

The COVID-19 vaccines in pregnancy, fertility and breastfeeding – an update for CSP members

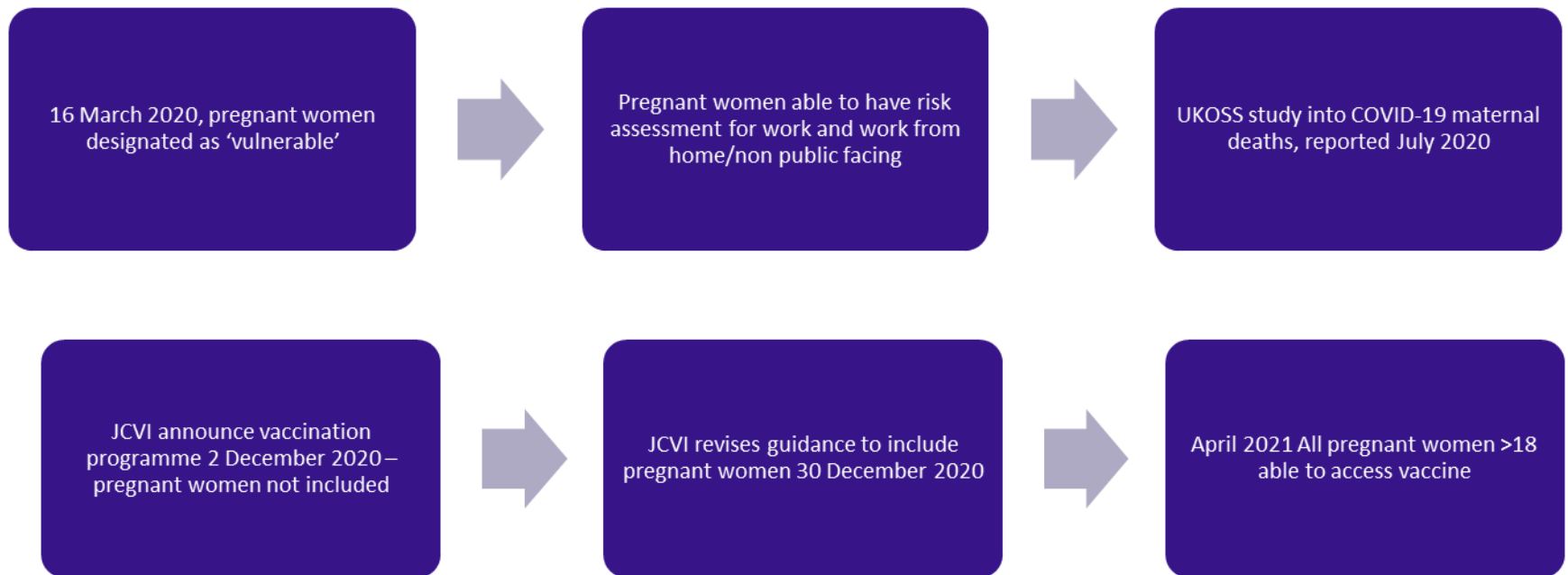


Royal College
of Midwives

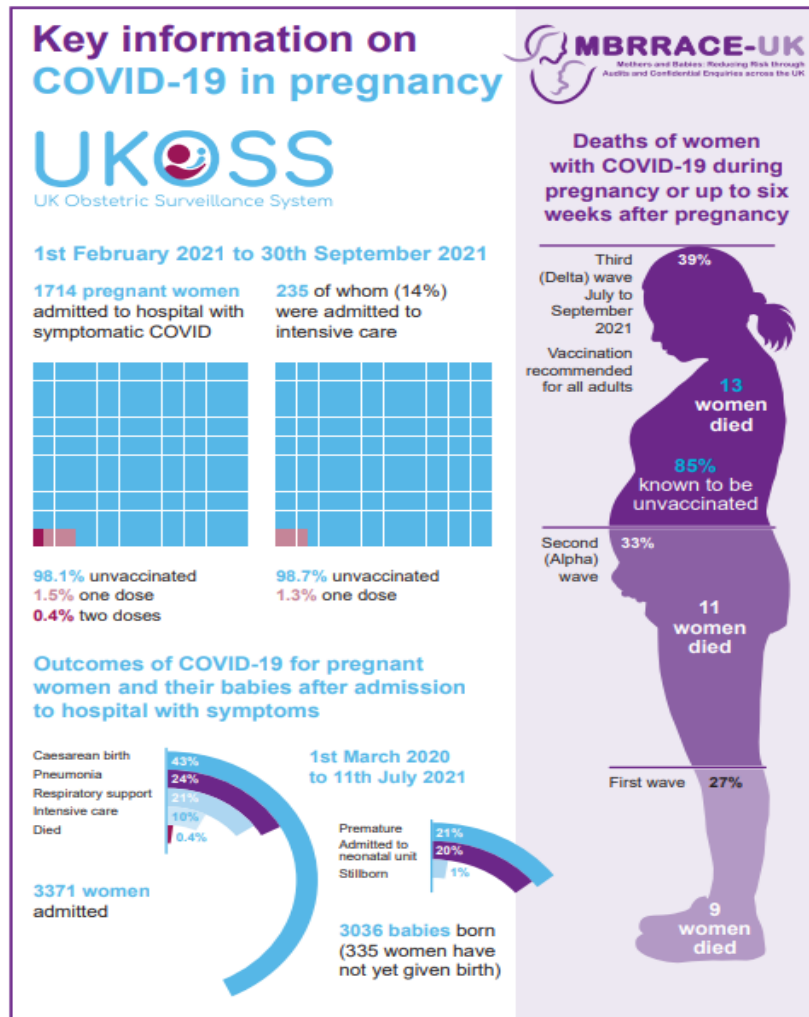
January 2022

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COVID-19 Professional lead

The UK timeline of COVID-19, pregnancy and vaccination



The impact of COVID-19 on pregnant women



The impact of COVID-19 on pregnant women during 2021

- **Far more pregnant women ill with COVID-19 than in the first two waves**
- Pregnant women much more likely to be hospitalised unwell with COVID-19 than non pregnant women of the same age:
- 2 x as likely to have a stillbirth
- 3x more likely to have a preterm birth
- 50% caesarean section rate
- **Low rates of vaccination among pregnant women** – up to August 2021 it was only around 10% of women in the UK; latest figures in January 2022 suggest now reaching >50%
- **Disruption to care** – during 2021, staff shortages continued, with continued disruption to normal care
- **Fear** – of becoming ill, passing it to the baby, getting the virus in hospital, not being able to have your partner with you when you needed them
- **Lack of support** – visitor restrictions for antenatal appointments, staying on the ward, during induction and shortened time after the birth



Supporting informed decision making:



Information sheet and decision aid: Updated Monday 20 December 2021

All pregnant women in the UK have been offered first and second doses of the COVID-19 vaccine. COVID-19 booster vaccines are being offered to all pregnant women over age of 18 years, 3 months after their second dose.

On 16 December 2021, the Joint Committee on Vaccination and Immunisation (JCVI) announced that pregnant women are now considered a 'vulnerable' group within the COVID-19 vaccination programme, emphasising the urgency of them receiving COVID-19 vaccination and booster doses.

Vaccination is strongly recommended in pregnancy, but the decision whether to have the vaccine is your choice. The information below will help you make an informed choice about whether to get your COVID-19 vaccines if you are pregnant or trying to get pregnant.



COVID-19 vaccines are safe and effective in pregnancy



Catching COVID-19 during pregnancy can cause severe illness

What are the benefits of vaccination?

✓ COVID-19 may be more dangerous in pregnancy

- Hospital admission and severe illness are more common in pregnant women compared to those not pregnant
- Stillbirth and preterm birth is more likely compared to pregnant women without COVID-19
- Pregnant women with underlying medical conditions are at higher risk of severe illness

✓ Vaccination is effective in preventing severe illness from COVID-19 infection

✓ You cannot get COVID-19 from vaccination

- COVID-19 vaccines do NOT contain live coronavirus
- Vaccines do NOT contain any additional ingredients that are harmful to pregnant women or their babies
- Other non-live vaccines (whooping cough, influenza) are safe for pregnant women and their unborn babies

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What are the risks of vaccination?

✗ There are no known risks of COVID-19 vaccination in pregnancy

- COVID-19 vaccines have been given to large numbers of people to ensure they meet stringent standards of effectiveness and safety
- Data from the United States, where more than 177,000 pregnant women have had a COVID-19 vaccine (mostly using Pfizer BioNTech or Moderna vaccines), has not raised any safety concerns. Over 100,000 pregnant women in England and Scotland have also received a COVID-19 vaccine with no adverse effects recorded
- There has not been any evidence to suggest safety concerns with COVID-19 vaccination in pregnancy so far

✗ Side-effects from the vaccine are common, and usually mild. These do not affect pregnancy, but may include:

- injection site reactions (sore arm)
- muscle pain
- fatigue
- fever, chills
- headache
- joint pain

✗ Extremely rare but serious side-effects involving thrombosis (blood clots) have been reported for the AstraZeneca vaccine, but this does not seem to be more likely in pregnant than in non-pregnant people. The Pfizer or Moderna vaccines should be offered to pregnant women where available as most of the safety monitoring data in pregnancy from the United States and the UK relates to these two vaccines.



You may wish to discuss COVID-19 vaccination in more detail with your doctor or midwife



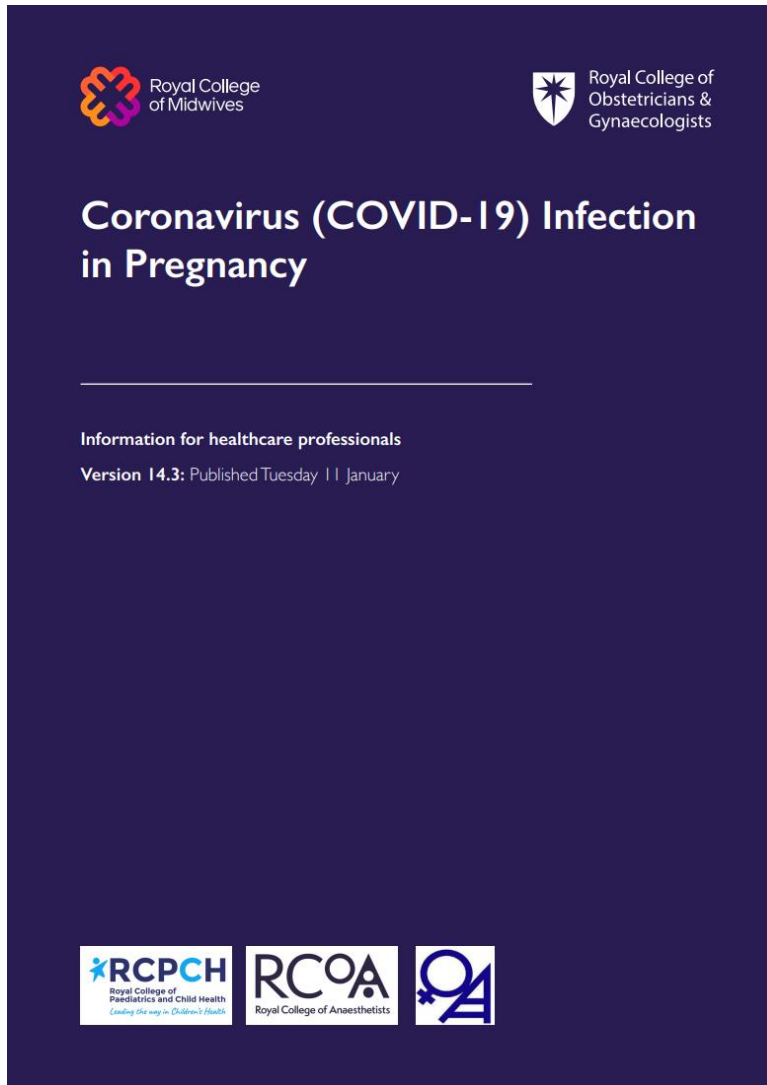
If you decide to have a COVID-19 vaccine, please tell the vaccination team that you are pregnant so that this can be recorded



Scan here to stay updated with the latest version of the information sheet and decision aid

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Evidence based, continuously updated guidance



The image shows the cover of a guidance document. At the top left is the logo of the Royal College of Midwives, and at the top right is the logo of the Royal College of Obstetricians & Gynaecologists. The title 'Coronavirus (COVID-19) Infection in Pregnancy' is centered in white text. Below the title, it says 'Information for healthcare professionals' and 'Version 14.3: Published Tuesday 11 January'. At the bottom, there are three logos: RCPCH (Royal College of Paediatrics and Child Health), RCOA (Royal College of Anaesthetists), and OGA (Oxford and Gynaecological Association).

- Across the general population, those who have had two doses and a booster (or three doses) of vaccine (combined data on Pfizer, Oxford-AstraZeneca and Moderna) are **88% less likely to be admitted to hospital with the omicron variant than those who have not been vaccinated.**
- The Pfizer-BioNTech and Moderna vaccines are messenger RNA (mRNA) vaccines in which mRNA encoding SARS-CoV-2 spike protein is introduced into the person when they are vaccinated via a lipid nanoparticle coat. **The mRNA does not go into the nucleus of the host cell, so it remains separate from the host DNA.** The host cell produces the spike protein, as for the Oxford-AstraZeneca and Janssen vaccines below, and this protein elicits a protective immune response. **The mRNA from the vaccine is broken down by the host cell within a few days.**
- The Oxford-AstraZeneca and Janssen vaccines are viral-vector vaccines in which DNA encoding the SARS-CoV-2 spike protein is introduced into the person when they are vaccinated using a modified adenovirus vector. The adenovirus vector has been modified so that it cannot replicate, and the spike protein is not expressed on the adenovirus itself. Rather, the adenovirus vector serves only to deliver the spike DNA into the host cell. **The host cell then produces the spike protein, and this elicits a protective immune response**

Impact on fertility?

- Claims about spike protein responses attacking the placenta are contradicted by several studies including findings from: i) animal DART studies; ii) protein amino acid sequencing studies which show limited similarities between the S protein and syncytin-1];
- iii) a clinical observational study which found no significant difference in successful frozen embryo transfer between SARS-CoV-2 vaccine seropositive, infection seropositive and seronegative women.
- Preliminary data describing fertility rates among women who received the AstraZeneca viral vector vaccine in clinical trials also provide no evidence of impaired fertility following vaccination prior to conception.

[USE OF NON LIVE VACCINES IN PREGNANCY
\(medicinesinpregnancy.org\)](https://www.medicinesinpregnancy.org)



Impact on Menstrual cycle

*“In times of stress, the female system is designed to **temporarily downregulate** to prevent against pregnancy and conserve energy. This brain-level effect may explain some of the changes in menstruation observed during the pandemic, with COVID-19 or with vaccination. The COVID-19 vaccination itself is designed to initiate an immune response in the body to protect against future COVID-19 infection. The resulting inflammation may transiently affect the ovaries, altering their hormone production over one or two cycles, resulting in **irregular or heavier menstrual bleeding**. The inflammation may also temporarily alter how the womb lining breaks down and sheds, causing a heavier period. These effects could lead to temporary changes in menstrual symptoms that should spontaneously resolve.*

“It is important to emphasise that any effects of the vaccine are likely to be short lived and much less severe than those associated with COVID-19 infection.

[FSRH and RCOG respond to reports of 30,000 women's periods affected after COVID-19](#)

Safety in pregnancy

1. All of the vaccines approved for use in the UK have been assessed for reproductive toxicity in animal models, with no vaccine-related adverse effects being described
2. Studies from the US, Israel, England, Scotland and Canada have described the outcomes of more than 70,000 completed pregnancies vaccinated against COVID-19.
3. The available studies are highly reassuring about the safety of pregnancy exposure, describing no increased risks of stillbirth, preterm delivery, small for gestational age infants or neonatal death

Safety while breastfeeding

COVID-19 vaccines are strongly recommended to breastfeeding women.

There is no plausible mechanism by which any vaccine ingredient could pass to your baby through breast milk.

You should therefore not stop breastfeeding in order to be vaccinated against COVID-19.

Considerations

1. The known impact of **COVID-19 illness** on pregnancy, birth and the baby
2. The potential impact of **Long Covid on parenting**
3. The reliability of evidence: **real world data from 300,000 women and 6 research studies with 70,000 women**
4. The issue of **availability bias** – the cat that jumped into the tree, the echo chamber effect



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