



مدينة الملك فهد الطبية
King Fahad Medical City



Blood and Blood Transfusion Products

What is blood?

Fluid that transports oxygen and nutrients to all the parts of body and carries away carbon dioxide and other waste product.

- ✓ Average Human has about 5 Liter of blood.
- ✓ Each person has a different blood types.

What are the blood component?

Red Blood Cell

White Blood
Cell

Platelet

Plasma

What are the blood types?



What is blood transfusion?

Blood transfusion is a common, safe procedure in which a patient receives blood product through an intravenous line.

There are types of blood products might be given through **blood transfusion**:-

Whole Blood

- Used in acute blood loss with hypovolemic.
- Transfusion Exchange
- **contraindication:-**
- RISK of volume overload in patient with chronic anemia and Incipient cardiac failure.

Packed RBC.

- Used as replacement of Red cells in anemic patients.

Platelet

- Used as treatment of bleeding due to Thrombocytopenia, Platelet Function defects
- **Contraindication:-**
- Idiopathic autoimmune Thrombocytopenic.
- Thrombotic Thrombocytopenic Purpura.

Fresh Frozen Plasma

- Used in single, Multiple clotting factors deficiencies.
- For Thrombotic Thrombocytopenic Purpura patients.
- Massive Blood Transfusion

Cryoprecipitate, Prepared From Fresh Frozen Plasma

- Used in Von Willebrand disease.
- Factor VIII "Hemophilia A"

Indications for the blood



- ✓ To increase the oxygen capacity of blood.
- ✓ To restore the blood volume to maintain effective tissue perfusion.
- ✓ To replace Platelets and Coagulation factors and other Plasma Proteins.

Blood may be needed in the following circumstances:

Bleeding, Trauma.

Inadequate Production

Diseases such as Thalassemia and Leukemia

Blood Transfusion Process

When the doctor determines that the patient need a blood transfusion



- ✔ The Physician will explain the propose of giving blood and ask the patient to sign the blood consent Form and he will make the blood request.
- ✔ The Physician will prescribe Pre-medication if there is a past history of Blood transfusion reaction.
- ✔ IV Cannula is used to be inserted into blood vessels and collect blood sample.
- ✔ Blood request will be released in the system and blood sample to be send to blood bank.
- ✔ If first time for receiving blood another blood sample will be taken and send to Blood bank for confirmation.

- ✓ Preparation the blood usually takes 30mins to 2 hours.
- ✓ Blood transfusion usually take 1-4 hours to complete.



How to administer blood?

- Before starting the procedure, the nurse will make sure that patient vital signs within normal range and IV line is patent, infusing well and good back flow noted.
- Two nurses will check the details in blood bag against the blood component delivery form given from blood bank: -
 - *Patient name, MRN and Blood Type, RH factor*
Product ID and Code, Expiration date, Time.

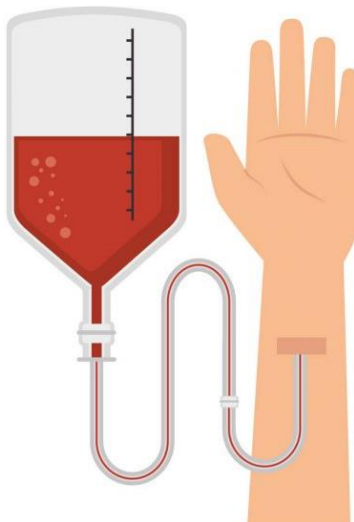


- Check if the Blood Bag shows signs of leaking and contamination, unusual color or clots.
- Verify patient identity at the bedside by double Checking with another nurse.
- Patient name, MRN verify with the information on the patient ID and product bag as this could prevent wrong transfusion.
- Administer using a Blood administration set.
- Administer slowly the first 50ml of any RBC transfusion.
- Nurse will stay with the patient for a minimum 15mins after starting the procedure to observe any types of reaction.
- If no reaction noted administer the remaining blood as prescribed rate.
- Check and record Vital signs for the first 15mins then every 1 hour.

- Ensure the total time of PRBC does not exceed 4hrs and Platelets and FFP, Cryoprecipitate within 1 hr.

Blood Transfusion Reactions and Treatment

- ✔ The patient may have a mild to severe reaction even if patient get the correct blood type.



Signs of reaction

Facial Flushing,
Hives and rash

Headache

Fast Heart rate

Fever, Chills

Decreased Blood
Pressure

Increased
Respiration Rate

Chest pain

Low back pain

Treatment



Stop transfusion, Check Vital signs.

Notify physician and Blood bank.

Give allergic reaction as ordered

The Blood Product Bag, attached fluid and Set will be send to Blood bank together with Transfusion reaction report

Blood samples will be send to laboratory as doctor order for investigation

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إدارة التمريض الصحي

Ambulatory Care Center Nursing
Department

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