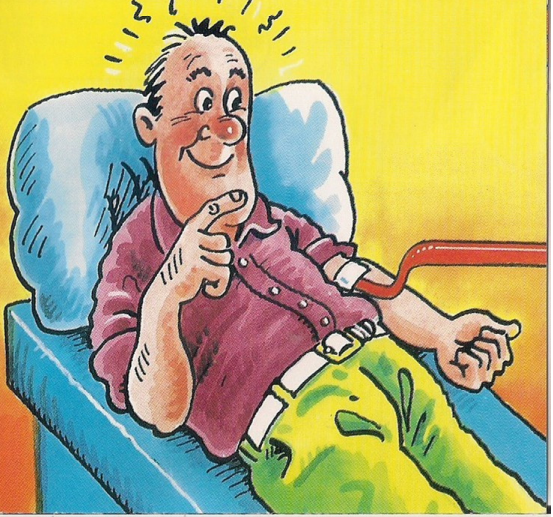
NATIONAL BLOOD SERVICE

Your Gift Explained

WHERE DOES MY BLOOD GO?



"This is what your donation will provide and the people who will benefit"

Blood is a precious and valued commodity. Either whole blood or the different components of blood are used for many life-saving operations and treatments. Transplants, surgery, accident and emergency victims, some cancer therapy and the treatment of people with deficiency diseases are just a few of the types of medical care that would not have been possible without development towards safe and reliable blood transfusions.

Here are some typical examples of the uses of blood and its components:

- Whole Blood is used for cases of acute blood loss as a result of severe trauma e.g. road traffic accident or during an operation.
- Red Blood Cells are transfused when an illness leads to anaemia e.g. renal failure.
- Platelets are needed where bone marrow suppression has occurred as a result of anti-cancer treatment (eg. leukaemia) and in patients who cannot produce normal platelets.
- White Blood Cell transfusions are sometimes needed to help patients who cannot fight serious infections, eg. during some cancer treatments.
- Plasma is used for critically ill patients who have lost large volumes of blood and require replacement of the full range of essential proteins contained in plasma. Any remaining plasma separated from your whole blood donation is used to manufacture the following plasma protein products...

- Coagulation Factors are typically given to patients with inherited disorders that may lead to uncontrollable bleeding, eg. patients with haemophilia. Coagulation Factors VIII and IX are routinely given to people with haemophilia A and B respectively. Early treatment of these conditions can prevent disability due to joint damage.

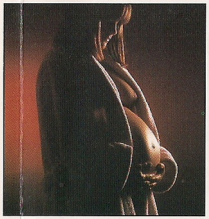
Crippling caused by repeat joint bleeds - Haemophilia - Coagulation Factors.

A muscle bleed - Haemophilia - Coagulation Factors.

Burns patient - Albumin.

Chickenpox - Immunoglobulins.

Accident and Emergency - Whole Blood.



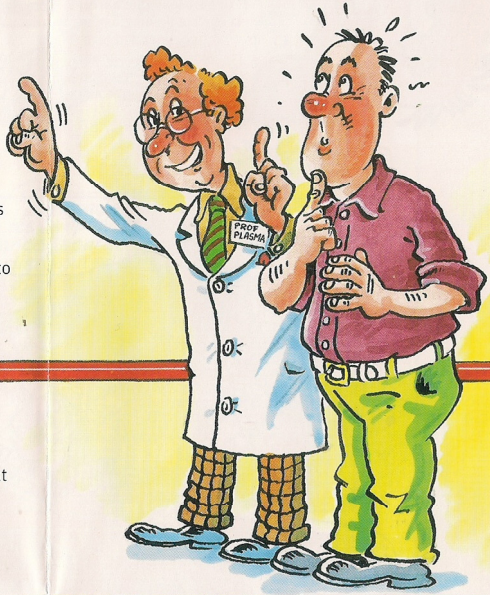
Expectant Mother - Anti-D.

Surgery - Red/White Cells and Platelets.

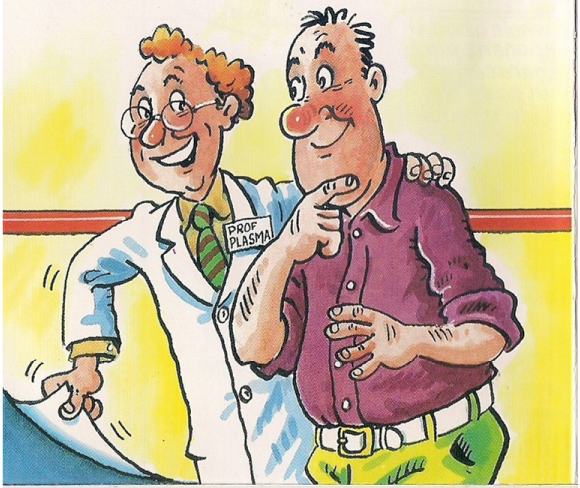
● Albumin is an important protein in the blood. Albumin transfusions are needed in the management of burns injuries, treatment of albumin deficient patients (e.g. due to liver disease), and in medical treatments requiring plasma exchange.

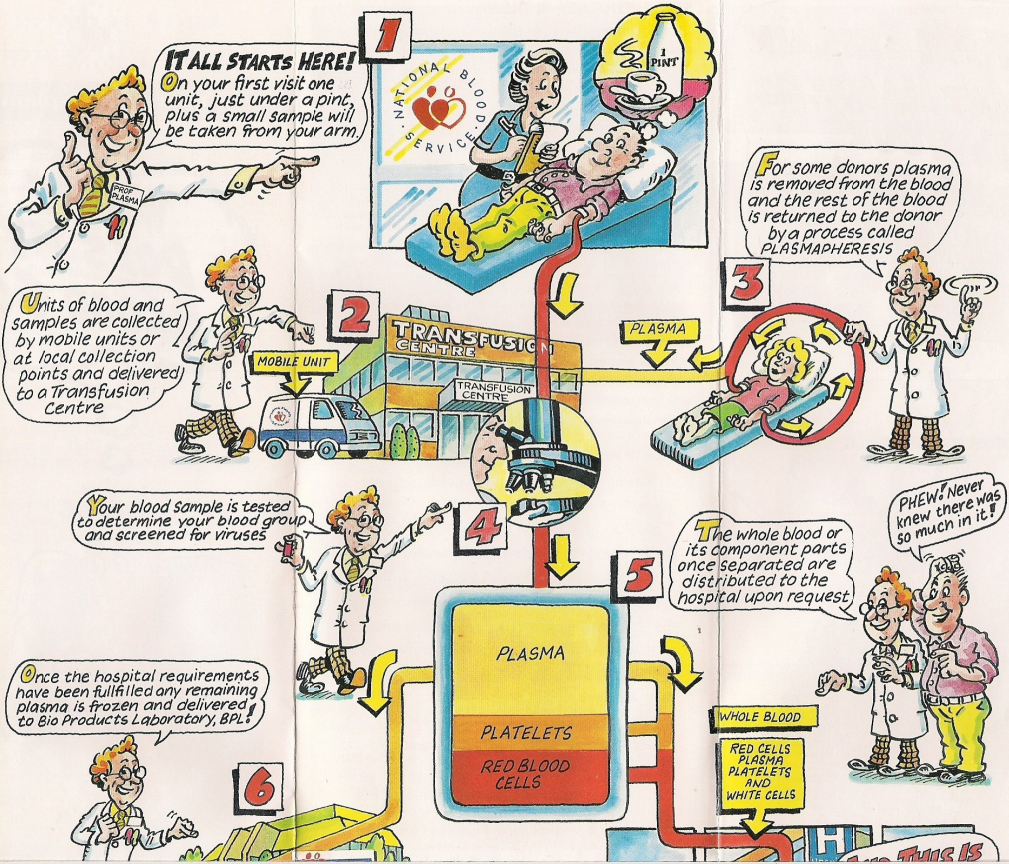
● Anti-Rhesus Factor Immunoglobulin (Anti-D) is given to rhesus negative pregnant mothers who are carrying rhesus positive babies. An injection of Anti-D prevents the mother's immune system attacking the baby's red blood cells, which would otherwise lead to haemolytic disease in the developing foetus or newborn child. Depending upon its severity, haemolytic disease can lead to anything from mild anaemia to stillbirth.

● Immunoglobulins (commonly known as antibodies) are obtained from the plasma of individuals who have been exposed to previous infections or have had active immunisation. Immunoglobulins, unlike vaccines, provide the body with immediate help and protection against illnesses such as hepatitis, tetanus and chickenpox, so that it can fight off the infections even faster. Vaccines, on the other hand, stimulate the body to produce its own antibodies over a longer period of time.



LET ME EXPLAIN WHAT HAPPENS TO YOUR DONATION, AND WHO IT HELPS!

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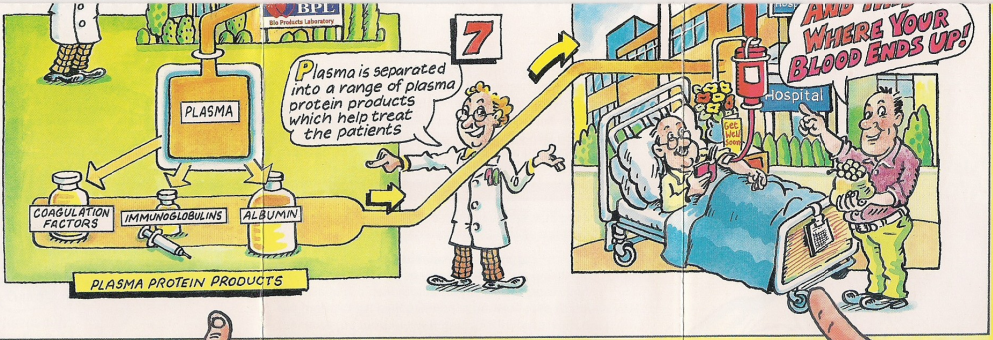
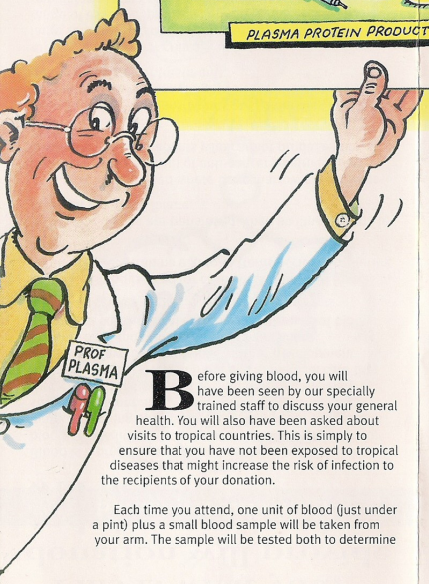
IT ALL STARTS HERE!
On your first visit one unit, just under a pint, plus a small sample will be taken from your arm.
PROP PLASMA
NATIONAL BLOOD SERVICE
1 PINT
2
Units of blood and samples are collected by mobile units or at local collection points and delivered to a Transfusion Centre
MOBILE UNIT
TRANSFUSION CENTRE
TRANSFUSION CENTRE
3
For some donors plasma is removed from the blood and the rest of the blood is returned to the donor by a process called PLASMAPHERESIS
PLASMA
4
Your blood sample is tested to determine your blood group and screened for viruses
5
The whole blood or its component parts once separated are distributed to the hospital upon request
PLASMA
PLATELETS
RED BLOOD CELLS
WHOLE BLOOD
RED CELLS PLASMA PLATELETS AND WHITE CELLS
PHEW! Never knew there was so much in it!
6
Once the hospital requirements have been fullfilled any remaining plasma is frozen and delivered to Bio Products Laboratory, BPL!





Before giving blood, you will have been seen by our specially trained staff to discuss your general health. You will also have been asked about visits to tropical countries. This is simply to ensure that you have not been exposed to tropical diseases that might increase the risk of infection to the recipients of your donation.

Each time you attend, one unit of blood (just under a pint) plus a small blood sample will be taken from your arm. The sample will be tested both to determine your blood group (e.g. A, B, AB, O, Rhesus positive/ negative) and to ensure that your blood is free from viruses (such as HIV, hepatitis) and syphilis. Your unit of blood cannot be released for use until your blood sample has been cleared.

Your blood and those from other volunteers is collected either at a local collection centre or by special mobile units. It is taken to a Transfusion Centre operated by the National Blood Service. The unit of blood is then usually separated into its various components (red and white cells, platelets and plasma); or more rarely left whole for those patients who require all constituents. The products are sorted into their specific blood groups and distributed to hospitals.

Individual hospitals predict their demand to include a stock for emergency requirements. In exceptional circumstances of increased demand, supplies are rapidly mobilised from nearby blood banks so that an individual hospital can feel confident that supplies are close at hand should they need them.

From some donors, plasma and/or platelets are removed from the blood and the red blood cells are returned to the donor by a process called apheresis. Apheresis can be performed more regularly than whole blood collection and is used to collect from special donors who either have platelets needed to match a particular patient or who have plasma rich in specific antibodies.

Once the hospital requirements have been fulfilled, any remaining plasma is frozen and delivered to Bio Products Laboratory, where it is pooled and subjected to a special separation process (called fractionation) to release a range of plasma proteins. These can be broadly banded into the following groups: coagulation factors, immunoglobulins and albumin.

The National Blood Service and Bio Products Laboratory are part of the National Blooc Authority - a special health authority within the NHS.

BPL
Bio Products Laboratory

NATIONAL BLOOD SERVICE

SELF-SUFFICIENCY IN THE UK

The UK is now capable of self-sufficiency in the provision of blood and plasma products. However, as you are probably aware, stocks of red cells can fall to dangerously low levels across the country. It is the demand for red cells that must determine blood collection.

Achieving self-sufficiency in red cells often leads to a surplus of the by-product, plasma. This in turn results in a surplus of some plasma products

When, *and ONLY when,* these plasma products are surplus to UK requirements, they will be offered abroad to those countries that are unable to meet their own needs. Under such circumstances, any revenue generated is ploughed back into the NBS to help subsidise blood collection and research into future products and therapies.

This judicious use of plasma products is preferable to simply destroying surplus plasma and ensures not only the best possible use of that most precious of gifts - your blood, but also helps the greatest number of people. Research has shown time and again that the policy of using blood and plasma collected only from unpaid volunteers provides the safest source of these desperately needed products throughout in the world.

Please keep donating!

To maintain self-sufficiency in red cells, we need you to keep donating your blood.

Make no mistake, the blood that you donate SAVES LIVES! There are many people alive today whose successful treatment was due to your thoughtfulness, goodwill and generosity.

The National Blood Service is justifiably proud to team up with such a well-motivated group of people and appreciates that you give freely your time and blood to help others.

So let's keep our partnership a success story.

Please keep on donating your blood regularly.

BPL
Bio Products Laboratory

To enrol as a donor call the National Blood Service on:
0345 711711 (local rates apply).

NBTS 1407

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