Red Blood Cell (RBC) Antibodies

What is a red blood cell antibody?  
An antibody is a protein made by your body. Antibodies usually bind to foreign substances, such as bacteria and viruses, and destroy them.

A red blood cell antibody is one that “attacks” red blood cells. Your red blood cells have certain “markers” on them, called antigens. If your immune system sees a red blood cell antigen that is “foreign” (such as from a blood transfusion), it will make antibodies to destroy it.

How does a person get RBC antibodies?  
Each person’s body naturally makes antibodies based on their ABO blood type (see below). For example, if your ABO blood type is “O,” you will have antibodies against types A and B.

<table>
<thead>
<tr>
<th>If your ABO blood type is</th>
<th>Your body will naturally make these antibodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Anti-A and Anti-B</td>
</tr>
<tr>
<td>A</td>
<td>Anti-B</td>
</tr>
<tr>
<td>B</td>
<td>Anti-A</td>
</tr>
<tr>
<td>AB</td>
<td>None</td>
</tr>
</tbody>
</table>

The Rh factor is another antigen. People who are Rh negative can make antibodies to blood that is Rh positive. When you get a red blood cell transfusion, the transfused blood must be compatible with your ABO and Rh type.

Besides ABO and Rh antigens, there are more than 50 blood group antigens that can be found on the surface of red blood cells. Your body can make red blood cell antibodies to these other blood group antigens if you have:
• Had a blood transfusion in the past (the more transfusions, the more exposure to “foreign” antigens)
• Ever been pregnant
• Had certain disease, such as lupus, lymphoma or certain types of cancer

How are RBC antibodies found?  
A test called a Type and Screen or Type and Crossmatch is done to find compatible blood for your surgery, procedure or transfusion. Your blood is tested to find out your ABO and Rh type and detect antibodies other than those expected.

Do I have other RBC antibodies?  
Some antibodies were found during the first testing of your blood. Another blood sample is needed to identify these antibodies.

Why do the antibodies need to be identified?  
The antibodies need to be identified to find RBC units that are compatible with your blood. If the antibodies are not identified, your RBC antibodies may destroy the RBCs in the transfused blood. This can cause a reaction ranging from mild to severe. The reaction could happen during the transfusion or up to 1 or 2 weeks later. Symptoms could include fever, chills, back pain, low blood pressure, bloody urine or jaundice (yellow color to your skin).

Do other people have these other antibodies?  
RBC antibodies (not the naturally occurring ABO antibodies) are found in about 2% to 6% of the population. These RBC antibodies do not usually cause health problems for the person who has them.

Will this testing delay my surgery?  
If your blood is drawn at least 24 hours before your surgery, the testing will not delay it. If it is drawn on the day of surgery, your surgery could be delayed. If more time is needed to find compatible blood, you and your doctor will be notified.

Will the hospital find blood for my surgery?  
Yes. The hospital will test the RBC units in their blood bank to find blood that matches your test results. If the hospital does not have a compatible unit, they will call the BloodCenter of Wisconsin to find blood for you.