

Therapeutic Apheresis Services

Patient Information Leaflet – Plasma Exchange Procedure

Introduction

This leaflet has been written to give patients information about plasma exchange (sometimes called plasmapheresis). If you would like any more information or have any questions, please ask the doctors and nurses involved in your treatment at the NHS Blood and Transplant (NHSBT) Therapeutic Apheresis Services Unit.

When you have considered the information given in this leaflet, and after we have discussed the procedure and its possible risks with you, we will ask you to sign a consent form to indicate that you are happy for the procedure to go ahead. Before any further procedures we will again check that you are happy to proceed.

What is a plasma exchange?

Blood is made up of red cells, white cells and platelets which are carried around in fluid called plasma. The plasma can be separated from the rest of your blood, removed and replaced, and this process is called plasma exchange. We can replace your plasma with either fresh donor plasma or human albumin solution which is the liquid part of the plasma obtained by processing the fresh plasma.

The function of plasma is to carry blood cells (red cells, white blood cells and platelets) and various antibodies, hormones, and proteins around your body. Plasma exchange is normally carried out when there is a problem caused by abnormal antibodies or proteins circulating in your plasma.

Antibodies, which normally help to protect you from infection, can begin to attack your own healthy cells, or an over production of proteins can cause your blood to become thicker and slow down the blood flow throughout your body. A plasma exchange can help improve your symptoms, although this may not happen immediately.

Although plasma exchange may help with symptoms, it will not normally cure your condition as it does not switch off the production of the harmful antibodies or proteins. It is likely that this procedure will form only one part of your treatment.

How do we perform Plasma Exchange?

Plasma exchange is performed using a machine called a Blood Cell Separator which can separate blood into its various parts. The machine separates and removes the plasma portion of your blood and



gives you back replacement plasma. This will normally be a processed donor plasma product, although occasionally fresh plasma will be used. The remaining parts of your blood, including red cells and white cells are returned to you during the treatment.

In order for us to carry out a plasma exchange, a needle will be put into a large vein in each arm. If you wish, you may receive a small injection of local anaesthetic to numb the skin before we insert the needles.

The machine will then draw blood in from one arm and return it through the needle in your other arm. Your plasma is removed and the replacement plasma added as the blood passes through the machine. Only a small amount of your blood passes through the machine at one time (about the same amount as is in a mug of coffee) and the plasma is removed and replaced at the same time. It is essential that there is a steady flow of blood through the machine, and to ensure this we need to use healthy, good sized veins.

If the veins in your arms are not suitable, you may need to have a special central line inserted into a larger vein in your neck or groin under a local or general anaesthetic. We can then remove and return blood through this line. If this is necessary you will be given more information about the type of tube to be used, why it is needed and how it would be inserted.

What is it like being on the machine?

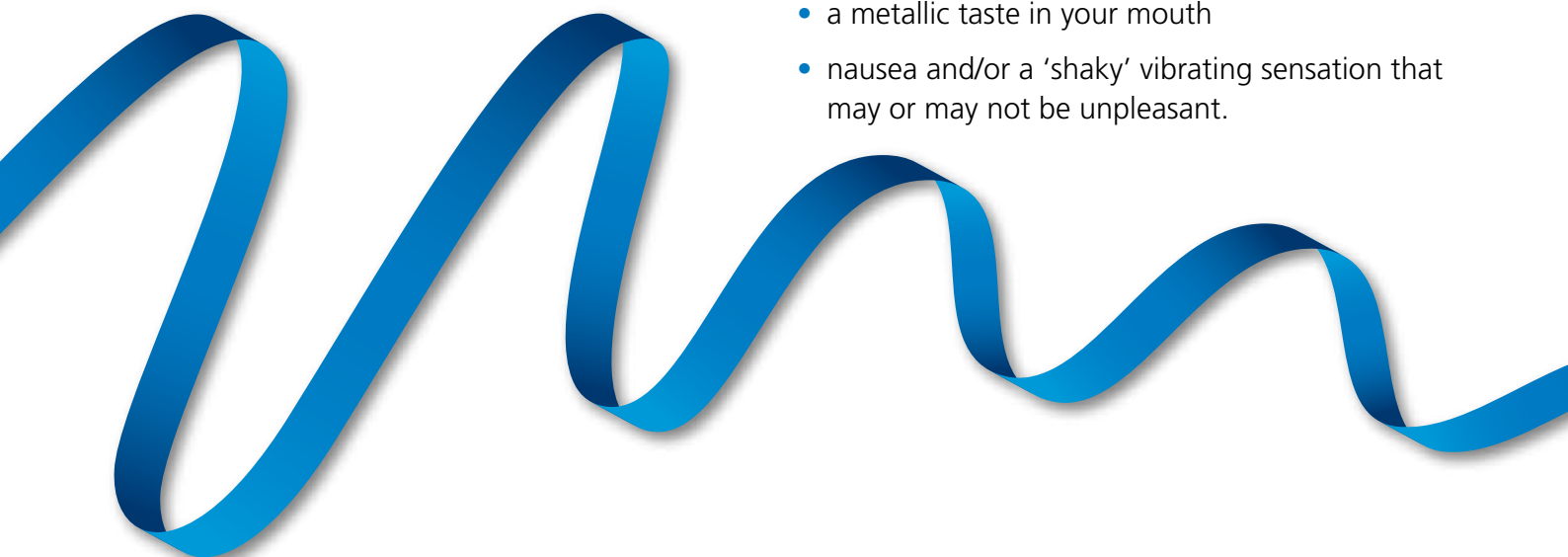
Your safety and comfort are of the utmost importance to us and a trained nurse will look after you throughout the procedure. The plasma will be removed while you rest on a reclining chair or bed. We will try to make you as comfortable as possible. You should not hesitate to ask for anything that you need during the exchange. For your comfort it is best to wear loose-fitting clothing.

Plasma exchanges are carried out where possible on an outpatient basis and you will attend the Therapeutic Apheresis Services unit if you are well enough. Occasionally you may need to be admitted to hospital or you may already be an in-patient, in which case you may still attend the unit as an outpatient but be transported to the unit from the hospital ward. However if you are not well enough we will come and treat you on the ward at your bedside.

You are welcome to bring a friend or relative to sit with you during the plasma exchange. Try to avoid bringing children as you will be attached to a machine and therefore will be unable to attend fully to their needs. If you do have to bring children with you it is preferable that another adult accompanies you to take care of them.

As your blood enters the cell separator, an anticoagulant (blood thinner) solution is added to it to stop it clotting in the machine. This can cause any of the following symptoms:

- tingling in your lips, nose or fingers
- a metallic taste in your mouth
- nausea and/or a 'shaky' vibrating sensation that may or may not be unpleasant.





These side-effects are caused by the solution temporarily lowering the body's calcium levels. Some people experience a 'heavy' feeling in the arm as their blood is removed. You may also feel some vibration around the site of the needle. These symptoms will stop once the procedure is finished. If you experience any symptoms that cause you concern or distress let the nurse know immediately so that we can deal with them, as they are normally simple to treat.

During a plasma exchange you may receive a number of transfusions in a relatively short time. Even though blood components are matched to your blood group they may still cause side-effects. Most side-effects are mild and easily treated. Severe reactions are extremely rare and staff are trained to recognise them.

It is essential that you tell us of any symptoms you experience as soon as they occur, especially at the start of each bag of blood or plasma. If you have had a reaction to a blood transfusion in the past then you should inform the staff before your treatment starts.

More information is available in the NHSBT leaflet 'Will I need a blood transfusion' which we will give you. You can also visit www.blood.co.uk and the national patient safety agency web site on www.npsa.nhs.uk for further information.

How should I prepare for the plasma exchange?

Some drugs are affected by the plasma exchange. We will ask you about any medicines you are taking and will let you know if you need to miss or delay taking a dose until after the procedure.

It is important to have something to eat and drink before the procedure and you can eat and drink normally during and after a plasma exchange. Please bring some food with you as the day can be very long. Food such as sandwiches and rolls are easiest to eat when attached to the machine.

We can offer a limited range of hot and cold drinks and savoury and sweet snacks such as crisps or biscuits. We have no facilities for preparing hot food, however there are catering outlets in the hospitals near most of our units which you may like to visit before or after the procedure.

Once you are connected to the machine you will be unable to visit the toilet so please go immediately before your treatment starts. Assistance will be provided if you do need to use the toilet once you are attached to the machine. Commodes, urinals and bed pans are available for use.

If you are having regular plasma exchanges as an outpatient and you become unwell, for example if you have flu or a chest infection, your procedure may need to be delayed. If you are feeling unwell or have any concerns, do not hesitate to contact the Therapeutic Apheresis Services Unit.

How will I feel after the exchange?

Some people feel tired after the procedure, so it is advisable that a friend or relative takes you home afterwards. If this is a problem it may be possible for transport to be arranged. Please inform your nurse or doctor in advance so that they can help with arrangements if needed. **You should not drive yourself home.** You should not do any hard physical exercise for the rest of the day.

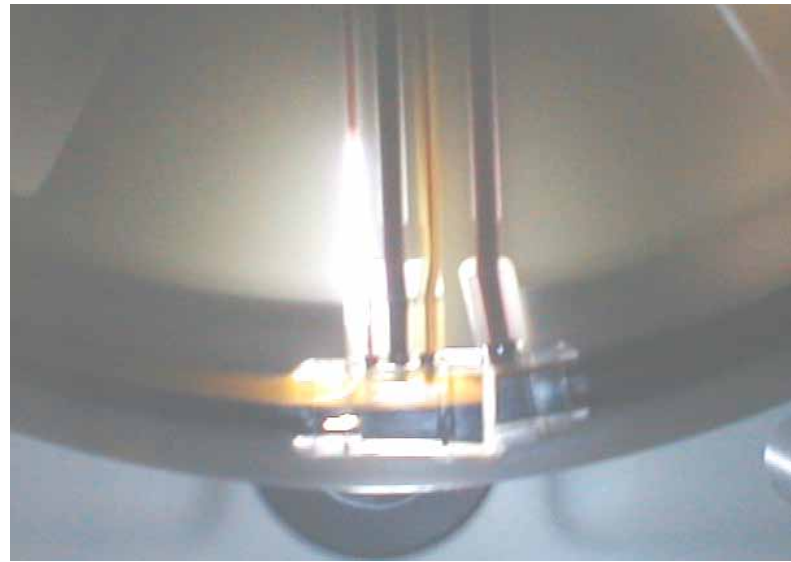
Occasionally we cannot return the blood that is in the machine back to you which means you lose some red cells as a result. The machine only holds a relatively small amount of blood and this loss should not cause you any problems. We will however routinely check your blood levels to ensure they remain at a safe level.

How long does it take?

The plasma exchange takes about two to three hours depending on how much plasma we need to exchange. We calculate how much plasma you have in your system from a blood count together with your height and weight and this determines how long your treatment takes.

How many plasma exchanges are required?

The number of plasma exchanges you have will depend on the nature and severity of your



condition and on how well you respond to treatment. You may need daily exchanges for several days, or a number of exchanges each week for a couple of weeks. Some patients require regular plasma exchanges over a longer period of time, for example every four weeks and some patients only need one exchange.

You are welcome to visit the unit before your procedure if this is an option for you. You will be able to meet the staff and become familiar with the unit where your procedure will take place.

Please Note: It is important to arrive on time for your treatment appointment as another patient may be booked for treatment after you.

Please do not hesitate to ring if you have any questions or queries. We are here to help you.

NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe, reliable and efficient supply of blood and associated services to the NHS in England and North Wales. We are the organ donor organisation for the UK and are responsible for matching and allocating donated organs. We rely on thousands of members of the public who voluntarily donate their blood, organs, tissues and stem cells.

For more information

Visit nhsbt.nhs.uk

Email enquiries@nhsbt.nhs.uk

Call **0300 123 23 23**