



Patient Information on Blood Transfusion

What is blood transfusion?

It is the infusion of whole blood or blood components (red cells, platelets and plasma) through the veins as prescribed by your doctor to achieve a therapeutic effect.

Why is blood transfusion needed?

It is needed to replace blood loss and to correct serious or even life threatening disorders due to deficiency of blood cells or clotting factors. Blood transfusion support enables medical procedures such as major surgery or stem cell transplantation to be carried out.

Red cells carry oxygen and alleviate symptoms of anaemia. Platelets help to stop bleeding at the site of injury. Transfusion of platelets is needed if their number is reduced or function is impaired. Plasma contains all proteins in the blood and it is used to replace clotting factor deficiency.

What steps are taken in Hong Kong to ensure blood products are safe for transfusion?

Blood safety in Hong Kong is maintained at an international standard. The Hong Kong Red Cross Blood Transfusion Service complies with ISO 9000 and Australian Therapeutic Goods Administration Good Manufacturing Practice in order to ensure blood quality and safety. Blood is collected from volunteer non-remunerated donors only. Before giving blood, donors are assessed by a health assessment questionnaire and interviewed on their risk factors for disease. In addition to blood group determination, all blood products are then screened for infectious agents including hepatitis B, hepatitis C, HIV, HTLV and syphilis. Should transfusion be required, the hospital blood bank will ensure proper patient identification and compatibility with donor units.

What are the risks of receiving blood transfusion?

Similar to drug treatment or other medical procedures, blood transfusion carries a finite risk to the recipient no matter how small. Important transfusion related risks are:

1. **Fever:** Some patients experience feverishness and chills during or shortly after blood transfusion. This may subside on its own without any consequence or easily controllable by medications. However, if you have a history of febrile reactions related to transfusion, you should report to your doctor for preventive measures to be taken.
2. **Allergy:** This is usually a mild reaction in the form of skin rash or itchiness, which is easily treatable. Severe allergic reaction can occur but is very rare and the chance is less than one in a hundred thousand.
3. **Haemolysis:** When a blood group mismatch between you and the donor occurs, the donor red cells are destroyed in your body by a process called haemolysis. Severe haemolytic reaction is very rare and happens at a frequency of only one in a hundred thousand. However if it does arise, the kidneys may shut down and, together with other complications, may be life threatening. The hospital blood bank and nursing staff will ensure that the correct blood is given to the correct patient by following standard identification protocols.
4. **Transfusion transmitted infection:** Although blood products are vigorously screened, including bacterial surveillance for platelet concentrates, the risk of transfusion-transmitted infections cannot be completely eliminated by current technology. It is estimated that the residual risk of acquiring HIV infection through transfusion is less than one in 2.4 million, whilst that for hepatitis B is less than one in 58,000 and hepatitis C is less than one in 8 million. Bacterial contamination: red cells one in 500,000 and platelet concentrates one in 10,000.
5. **Transfusion related acute lung injury (TRALI)** is a rare but serious adverse reaction that can be seen in Chinese.

When your doctor prescribes blood transfusion, the benefits of transfusion should outweigh the perceived risks.

What are the risks of not having a transfusion?

If acute blood loss is not replenished, your blood pressure will drop and tissue perfusion of your major organs such as brain or kidneys will be impaired. Uncorrected anaemia is associated with tiredness, shortness of breath, palpitations and decreased exercise tolerance. Inadequate platelets or deficiency of clotting factors will lead to increased likelihood of bleeding.

Are there any alternatives to blood transfusion from a donor?

It is possible to deposit your own blood in the hospital blood bank prior to surgery for your own use, so that exposure to red cells of other donors can be avoided. Pharmacological agents may be used to increase your haemoglobin level or to help stop bleeding.

If you need further information, please discuss with your doctor.