# Anti-D Prophylaxis in Pregnancy

**Disclaimer**

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Anti-D immunoglobulin (Ig) is used as immunoprophylaxis to prevent sensitisation to the D-antigen during pregnancy or at birth for the prevention of haemolytic disease of the newborn.

**Assessment**

**Practice Point**

**Test for blood grouping**

Test all pregnant women for ABO and Rh(D) blood grouping and antibodies as early as possible in pregnancy.

1. Provide all women identified as Rh(D) negative with information regarding anti-D prophylaxis. Advise that they will be offered prophylactic doses of anti-D:
   - at approximately 28 and 34 weeks gestation.
   - at postpartum if their baby is Rh positive.
   - for sensitising events.

2. For routine prophylaxis in Rh(D) negative women, arrange Rh(D) antibody titre at 28 weeks. No repeat antibody titre is necessary at 34 weeks if anti-D has been given at 28 weeks, as it will be positive.

3. Determine if a **sensitising event** has occurred.

   **Sensitising events**
   - First trimester – up to 12 weeks and 6 days gestation:
     - Chorionic villus sampling
     - Miscarriage
     - Termination of pregnancy
     - Ectopic pregnancy
     - There is insufficient evidence to suggest a threatened miscarriage before 12 weeks gestation necessitates anti-D.
   - Second and third trimesters – from 13 weeks gestation:
     - Maternal haemorrhage
     - Chorionic villus sampling (CVS), amniocentesis, cordocentesis, and fetoscopy
     - External cephalic version
     - Abdominal trauma
     - Any other suspected intrauterine bleeding or sensitising event
     - Miscarriage or termination of pregnancy (TOP)
     - Intrauterine death or stillbirth

4. If likely sensitising event:
   - arrange Rh(D) antibody titre (consider omitting if the patient has already received Anti D prophylactically).
and ≥ 20 weeks gestation, arrange Kleihauer test to determine the magnitude of fetomaternal haemorrhage.

5. If Rh(D) negative and antibody-positive, **assess further.**

   **Assess further**

   If in early pregnancy, enquire about any history of blood transfusion or recent Anti-D administration.

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**Management**

1. If likely sensitising event is confirmed in a Rh(D) negative patient and no preformed antibodies, provide anti-D immunoglobulin within 72 hours. If anti-D Ig is given after 72 hours but within 10 days after the sensitising event, some protection may still be offered. If required, refer to obtain anti-D via one of:
   - [Early Pregnancy Assessment Service (EPAS)](EPAS)
   - [Emergency Department](Emergency)
     - If only anti-D is needed, ensure patient has a copy of their blood group results from the pathologist

   **Private pathology laboratory.**

   Some private laboratories can arrange anti-D antenatal prophylaxis. Phone the central laboratory to determine if vials can be delivered directly to the GP clinic or if it can be administered to the patient at the clinical laboratory (usually located within a private hospital facility).

   - **Dorevitch Pathology**
     - Blood Bank phone: *(03) 9244-0387*
     - Metropolitan laboratories
   - **Melbourne Pathology**
     - Blood Bank phone: *(03) 9287-7715*
     - Anti-D administration information
   - **Clinical Labs Pathology**
     - Knox Private Hospital phone: *(03) 9210-7642*

2. If Rh(D) negative and antibody-positive, discuss with the [obstetric care provider](Obstetric)

3. If administering anti-D in general practice, determine dose of anti-D:
   - **Prophylaxis dose** – offer anti-D prophylactically to all pregnant women who are Rh(D) negative and have no preformed antibodies.

   **Prophylaxis dose**

   - At 28 weeks and 34 weeks
   - Offer 625 IU (125 micrograms) of anti-D immunoglobulin
   - If Rh(D) positive baby, anti-D will be given postnatally within 72 hours
➢ Sensitising event dose

If a likely sensitising event is confirmed in a Rh(D) negative patient who has no preformed antibodies, give anti-D doses at:

- **Before 13 weeks:**
  - Single pregnancy – 250 IU (50 micrograms).
  - Multiple pregnancies – 625 IU (125 micrograms).
- **Between 13 and 19+6 weeks:**
  - 625 IU (125 micrograms).
- **From 20 weeks**
  - 625 IU (125 micrograms).
  - Further doses as indicated by fetomaternal haemorrhage assessment (Kleihauer). Discuss with the obstetric care provider.
- **Postnatally:**
  - 625 IU (125 micrograms).
  - Further doses as indicated by fetomaternal haemorrhage assessment.

If given for a sensitising event, still consider prophylaxis dose and vice versa.

4. Administer dose:
➢ Ensure patient has provided **informed consent**.

**Informed consent**

- Provide written and verbal information on the patient’s Rh(D) status and Rh(D) immunisation.
  - Advise patient of their right to choose whether or not to have any treatment.
  - Ensure that, prior to giving consent, patient understands the risks and benefits of treatment.
  - Further patient information is available from the Australian Red Cross Lifeblood Service.
  - Side-effects include pain or tenderness at injection site and, rarely, allergy.

- Anti-D is a human plasma blood product pooled from a group of carefully selected voluntary Australian blood donors.
  - The product is screened for hepatitis C, hepatitis B, HIV, and Parvovirus B19.
  - It is produced by CSL Limited and distributed by the Australian Red Cross Blood Service.

➢ Administer anti-D by intramuscular (IM) injection:
  - Recommended sites are the deltoid muscle or the anterolateral thigh – avoid the buttocks.
  - Avoid administering subcutaneously or intravenously.

➢ If the patient has BMI > 30, select a length of needle that will ensure intramuscular injection
Referral

- Discuss with the obstetric care provider if:
  - Rh(D) negative and antibody-positive.
  - Likely sensitising event and needing to give further anti-D doses.
- If anti-D required for prophylaxis within 72 hours of sensitising event, refer to obtain anti-D via one of:
  - Early Pregnancy Assessment Service (EPAS)
  - Emergency Department – if only Anti-D is needed, ensure patient has a copy of their blood group results from the pathologist
  - Private pathology laboratory.

For health professionals

Further information

Australian Red Cross Lifeblood Service:

- Anti-D Prophylaxis
- Frequently Asked Questions about the use of Rh(D) Immunoglobulin

For patients

Australian Red Cross Lifeblood Service – Prevention of Haemolytic Disease of the Newborn: Important information for Rh(D) negative women

References

Select bibliography

- RANZCOG. Guidelines for the use of Rh(D) Immunoglobulin (Anti-D) in Obstetrics. [place unknown]: The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG); 2019.

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Last updated: June 2020