

# Blood donation saves lives but few South Africans are regular donors

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Blood donation is a vital therapy for a number of life threatening

conditions. South Africa needs around [810,000](#) units of blood every year. People needing blood transfusions include accident victims, those with anemia and patients undergoing surgery. But [less than 1%](#) of South Africans are active blood donors, which means regular shortages of supply. Glenda Mary Davison, a medical scientist with a special interest in hematological malignancy, immunology and inflammation, unpacks the blood donation process in South Africa.

## **What happens to the blood between donation and transfusion?**

[Before donation](#), donors wishing to give blood undergo a mini medical to ensure they are healthy and that it is safe for them to donate. This includes blood pressure measurements and completing a health questionnaire. Then, blood is drawn to test for HIV and other infectious diseases. The actual donation of 480ml of blood takes only 10 minutes. Once it's complete, the blood is put on ice and taken to the blood service headquarters for processing, together with the blood tests and [donor](#) records—which are kept anonymous throughout the process. Here the donated blood is spun in a centrifuge to separate it into three components, namely red cells, platelets and plasma.

The red cells provide oxygen to the body's tissues and are used to treat patients who have lost large amounts of blood due to bleeding or because of severe anemia. After removing any residual white cells, the red cells are stored in a fridge for up to 42 days or until needed by a patient.

The second product is platelets. These are very small blood cells that are vital in the prevention of blood loss and to stop bleeding. They are prescribed to treat patients with extremely low platelet counts such as those on chemotherapy, or with blood cancers such as leukemia and patients who have undergone a bone marrow transplant. After removing

the white cells, the separated platelets are stored at room temperature for a maximum of five days and are constantly agitated and kept in suspension until they are required.

The third component is plasma, which is the straw colored part of blood and contains no cells. Plasma is used to treat a number of disorders including burns, liver disease and infections. Plasma can be frozen and stored for up to one year before use. Another product that can be extracted from the fresh frozen plasma is cryoprecipitate, a component rich in clotting factors. It is important in the treatment of hemophilia, which often results in life threatening bleeding.

After processing and when blood products are required, they are distributed to hospitals which have blood banks where they are kept on standby until needed to save a life.

## **Other than blood transfusions, what are the other uses of donated blood?**

Most blood is utilized in transfusion therapy. But other valuable products can be manufactured from plasma.

Albumin is one such product which can be used to treat individuals with shock, burns and low protein levels. Freeze dried clotting factors can also be extracted and used as life-saving treatment for patients with bleeding disorders.

Antibodies, which are made by the immune system to fight infections, circulate in plasma. These can be concentrated and used to treat infections or given to individuals who are unable to make their own.

## **Why are so few South Africans donating blood?**

Despite the life saving properties of [blood donation](#), which benefits over 800,000 people annually, very few South Africans are regular blood donors. Other [countries](#) such as Germany, the U.S., Russia and China pay donors. But blood donation in South Africa is voluntary. This ensures that individuals donate because they want to save lives rather than for material gain. This practice reduces the risk of unsafe or infected blood products.

Before 2005, testing for HIV and other sexually transmitted diseases was performed using antibody and rapid antigen tests. This had the disadvantage of not detecting the virus when donors were in the ["window" period](#) or the early stages of infection. Because of this, the criteria to become a donor were very strict. High risk groups such as those who were drug users or practiced unsafe sex were discouraged from becoming donors.

Since then the [blood service](#) has ensured that each blood donation is analyzed using nucleic acid testing, which is accurate and has dramatically improved the safety of blood donation. The [numbers](#) of African blood donors, in particular, have increased since then. But there is still a long way to go. There are many occasions, particularly over holiday periods when there are more traffic accidents and donors go on holiday, when there is a shortage of blood.

The [reasons](#) for the hesitancy to donate are complex and include a fear of needles, fear of discovering a hidden disease and lack of awareness. What is however unique to South Africa is a perception of mistrust and racial discrimination, resulting in the donor pool not being representative of the population. Most [donors](#) are of European descent.

Previous policies to prevent HIV infected donations profiled donors according to sex and ethnicity. These policies have changed. But the negative perceptions linger. Many [believe](#) that blood products from

African donors, particularly products containing cells, are discarded and not used.

## **What can be done to get more South Africans to become regular donors?**

For South Africa to provide a safe, efficient and well resourced blood service, blood donors representative of the entire population must be recruited. Awareness and education drives to dispel the fear of donating are important. Campaigns must aim to regain the trust of previously alienated groups.

The South African National Blood Service and Western Cape Blood Service have embarked on [marketing campaigns](#) which have targeted young people on various platforms.

Although a lot of work must still be done, these have seen an [increase](#) in [blood](#) donors across all demographic groups. Blood donation is a way of making a difference and saving a life should be the most important motivator.

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