Fetal *RHD* Screen
RhIG Administration

Objective
Review how Fetal *RHD* screening supports decision-making for RhIG administration in RhD negative pregnant individuals in Ontario.

Fetal *RHD* screening is a non-invasive blood test for pregnant women/individuals who are RhD negative. This screening test predicts the RhD status of a fetus using cell-free DNA from a pregnant woman/individual's plasma from 11 weeks' gestation. The screening results enable targeted RhD immune globulin (RhIG) administration by identifying pregnancies at risk of RhD alloimmunization.

Who Is Eligible for Fetal *RHD* Screening?

Fetal *RHD* screening is publicly funded for pregnant women/individuals living in Ontario, who:

- Are RhD negative
- Have a singleton pregnancy
- Have not developed antibodies towards the RhD antigen (anti-D)
- Do not have a known weak D phenotype or *RHD* variant

Timing: Can be ordered from 11 weeks' gestation.
Requisition: Available on the PSO website (www.prenatalscreeningontario.ca).
Sample Collection: Blood samples can be collected at community or hospital labs across the Ontario.
Results: Available within 10 business days (sent to the ordering provider by fax and posted in OLIS.

How to Interpret Fetal *RHD* Screening Results

Screening Result	Interpretation	Next Steps
Positive	The fetus is predicted as RhD positive. This pregnancy ***is at risk*** for RhD alloimmunization.	**RhIG is indicated**
Negative	The fetus is predicted as RhD negative. This pregnancy ***is not at risk*** for RhD alloimmunization.	**RhIG is NOT indicated**
Inconclusive, unknown or not done*	Treat the pregnancy as if the fetus is RhD positive.	**RhIG is indicated**

**If Fetal RHD screen was not done, consider ordering test post-RhIG if it could avoid additional RhIG doses.*

Clinical Scenario 1 : Pregnant individual presents in the emergency department

A pregnant woman/individual presents to the emergency department with vaginal bleeding at 12 weeks' gestation. A group and screen is ordered and results are RhD negative with a negative antibody screen. RhIG is ordered to prevent RhD alloimmunization.

Does the patient require RhIG?

1. Confirm the patient is **RhD negative** and **has no anti-D antibodies.**
2. **Has the patient had Fetal *RHD* screening?***
   - Look for Fetal *RHD* screening results in OLIS/ConnectingOntario/ClinicalConnect. Confirm results are from the patient's current pregnancy by checking the expected date of delivery (EDD) on the report.
3. **Determine if RhIG is indicated.**
   - Review clinical recommendations on test report for RhIG administration guidance.

**If Fetal RHD screen was not done, consider ordering test post-RhIG if it could avoid additional RhIG doses.*

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Clinical Scenario 2 : Pregnant individual undergoing an invasive procedure

A pregnant woman/individual at 16 weeks' gestation is scheduled to undergo an amniocentesis for prenatal genetic testing. A pre-procedure group and screen is ordered and results are RhD negative with a negative antibody screen. RhIG is scheduled for administration following the procedure to prevent RhD alloimmunization, as amniocentesis is a sensitizing event.

Does the patient require RhIG?

1. Confirm the patient is **RhD negative** and **has no anti-D antibodies.**
2. **Has the patient had Fetal *RHD* screening?***
   - Look for Fetal *RHD* screening results in OLIS/ConnectingOntario/ClinicalConnect. Confirm results are from the patient's current pregnancy by checking the expected date of delivery (EDD) on the report.
3. **Determine if RhIG is indicated.**
   - Review clinical recommendations on test report for RhIG administration guidance.

**If Fetal RHD screen was not done, consider ordering test post-RhIG if it could avoid additional RhIG doses.*

Clinical Scenario 3 : Routine antenatal RhIG administration at 28 weeks

A pregnant woman/individual is referred to the hospital's Rh prevention program for routine RhIG administration at 28 weeks' gestation. A previously performed group and screen indicates RhD negative status with a negative antibody screen. No sensitizing events have occurred during the pregnancy. As part of routine antenatal care, the health-care provider requests RhIG administration to prevent RhD alloimmunization.

Does the patient require RhIG?

1. Confirm the patient is **RhD negative** and **has no anti-D antibodies.**
2. **Has the patient had Fetal *RHD* screening?***
   - Look for Fetal *RHD* screening results in OLIS/ConnectingOntario/ClinicalConnect. Confirm results are from the patient's current pregnancy by checking the expected date of delivery (EDD) on the report.
3. **Determine if RhIG is indicated.**
   - Review clinical recommendations on test report for RhIG administration guidance.

After Delivery

- RhIG can be administered based on the Fetal *RHD* screening result.
- Cord blood testing for RhD remains required as part of the quality assurance process.
- If the Fetal *RHD* screening and cord blood RhD typing results are discrepant, use the cord blood RhD typing result to determine if postpartum RhIG should be administered, in accordance with current clinical guidelines.
- Laboratories should report any discrepancies between the Fetal *RHD* screening result and the cord blood RhD typing result to Canadian Blood Services.