



Patient Education Sheet

Blood and Blood Component Transfusions

What is a transfusion?

A transfusion is a way to give one person's blood or parts of the blood, called components, to another person who needs it. Transfusions may be needed due to large amounts of blood loss from accidents or surgery; to replace clotting factors; or they may be needed due to certain diseases, such as cancer or sickle cell anemia.

Are transfusions safe?

The Food and Drug Administration and the organizations that collect blood ensure that the blood collected is safe. All donations are tested for diseases such as AIDS/HIV, Hepatitis C, syphilis, and others. Additionally, people who have these diseases are not allowed to donate blood. Any blood that is contaminated is discarded.

Hospitals are also careful when transfusing blood. People have different blood types and not all blood can be given to every person. Prior to transfusion, hospital personnel will take a blood sample to match with the correct donor blood.

What types of transfusions are given?

Blood is transfused as whole blood or as one of its components, or parts. These blood components include red blood cells, plasma, platelets, and plasma derivatives or cryoprecipitate.

Whole blood – whole blood contains red blood cells, white blood cells, platelets, and

plasma. People rarely need whole blood transfusions. When whole blood is taken, the blood components are usually separated out.

Red blood cells or RBC's – red blood cells are what give blood its color. They contain hemoglobin, which is a protein that carries oxygen from the lungs, through the blood stream and to all parts of the body.

Red blood cells are prepared by taking the plasma, or liquid, out of whole blood. They can increase a patient's hemoglobin without increasing extra fluid volume. Red blood cell transfusions are given to people with chronic anemia, gastrointestinal bleeding, and to those with sudden blood loss from injury or surgery.

Plasma – plasma is the straw-colored, liquid portion of whole blood. In addition to red blood cells, white blood cells, and platelets, it contains proteins, clotting factors, and antibodies. Plasma is frozen within hours after donation to preserve the clotting factors, and it is thawed prior to transfusion. Plasma is usually given to replace clotting factors in patients who have bleeding disorders and it can also be used for plasma replacement.

There is also a small fraction of the plasma that separates out when the plasma is frozen and then thawed out, called **cryoprecipitate**. This contains several clotting factors found in the smaller amount of liquid.

Platelets – platelets are fragments of cells that the body uses as part of the clotting process. They work with the clotting factors in plasma to control bleeding.

What happens during a transfusion?

Your physician will discuss with you the need for the transfusion and consent will be obtained prior to you receiving it. Before the transfusion is given, a small sample of blood is taken to determine your blood type and to best match with the donor blood in the blood bank. An intravenous line will be started in your arm for the transfusion.

When the blood is ready, your nurse and another licensed, qualified professional will verify at the bedside proper identification of you and the transfusion unit. You will be given education regarding the signs and symptoms of a transfusion reaction, which are rare (see separate blood and blood component transfusion reaction sheet).

Your nurse will remain with you for at least the first 5 minutes of the transfusion to make sure you do not have an immediate reaction to the blood. Your nurse will then continue to closely monitor you during the transfusion with the assistance of the patient care technician/nursing assistant, checking your temperature, heart rate, respiratory rate, and blood pressure. You will also be observed for any signs of a rash or other allergic reactions.

Usually, patients do not feel any discomfort during the transfusion. It usually takes about 3 to 4 hours for the transfusion to finish. In emergency situations, the transfusion may be run at a faster rate.

Source:

AABB Association. (2003). Whole blood and blood components. Retrieved July 2008 from www.aabb.org

The Nemours Foundation. (2008). The truth about transfusions. Retrieved July 2008 from kidshealth.org

12/2013

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