

BLOOD COLLECTION

How much blood is donated each year and how much is used?

Each unit of blood consists of a volume of 450 - 500 milliliters or about one pint. Because of the constant demand for blood, about 14 million units of blood are donated every year in the United States by about 8 million volunteer donors. This supply of blood is used by 4 million patients. Blood is given to accident victims, people undergoing surgery and patients with leukemia, cancer and other diseases.

Who gives blood?

Volunteers donate virtually all of this country's supply of blood for transfusion. It is important to encourage all healthy individuals to donate blood.

Where do individuals donate blood?

There are several places where blood donations are given. Bloodmobiles travel to places of employment, high schools, colleges, churches and community organizations. People can also donate blood at community blood centers and hospital-based donor centers.

Is there an age limit for donating?

A donor must be at least 17 years old to give blood. Persons who are older than 65 and in good health may usually donate with the approval of the blood bank physician.

How often can blood be donated?

People in good health who weigh at least 110 pounds can donate a unit of blood as often as every 8 weeks. Some states may further limit the number and/or frequency of donations in a 12-month period.

What is involved in donating blood?

A trained person records the donor's name, address and medical history and verifies his/her identification. The donor must read educational materials describing AIDS (acquired immunodeficiency syndrome) and other diseases that could be spread by transfusion. An interviewer will ask about travel outside the United States and a variety of activities that could indicate increased risk of the donor transmitting one of the infectious agents that can be present in blood. The prospective donor will have his or her temperature, pulse, blood pressure and weight recorded.

Next, a small amount of blood is taken from the prospective donor's finger to measure either the volume of red blood cells (hematocrit) or the amount of hemoglobin in the donor's blood. If a low hematocrit or hemoglobin is found, the donor is temporarily deferred. After the individual is found to be qualified to donate blood, he or she goes to the donation area. Many blood donor areas are equipped with contour chairs; others have flat beds. Much care is taken to make the donor as comfortable as possible. A trained person will swab the donor's arm inside the elbow with an antiseptic solution, which cleans the phlebotomy (needle insertion) area. A sterile, new needle, which is attached to a sterile plastic bag, is inserted into the vein. It usually takes less than 10 minutes to collect the unit of blood. After the donation is completed, the needle is removed from the arm and discarded.

The donor is generally asked to rest for at least several minutes and refreshments such as fruit juices, cookies and crackers are served to supply quick energy. Before leaving, donors are advised to drink plenty of fluids for the next 24 hours and to be cautious about lifting heavy objects.

Are there risks in giving blood?

Almost none. It is not possible to acquire any disease through donating blood because new, disposable, sterilized equipment is used for each donation. A very small number of donors less than half of one percent experience slight discomfort during or immediately after donating.

Can you get AIDS or hepatitis from donating blood?

No. Sterile procedures and new disposable equipment are used by all blood donor centers. All items used--the finger lancet, the needle, the cotton balls, swabs and solutions--are discarded after each use.

What is the importance of all the tests performed and questions asked before someone can donate blood?

These tests and questions are meant to protect the person who is donating the blood and to protect the patient who might receive the unit of blood. The required questions and tests lessen the chance of a bad effect from giving or receiving blood. For this reason, it is extremely important that prospective donors answer all questions accurately and thoroughly.

What is plateletpheresis?

Although most blood is donated as whole blood, it is also possible to donate only a portion of blood using a technique called apheresis. Blood is drawn from the vein of a donor into an apheresis instrument, which separates the blood into different portions by centrifugation. By appropriately adjusting the instrument, a selected portion of the blood, such as the platelets, can be recovered, while the rest of the blood is returned to the donor either into the same vein or into a vein in the other arm. This process takes more time than whole blood donation, but the yield of platelets is much greater. Platelets collected by apheresis are particularly useful for patients who require numerous platelet transfusions, for example cancer patients who have received chemotherapy.

Can a patient donate his/her own blood for use in surgery?

Yes. When blood transfusions are anticipated, such as upcoming elective surgery, a person can donate blood for his or her own use. Autologous blood donation refers to a process whereby the patient provides his or her own blood. There are three types of autologous procedures available for a patient undergoing surgery. Preoperative autologous donation, in which the patient donates his or her own blood prior to the surgery, is the most common form of autologous transfusion. Intraoperative and postoperative cell salvage are two other ways of saving blood lost during or immediately after surgery for return to the donor/patient.

In the preoperative autologous procedure, the surgeon will explain that there may be a possibility that the patient will require blood transfusions during the operation.

Depending on the type of surgery and the health of the patient, the surgeon or medical director of the blood bank will determine whether the patient can donate blood and, if so, how much. When the surgeon is satisfied that the process of donating blood will not harm the patient, an order is written and an appointment is made with the blood bank. The procedure for donating autologous blood is almost identical to that used for volunteer blood donors. The same sterile procedures and precautions are taken. Very careful steps are taken to ensure that autologous blood is carefully identified. A special tag with the patient's name, date of birth, date of surgery and social security number are included on the unit.

A second type of autologous transfusion is called intraoperative salvage. A specialized machine, sometimes called a cell saver, collects blood lost during a surgical procedure, and processes it so it can be returned to the patient's circulation.

The third type of autologous procedure is postoperative cell salvage. This procedure is usually done after the patient leaves the operating room. There are certain surgical procedures, such as hip and knee replacements and chest surgery, where there may be an accumulation of blood in the body. This blood can sometimes be collected with a special device and transfused back into the patient.

What is the difference between the collection of whole blood and the collection of plasma in the United States?

Nearly all the nation's blood supply is provided by volunteers, who receive no payment. These volunteers donate their blood through nonprofit organizations such as hospital and regional community blood banks. Most of the whole blood collected is separated into components including red blood cells, platelets, plasma and other clotting factors. All of these components are transfused to patients. A growing number of volunteers also donate platelets by apheresis. Plasma, the fluid in which red blood cells, platelets and other clotting factors are suspended, can also be collected by apheresis. For this process, whole blood is drawn, plasma is removed and the red blood cells are transfused back into the donor. This plasma collection process takes 1 to 2 hours to complete. Plasma is often collected from donors by a variety of organizations, particularly commercial for-profit organizations, that provide it to companies for manufacture into a variety of blood products. These products usually undergo a purification process to make them safe. Some of these products provide clotting factors for people who suffer from abnormal bleeding disorders. Hemophilia, a hereditary disease generally limited to males, often requires treatment with large amounts of clotting factors to stop bleeding episodes.

DONATING BLOOD FOR YOURSELF

Answering Your Questions About Autologous Blood Transfusion

What is autologous blood transfusion?

Autologous (au-toi'-o-gous) blood transfusion is a procedure where you are transfused with blood that you have donated for yourself because of a specific need, such as upcoming elective surgery.

How does it work?

The autologous transfusion procedure consists of your blood being collected before surgery, stored and returned to you during or following surgery to replace the blood you have lost.

What are the advantages of autologous transfusion?

Autologous blood is the safest blood available for transfusion. Because you donate your own blood, you eliminate the risk of acquiring infectious diseases that may be transmitted by blood transfusion. Blood from friends, family members, or other volunteer donors may transmit an infectious disease or cause some other undesirable side effect. Though blood from volunteer donors, including friends and family members, is tested to eliminate possible risks, autologous transfusion is the **ONLY** way to eliminate these risks. In addition, the use of autologous blood leaves more of the community blood supply available for those who cannot participate in autologous blood transfusion programs.

How can I donate for my own blood needs?

If you have a need for blood transfusion, such as upcoming surgery, contact your physician. Your physician will make the necessary arrangements. You will then need to make an appointment with the blood bank. On the day of your donation you will be thoroughly screened. Blood bank personnel will ask for a short medical history and take your pulse, blood pressure and temperature, as well as a small sample of blood to test for anemia.

How can I become an autologous blood donor?

You may become an autologous blood donor if you have a specific need such as elective surgery. There are few age or weight limits for donating autologous blood. The criteria for donating autologous blood are liberal. Therefore, you should not feel you cannot donate because you have not been accepted as a blood donor in the past. Your physician and the blood bank medical director will determine whether your medical condition will allow you to donate blood safely for yourself.

Will the donation affect my health?

You may experience a mild anemia (low blood count) at first, but the donation of blood will stimulate your body to produce more red blood cells. Since red cells contain a large portion of the body's iron stores, your physician may also prescribe iron to help your body make blood.

Can I donate if I am pregnant?

Although blood transfusion is rarely needed during pregnancy and delivery, you may donate for yourself with the approval of your physician and the blood bank medical director.

How often can I give?

You may donate as often as every three to four days up to three days before your surgery date as long as you pass the pre-screening tests. You are usually able to donate the number of units of blood required for your surgery. The physician's orders will depend on how much blood is generally used for your surgery.

Will the blood I donate meet all my transfusion needs?

In many cases, autologous blood will meet all your needs. However, you should ask your physician about the likelihood of needing additional blood components from the community blood supply.

Will I know my blood type after donating?

Yes. You may ask the blood bank when you donate or they may send you a donor card showing your blood type.

What happens to my blood if I do not use it?

If you do not use your blood during your hospitalization and you have met the requirements of a regular blood donor, your blood may be given to another patient who requires blood, depending on hospital policy.

Are there any costs?

Yes. There may be additional costs over and above the usual processing and administration fees.

Are there disadvantages of donating autologous blood?

Each donation requires approximately one to two hours of your time. In rare instances the donation process may cause mild discomfort.

For more information contact your physician.

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