

In brief

COVID-19 vaccines and fertility

16 September 2021

Summary

- The [Royal Australian and New Zealand College of Obstetricians and Gynaecologists](#) and the [Australian Technical Advisory Group on Immunisation](#) recommend that:
 - pregnant women are routinely offered Pfizer mRNA vaccine (Cominarty) at any stage of pregnancy
 - pregnant women are encouraged to discuss the decision in relation to the timing of vaccination with their health professional
 - women who are trying to become pregnant do not need to delay vaccination or avoid becoming pregnant after vaccination.^{1,2}
- There is [no evidence](#) to suggest COVID-19 vaccines affect [fertility](#).^{3,4}
- Observational studies have found that:
 - COVID-19 vaccines [did not affect](#) patients' performance or ovarian reserve in couples [undergoing IVF](#)
 - in men, there are [no significant decreases](#) in any [sperm parameters](#), compared with people who weren't vaccinated.⁵⁻⁸

Peer-reviewed and grey literature

- An [observational study](#) on 36 couples undergoing consecutive ovarian stimulation cycles for IVF, before and after receiving mRNA SARS-CoV-2 vaccine, found the vaccine did not affect patients' performance or ovarian reserve in their immediate subsequent IVF cycle.⁵
- A [cohort study](#) of 32 consecutive IVF patients who were either infected with COVID-19, vaccinated, or non-exposed, found no differences between the three groups in any of the surrogate parameters for ovarian follicle quality.⁶
- A [single-centre prospective study](#) in the United States (US) looked at sperm parameters among a cohort of 45 healthy men before and after two doses of a COVID-19 mRNA vaccine. The study found no significant decreases in any sperm parameter among the group.^{2,7}
- A [Nature article](#) discussed evidence that COVID-19 vaccination does not harm fertility. Clinical trials in humans and animals have found no significant difference in the rate of accidental pregnancies in vaccinated groups compared with non-vaccinated groups. This indicates that vaccines do not prevent pregnancy. The trials also found that miscarriage rates are comparable between the groups.⁴
- A [BMJ commentary](#) discussed new expert guidance published by the Association of Reproductive and Clinical Scientists and the British Fertility Society. It concluded there is no evidence that COVID-19 vaccines can affect the fertility of women or men.³
- A ['pro and con' commentary](#) highlighted that current safety data on COVID-19 vaccines do not indicate safety concerns for fertility or early pregnancy.⁹
- There is [no significant data](#) that COVID-19 vaccination affects sperm.⁸
- None of the COVID-19 vaccines currently approved in Australia, or under review by the [Therapeutic Goods Administration \(TGA\)](#), cause sterilisation or infertility.¹⁰

- The [American Society for Reproductive Medicine](#) recommends the vaccine be available to pregnant individuals. This is because no loss of fertility has been reported among trial participants or vaccine recipients, and no signs of infertility were reported in animal studies.¹¹
- A [Royal College of Obstetricians and Gynaecologists](#) webinar addresses concerns about COVID-19 vaccines, pregnancy and fertility.¹²
- The [Centres for Disease Control and Prevention](#) recommends COVID-19 vaccination for people who want to have children. Findings from vaccine safety monitoring systems in the US have not identified any safety concerns for pregnant people who have been vaccinated.¹³
- The [NHS UK](#) recommends the Pfizer/BioNTech or Moderna vaccines for pregnant women, unless they have already received their first dose of Oxford/AstraZeneca with no side effects. Vaccines will not give pregnant women or their babies COVID-19.¹⁴
- The [World Health Organization COVID-19](#) addresses vaccine fertility myths and provides guidance for vaccination of pregnant and lactating women in their [Science in 5 blogs](#).^{15, 16}

Background

- [COVID-19 vaccine misinformation](#) has corresponded with [increased internet searches](#) on topics related to infertility in the US.^{17, 18}
- [Conspiracy theories](#) about [women's infertility](#), and concerns about how rapidly COVID-19 vaccines were developed and the impact on [infertility](#) have been raised.¹⁹⁻²¹
- COVID-19 vaccines have been [falsely reported to cause infertility](#) in women of reproductive age and miscarriages in pregnant women. There is no evidence to support this information and COVID-19 vaccines have been clinically approved for safety.²²

To inform this brief, PubMed and Google searches were conducted using terms related to COVID-19 AND vaccine AND (fertility OR infertility) on 16 August 2021.

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