

BLOOD TRANSFUSION INFORMATION for PATIENTS

This information leaflet has been developed to help provide information for patients who may need a blood transfusion.

What is a blood transfusion?

Blood transfusion is receiving blood, including red blood cells, platelets or plasma, donated by another person. Blood is stored in a plastic bag and given through a tube, which is connected to a needle inserted in the arm. The transfusion should not be painful but having a needle in your arm may be slightly uncomfortable. Each unit of blood is generally transfused over two to four hours.

Why do patients need blood transfusions?

Blood and blood products¹ are used to replace blood loss and correct abnormalities in the blood, which cannot be corrected by any other means.

Common reasons for blood transfusions include:

- Severe blood loss because of an Accident or Surgery,
- Anaemia,
- Bleeding or Clotting Disorders,
- Supportive treatment in certain diseases and blood disorders.

If you lose a substantial amount of blood during an operation or an accident your doctor will want to replace the blood loss with a blood transfusion immediately so that you do not suffer the life threatening or serious effects of your blood loss.

If you have anaemia, which is a low blood count, your body does not have enough red cells to carry the oxygen you need and you may feel tired or breathless. Many cases of anaemia may be treated with medication, however not all cases respond and blood transfusion may be required.

Your doctor will discuss with you the reason why you may need blood. However your options may be limited and refusing of blood may have life threatening consequences.

¹Blood products

Unit of blood: A unit of donated blood can be separated into a number of individual products principally a red cell preparation, platelets and plasma.

Platelets: Platelets are small blood cells. They are essential to enable blood to clot properly.

Plasma: Plasma is used to correct deficiencies in patients' blood clotting.

What are the steps taken to ensure that the blood is safe?

The Irish Blood Transfusion Service [IBTS] have many safeguards on our national blood supply. All the donors are voluntary and unpaid because such donors are the safest source of blood. Before giving blood, donors must answer detailed questions to ensure they are in good health and to rule out risk factors for diseases. Donors who have any risk factors are not allowed to donate. Every unit is

tested for the following infections which can be transmitted through blood, i.e.

- Hepatitis B,
- Hepatitis C,
- HIV1&2 [the cause of AIDS],
- Syphilis,
- HTLV 1&2.

What are the benefits and risks of having a blood transfusion?

Investigations and operations can be performed because blood is available. When needed blood both saves and improves the quality of life. It is important to realise that the risks of not having a necessary blood transfusion exceed the extremely low risk of transfusion and blood is only given when the benefits exceed the risks.

The serious risks of a transfusion, although rare, include reactions to the blood or the transmission of infections. These risks are minimised by the careful selection of donors, testing and handling of the blood.

What Infections and Viruses may be transmitted through a blood transfusion?

A great deal of publicity has been given to the potential risk of getting AIDS or Hepatitis from blood transfusions. All blood transfused in Ireland is tested for these viruses.

When you consider the risks of transfusion, it is important to realise that the risk of infection from blood transfusion is very low. Daily activities such as road travel are associated with much greater risks than the risks of a blood transfusion when you need it.

The estimated viral risks are:

- HIV 1 possibility in 4 million units of blood transfused
- Hepatitis C 1 possibility in 4 million units of blood transfused
- Hepatitis B 1 possibility in 250,000 units of blood transfused

The careful collection and storage of the blood reduces the risk of bacterial infection in blood, which is rare but can be fatal.

Variant Creutzfeldt Jacob Disease [vCJD] is a new fatal disease, which is caused by eating BSE contaminated meat. BSE is more commonly known as 'mad cow disease'. Over 180 cases have occurred worldwide to date. The incidence of BSE is much higher in the United Kingdom than in other countries and the vast majority of patients who have contracted vCJD either live in the UK or have spend extended periods in the UK.

It is now known that vCJD can be transmitted through blood transfusion although the risks of this are believed to be very low

Three cases of transmission by transfusion have now been reported in the UK. In Ireland the chance of anybody developing this disease due to eating infected beef is estimated to be very small due to the much lower amount of BSE infected meat consumed here. However two cases of vCJD in Irish individuals who had not spent time in the UK have been reported. One of these was a blood donor who developed vCJD in 2005.

To date there is no test for vCJD but the IBTS have introduced the following precautions to reduce risks of transmission:

- The exclusion of donors who have spent more than 1 year in the UK,
- The removal of the white cells from all units of blood,
- The exclusion of donors who have received a blood transfusion in the past,
- Importing virally safe plasma from a BSE free zone outside Europe.

It is important to realise that if you need a transfusion the risks of not having it exceed the extremely low risk of developing vCJD from a transfusion.

These are the infectious risks we are aware of, however, there is always the risk of transmission of other currently unknown diseases.

How is blood matched?

For blood transfusion, the blood of the donor must be matched with the blood of the person receiving it as people have different blood groups. A harmful reaction can be caused when blood is not matched. Matching the donated blood with a carefully identified sample from the patient helps prevent this. Also before the transfusion, at the bedside, both you and the unit of blood will be carefully identified. This is the reason why the nurse, doctor or phlebotomist asks you to state your name and date of birth when taking a blood sample and prior to transfusion.

What is meant by transfusion reactions?

Transfusion reaction is a rare complication of blood transfusion where the patient reacts against the transfused blood. Your nurse will observe you carefully during transfusion particularly at the beginning. Tell your nurse immediately if you feel unwell or experience fever or chills during or after the transfusion. Even if you have a reaction to blood it does not mean that there is cause for concern. As a precaution, your nurse will stop the transfusion and call a doctor, your symptoms will be treated and the reason for the reaction investigated. All significant transfusion associated reactions and incidents are reported to the National Haemovigilance Office at the IBTS.

If I have a reaction, will I be able to receive subsequent transfusions?

If a patient develops a reaction to the blood transfusion, medication given prior to the next transfusion or giving a different blood product may prevent a further reaction.

The most important blood groups, the ABO and RhD Groups, are matched prior to transfusion however blood cannot be matched perfectly.

Rarely some months after a transfusion, patients may develop antibodies to the transfused red cells. These antibodies will not usually make the person ill, but it will be important to know about them for future transfusions or in pregnancy. They will be discovered when the blood is tested prior to the next transfusion and will help decide what blood should be given.

Are there alternatives to having a blood transfusion?

Currently there are no substitutes available for blood. Other intra venous fluids can replace some blood loss and your body will then make new red cells over the next few weeks. The following is a brief outline of the alternatives, which can be offered to some patients. The availability of these alternatives is limited to certain planned surgeries and generally depends on your underlying illness and your general health.

- Fit persons undergoing a planned surgery may be able to donate their own blood a number of weeks before their surgery. This is called autologous donation.
- In some other circumstances, blood lost during or immediately after an operation can be collected and transfused back to the patient.
- Medication can, in some instances, be administered to reduce or prevent bleeding.

Using your own blood will prevent the rare transmission of viral infections but will not avoid the rare risks of bacterial infection or the transfusion of an incorrect unit of blood.

Some illnesses or dietary deficiencies, which cause anaemia, may be treated with medications including Iron or Vitamins.

If you would like more information ask your doctor for advice.

Can my relatives or friends donate blood for me?

When relatives or friends donate blood it is called directed donation. Research has shown that such transfusions are not any safer than carefully selected voluntary donations. Directed donations are not available in Ireland, the UK or in most European countries.

Further information

You can discuss any worries you have about the blood transfusion with your doctor. If you would like any additional information

contact the Department of Transfusion Medicine here in the hospital at 4162952.

Please encourage your healthy relatives and friends to become blood donors.

**For information about donations contact
The Irish Blood Transfusion Service
1 850 731 137**

**AERTEL page 691
Website: www.ibts.ie/**

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