Guideline for the Use of Anti-D Prophylaxis in Pregnancy

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Anti-D antibodies develop following fetomaternal haemorrhages in Rh(D) negative women carrying a Rh(D) positive fetus. Maternal sensitisation is rare before 12 weeks gestation. The post delivery immunoprophylaxis programme introduced in 1969 has resulted in a dramatic decline of deaths due to alloimmunisation.

- **Intramuscular Anti-D immunoglobulin(Ig) should be given to RhD negative women within 72 hours of a sensitising event** but doses given up to 10 days may still provide some protection and administration should be considered in these circumstances. If the recommended dose is unavailable use the next available.
- **Women who are already sensitised (i.e. have circulating Anti-D antibodies) should not be given Anti-D Ig**
- The standard dose is 250IU intramuscularly up to 19+6 weeks gestation and 500IU from 20+0 weeks onward. A 500IU dose of Anti-D is capable of suppressing immunisation of up to 4 mls of RhD positive red cells. Intramuscular Anti-D Ig is best given into the deltoid muscle
- These guidelines should be followed irrespective of whether RAADP (see page 5) is due or has been recently given. Contact the Laboratory if there is any doubt (page 6)
- Anti-D Ig usually lasts up to 6 weeks. The haematologist should be consulted if dose intervals less than 6 weeks are considered
- Anti-D is a blood product and carries a small theoretical risk of localised or generalised allergic reaction
- It is extracted from donor blood, and although blood donors are carefully screened for transmissible infections, there is always a small risk of blood-borne infections
- A patient information leaflet is available and should be offered to all RhD negative woman (further supplies can be obtained from Heather Daniels xtn 7625)

1. Miscarriage/ectopic pregnancy/termination of pregnancy

a. Spontaneous complete miscarriage:

Before 12+0 weeks – Anti-D Ig is not required. If, however, they have a medical or surgical evacuation of uterus, anti–D Ig should be administered whatever the gestation.

After 12+0 weeks – 250 IU Anti-D Ig should be given to all non-sensitised RhD negative women who have had a spontaneous complete or incomplete miscarriage.

b. Threatened miscarriage:

Before 12+0 weeks – Anti-D Ig is not required. Anti-D should be considered if there is heavy or repeated bleeding or associated abdominal pain as gestation approaches 12+0 weeks. Gestational age should be confirmed by ultrasound.

After 12+0 weeks – 250 IU Anti-D Ig should be given to all non-sensitised RhD negative women with a threatened miscarriage.

c. Ectopic pregnancy – 250 IU Anti-D Ig should be given to all non-sensitised RhD negative women who have had an ectopic, regardless of management and regardless of gestation

d. Therapeutic termination of pregnancy – 250 IU Anti-D Ig should be given to all non-sensitised RhD negative women whether they are having a medical or surgical TOP and regardless of gestation

e. Medical management of miscarriage-(NICE 2012) (BCSH 2014) Do not currently recommend Anti-D in if uncomplicated. However local audit of practise indicates that all eligible women are receiving it, due to fears women are not reporting excessive bleeding or pain. It has therefore been agreed by the local sub group and HTC, to offer Anti-D to all eligible women. (New 2018)

2. Potentially sensitising events (PSEs)

NB *250 IU up to 19+6 weeks gestation and 500 IU from 20+0 weeks onward including delivery*

Anti-D Ig should be given to all non-sensitised RhD negative women following:

- invasive prenatal diagnostic procedures eg amniocentesis, CVS
- other invasive procedures eg embryo reduction, insertion of shunts, intrauterine transfusion (IUT)
- antepartum haemorrhage
- external cephalic version
- closed abdominal injury e.g. blunt trauma
- **intrauterine death** (**NEW 2021**)
    - administer anti-D within 72 hours of IUD diagnosis (regardless of aetiology)
    - With patients receiving the postnatal dose as well (if undelivered at first dose)
- transabdominal cerclage
- cervical or abdominal surgery
- delivery of RhD positive baby
- intra-operative cell salvage

3. Recurrent bleeds

<12 weeks

Anti D is not necessary in women with threatened miscarriage with a viable fetus where bleeding completely stops before 12 weeks gestation, unless bleeding is unusually heavy and/or is associated with abdominal pain.

12 – 19+6 weeks

Anti-D (250 IU) should be given at a minimum of 6 weekly intervals.

Further doses should only be given after consultant review.

20 weeks onward

Anti D (500 IU) should be given at a minimum of 6 weekly intervals. See below for details on Kleihauer testing.

4. Patients attending Maternity Triage

Following a PSE a group and save will be sent to the lab for analysis. Anti D may be issued at this point. If a patient is allowed to go home there is a small risk the patient may fail to re-attend for Anti D within the 72 hour period. In order to reduce the potential for late or missed Anti D administration, use the blue 1 hour Anti D label and call the lab to discuss. The lab will endeavour to issue the Anti D within 1 hr or will advise if this is not possible due to workload.

If the patient has gone home, mark the Anti D sheet which allows follow up the following day. Calls should be made to the patient advising of the need to attend. If the patient fails to attend, inform the lab who will update their system to record "failure to attend".

5. Kleihauer Testing

This is not available under 20 weeks but should be considered if bleeding is particularly heavy, or the procedure considered traumatic. Discuss with Lab.

- Routinely after 20 weeks, a Kleihauer should be requested following a PSE and at delivery of a RhD positive baby, in order to assess the extent of any fetomaternal haemorrhage and ensure sufficient anti-D has been administered. When the Kleihauer indicates a bleed > 4mls, the appropriate additional dose of anti-D (as calculated by the lab) should be administered as soon as possible.
- Repeat Kleihauer should be undertaken after 72 hours of final dose to determine if a further dose of anti-D is required.
- Rarely, there is a massive feto-maternal haemorrhage requiring a large volume of anti-D.

In such circumstances **intravenous administration** of anti-D may be appropriate.

Intravenous anti-D has been shown to be more efficacious than intramuscular anti-D, however it is **only** the commercially available anti-D preparations, e.g. **Rhophylac and WinRho** that are licensed for intravenous administration. Always seek advice prior to IV administration.

Administration in women with BMI≥30. The supplier of Rhophylac has amended their wording in that IV administration should be considered (previously worded as recommended) in these women. It is anticipated that most women in this group will simply continue to receive anti-D by the IM route.

The laboratory must always be informed when anti-D is used intravenously to allow appropriate follow-up.

6. Postnatal Anti D

Cord bloods must be taken on all RhD negative woman to establish the RhD status of the baby. Care must be taken to ensure the maternal and cord bloods are not swapped as repeat samples will be required and will lead to delays to issue of Anti D.

Ensure that following delivery, an entry into Badger exists, to ensure the result is followed up and Anti D given (only the birth of a RhD positive baby) within 72 hrs of delivery and before discharge.

7. Routine Antenatal Anti-D Prophylaxis (RAADP)

RAADP has been shown to reduce antenatal sensitisation from 1% to 0.35% of pregnancies.

RAADP should be offered to all non-sensitised pregnant women who are RhD Negative.

RAADP use should not be affected by other antenatal anti-D prophylaxis earlier in pregnancy.

If doubt exists then contact the Wishaw Blood Transfusion Laboratory for advice.

- Once identified by booking bloods, the RhD negative non-sensitised patient should be given a Patient Information Leaflet at the next visit, usually at 12 weeks. Document this in Badger.
- RAADP should be discussed at the next visit, usually at 16 or 22 weeks. If the woman gives consent, this should be noted in the relevant section in Badger.
- Arrangements for ordering RAADP can then be made using a routine transfusion request form using the completed RAADP label. The label must clearly indicate date required and clinic location.
- The intended date of RAADP administration should be clearly documented in the Badger Record
- We recommend a single dose 1500 i.u. at 28-30 weeks gestation. This is administered after routine bloods are drawn.
- Anti D will be dispatched from the laboratory on a NAMED patient basis only. For traceability purposes it is vital that the Anti D is not be used for any other patient. If not used, it must be returned to the lab with all the accompanying paperwork, including the Blue/Pink compatibility Label. Mark the front of the brown envelope with reason for non use, i.e. did not attend, patient refusal.
- Anti D will be administered and recorded by the patient's midwife. The usual checks should be done as per PGD practise.
- Anti D is a blood product, and is administered by one midwife following the Blood Components Clinical Procedures Manual. (Section 5).

- For the administration protocol, refer to the 4 step Anti D administration guide, which is available in all community clinics
  - All documentation must be completed:
    - ✓ Complete and sign the pink label and affix to Kardex where prescribed
    - ✓ If not used ensure pink label details are entered into Badger
    - ✓ Complete and sign the blue tag (ensuring all details are clear and legible) and return to the laboratory with the patient samples
    - ✓ Complete Badger to record administration of the Anti D

Additional Key Points

- Inform the laboratory of impending Anti D requirements in good time. This will allow delivery to the designated centre within the 28-30 week window. The date and place of delivery should be clearly indicated.
- The vans require a minimum of 24 hours notice.
- If there are any concerns, phone the Blood Transfusion laboratory at WGH on 01698 361100 Ext. 7261 or Direct Dial 01698 366626.
- Patient Information Leaflets can be requested directly from the manufacturer.
- Anti D must be used within one week from dispatch from the laboratory. It must be stored at Room Temperature and not placed in cold storage in the clinics. Please ensure it is used within the week.
- RAADP should still be offered even if the woman recently had Anti-D, for clinical reasons. Contact the Laboratory if there is any doubt.
- Please visit www.learnbloodtransfusion.org.uk for access to online safe transfusion practice training, which all staff must revalidate every 2 years. A separate Anti D module is currently in development.
- Women who have RAADP may demonstrate anti-D antibodies for many weeks, even up to delivery. We therefore do not recommend that blood be taken for routine Group & Save.

8. Late or missed administration of Anti D

Anti D must be given prophylactically between 28 and 30 weeks of pregnancy and within 72 hrs of a PSE or on delivery of a RhD positive baby. Failure to do this requires submission of a DATIX which requires subsequent reporting to Serious Hazards of Transfusion (SHOT). The adverse event must be fully documented by the staff involved. A full investigation and report will follow to ensure learning and preventative actions are put in place.

Anti D may still be beneficial when given late.

- If missed at 28-30 weeks, RAADP should be considered up to delivery
- If missed following a PSE, Anti D can still be administered up to 10 days
- The named consultant should be notified of any patient with missed or late administration and this should be documented.
- Follow up serology should be completed by notifying the GP within 6 months of delivery to ensure an antibody screen can be undertaken.

References:

1. Joint Working Group of the British Blood Transfusion Society and the Royal College of Obstetricians and Gynaecologists. Recommendations for the use of Anti-D immunoglobulin for Rh prophylaxis. Transfusion Medicine 1999, 9: 93-97.
2. Routine antenatal anti-D prophylaxis for women who are rhesus D negative. NICE technology appraisal guidance 156 (2008).
3. RCOG Guideline No 22. Use of Anti-D immunoglobulin for Rh prophylaxis. Revised March 2011.
4. NICE Technology Appraisal Guidance- No 41. May 2002. Revised August 2008
5. (NICE 2012) Ectopic pregnancy and miscarriage: diagnosis and initial management. Clinical guideline [CG154] Published date: December 2012
6. (BCSH 2014) BCSH guideline for the use of anti-D immunoglobulin for the prevention of haemolytic disease of the fetus and newborn. H. Quresh, E. Massey et al, First Published January 2014

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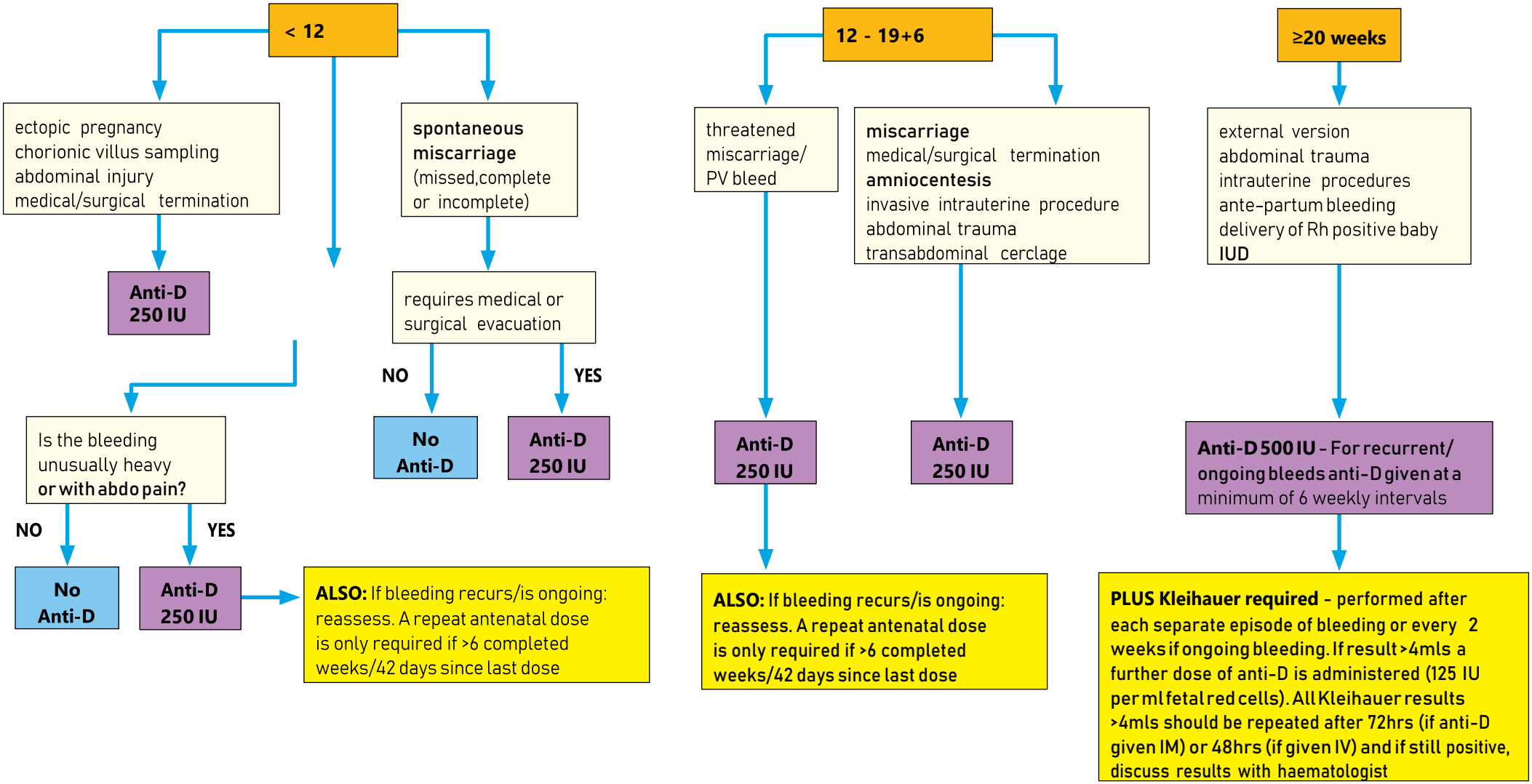
Flowchart for Rh(D) Negative Antenatal patients following a Potentially Sensitising Event
(if not already sensitised)



Standard Anti-D dose is 250 IU if ≤ 19+6 weeks and 500 IU if ≥ 20 weeks.
Where anti-D is to be administered, this should be as soon as possible but always within 72 hours of the potentially sensitising event. If it is not given within 72 hours, every effort should still be made to administer the anti-D, as a dose given within 10 days may provide some protection. If there is uncertainty about dates it may be safer to administer anti-D.
Anti-D administered via this flowchart will not affect, or be affected by RAADP.
Flowchart to be used in conjunction with other guidelines i.e. Antepartum Haemorrhage.

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