Canadian Blood Services collects blood donations to be used to treat patients. Whole blood is separated into two main components:

- **Red blood cells** carry oxygen to the organs and tissues, removing carbon dioxide through the lungs. It is used during emergencies, surgeries, and cancer treatments.

- **Plasma** is a liquid containing many of the body’s proteins that help fight infection and help clotting. Plasma may be transfused directly to patients or may be further processed to purify the antibodies and albumin it contains. The antibodies (also known as immune globulins) are used to treat patients with weak immune systems. Albumin is mostly used in emergency care to treat trauma or burn victims who have lost large amounts of blood. This processing of plasma into specialized products is done for Canadian Blood Services by plasma manufacturers, also called fractionators, located outside of Canada.

Depending on hospital requirements, three other components may be manufactured from a whole blood donation:

- **Platelets** provide the basis for clotting that helps control bleeding. Patients with prolonged bleeding associated with diseases such as cancer need large quantities of platelets as part of their treatment.

- **Cryoprecipitate** is derived from plasma and contains high levels of clotting factors. It is used to help control bleeding.

- **Cryosupernatant plasma** provides a source of plasma with fewer clotting factors than regular plasma. It is used for plasma exchange in the treatment of rare conditions.

We also collect plasma or platelet components using a special collection process called apheresis. Apheresis is a medical technique in which the plasma and/or platelet portion of your blood is separated during donation, and the rest of the blood components are returned to you.
All components are stored at the appropriate temperature and conditions to optimize their quality and shelf-life. If the testing for transmissible diseases is found negative, the components become available for distribution to hospitals.

- Rarely, red blood cells may be frozen for long-term storage before transfusion into a patient.

If your donation is found positive for a transmissible disease, your donation will not be used to treat patients. It will be discarded but a sample of it may be stored for future testing.

**Other possible uses of your donation**

Parts of your donation may be used:

- for quality assurance purposes, evaluating the blood supply, process and product improvement testing,
- to make reagents for testing, and
- for teaching or research purposes (note: any use for research will be approved by an independent research ethics board), and
- in the processing of medical or other products

**Currently there are certain parts of the donation that are not used.**

**Examples include:**

- Drugs that are not currently being made from all donors’ plasma, because there is limited demand for them in Canada. Canadian Blood Services may donate or sell at a minimal cost the unused plasma material to another plasma manufacturer, which could then be used for the treatment of patients in other countries.

- Blood may undergo a filtration process called leukoreduction, which removes white blood cells that can be harmful to patients. The white blood cells are discarded and Canadian Blood Services must pay for their safe disposal as a special type of waste. However, these white blood cells could potentially be used for medical research to develop new drugs. Canadian Blood Services may sell the cells on a cost-recovery basis, while at the same time eliminating its current disposal fees.

- While every attempt is made to minimize wastage, there will be some components that have to be discarded at the end of their shelf-life. Although expired products cannot be transfused, they may be donated or provided on a cost-recovery basis.

**Our commitment to you**

Canadian Blood Services wants to ensure that as much as possible of every donation is used while continually improving the cost-effectiveness and efficiency of the blood system. Giving or selling unused or end-of-shelf-life parts of the donation (instead of discarding them) could contribute towards this goal. All revenue generated is invested back into the blood system.

Canadian Blood Services will subject each donation and cost-recovery sale opportunity to a rigorous review to ensure they meet ethical, legal and regulatory requirements and they are consistent with our mission and values.

**Who to contact for more information**

If you have any questions or concerns, please contact us at feedback@blood.ca or 1 888 2 DONATE (1.888.236.6283)

If you would like to learn more on how whole blood, plasma and platelets are processed, please visit our website at www.blood.ca.