

MEASURING FMH IN RhD NEGATIVE WOMEN

A Fetomaternal Haemorrhage (FMH) occurs when blood from the fetus crosses the placenta and enters the bloodstream of the mother.

Prophylactic Anti-D can be given to the mother to prevent her making her own anti-D antibodies.

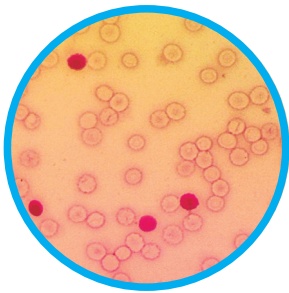
Standard doses of Anti-D must be given after a PSE / birth.

We need to measure the size of the FMH to determine if additional doses of Anti-D are required.

When do we need to measure an FMH?

- Following any potentially sensitising event (PSE) at or after 20 weeks gestation.
- Following birth.

How is the size of a FMH measured?



Method 1: The Kleihauer Test (Acid Elution Test)

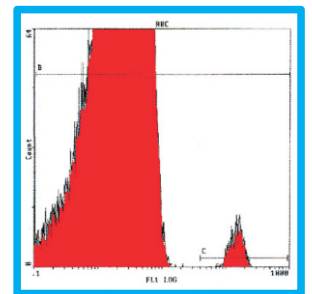
A blood film is made and treated so that red cells from the fetus appear deep pink while maternal red cells appear as “ghosts” (virtually colourless). The number of fetal and maternal cells are counted manually under a microscope to calculate the size of the FMH (expressed in ml).

Method 2: Flow Cytometry

If the Kleihauer Test shows an FMH of 2ml or greater, then a more accurate count is performed using Flow Cytometry.

A maternal blood sample is treated with reagents that label only RhD positive cells (fetal cells).

The Flow Cytometer takes a small volume of maternal sample and counts thousands of cells, identifying the labelled (fetal) and unlabelled (maternal) cells. The size of the FMH is then calculated.



Then What?

Following a standard dose of Anti-D after a PSE and delivery, FMH testing helps decide if an **additional** Anti-D dose is needed.

After the additional dose of Anti-D have been given, a further Kleihauer Test is again needed to see if this has been effective or if yet more Anti-D is required.

