### Estimates of the risks from transfusions

- A minor allergic reaction or rash occurs in 1% to 2% of transfusions.
- A major incompatibility reaction: 1 case in every 100,000 transfusions (1 case per year in NZ).
- The risks of acquiring hepatitis C, HIV/AIDS and HTLV I virus from a blood transfusion is very low and estimated to occur less than 1 in every 1,000,000 transfusions in New Zealand.
- For hepatitis B the risk is estimated as 1 in 300,000 transfusions (1 case every 2-3 years).
- Serious Bacterial Infection: are rarely seen with red cells and plasma transfusion but approximately one case per year is seen with platelets transfused in New Zealand.

Blood and fresh blood components have a high level of safety. Refusing a blood transfusion when it is needed may lead to serious health problems.

### What alternatives are there to blood transfusion?

**No Transfusion**

The health risks from *not* having a transfusion when needed are much greater than from having a transfusion.

Many types of surgery and treatments for cancer are usually not possible without transfusions of blood components.

**Blood Substitutes**

So far, no substitutes for red cells, platelets or plasma are available for routine use.

### Providing Blood for Yourself

People who are healthy and planning a non urgent operation sometimes ask to have their own blood collected for their own use.

This is called *autologous blood collection*.

In practice the real benefits of this are limited and it is usually only recommended in special situations. Further information is available in the leaflet - “Providing Blood for Yourself”. A charge may be made for collecting, handling and testing your blood if you request this service.

**Directed Donations**

Blood collected from relatives or friends has been shown to be no safer than from healthy, unpaid, voluntary donors. For this reason, directed donations are discouraged by the New Zealand Blood Service.

**Remember that:**

- A transfusion of blood or blood components is only given when the benefits outweigh the risks.
- If you refuse to have a transfusion when needed, the risks to your health are likely to increase.
- You can ask as many questions as you need to ensure you are making the right choice.

**If you have any more questions after reading this document, please discuss them with your Doctor or a member of your local Transfusion Medicine Department.**

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What types of blood components are used for transfusions?

Fresh blood components given in blood transfusions are:

**Red Cells**
- Used to treat **anaemia** that is causing a moderate or severe health problem, or
- **Severe bleeding** (e.g. during or after surgery, or following an accident).

**Platelets**
- Platelets are tiny blood cells that are needed to stop **bleeding**. They are sometimes transfused during treatment in Intensive Care Units and as part of cancer treatment.

**Fresh Frozen Plasma and Cryoprecipitate**
- Used for **replacing clotting factors** and rarely other blood proteins (sometimes used during treatment in Intensive Care Units or for people with liver disease).

What tests are done on blood?

Blood donations are always tested for:

**Infections**
- Hepatitis B and C
- HIV/AIDS
- Syphilis

**Blood groups**
- ABO group
- Rh type
- Blood group antibodies

Red cells are carefully checked to minimise the chance for an incompatibility reaction during a transfusion. The checks may include a special test, called a crossmatch, that uses a sample of your own blood and the blood selected for transfusion.

How safe is a blood transfusion?

The main risks from fresh blood components are described below. They are no greater than the risks people experience in every day life and from other health treatment procedures.

Blood transfusions are an extremely safe and effective form of treatment. They save many lives. Some complex surgical operations cannot be performed without giving a blood transfusion. The risks from a transfusion must be weighed up against the risks from not having a transfusion. If your doctor considers you need a transfusion, the doctor believes the benefits for you are greater than the risks.

What are some of the risks from blood transfusions?

- Temporary reactions including a mild fever or skin rash may occur.
- A major incompatibility reaction from a transfusion is rare. It may cause kidney failure, breathing difficulties, and sometimes other life threatening complications.
- Rarely, the treatment may not produce the desired result.
- Transfusion of blood components may occasionally cause an infection:
  - Minor virus infections that are common in the community may be passed on occasionally.
  - Hepatitis B and C, Yersinia, HIV/AIDS virus and HTLV-1 virus are very unlikely, but these infections can be severe and in some cases life threatening. Tests and checks on blood donations minimise the risk for these infections.
- The risks of acquiring CJD/vCJD from transfusion remains very low and has never been reported in New Zealand. Rare cases have been reported in the UK.