boards for Medicago and IAVI. He has consulted for the Province of Ontario and the Canadian Medical Protective Agency. No other competing interests were declared.

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