DESCRIPTION:
White blood cells normally fight infection. Certain diseases, like leukemia, can cause very high numbers of white blood cells in the blood. If these extra cells are not removed, the blood can become thick and cause problems with breathing or cognition (such as speech or attention).

REASON FOR THE PROCEDURE:
Leukocytapheresis is used to remove the extra white blood cells and prevent complications such as bleeding in the brain, shortness of breath and other problems.

VENOUS ACCESS:
In some cases, leukocytapheresis can be done using needles that are placed in each arm. Blood is removed from one arm, the white blood cells are removed, and the rest of the blood is returned to the patient through the other arm. In patients with small or fragile arm veins, the placement of a central venous catheter may be necessary.

DURATION:
The length of the procedure depends on how many white blood cells need to be removed. A typical procedure takes 2-3 hours.

RISKS AND SIDE EFFECTS:
This is a safe procedure but side effects can occur. Common side effects include fatigue, nausea, dizziness, feeling cold, tingling around the mouth, tingling fingers, and decreased blood pressure. Serious side effects like seizures or abnormal heart beat are very rare. It is very important to tell medical staff if these symptoms occur.

NUMBER OF PROCEDURES THAT ARE REQUIRED:
Many patients only need one treatment, but depending on the number of white blood cells, more than one treatment may be needed.

DISEASES FOR WHICH THE PROCEDURE IS USED:
This procedure is used for blood disorders with very high numbers of white blood cells, including acute lymphoblastic leukemia (ALL) and acute myelogenous leukemia (AML).

OTHER CONSIDERATIONS:
This procedure may decrease the number of blood platelets and red cells (anemia). For those patients who already have a decreased number of platelets or red cells, the doctor will want to carefully monitor your blood counts (CBC) while you are receiving treatment; therefore, further lab tests may be needed. If needed, your doctor may recommend a transfusion of blood during or soon after the procedure to protect your health.

WHAT YOU SHOULD DO TO PREPARE:
This procedure is often considered an urgent part of the initial treatment for illnesses such as acute lymphoblastic leukemia (ALL) and acute myelogenous leukemia (AML), and usually is provided prior to the start of chemotherapy. This procedure will be done in the hospital under the direction of a physician, and no specific activities are necessary by the patient prior to this procedure.
PROCEDURE: LEUKOCYTAPHERESIS
(Also referred to as leukopheresis or white blood cell depletion)

**IMPORTANT TERMS:**

- **Acute:** Having severe symptoms and a short course.

- **Anemia:** A low number of red blood cells in the blood stream, resulting in insufficient oxygen to the tissues and organs. Patients may feel weak, tired or short of breath, and appear pale.

- **Complete Blood Count (CBC):** Blood test to measure the number of red cells, white cells, and platelets in the blood.

- **Central Venous Catheter (CVC):** An IV tube placed into a large vein that leads to the heart. The catheter is usually put in before the treatment starts, and is used to give medicines, fluids, nutrition, transfusions and for taking blood samples.

- **Fever:** A higher body temperature than normal temperature. May also be referred to as febrile. Your doctor needs to be notified of fever over 100.5 °F.

- **Immune System:** The body’s system of defense against infection or disease.

- **Intravenous (IV):** In to a vein. Many medications are administered IV during transplant.

- **Platelets:** Blood cells made in the bone marrow that clot the blood and stop bleeding.

- **Red blood cells (RBC):** Blood cells made in the bone marrow that carry oxygen from the lungs throughout the body.

- **White blood cells (WBC):** Blood cells made in the bone marrow that fight infection.

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