



Platelet transfusion histocompatibility testing – information for patients

Some patients may need platelet transfusion as part of their treatment. Most patients respond well and have reduced bleeding symptoms when they receive transfusions of platelets from the routine stock in the blood bank. These are also called standard platelets.

A small proportion of patients do not respond as good to standard platelets. In this case specialist, selected platelets may be needed for some of these patients. If a patient needs specially selected platelets as part of their treatment plan they will require a histocompatibility blood test beforehand.

Specialist platelets are also used for some patients who are likely to need lifelong platelet transfusion.

What happens if my platelet count does not improve following a transfusion?

If you are told you have a low platelet count following platelet transfusion this can be because your body is destroying the platelets that you have received. There are several reasons why this may happen. One of these is because you may have an antibody in your blood which reacts with human leucocyte antigens (HLAs) or human platelet antigens (HPAs) on the

surface of the transfused platelets. HLA and HPA are normal proteins found on the surface of platelets.

You will have inherited your HLA type and HPA type from your parents. There are many different HLA types. Because of this, it is likely that most of the platelets you normally receive will come from donors whose HLA type is different to your own. This can be a problem if you have HLA antibodies in your blood. HLA antibodies are made by your body's immune system and can destroy platelets you are given from the transfusion. You may have HLA antibodies if you have previously:

- had a blood transfusion
- received a transplant
- been pregnant

By testing your blood for HLA (and HPA) antibodies, this will help us identify if this is the reason you do not respond well to standard platelet transfusions.

There are two tests the laboratory will carry out first, HLA typing and HLA antibody testing. Some patients will also need HPA typing and HPA antibody testing.

HLA and HPA typing

Your HLA (and HPA) type will be tested using a sample of your DNA, which we get from your blood sample.

HLA and HPA antibody testing

Using a separate sample of your blood we test for HLA (and HPA) antibodies. HLA (and HPA) antibodies can appear, disappear and reappear over time, so you may need to provide more samples if you need regular platelet transfusions over a long period of time. Your extra samples will allow us to check whether any antibodies have formed in your blood.

Your test results will be given to your doctor. We may also send copies of your results to the other healthcare staff who are treating you (for example, specialist nurses) and to any other hospitals you may transfer to in the future. Your testing laboratory will also keep copies of the results.

We will work closely with your doctor, to decide if you need to receive specially selected platelets.

The laboratory will store your samples following testing in case you require more testing in future.

Will I need HLA and HPA selected platelets?

If the results of your tests show that you have HLA and / or HPA antibodies, you may need to receive HLA or HPA-selected platelets. If this is the case, we will choose platelets from blood donors whose HLA/HPA type is suitable for you. This will mean that your HLA/HPA antibodies should not react with the specially selected platelets. In most cases, your response to platelet transfusions should improve. In rare cases, this may not happen and, you may need more tests to see if there is something else which is affecting these transfusions. Because of the difficulty of selecting platelets, suitable donors may, at times, be hard to find. We will work closely with your doctor to manage your treatment effectively.

Effectiveness of platelet transfusions

It is important for us to know how well you respond to each transfusion. This will help us to measure your response and also ensure you do not receive a transfusion that you do not need. Using blood samples taken from you before transfusion and within 1 hour after the transfusion, we measure your platelet count. It is important that you have these samples taken so that we can ensure you receive the best transfusion treatment and care.

What happens to my blood samples?

When all your testing is complete and the samples we have are no longer needed, we may use your samples further, but without identifying you, in our tests to help other patients like you. We may use your samples:

- To check our tests are working correctly (quality control).

- To help us test new procedures that can further improve patient care.
- To educate and train healthcare staff (e.g. doctors, nurses and scientists)
- For research (following appropriate approval by an ethics committee)

This helps us maintain accurate testing procedures, and improve our knowledge, to provide the best possible care to you and all other patients similarly affected.

If you do not want us to use your samples for any of the purposes above, you must tell your doctor or the person taking your blood (or both). We will respect your wishes and dispose of any samples we no longer need.

This information does not replace the guidance provided by your treating clinical team.

For more information, please contact the Welsh Blood Service on 01443 622126.



Welsh Blood Service

0800 252266

welsh-blood.org.uk

Data protection

The Welsh Blood Service holds records of all tests performed and advice it offers to your healthcare team, to run its service efficiently and safely. Your data will be held securely and in accordance with your rights under data protection legislation.