



# Information for Patients

ABOUT PERIPHERAL BLOOD PROGENITOR CELL  
(PBPC) COLLECTION





## Peripheral Blood Progenitor Cell (PBPC) collection

This pamphlet has been written for patients or donors like yourself who are about to undergo a PBPC collection, also called a peripheral blood stem cell (PBSC) collection. We hope the pamphlet and a discussion with medical staff help you understand this procedure and what it will involve. It is important that you ask your doctor about potential risks and side effects.

### What are progenitor cells?

Progenitor cells, also referred to as stem cells, are immature cells that grow and divide into mature red blood cells, white blood cells or platelets. The type of blood cell a progenitor cell develops into is determined by the specific needs of your body, and through the stimulus of special substances called "growth factors."

Progenitor cells can be collected from the peripheral blood (a PBPC collection) and/or from the bone marrow via a bone marrow harvest.

### What is a PBPC collection?

A PBPC collection is a non-surgical procedure involving the separation and collection of progenitor cells from the peripheral (circulating) blood.

### Why is a PBPC collection necessary?

If patients are being treated with high doses of chemotherapy, it may suppress the ability of their bone marrow to make blood cells. Peripheral blood progenitor cells are needed to restore bone marrow function. A patient's doctor will decide whether to use the patient's own peripheral blood progenitor cells or cells collected from a donor. This choice depends on their disease and other factors. A transplant using the patient's own cells is called an autologous transplant. For an autologous transplant, prior to the use of high-dose chemotherapy, cells will be collected from the patient's bloodstream, frozen and stored for transplant. A transplant using cells from a family member or unrelated donor is called an allogeneic transplant and the cells may be transplanted without freezing soon after collection. After transfusion, the progenitor cells migrate to the bone marrow and begin the process of creating new blood cells.

### What actually happens during a PBPC collection?

Before performing a PBPC collection, the patient or donor may receive a series of injections called growth factors. These drugs will generally cause the release of a large number of peripheral blood

progenitor cells into the bloodstream. When your doctor has determined your blood cell count has increased to a sufficient level, the PBPC collection may begin.

The collection is accomplished with a medical device called a blood cell separator or an apheresis system. The device uses a centrifuge to separate mononuclear cells, which include peripheral blood progenitor cells, from the other blood components and plasma. The sterile tubing sets and needles are used one time only and then discarded.

Qualified personnel operate the blood cell separator and monitor your condition at all times.

To begin, your blood will be drawn by placing a needle into each arm. Sometimes it is not possible to achieve adequate blood flow from arm veins and a catheter may need to be placed into a large vein in your neck, chest or groin, which may involve minor surgery. This will allow your blood to be easily removed and returned back to you during the procedure.

A liquid, called anticoagulant, is then added to the blood to keep it from clotting. The blood and anticoagulant enter the centrifuge of the blood cell separator where the mononuclear white blood cells and peripheral blood progenitor cells are separated from the plasma and other cellular components and transferred to a collection bag. The other cellular components and plasma are then returned to you, either through the needle in one of your arms or the return port of the central venous catheter. You will be monitored closely throughout the procedure.

Blood cell separators accomplish all the above steps in an automated and continuous manner.

### What are the potential risks and side effects?

Although the blood cell separator removes less than 237 mL (8 oz) of blood at any one time, you may feel dizzy or lightheaded.

The anticoagulant used to keep your blood from clotting in the machine may cause a sour taste in your mouth, tingling around your lips and fingers, cramping of your fingers, feet or legs, or chest vibrations. These symptoms do not occur in every patient. You should tell the medical staff immediately if you begin to feel uncomfortable. They may give you calcium tablets, slow down or temporarily stop the procedure for a short time to make you more comfortable.

*Before undergoing this procedure, you should discuss these potential risks and side effects with your doctor, as well as any other risks and side effects that may apply to you.*

## Other Frequently Asked Questions

### Is this procedure painful?

A. If you do not have a catheter, insertion of needles may cause some discomfort. Keeping your arms in one position and staying relatively still may be uncomfortable.

### Is PBPC collection a common medical procedure?

A. Thousands of PBPC collections are performed worldwide each year with few problems.

### How long does a PBPC collection take?

A. The length of the procedure varies from patient to patient, and with the blood cell separator used. Many devices perform a PBPC collection in approximately two to four hours. You will be monitored closely by medical staff throughout the procedure.

### How often will PBPC collections need to be performed?

A. The number of PBPC collections varies according to the disease treated and your response to the procedure. The doctor monitors the clinical response and determines the necessary number and frequency of PBPC collections to be performed.

### Can I have something to eat or drink during a procedure?

A. Generally you can eat and drink during your procedure, however, the medical staff will provide you with instructions prior to your procedure.

### Can I have visitors?

A. Once the procedure is underway, the medical staff will determine if you can have visitors.

If there are any other questions you would like to have answered, ask the medical staff or your doctor.

*Information provided by CaridianBCT, manufacturer of the COBE® Spectra Apheresis System and the Spectra Optia® Apheresis System.*



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