Anti-D Administration

Contents

1. Overview

Purpose

This document outlines the pathway for Anti-D administration for women and people who are rhesus negative during pregnancy and after birth. This is to prevent RhD sensitisation.

Scope

Te Whatu Ora - Waitematā midwives, obstetricians, maternity clerks, Infusion centre staff and maternity access holders.

2. Background

RhD sensitisation occurs in RhD negative women pregnant with a RhD positive baby. Sensitisation usually affects subsequent pregnancies (rarely the index pregnancy) and can result in severe anaemia in the fetus with the risk of heart failure and intrauterine death, and the risk of severe neonatal jaundice. RhD sensitisation affects around 1% of pregnancies.

Prevention of RhD sensitisation occurs by providing the mother with an intramuscular injection of anti-D immunoglobulin in pregnancy when potentially sensitising events occur such as miscarriage, antepartum haemorrhage, abdominal trauma, and birth.

Sensitization can also occur when none of the above events have occurred and therefore prophylactic Anti-D administration is recommended for all RhD negative women (RANZCOG and NZBS). Administration of prophylactic Anti-D immunoglobulin can reduce the rate of sensitisation from 1% to 0.35%.

Note: The Transfusion Medicine Specialist is happy to answer any queries about specific women/pregnant people, they can be contacted via the Blood Bank NSH (09) 442 3225 or WTH (09) 838 1832

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3. Antenatal sensitising events

3.1 Less than 12 weeks gestation

A 250 Units dose of Anti-D immunoglobulin for singleton pregnancies (625 Units dose for multiple pregnancies) should be offered and administered within 72 hours to any woman/person with a Rh negative blood group who presents with:

- Spontaneous miscarriage
- Termination of pregnancy (after 10 weeks gestation)
- Ectopic pregnancy
- Chorionic villus sampling
- Molar pregnancy
- Threatened miscarriage where bleeding is more than spotting, repeated, or associated with abdominal pain

A blood sample to check for antibodies should be collected before administration of Anti-D to confirm that the woman/person has not been sensitised and made their own Anti-D.

Note: Kleihauer testing is not required before 20 weeks gestation

3.2 12 weeks gestation or more

A 625IU dose of Anti-D immunoglobulin should be offered and administered, within 72 hours, to any woman/person with a Rh negative blood group who presents with:

- Miscarriage or threatened miscarriage
- Antepartum haemorrhage
- Intrauterine death or stillbirth
- External cephalic version (performed or attempted)
- Chorionic villus sampling or amniocentesis
- Ectopic pregnancy
- Molar pregnancy
- Termination of pregnancy
- Abdominal trauma

If Anti-D immunoglobulin is not given within 72 hours, administration within 10 days may provide some benefit.

Routine antenatal prophylaxis does not preclude the need for prophylaxis if a potential sensitising event occurs. If a sensitising event occurs in the 2 weeks following routine administration, a Kleihauer should be taken to determine if a further dose is required. If Anti-D immunoglobulin is administered for a sensitising event within the 2 weeks prior to a planned routine administration, consult with Blood bank for advice.

A Kleihauer test should be undertaken for all women over 20 weeks' gestation to identify the size of the fetomaternal haemorrhage (with the exception of ECV). One dose of Anti-D immunoglobulin (625 Units) is sufficient to cover a fetomaternal haemorrhage of up to 6mls of fetal red cells.

If the Kleihauer test indicates more than 2 doses are required, discuss with a Transfusion Medicine Specialist.

Note: If on-going bleeding occurs after 12 weeks, doses should be repeated at 2 weekly intervals

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4. Routine antenatal prophylactic Anti-D immunoglobulin

Two-dose prophylactic Anti-D immunoglobulin 625 International Units

Timing of prophylactic Anti-D immunoglobulin administration is important as most sensitising events occur after 28 weeks gestation.

- **28 weeks** - It is important a blood test is undertaken for routine antibody screening within 72 hours **before** administration preferably between 27-28 weeks gestation. You do not need to wait for the antibody screen result before administration. If Anti-D antibodies are detected on this sample, contact Blood Bank for advice and refer for obstetric input.

- **34 weeks** - Antibody screen not required prior to administration as residual antibodies from previous Anti-D immunoglobulin administration will be present.

Delayed administration

For women presenting between 30-34 weeks gestation requiring routine Anti-D prophylaxis, a single dose of 1250 Units can be administered. An antibody screen must be undertaken prior to administration of this single dose.

Note: Anyone presenting for their first dose after 34+6 weeks' gestation is outside the time frame for routine Anti-D administration

5. Pathway for Routine Antenatal Anti-D immunoglobulin Administration

Women can choose where they receive routine antenatal Anti-D immunoglobulin based on what is most convenient for them in relation to where they live. The two options are:

1. Te Whatu Ora - Waitematā run clinics
   NSH: Infusion lounge, entrance 2
   WTH: Day stay lounge, main entrance, outpatients

2. A participating pharmacy
   Located in Helensville (Unichem pharmacy) and Warkworth (Franklin Pharmacy)

Referring clinicians responsibilities

- Provide verbal and written information, including the WDHB Anti-D in Pregnancy leaflet
- Gain written consent
- Provide the woman with a prescription for two doses of Anti-D immunoglobulin 625 Units each (or a single dose of 1250 Units if 30-34 weeks gestation).
- Both a prescription and the written consent form are required for administration:
  - For women attending Te Whatu Ora - Waitematā run clinics – scan the prescription and consent form and email with the referral
  - For women presenting to pharmacy – provide the woman with a hard copy of a prescription, with a consent form attached.
- Ensure the woman has a blood form to complete an antibody screen before the 28 week Anti-D immunoglobulin administration. Advise that this must be done prior to receiving Anti-D immunoglobulin and should be done no earlier than 3 days before the date of administration (ideally the day of receiving Anti-D). Failure to obtain an antibody screen before administration of Anti-D immunoglobulin will result in the woman/person being turned away.
- If using a pharmacy for administration, ensure the woman is aware of the times Anti-D immunoglobulin administration is being offered at the participating pharmacy.

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Anti-D leaflets and consent forms are also available for LMC's to collect from the Maternity units

6. Flowchart: Routine Antenatal Anti-D immunoglobulin Administration

- LMC provides information to the woman on Anti-D immunoglobulin, including providing the WDHB leaflet on Anti-D.
- The LMC gains consent and provides the woman with a prescription for both doses of Anti-D

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The woman chooses her preferred location for administration

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Hospital administration
North Shore or Waitākere

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LMC sends referral to:
Waitākere:
WTH.maternityreferrals@waitematadhb.govt.nz
or
North Shore:
NSH.maternityreferrals@waitematadhb.govt.nz

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Maternity clinic processes the referral and sends information to the infusion centre including recommended date range for administration.
(Ideally within one week of 28 and 34 weeks)

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Infusion centre arranges an appointment time with the woman for both doses of Anti-D immunoglobulin

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Woman completes routine 28 week blood test within 72 hours prior to appointment

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Woman presents to infusion lounge with her prescription for Anti D immunoglobulin for administration

Pharmacy administration
Unichem Helensville
Frankin Pharmacy Warkworth

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Woman completes 28 week blood test within 72 hours prior to presenting to pharmacy

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Woman presents to pharmacy with presciption during opening hours, not within 20 minutes of closing.

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Pharmacy administers anti-D

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Pharmacy notifies Bloodbank of the administration and sends LMC a text to notify that anti-D has been given.

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The prescription form is kept by pharmacy for the woman to re-present at 34 weeks

NOTE: If a woman is presenting for her first dose between 30-34 weeks a dose of 1250 Uniits can be administered

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7. Postnatal administration

Post-partum prophylaxis is still required regardless of routine antenatal Anti-D prophylaxis, or prophylaxis for a sensitising event. Cord blood should be taken at birth. If the baby is identified as RhD positive, Anti-D immunoglobulin should be administered within 72 hours of birth.

A dose of 625 Units of Anti-D immunoglobulin will protect against a fetomaternal haemorrhage of 6mls. A Kleihauer test should be taken to determine if a higher dose is necessary. A negative result does not remove the need for Anti-D immunoglobulin.

If a Kleihauer result indicates more than two doses are required, discuss with a Transfusion Medicine Specialist.

Consider administration in the deltoid region for women with a BMI over 30. Women with a pre-pregnancy weight over 100kg may need an additional dose; therefore consultation with a Transfusion Medicine Specialist should occur prior to administration for these women.

Note: Anti-D administration can interfere with the efficacy of live attenuated virus vaccines. In particular, the measles vaccine is effected for up to one year. Any woman considering having the MMR vaccine within the next year should have their antibody status checked prior to receiving the vaccine

8. Consent

Women must be informed of the risks and benefits and given the WDHB information leaflet explaining Anti-D immunoglobulin. Written documented consent is required.

Women should be informed that Anti-D immunoglobulin is a blood product. All blood donors are screened for HIV, syphilis, hepatitis B, HTLV and C, and lifestyle choices and are deemed to be in good physical health. There have been no reported incidences of these infections spreading through Anti-D immunoglobulin administration. New Zealand obtains Anti-D immunoglobulin through New Zealand and North American donors.

Women should be informed that an allergic reaction is possible after administration, however this is very rare.

Women declining Anti-D immunoglobulin

There are many reasons a women may decline Anti-D immunoglobulin. Further information should be given for the below reasons:

The father is believed to be RhD negative
In this situation the LMC should:

- Exclude the possibility the father has a weak expression of RhD (not detected during routine testing)
- Test for RhD type on two separate samples before confirming

The woman is not planning to have any more children
The LMC should provide women with the following information:

- After a normal pregnancy, there is an approximate 8% chance of developing anti-D antibodies. If an unplanned pregnancy was to occur, this could affect the pregnancy.

- In some countries there is a limited amount of RhD blood donors. If travelling to parts of the world such as Asia or Africa, there may be difficulty in providing a blood transfusion if required.

9. References

1	NZ Blood Service (2020). Use of RhD Immunoglobulin (Anti-D Immunoglobulin) During Pregnancy and the Post - Partum Period. National guidelines
2	NZCOM. (2021). Consensus Statement: Anti-D prophylaxis administration during pregnancy and early postpartum. https://www.midwife.org.nz/wp-content/uploads/2021/07/Anti-D-prophylaxis-during-pregnancy-and-early-postpartum.pdf
3	Medsafe (2021). New Zealand Datasheet Rh(D) Immunoglobulin – VF NZ DS 14.00
4	Counties Manukau DHB. (2021). Guideline: Routine Antenatal Anti-D Prophylaxis (RAADP)

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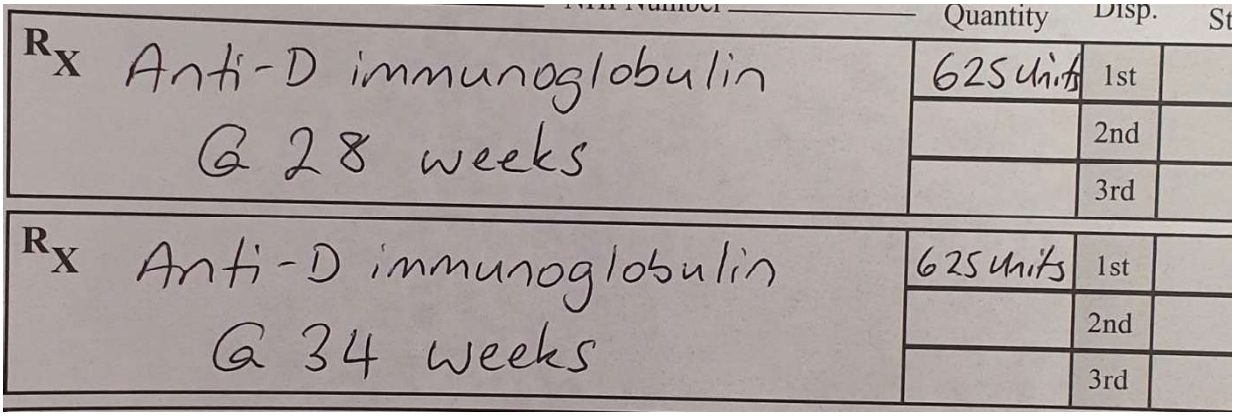
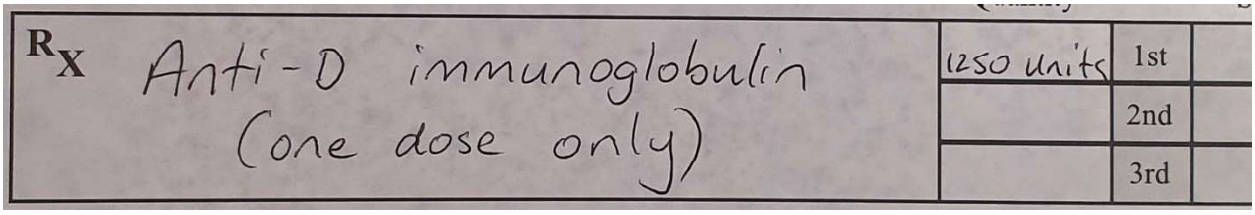
Appendix 1: Example prescription forms

Prescription for routine antenatal Anti-D at 28 and 34 weeks



Prescription for women presenting after 30 weeks, single dose of 1250IU



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Appendix 2: Additional Information for Pharmacies

Administration of Anti-D immunoglobulin

1. Pharmacists who are authorised to vaccinate in New Zealand (and are up to date with the required immunisation training and first aid training) can administer the immunoglobulin

2. Remove the anti D immunoglobulin from the refrigerator to allow it to come up to room temperature before administration.

3. Welcome and invite woman into a private space

4. Ensure the pre procedure checklist has been completed and any queries the woman has have been answered

5. Woman receiving the immunoglobulin is comfortable. Wash your hands. Draw up the immunoglobulin

6. Clean the injection site with a sterile alcohol swab

7. Identify the Deltoid muscle site as below

8. Administer the dose prescribed into the deltoid muscle using a needle with a 2.5 cm length and 22-25 gauge. This length fits those who need a deeper reach into the deltoid muscle

9. Ask the woman to sit for 20 minutes post administration in the pharmacy where she can be observed for any adverse reactions. Observe and monitor for adverse reactions.

10. After 20 minutes answer any questions and if the woman reports feeling well then she can leave.

11. Text the woman's LMC/Midwife confirming the woman has presented and been given the immunoglobulin.

12. If the woman reports feeling unwell and it is not anaphylaxis then either contact the woman's LMC or Midwife first or contact the Obstetrician on-call at North Shore Hospital by calling North Shore Birthing Suite (09) 486 8915 and asking for the on-call Obstetrician, then explain the situation. For fainting or anaphylaxis follow the Pharmacy Standard Operating Procedures as you would for an anaphylaxis event caused by vaccination. Remember to lie the pregnant person in left lateral position (on their left side)