Other uses

When blood cannot be used for transfusion (it may have expired for instance), it may be used for other purposes: these include teaching students how to perform blood grouping; quality control to ensure blood products are safe and effective and to enable NZBS to improve the range of products we provide to patients; in the manufacture of reagents used to help with the diagnosis and management of a number of diseases.

In addition blood will occasionally be provided for use in research activities. This only occurs when the research project is approved by an appropriate Ethics Committee.

Our commitment to New Zealand

The New Zealand Blood Service is committed to providing sufficient blood products for use in New Zealand from donations given by volunteer donors. The need for plasma based products varies. Most processed plasma products are made sequentially in a process that starts with pooled plasma donations. Not all products made are needed in New Zealand in the amounts available. Any excess may be sold overseas. Blood components that cannot be used clinically may also be made available to commercial companies for use in the manufacture of reagents. This is closely monitored by New Zealand Blood Service using an ethical framework developed by a specialised Ethics Committee.

The revenue from these sales is used to improve the availability of other blood products across New Zealand. Information on revenue obtained by these processes is provided in the New Zealand Blood Service Annual Report.

Thanks to the generosity of donors, New Zealand has one of the world’s safest blood supplies – a situation we can be justifiably proud of. However, there is a constant need for blood donors to ensure there is always a sufficient supply for patients in New Zealand. Please play your part by donating blood regularly. Most donors can donate every 3 months.
One blood donation can save up to three lives.

Blood contains life-saving components that can help treat many illnesses and injuries. This brochure tells you about the blood products that are made from donated blood and how they are used to treat patients.

To make sure blood is safe for transfusion to patients, every donation is tested for hepatitis B and C, syphilis, HIV and other diseases. After testing, the components are separated and turned into various life-saving blood products. The processing of blood means several people can benefit from just one donation.

What components are made from blood donations?

**Red blood cells** – carry oxygen through the body and are used during surgery or to treat people with anaemia. Red cells last for 35 days.

**Platelets** – are important for blood cloting and are used to treat patients with severe bleeding or leukaemia. Platelets only last for five days and must be constantly “rocked” to stop deterioration.

**White blood cells** – help defend the body from disease and foreign matter. They are sometimes given to bone marrow transplant patients and newborn babies with severe infections. White cells must be transfused within 24 hours of collection.

**Plasma** – is the straw coloured fluid making up over half the volume of blood and carries water, proteins and blood cells around your body. It is used to treat burn victims, people who’ve lost a lot of blood, kidney patients and chemotherapy patients. Frozen plasma can last for two years.

Processed plasma products

With new medical breakthroughs, the need for plasma derived products is high and continues to grow. Thousands of frozen units of plasma taken from blood donations are thawed, pooled together and then processed into different products.

**Albumin** is used in the treatment of burns, major blood loss, plasma exchange and for patients with kidney problems.

**Anti-D** is a form of immunoglobulin used to treat Rh-negative mothers to prevent haemolytic disease in newborn babies.

**Immunoglobulin products** are used to treat immune disorders and chemotherapy patients. They are also used to prevent some infections.

**Clotting products** such as Factor VIII and IX are used to treat people with haemophilia.

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Blood is made up of red cells, white cells and platelets suspended in a clear yellow fluid called plasma. Plasma contains vital substances like sugars and proteins that are essential for good health.

1. Your donation is collected into special plastic bags that allow individual components to be separated in a sterile manner.

2. Most blood donations are filtered to remove white cells and then spun in a centrifuge to separate the red cells and plasma. A centrifuge spins in a similar way to a washing machine. The plasma can now be used to produce several separate products.

3. When platelets are required, the donation is spun and the red cells and plasma removed into satellite bags. The red cells will be filtered before use. The white cells and platelets remain on the ‘buffy coat’, the thin layer between red cells and plasma after separation.

4. Buffy coats from a number of donations are pooled. The platelets are separated by more spinning in the centrifuge and then filtered before transfusion. This is one of the ways used to make platelet concentrates.