



Royal Free London
NHS Foundation Trust

Apheresis – plasma exchange

Information for patients

What is apheresis?

Apheresis, which means to “take away”, is a medical procedure that involves passing a patient’s blood through a machine to separate it into individual components (for example plasma, red blood cells or platelets) using centrifugal system.

Components that may be causing harm to a patient can then be removed, and replacement blood products such as albumin, red cells or fresh frozen plasma are then returned to the patient through the same machine. Plasma exchange is a type apheresis.

Why do I need to have plasma exchange?

Plasma exchange is a term for treatments that remove harmful proteins, chemicals or cells which are found in the blood or plasma that contribute to many different conditions including, neurologic, hematologic, hepatic and renal conditions.

The function of plasma is to carry blood cells (red cells, white blood cells and platelets) and various antibodies (a protective protein produced by the immune system) to different parts of the body.

Plasma exchange is used to remove disease-causing proteins (antibodies) that threaten the body’s healthy tissues and organs. It is often not possible to remove the antibody causing the disease and so plasma must be removed to treat the illness or relieve symptoms.

What happens before the procedure?

Patients will require a full virology screen (a blood test to detect viruses in blood such as hepatitis B, hepatitis C, hepatitis A and HIV). Virology screenings will be repeated throughout your

treatment and you will be asked for your consent prior to samples being taken. Other blood tests will be performed to find out your blood group. For all future plasma change procedures, baseline blood tests will be taken before and after the procedure to check your blood levels. This is to monitor all levels within the blood and make sure they are within the expected ranges. The results will be reviewed and used to program the plasma exchange machine.

You will be screened for MRSA (a type of bacteria that's resistant to several widely used antibiotics). This is performed by taking a sample of bacteria using a swab (cotton bud) placed on the area of skin to be tested. MRSA screenings will be repeated every three months.

We can perform the procedure through peripheral cannulas (a fine plastic tube that is put into your veins using a needle) which are inserted in each arm, providing the patient has good vein and blood flow. If we are unable to establish good flow through the cannulas then a central venous catheter (a catheter or hollow tube which is placed into a large vein to access the bloodstream) will be used. This will be discussed in more depth with the patient should this be required.

Before the procedure starts we recommend that you go to the toilet if you are able to. If you cannot and need to go during your procedure, you may have to use a bed pan as we do not disconnect patients from the machine unless absolutely necessary. This is to minimize the risk of contamination and infection. Stopping the procedure mid-way through can also cause the blood to clot in the machine causing unnecessary delays.

You are able to eat and drink as normal before and during the procedure, but some patients may find it difficult during as they

may need to keep their arms straight due to the positioning of the peripheral cannulas. We provide sandwiches, juice and refreshments but you are welcome to bring your own food too. Patients can be accompanied by a friend or relative, but as it is a small unit with limited space, we ask that you only bring one visitor with you.

How do we perform plasma exchange?

The procedure will be carried out by a specially trained apheresis nurse. Your vital signs (temperature, blood pressure, pulse and oxygen levels) will be checked before and after every exchange, and any changes will be recorded.

During the procedure, you will be closely monitored for any side effects and the appropriate treatment will be administered to you if required.

Once you are connected to the machine and the procedure has started, blood will be taken at a constant flow from one of the inserted cannulas. It will enter the machine and your plasma will be separated. The separated plasma that is not needed will go into a waste bag to be discarded. Your red cells, white cells and platelets will be returned back to you along with the new plasma via a return line to the other inserted cannula.

You will be asked to remain on a bed throughout the procedure and to stay fairly still. This is to ensure a smooth flow of blood being removed from your veins and replacement fluid being returned. You should be able to sit up on the bed to read, eat or drink while you are connected to the machine.

Once the main part of the exchange is completed, a 'rinse back' is performed. This allows for any remaining blood in the machine and tubes to be transferred back to the patient to prevent

anaemia. The patient will then be disconnected from the machine.

How long does the procedure take?

The procedure usually takes between two and four hours, but exact times vary from patient to patient.

What are the possible side effects of plasma exchange?

Plasma exchange is a safe non-invasive procedure, but in some cases patients do experience adverse effects while they are on the machine. Common side effects include dizziness, nausea (feeling sick), feeling cold, tingling of the fingers, toes and lips, facial paralysis and chest pain.

If you receive fresh frozen plasma, there are reactions associated with this and most common include developing a rash, hives, general all body itchininess and shortness of breath. This list is not exhaustive as every patient is different.

Please notify your nurse if you experience any of these symptoms. In severe cases the procedure may have to be stopped.

Other considerations

Having plasma exchange will remove large amounts of medication including intravenous medications from your system.

You should talk to your consultant or apheresis staff about any medication changes while having a course of plasma exchange.

Giving your consent

Before carrying out any procedure or treatment, we must seek your consent. Staff will explain the procedure to you, along with the associated risks, benefits and alternatives before they ask you for your consent. If you have any questions about your care, or any concerns, please do not hesitate to ask the doctors or nurses in the apheresis services unit for more information.

Signing the consent form means that you agree to have the treatment and you understand what it involves.

What should I expect after plasma exchange?

Most patients experience tiredness after their first exchange, this can continue for a few weeks after treatment and is very common.

Certain patients will be offered hotel accommodation but this is on a case by case basis and will be confirmed to you by the hospital before your procedure.

Should you feel unwell at any stage and are concerned, please attend the Royal Free Hospital emergency department.

If you are discharged home, it is not recommended that patients drive and someone should be with you to take you home.

If you are worried about anything please contact us on the numbers provided below.

Contact us

If you have any questions or concerns about plasma exchange, please contact the apheresis day unit on: **020 7794 0500** ext **36035** (Monday to Friday, 9am-5pm).

You can also call the clinical nurse specialist for apheresis on 020 7794 0500 and ask for bleep **2776** during those working hours.

More information

For more information about the haematology service at the Royal Free London, please visit our website:

www.royalfree.nhs.uk/services/services-a-z/haematology

Your feedback

If you have any feedback on this leaflet or for a list of references for it, please email: rf.communications@nhs.net

Alternative formats

This leaflet is also available in large print. If you need this leaflet in another format – for example Braille, a language other than English or audio – please speak to a member of staff.

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