

COVID-19 vaccination

Clinical Guideline Presentation v2



45 minutes

Towards CPD Hours

References:

Queensland Clinical Guideline: *Maternity care for mothers and babies during the COVID-19 pandemic* is the primary reference for this package.

Recommended citation:

Queensland Clinical Guidelines. *Maternity care for mothers and babies during the COVID-19 clinical guideline education presentation E21.63-1-V2-R26*. Queensland Health. **2022**.

Disclaimer:

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

Feedback and contact details:

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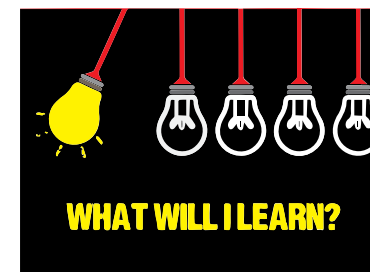
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Learning objectives

- For pregnant and breastfeeding women
 - Identify importance of COVID-19 vaccination
 - Identify recommendations for COVID-19 vaccination administration
 - Discuss the safety of COVID-19 vaccinations
 - Identify contraindications and cautions relevant to vaccine administration

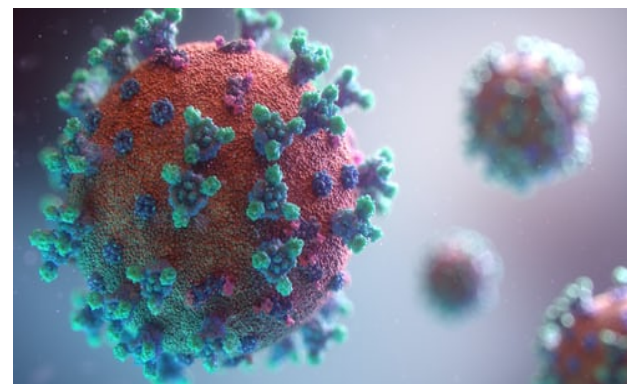


Abbreviations

Term	Meaning
ATAGI	Australian technical advisory group on immunisation
AZ	Astra Zeneca (vaccine)
BMI	Body mass index
mRNA	Messenger ribonucleic acid
NICU	Neonatal intensive care
PEG	Polyethylene glycol
VOC	Variant of concern

Background

- COVID-19 is the disease caused by the virus SARS-CoV-2
- New variants of concern (VOC) have emerged (e.g. alpha, beta, delta, omicron)
- Delta VOC
 - More severe in pregnancy
- Omicron VOC
 - Rapid spread
 - Vaccine less effective



Pregnancy and COVID-19

- Pregnant women are:
 - Not at greater risk of contracting COVID-19 than the general population
 - More likely to have severe illness and adverse pregnancy outcomes with delta VOC



Pathophysiology

- Not fully understood
- Various mechanisms proposed
 - ? Related to physiological changes of pregnancy
 - ? Placental fetal vascular malperfusion
 - ? Proinflammatory state producing systematic endothelial dysfunction



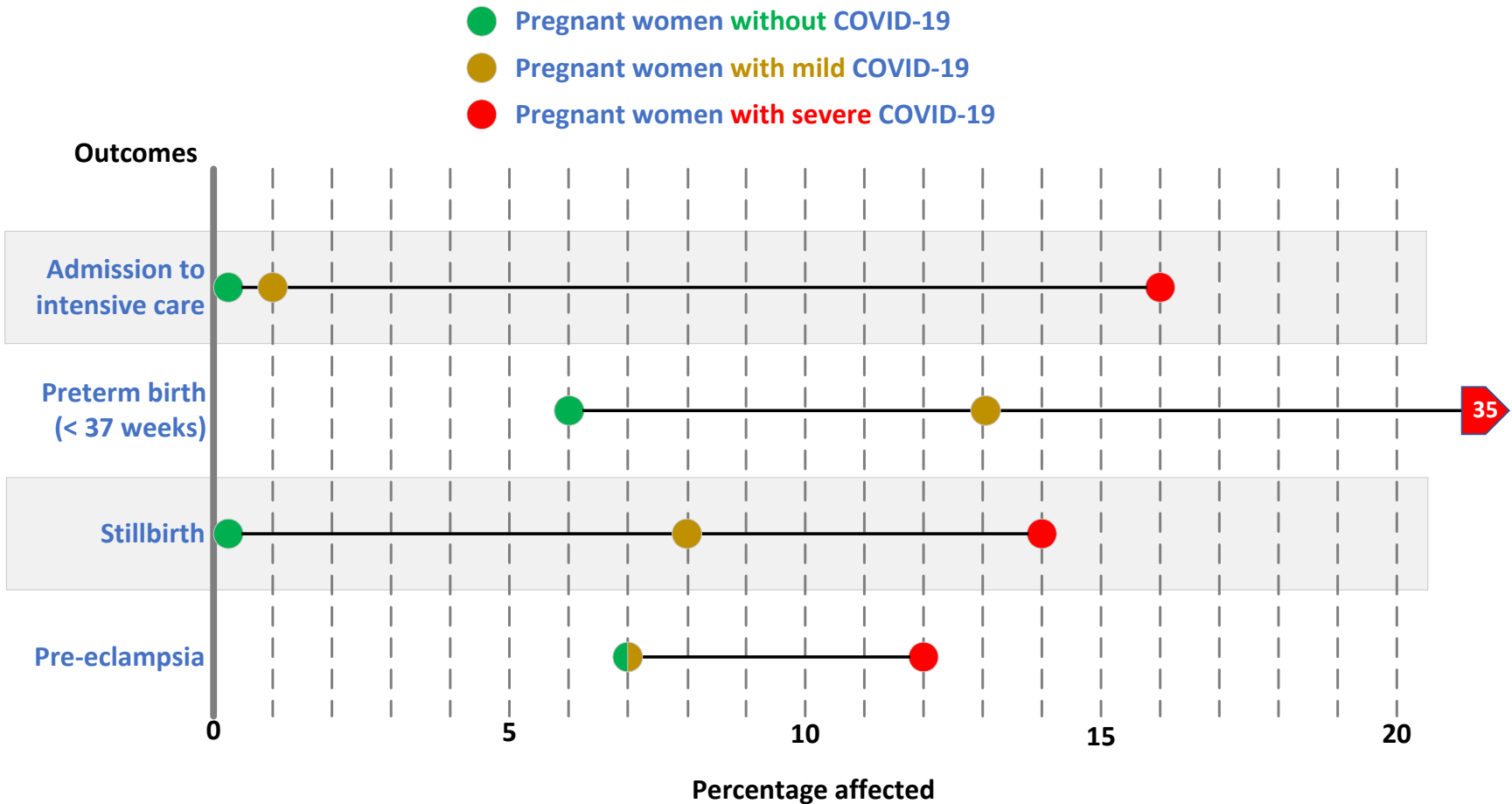
Who is most at risk?

- Risk increased for pregnant women with:
 - Increased maternal age
 - Higher BMI
 - Pre-existing co-morbidity
 - Pre-existing diabetes
 - Pre-eclampsia



REF: Allotey J, Stallings E, Bonet M, Yap M, Chatterjee S, Kew T, et al. Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis. *BMJ* 2020;370:m3320.

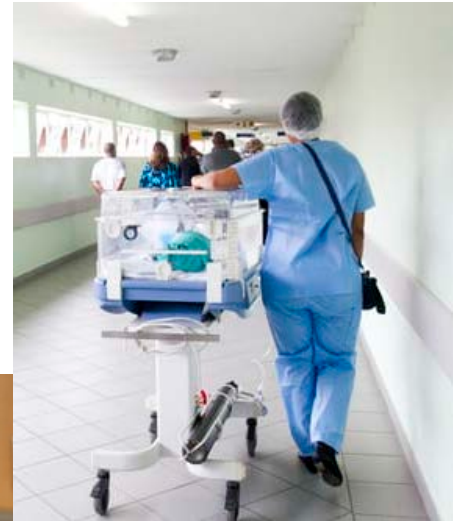
Outcomes (delta VOC)



REF: Wei SQ, Bilodeau-Bertrand M, Liu S, Auger N. The impact of COVID-19 on pregnancy outcomes: a systematic review and meta-analysis. Canadian Medical Association Journal 2021;193(16):E540-e8.

Other adverse outcomes from COVID-19 infection

- Caesarean birth
- Mechanical ventilation
- Admission to NICU
- Death



REF: Wei SQ, Bilodeau-Bertrand M, Liu S, Auger N. The impact of COVID-19 on pregnancy outcomes: a systematic review and meta-analysis. Canadian Medical Association Journal 2021;193(16):e540-e8.

Vaccination: type

- Pregnant women are a priority group
- mRNA vaccines (Pfizer or Moderna) are recommended in pregnancy
- ATAGI approved
- If first dose was AstraZeneca (AZ) (Vaxzevria)
 - Can have either of mRNA or another AZ as second dose



REF: The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG). COVID-19 vaccination in pregnant and breastfeeding women and those planning pregnancy. 2021 August 18.

Contraindications to mRNA vaccines

- Anaphylaxis to a previous dose of mRNA COVID-19 vaccine or any component of the vaccine, including polyethylene glycol (PEG)
- Myocarditis and/or pericarditis attributed to a previous dose of mRNA COVID-19 vaccine

Vaccination: Primary course

- Can be given at any stage of pregnancy or prior to conception
- 2 doses a minimum 14 days apart
- At least 7 day interval between COVID-19 vaccine, and flu and whooping cough vaccines
- If COVID-19 positive, delay up to six months

Vaccination: Boosters

- Can be given at any stage of pregnancy or prior to conception
- Interval between primary course and booster as per ATAGI recommendations for general population



REF: Australian Technical Advisory Group on Immunisation (ATAGI). ATAGI statement on the Omicron variant and the timing of COVID-19 booster vaccination. 2021 December 24

Vaccine: safety

- Good real world evidence
- No evidence of adverse effect for women:
 - Pregnant or planning pregnancy
 - Breastfeeding
 - Undergoing IVF
 - With previous COVID-19 infection



REF: Shimabukuro TT, Kim SY, Myers TR, Moro PL, Oduyebo T, Panagiotakopoulos L, et al. Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons. *New England Journal of Medicine* 2021;384(24):2273-82.

Vaccine: safety

- No evidence increases risk of:
 - Spontaneous miscarriage
 - Adverse pregnancy outcomes
 - Infertility
- No difference in side effects from those experienced by general population



Benefits

- May provide passive immunity to baby
- Decreases risk of adverse pregnancy outcomes associated with COVID-19



REF: Song D, PrahI M, Gaw SL, Narasimhan SR, Rai DS, Huang A, et al. Passive and active immunity in infants born to mothers with SARS-CoV-2 infection during pregnancy: prospective cohort study. *BMJ Open* 2021;11(7):e053036.

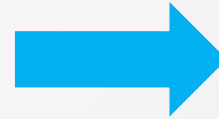
Summary messages

Is it safe?



Yes

Any trimester?



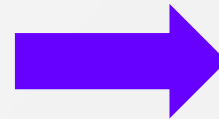
Yes

Does it work?



Yes

Evidence of harm?



No

**When to recommend?
NOW!**