South Australian Perinatal Practice Guidelines

Anti-D Prophylaxis

Indications

- Rh D immunoglobulin is indicated for the prevention of Rh D sensitisation in Rh D negative women

Contraindications

- In the obstetric setting Rh D immunoglobulin should not be given to:
  - An Rh D positive woman
  - An Rh D negative woman with preformed anti-D antibodies
    Note: Rh D immunoglobulin must not be given to the baby

Dosage

Summary of current dosing recommendations for Rh D negative pregnant women

	Rh D immunoglobulin
Obstetric conditions	
Sensitising events in the first trimester	250 IU
Sensitising events beyond the first trimester	625 IU
Sensitising events in multiple pregnancy	625 IU
Pregnancy	
Antenatal prophylaxis (28 and 34 weeks)	625 IU
Postpartum	
Unless the baby is known to be Rh D negative	625 IU

General

- For successful immunoprophylaxis, Rh D immunoglobulin should be administered as soon as possible after a sensitising event, but always within 72 hours. If Rh D immunoglobulin has not been offered within 72 hours, a dose given within up to 9-10 days may provide protection
- Rh D immunoglobulin should be given slowly by deep intramuscular injection, using a 20 gauge needle. If a large dose (more than 5 mL) is required, it is advisable to administer it in divided doses at different sites
- Rh D immunoglobulin is a blood product and the minimum requirement is for informed consent to be documented in the woman's record
- It is ESSENTIAL that the 28-WEEK antibody screening BLOOD SAMPLE is taken BEFORE the first routine prophylactic injection is given (at 28 weeks).

Sensitising events in the first trimester (up to and including week

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12 of gestation)

- A dose of 250 IU CSL Rh D immunoglobulin (minidose) should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indications:
  - Threatened miscarriage
  - Miscarriage
  - Termination of pregnancy
  - Ectopic pregnancy
  - Chorionic villus sampling
- If the gestational age is not known with certainty and the possibility exists that the gestational age is 13 weeks or more, then a larger dose [625 IU] should be given
- If it is known that there is a multiple pregnancy the larger dose [625 IU] is recommended
- A dose of 250 IU CSL Rh D immunoglobulin (minidose) is sufficient to prevent immunisation by a fetomaternal haemorrhage [FMH] of 2.5 mL of fetal red cells (5 mL whole blood)

Sensitising events beyond the first trimester (after week 12 of gestation)

- A dose of **625 IU CSL Rh D immunoglobulin** should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indications:
  - Genetic studies (chorionic villus sampling, amniocentesis and cordocentesis)
  - Abdominal trauma considered sufficient to cause fetomaternal haemorrhage [FMH]
  - Each occasion of revealed or concealed antepartum haemorrhage (where the woman suffers unexplained uterine pain, the possibility of concealed antepartum haemorrhage should be considered, with a view to immunoprophylaxis)
  - External cephalic version (performed or attempted)
  - Miscarriage or termination of pregnancy
  - Intrauterine death
- Evidence for the efficacy of this dose for these indications is not available. It is, therefore, recommended that the **magnitude of fetomaternal haemorrhage [FMH] be assessed,** when there is a likelihood of a significant FMH, such as severe abdominal trauma, abruption, transplacental puncture or puncture of fetal blood vessels. Further doses of Rh D immunoglobulin

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need to be administered for FMH in excess of 6 mL fetal red blood cells (12 mL fetal blood)

Antenatal Prophylaxis (at weeks 28 and 34 of gestation)

- Universal prophylaxis with Rh D immunoglobulin is recommended for pregnant women who are Rh D negative without preformed anti-D antibodies
- Rh D immunoglobulin, in the form of 625 IU CSL Rh D immunoglobulin, should be offered at 28 and again at 34 weeks, to all Rh D negative women who have no preformed anti-D antibodies
- It is essential that women are screened again for pre-existent anti-D before the prophylaxis is given at 28 weeks and that the **blood sample is taken before administration of the Rh D immunoglobulin**. The result of the test does not need to be available before the administration
- No repeat screening is necessary before the second administration at 34 weeks

Postpartum

- A dose of **625 IU** should be offered to every Rh D negative woman giving birth except when the baby is Rh D negative
- Rh D immunoglobulin should not be given to women with pre-existing anti-D antibodies, except where this is known to be due to the presence of antenatally administered Rh D immunoglobulin
- If it is unclear whether the anti-D detected in the mother's blood is passive from anti-D administration or preformed, the treating clinician should be consulted. If there is continuing doubt, Rh D immunoglobulin should be administered
- The **magnitude of fetomaternal haemorrhage [FMH] should be assessed** by a method capable of quantifying a haemorrhage of greater than or equal to 6 mL of fetal red cells (12 mL of whole blood). The recommended method for this is flow cytometry. For FMHs of 6 mL red cells or greater, further doses should be administered sufficient to prevent maternal immunisation
- A dose of 625 IU will protect against a fetomaternal haemorrhage of up to 6 mL of Rh D positive red blood cells (12 mL of whole blood). For haemorrhages greater than 6 mL, the recommended dose is 100 IU per extra mL Rh D positive red blood cells in excess of 6 mL (i.e. 50 IU per mL of whole fetal blood in excess of 12 mL whole blood)

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References and further information

1. Current product information sheet(s)
2. National Blood Authority. "Guidelines on the prophylactic use of Rh D immunoglobulin (anti-D) in obstetrics". 2003.
3. NHMRC. "Guidelines (1999) for the use of RhD Immunoglobulin in Obstetrics" www.nhmrc.health.gov.au
4. Directive from Chief Medical Officer, Commonwealth of Australia to Product User RhD Immunoglobulin (anti-D) in Obstetrics - 4.11.02.
5. Transfusion Medicine Manual 2003- Australian Red Cross Blood Service

Websites:

http://www.anzsbt.org.au

http://www.ranzcog.edu.au

http://www.arcbs.redcross.org.au

http://www.csl.com.au

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