

13 RH D IMMUNOGLOBULIN

Date Issued: January 2005
Date Revised: August 2011
Review Date: August 2013
Authorised by: KEMH Transfusion Committee
Review Team: KEMH Transfusion Committee

13.2 The Kleihauer Test
Section 13
Transfusion Medicine Protocols
Women's & Newborn Health Services
Perth Western Australia

ALSO see WNHS Obstetrics & Gynaecology Clinical Guidelines Section A

1.9 Management of Women who have Rh D Negative Blood Group

1.9.1 Blood group and antibody screening

1.9.2 Kleihauer Test

1.9.3 Rh D Immunoglobulin

13.2 THE KLEIHAUER TEST

- Kleihauer tests are not required in the first trimester as one minidose of Rh D Immunoglobulin will be sufficient to cover all events.
- Following fetomaternal haemorrhage (FMH) or delivery, a Kleihauer Test performed on a maternal sample is used to assess the volume of FMH and determine if **additional** doses of prophylactic Rh D Immunoglobulin are required.
- **Kleihauer samples must be taken prior to administration of Rh (D) Immunoglobulin**, to assess the volume of FMH.
- The maternal samples for FMH estimation need to be taken when sufficient time has elapsed following a sensitizing event to allow fetal cells to be distributed within the maternal circulation, a minimum of 15 minutes.
- **Post delivery** the optimal time to collect is between **15 minutes – 2 hours following placental separation**.
- To be valid, maternal specimens for FMH testing must be collected **within 72 hours of a potential sensitising event or delivery**.
- A standard full dose of Rh D Immunoglobulin (625 IU) is sufficient to destroy up to 6mL of packed fetal red cells.
- For FMH in excess of 6mL a repeat Kleihauer Test is required 48 hours after administration of Rh D Immunoglobulin to ensure effective prophylaxis.

The Blood Bank routinely run a batch of Kleihauer tests once per day. The indications for an urgent Kleihauer test are rare. Such requests **MUST** be accompanied by a phone call from the ordering clinician. An urgent Kleihauer test should be ordered **ONLY** in the following situations:

- Significant maternal abdominal trauma when the CTG is not reassuring and/or the fetus is inactive on ultrasound.
- Non immune fetal hydrops in association with an abnormally raised MCA PSV.
- Sinusoidal fetal heart trace in a non immunised woman.
- Decreased fetal movements after two consecutive non reactive CTGs and/or an inactive fetus on ultrasound. **NOTE:** If the first CTG shows a sinusoidal pattern a Kleihauer test can be requested immediately.

A Kleihauer test should NOT be requested in the setting of an antepartum haemorrhage in order to diagnose abruption. This is an inappropriate use of the test.