

NIH Clinical Center Patient Education Materials

Apheresis for Transfusion

Apheresis is a type of procedure in which a machine draws whole blood from a patient, removes one type of cell (such as white blood cells or stem cells), then returns the rest of the blood to the patient. At the NIH Clinical Center, apheresis procedures are done in the Dowling Apheresis Clinic (DC) of the Department of Transfusion Medicine (DTM).

Various types of machines are used to do apheresis. These machines use sterile, disposable parts to prevent blood-borne infections. The needs of your protocol will determine the type of machine used for your apheresis and how long the procedure will last.

Preparation

Eat well

You may eat your usual foods, but avoid fatty foods (such as bacon, sausage, and hamburger) the night before and the morning of your procedure. Be sure to eat breakfast before arriving for your apheresis appointment, unless your nurse coordinator has told you otherwise.

Drink enough liquid

Drink at least 64 ounces of water, sports drinks, juice, or decaffeinated drinks per day for the 2 days prior to your procedure. Note: If your doctor or research coordinator asked you to fast before apheresis, please tell that to the Dowling Clinic (DC) staff when you arrive.

Wear comfortable clothing

Wear short sleeves and loose-fitting clothing. If you prefer to wear a hospital gown, the clinic staff can give you one.

Arrive promptly

Please arrive at the apheresis clinic at your appointed time. Since there is no waiting room in

the apheresis clinic, it is not advisable to arrive more than 10 minutes early.

Procedure

Before the procedure

When you arrive in the clinic, a nurse will take your vital signs (temperature, pulse, blood pressure), prick your finger to test your hemoglobin level, and ask you to sign a consent form giving them permission to do apheresis. If you are donating cells for someone other than yourself, you will be asked a series of questions that help to make sure it is both safe for you to have the procedure and safe to give your cells to another person. It is important that you answer all of the questions honestly. Feel free to ask any questions at that time. All of this will take about 1-1 ½ hours.

Starting the procedure

A nurse will examine your arms for the best sites to insert a steel needle and an I.V. catheter (a small, flexible plastic tube that stays inside of your vein). These sites will be cleansed thoroughly, the needle and I.V. catheter will be inserted, a set of labs will be drawn, and tubing from the apheresis machine will be attached to the needle and the catheter.

Some people's veins are too small for the size of needles used during the procedure. If this is the case for you, your nurse coordinator will arrange for you to have a temporary central venous catheter (central line) placed just before you go to the DC. You will be asked not to eat or drink anything after midnight, the night prior to your procedure. After your central line has been placed, you will be brought to the DC and will be allowed to eat your breakfast.

During the procedure

You will receive a blood-thinning medication (anticoagulant) so that your blood does not clot in the machine. Some people may feel the following minor side effects from this medication: tingling, numbness (around the lips, nose, and mouth), coolness all over, and slight nausea. To help prevent these symptoms, you will be given calcium through the I.V. catheter in your arm. If you have these symptoms or feel anything unusual, please tell your nurse immediately. The clinic staff will adjust the amount of calcium that you are receiving or pause the procedure until you are comfortable again. A clinic nurse will be with you throughout your procedure.

After the procedure

When the procedure is over, your nurse will remove the needles and put a bandage over each needle entry site. Please keep these bandages on for 3 to 4 hours.

If you have a central line and are an outpatient, then you will be sent to the day hospital to have it removed. If you are an inpatient, you will return to your room to have it removed. You will be required to stay in bed for a while, to be sure you are not bleeding from the insertion site, before you are allowed to get up or go home.

Before you leave the DC, the staff will make sure that you feel alright, and they will offer you some snacks and juice. Adjust your daily activity until the following day (about 24 hours):

- Avoid lifting heavy objects.
- Avoid strenuous exercise.
- Take the elevator, not the stairs.
- Drink lots of non-alcoholic/ non-caffeinated beverages.

If you bleed from the needle sites after you leave the DC, apply direct pressure immediately. The bleeding should stop very quickly. But, if bleeding continues, call 301-496-1211, and ask for the Department of Transfusion Medicine (DTM) fellow on call.

Answers to common questions

How long does apheresis take?

Depending on how much blood the apheresis machine needs to process, your procedure should take between 3.5 and 8 hours.

May I bring visitors to my apheresis procedure?

Because of limited space, only one person can stay with you during the entire procedure. Children may visit for a short time, but they must be supervised by an adult, other than you, at all times.

What if I need to use the bathroom? Will I be able to come off the machine?

Before you start apheresis, the staff will ask you to empty your bladder (urinate). If you need to urinate while on the machine, the staff will provide you with a bedpan or urinal. Avoid drinking coffee or tea before coming to clinic because they may cause you to need to urinate more often.

Will I be able to eat and drink during my procedure?

Yes, you will. The clinic has juices and snacks, and your nurse can order a bag lunch for you.

Will I be able to read a book or newspaper while on the apheresis machine?

Because both your arms are needed during the procedure, it may be more comfortable for you to watch TV or choose a movie from our film library. If you prefer, you may bring your personal wireless device with headphones. The DC does have Wi-Fi access.

This information is prepared specifically for persons taking part in clinical research at the National Institutes of Health Clinical Center and may not apply to patients elsewhere. If you have questions about the information presented here, talk to a member of your health care team.

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