

## Blood donation

The Australian Red Cross Blood Service collects around one million blood donations each year. Contrary to popular belief, a large percentage of the blood collected is used to treat people with conditions that require blood or blood products on a regular basis. For example, 30 per cent of blood collected is used to treat general medical conditions, such as leukaemia.

The four different blood groups are A, B, AB and O, and each type is either Rh-positive or Rh-negative. Donor blood must match that of the recipient to prevent dangerous reactions. Healthy adults of all ages are able to donate blood and the procedure is safe and relatively painless. Around 470ml of whole blood is taken during a donation, which accounts for eight per cent of the average blood volume. The body replaces the blood volume within 24 to 48 hours, and replenishes red blood cells within 10 to 12 weeks. One donation is separated into different components to ensure a maximum number of people can be helped.

### Donor requirements

Blood donors should:

- Be healthy - not suffering from a cold, flu or other illness at the time of donation.
- Be aged between 16 (18 in Tasmania) and 70 years.
- Weigh at least 45kg.
- Have normal temperature and blood pressure.
- Meet guidelines designed to protect both the donor and the people who will receive the blood.

New blood donation policy guidelines were introduced in December 2000. This was done as a precautionary measure to prevent potential transmission of vCJD (a human form of BSE or 'mad cow disease') via blood transfusion in Australia. Under this policy, donors who have spent six months or more in England, Wales, Northern Ireland, Scotland, the Channel Islands or the Isle of Man between 1980 and 1996 are deferred from donating for the foreseeable future. Similar precautionary measures have been taken in New Zealand, Canada and the USA.

### The donation process

You can donate blood at a variety of places, including blood donor centres or mobile units. Donating blood only takes around 10 minutes, but it is advisable to allow at least an hour for the whole process, which includes a personal interview and refreshments. You can donate 470ml of whole blood every 12 weeks. However, you can donate plasma every two weeks. Plasma is the liquid component of blood. Red and white blood cells, antibodies and other agents float within this liquid.

### Different types of blood donation

The different types of blood donation include:

- **Homologous** - a whole blood donation, consisting of plasma, red and white blood cells, platelets, antibodies and other components.
- **Plasma donation** - this procedure is known as aphaeresis. Plasma is separated from the other components by a special machine, then the red blood cells are delivered back to the donor.
- **Platelet donation** - this procedure is known as plateletpheresis. Only platelets are collected from the donor's blood.
- **Autologous collection** - a person planning to undergo elective surgery can give blood for their own use.
- **Directed blood donation** - donors can give blood that will be used for a specific patient only.

### Different blood products made from whole blood

Donated blood is used to make 20 different products, including:

- **Red cell concentrates** - the red blood cells carry oxygen. A concentrate contains twice the amount of red blood cells in the same volume of liquid. Most recipients of donated blood are given red cell concentrates to boost the oxygen-carrying abilities of their own blood.
- **Platelet concentrates** - platelets are needed for blood clotting. People who need extra platelets include those with certain diseases, such as leukaemia, or those recovering from severe blood haemorrhage.
- **White cell concentrates** - white cells make up part of the immune system. A person with compromised immunity, perhaps following severe infection, may be given white cell concentrates to bolster their immune system.
- **Plasma** - plasma is the liquid component of blood. A donation of plasma helps to boost blood volume.
- **Cryoprecipitate** - this substance is found in plasma and contains clotting factors. Cryoprecipitate can be isolated from plasma and is commonly used to treat severe haemorrhage.

### Different products made from plasma

Plasma is the liquid component of blood. Red and white cells, platelets, antibodies and other important factors are suspended in this liquid. Plasma is processed to make a number of different products, including:

- **Intragam** - used to boost the immune system.
- **Normal immunoglobulin** - used for prevention of hepatitis A, including for overseas travellers or for family contacts of cases.
- **Hyper immunoglobulins** - used in vaccinations for chickenpox, tetanus, cytomegalovirus and hepatitis B.
- **Anti D** - prevents Rhesus disease, by inoculating the Rh-negative mother against the incompatible Rh-positive blood cells of her baby.
- **Albumex 20** - used to treat protein deficiency.
- **Factor VIII** - used to treat haemophilia A.
- **Monofix** - used to manage haemophilia B.
- **Prothrombinex HT** - used to treat bleeding disorders.
- **Thrombotrol VF** - to treat a condition characterised by premature blood clotting.

### Stringent tests

All donated blood is screened for the presence of blood-borne diseases, such as HIV I and II, Hepatitis B and C, HTLV-I and II (human T-cell lymphotropic virus) and syphilis.

### Where to get help

- Your doctor
- Mobile blood bank units
- Australian Red Cross Blood Service Tel. 131 495

### Things to remember

- Around one million blood donations are needed by the Australian Red Cross Blood Service every year.
- Healthy adults between the ages of 16 (18 in Tasmania) and 70 years are able to donate blood.
- Donated blood is usually divided into separate components, so each donation can help a number of recipients.

**This page has been produced in consultation with, and approved by:**

Australian Red Cross Blood Service

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