



e-Network Forum

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How do colleagues test for and report Rh typing results of individuals who are weak-D positive?

An Oregon blood banker states that her hospital laboratory currently reports Rh typing results as weak D positive whenever an anti-D typing reagent agglutinates red cells only at the IgG-AHG phase of testing.

Their current criteria for when weak D typing is done include the following:

- When typing a newborn infant who on initial testing is not convincingly Rh positive
- When performing pre-natal testing on an expectant woman or post-partum testing after she has given birth
- When resolving a typing discrepancy such as when an apparent "Rh negative patient" has donated a unit of autologous blood that is labeled Rh positive.

The Oregonian adds that she has read that it may also be necessary to perform a test for weak D in the following situations:

- Donor testing
- Infant testing
- To determine if a positive FMH (anti-D based method) is caused by weak D or partial D phenotype of the mother.

Based on her belief as outlined above, the Oregonian wonders if a patient's record or report should reflect the Rh type as "weak D" whenever a weak D or partial D phenotype is 'discovered' during a FMH workup. She requests input from colleagues as to how others handle this situation, and how to explain these findings to a physician. She also wants to know if colleagues explain in advance to a physician who orders a FMH workup that a patient can be typed early during the pre-natal period as Rh negative, but later on in the pregnancy or in the post-partum period be typed as Rh positive or weak D? The Oregonian is in the process of updating their procedure regarding the reporting of weak D status, and they have drafted a new procedure for Rh Typing in relation to FMH testing.

Editor's note: In my opinion, when Rh typing a pregnant or postpartum woman, it is important to rule out fetomaternal hemorrhage as a cause of apparent weak D typing or a change in Rh type from negative to positive. **Failure to rule out FMH as a cause of an apparent weak D typing or a change in Rh typing could result in attributing an incorrect Rh type to the woman and/or the failure to administer an adequate dose of RhIg.** The e-Network is encouraged to comment on the Oregonian's questions as well as the Editor's opinion.

The following replies were submitted in response to the above.

1. **A major university medical center in Michigan** recently revised its policy for testing samples that give weak or discrepant reactions in direct agglutination tests with anti-D. According to an immunohematologist who is on the faculty at that university, **if reactions are weak (1+ or less), the patient is managed as Rh-negative and the patient's sample is no longer subjected to a test for weak D.** This practice modification was in part prompted by the [Flegel and Wagner](#) paper that was [posted earlier on the CBBS Web site](#), and data presented at the 2002 AABB Annual Meeting (Judd WJ, Moulds M, Schlanser G. Reactivity of FDA approved monoclonal anti-D reagents with partial D RBCs. *Transfusion* 2002;42(S):20). The immunohematologist believes that **it is general practice in Europe not to test for weak D in pregnancy**, so that some partial D women, especially those of the DVI phenotype, will receive RhIG therapy. According to the immunohematologist, there are no data to show that such RhIG therapy will not be effective.

The Michigan immunohematologist still considers **a test for weak D to be necessary when testing blood donors or infants born to Rh-negative women** (for the purpose of determining maternal RhIG candidacy). Finally, according to the immunohematologist, since the test for weak D is not a required element of pretransfusion or prenatal testing, **by not doing the test, one can avoid many of the issues the inquiring Oregonian blood banker raised.** Also, if you don't do

the test for weak D on maternal blood, one avoids incorrectly calling a mother Rh positive due to a massive FMH.

2. **A blood banker in the Pacific Northwest** reports that her facility performs weak D testing on the following patient groups

- Infants of D negative woman
- Women who are under 50 years old
- When resolving D typing discrepancies.

Their weak D testing procedure includes instructions to rule out FMH when mixed field reactions are observed, and when there is a discrepancy between the historical D type and the current D type. A discrepancy between historical D type and current D type also initiates a sample redraw to rule out a patient identification error.

The following summarizes how the results of weak D testing are interpreted at the responding blood banker's hospital:

- When an infant or mother types as weak D positive the result is reported out as D positive.
- When an infant of a D negative woman types as weak D positive, in order to rule out FMH they perform a Kleihauer-Betke stain for fetal hemoglobin-containing RBC (rather than a fetal screen test) on the mother's blood. In their experience, the latter test can yield falsely negative results if the infant is weak D positive.

The responding blood banker concluded by saying that her hospital is giving serious consideration to a recommendation (much like the one reported by the Michigan immunohematologist in reply #1 above) to **omit the weak D test when Rh typing pregnant woman.**

Please submit comments to the [e-Network Forum](#).

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Addenda:

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