

# What you should know about platelet donation

## What are platelets?

Our blood is made up of several components – red blood cells, white blood cells, platelets and plasma. Each component has a special function.

Platelets are much smaller than red and white cells and are actually fragments of cells made in the bone marrow. There are about 250 million per millilitre of blood and their main function is to help clot the blood and seal wounds. If a blood vessel is damaged, platelets clump together to help “plug the leak”.

## Why do we need platelet donations?

A platelet transfusion can be the difference between life and death.

Conditions such as leukaemia and medical treatments like chemotherapy can decrease a person's platelet count. If the number of platelets becomes too low, spontaneous bleeding can occur. Even a small amount of bleeding can be dangerous, particularly if it occurs in the brain.

## How are platelets collected?

A normal whole blood donation contains a small number of platelets which can be separated into a “platelet concentrate”. However, 4-8 times as many platelets can be derived from just one platelet donation. An adult patient typically requires 4 units of “platelet concentrates” for a single treatment episode.

During a platelet donation, whole blood is drawn from one arm into a sterile kit inside a cell separating machine. The machine separates the blood so that only platelets and plasma are collected. The other blood components (red cells and white cells) are returned to the donor via the same arm.



**Meet Peter.** Peter is thankful for platelet donors who helped him survive heart surgery.

Because your red cells are returned to you when you give a platelet donation, you are able to donate as often as every 2 weeks.

Inside the cell-separator is a closed, sterile system of plastic bags and tubing that is used only once and then disposed of.

The process is repeated until enough platelets are collected. This can take an average of a little over an hour. You can sit back in comfort, watch TV, read a book or just relax.

## When do we need platelets?

The demand for platelets is ongoing. However, the need becomes more acute around long weekends and holidays such as Christmas and Easter. The limited shelf life of platelets (5 days), together with fewer days to donate during public holidays, places extreme pressure on the platelets available to help patients. Unfortunately, holidays can be times when large quantities of blood products may be needed for accident victims.

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### Are there any side effects associated with donating platelets?

Healthy people can donate platelets every 2-4 weeks, as platelets are replaced within a few days of each donation. There is a lower risk of iron depletion because the red cells are returned. Regular blood tests are taken to check your platelet count is adequate.

A small amount of anticoagulant (anti-clotting agent) is mixed with each withdrawal of blood to prevent clotting in the tubing, and some of this goes back to the donor with the non-platelet components. Sometimes this can cause a slight tingling sensation around the lips and nose. This is a mild reaction to the anticoagulant and subsides after the procedure is completed.

The procedure can be stopped early if any reaction causes concern. Throughout your donation, you will be under the supervision of a trained nurse.

### Who can donate platelets?

Registered male plasma donors who have donated plasma in the last 12 months, as long as they are healthy and not on any medication that affects their platelets.

Male donors are predominately recruited as a risk reduction strategy for Transfusion-Related Acute Lung Injury (TRALI), a rare but sometimes fatal transfusion complication. It can cause breathing difficulties and low blood oxygen in patients post transfusion. One of the causes is thought to be antibodies found in the blood of women who have been pregnant.

Platelets have a shelf life of only 5 days, so platelet donors are constantly needed.

### Generally, a platelet donor must:

- Have given at least one successful plasma donation within the previous 12 months
- Males must be aged between 18-70 years and weigh over 50kg
- Not have had recent dental work
- Not have taken aspirin 7 days prior or other anti-inflammatory medications 3 days prior to donation
- Not have any current cuts, abrasions, sores or rashes
- Not have had a recent gastric upset, diarrhoea, abdominal pain or vomiting
- Not have travelled in the previous 4 months to a country with malarial risk
- Have plenty of liquid in the 24 hours prior to donation, especially in warm weather, and drink 3 good-sized glasses of water/juice in the 3 hours before visiting the Blood Donor Centre

Other conditions may also affect whether you can donate platelets. As a registered blood donor, these are likely to be noted in your personal record. If you are interested in donating platelets, ask one of our Blood Donor Centre staff to see if you are eligible.

All platelet donors will be offered oral calcium supplements before their donation.

In the 24 hours before your platelet donation include calcium, magnesium and potassium rich food to your diet e.g. dairy products, bananas, dates, spinach, cashews etc.