



## What is Rh Immunoglobulin/WinRho<sup>®</sup>?

Rh Immunoglobulin (RhIg, trade name WinRho<sup>®</sup>) is a freeze-dried preparation of human immunoglobulin of the IgG class with antibody specificity directed against the RhD antigen.

## What is WinRho<sup>®</sup> used for?

The primary use of WinRho<sup>®</sup> is in the prevention of RhD hemolytic disease of the fetus/newborn (HDFN) during pregnancy in RhD negative women by suppressing alloimmunization toward the D antigen. It is offered routinely to all RhD negative women at 28 weeks' gestation and following delivery of an RhD positive/RhD unknown infant.

## Apart from routine HDFN prophylaxis, when should WinRho<sup>®</sup> be administered?

Table 1 (see page 2) lists potentially sensitizing events for RhD negative women that necessitate WinRho<sup>®</sup> administration. Whenever possible, WinRho<sup>®</sup> should be administered within 72 hours of a sensitizing event.

For early loss or termination of pregnancy <8 weeks' gestation, with confirmed dating by ultrasound, WinRho administration is not required. If gestational age is uncertain, or the gestational age was not confirmed by ultrasound, WinRho is advised.

## What is the appropriate dose of WinRho<sup>®</sup>?

Table 2 (see page 2) provides WinRho<sup>®</sup> dosing recommendations for various clinical scenarios. Testing for fetal-maternal hemorrhage (FMH) is required at or beyond 20 weeks' gestation to determine the required WinRho<sup>®</sup> dose. It is reasonable to provide an initial dose immediately, while awaiting the results of testing for fetal-maternal hemorrhage (FMH) to determine whether a further dose is needed.

## What is testing for fetal-maternal hemorrhage (FMH)?

Definitive testing for FMH uses a Kleihauer-Betke (KB) test to quantify fetal cells in maternal blood. It may be preceded by a *rosette test* as an initial screen. Testing for FMH is performed at the Transfusion Medicine Laboratories in Prince Albert (Victoria General Hospital), Regina (Regina General Hospital) and Saskatoon (Royal University Hospital). See the attached *Referral Request for Transfusion Medicine Testing*. Routine FMH testing in post-partum Rh negative women will be performed during daytime hours only (7 days a week). Urgent FMH testing requires a telephone notification to the laboratory and is available 24/7. Samples for FMH testing are stable for several days.

## How is the recommended dose of WinRho<sup>®</sup> determined?

Transfusion Medicine staff are proficient in calculating a recommended WinRho<sup>®</sup> dose, based on the percentage of fetal hemoglobin cells detected by the KB test. The patient care ward or most responsible healthcare provider will be contacted by telephone with the KB test result and a WinRho<sup>®</sup> dose recommendation.

## How is the required dose of WinRho<sup>®</sup> procured for a patient?

The laboratory will not automatically send the recommended WinRho<sup>®</sup> dose to the patient care unit. A WinRho<sup>®</sup> order by the most responsible healthcare practitioner is required and a product requisition must be submitted to the local laboratory for WinRho<sup>®</sup> issue.

***Please remember that WinRho<sup>®</sup> is a blood product that requires explicit and documented consent.***

Table 1 List of sensitizing events for RhD negative women necessitating WinRho® administration

Delivery	Spontaneous/Therapeutic abortion
Antepartum hemorrhage	Ectopic pregnancy
Chorionic Villus Sampling	Abdominal trauma
Amniocentesis	External Cephalic version
Cordocentesis	Fetal Death

Table 2 WinRho® dosing [Note: 1 mcg = 5 IU]

Clinical scenarios	Gestational age	WinRho® dosing
Abortion-medical, surgical or spontaneous; CVS or amniocentesis <12 weeks	Less than 12 weeks	120 mcg*
	12 weeks or more	300 mcg
Threatened abortion**	Less than 12 weeks	120 mcg*
	12 weeks or more	300 mcg
Routine antenatal prophylaxis at 28 weeks	Approx 28 weeks	300 mcg
Routine postpartum prophylaxis (If RhD+ neonate)**	At delivery	300 mcg
All other indications** (e.g., trauma, bleeding in pregnancy)	Less than 12 weeks	120 mcg*
	12 weeks or more	300 mcg

\*Proceed with 300 mcg if 120 ug is not stocked.

\*\* FMH testing required at or after 20 weeks' gestation.

#### Testing for fetal-maternal hemorrhage (FMH):

- FMH testing is **not** required prior to *routine* prophylactic WinRho® administration in Rh negative women at 28 weeks gestational age, or for any other indications prior to 20 weeks gestational age.
- Otherwise, if there is clinical concern regarding maternal exposure to a sensitizing event **at or after 20 weeks' gestation**, FMH testing **must** be performed to determine whether additional WinRho® dosing is needed.

#### Administration Notes:

- Routine prophylaxis may be given by intramuscular (IM) injection, although the intravenous (IV) route is often used post-partum when IV access is already in place.
- In all other situations, expert opinion suggests a preference for the IV route, to ensure good peak passive anti-D levels *in vivo*.
- There is no need to adjust dosing for Body Mass Index. However, if using the intramuscular (IM) route for administration, it is essential to ensure injection of the product into muscle rather than subcutaneous fat. The use of a longer needle (i.e., 1.5") into a deltoid muscle site should be considered. When injection of the product into muscle cannot be assured, intravenous administration of WinRho® is strongly recommended, to ensure good absorption and effective passive anti-D levels *in vivo*.

References are provided on page 3 of this document.

Please direct any questions to the Transfusion Medicine Physician on call –

Northern Saskatchewan, through Royal University Hospital Switchboard: +1-306-655-1000

Southern Saskatchewan, through Regina General Hospital Switchboard: +1-306-766-4444

**Please remember that WinRho® is a blood product that requires explicit and documented consent.**

## References

- American College of Obstetricians and Gynecologists. Practice bulletin no. 181: prevention of Rh D alloimmunization. *Obstetrics & Gynecology*. 2017 Aug;130(2):e57-e70. Available from [https://journals.lww.com/greenjournal/fulltext/2017/08000/Practice\\_Bulletin\\_No\\_181\\_Prevention\\_of\\_Rh\\_D.54.aspx](https://journals.lww.com/greenjournal/fulltext/2017/08000/Practice_Bulletin_No_181_Prevention_of_Rh_D.54.aspx)
- Clarke G, Hannon J. Hemolytic disease of the fetus and newborn and perinatal immune thrombocytopenia. In: Clarke G, Hannon J, editors. *Clinical guide to transfusion online edition*. Ottawa: Canadian Blood Services; 2018 [cited 2019 Dec 18]. Chapter 12. Available from <https://professionaleducation.blood.ca/en/transfusion/clinical-guide/hemolytic-disease-fetus-and-newborn-and-perinatal-immune-thrombocytopenia>
- Fiala C, Fux M, Gemzell Danielsson K. Rh-prophylaxis in early abortion. *AOGS*. 2003 Oct;82(10):892-903. Available from <https://doi.org/10.1034/j.1600-0412.2003.00266.x>
- Harding SR, Lazarus A. Immune globulin products. In: Clarke G, Hannon J, editors. *Clinical guide to transfusion online edition* [Internet]. Ottawa: Canadian Blood Services; 2018 [cited 2019 Dec 18]. Chapter 4. Available from <https://professionaleducation.blood.ca/en/transfusion/guide-clinique/immune-globulin-products>
- Hartwell EA. Use of Rh Immune Globulin: ASCP Practice Parameter *American Journal of Clinical Pathology*, Volume 110, Issue 3, September 1998, Pages 28-292. Available from <https://doi.org/10.1093/ajcp/110.3.281>
- Merz WM, Patzwaldt F, Fimmers R, Stoffel-Wagner B, Gembruch U. Fetomaternal hemorrhage in the second trimester. *J Perinat Med*. 2012 Mar 22;40(4):353-7. Available from <https://doi.org/10.1515/jpm-2011-0255>.
- Smith GCS, Cameron AD. Estimating human fetal blood volume on the basis of gestational age and fetal abdominal circumference. *BJOG*. 2002 Jun;109:721-722. Available from <https://doi.org/10.1111/j.1471-0528.2002.01047.x>
- Urbaniak SJ. The scientific basis of antenatal prophylaxis. *BJOG*. 1998 Nov;105(Suppl 18):11-18.