

# BLOOD TRANSFUSION

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## Introduction

Blood transfusion is generally the process of receiving blood products into one's circulation intravenously. Transfusions are used for various medical conditions to replace lost components of the blood.

Early transfusions used whole blood, but modern medical practice commonly uses only components of blood such as red blood cells, plasma, clotting factors, and platelets

One unit of packed RBCs should increase levels of hemoglobin by 1g per dl (10g per litre) and hematocrit by 3 percent.

Indications

## Red Blood Cells

- Patient's hemoglobin level falls below 10g/dl or hematocrit falls below 30% (the 10/30 rule)
- Acute or massive hemorrhage
- Symptomatic anemia
- Acute sickle cell crisis

## Fresh frozen plasma infusion

- Reversal of anticoagulant effects
- International Normalized Ratio (INR) greater than 16
- Before an invasive procedure or surgery if a patient has been ant coagulated
- Emergent reversal of warfarin (Coumadin)
- Acute disseminated intravascular coagulopathy
- Micro vascular bleeding during massive transfusion

## Platelet transfusion

- Major surgery or invasive procedure, no active bleeding
- Ocular surgery or neurosurgery, no active bleeding
- Surgery with active bleeding
- Thrombocytopenia
- Platelet function defects

## Cryoprecipitate

- Hemorrhage after cardiac surgery
- Massive hemorrhage or transfusion

- Surgical bleeding
- Anticoagulant factor VIII deficiency
- Anticoagulant factor XIII deficiency
- Congenital dysfibrinogenemia
- Willebrand disease
- Congenital fibrinogen deficiency

## Equipment

- Transfusion record chart
- Non sterile gloves
- Thermometer
- Tourniquet
- An IV cannula
- 2x2 gauze
- A syringe
- Normal saline
- Transparent dressing
- Sphygmomanometer
- Blood transfusion set
- Observation recording sheet (The record of transfusion form)
- Blood/blood component pack
- Disposable apron

## Procedure

1. Gather the equipment stated above
2. Check the blood /blood component has been correctly prescribed (on the fluid chart)
3. Record baseline observations of temperature, pulse and blood pressure and respiratory rate on the record of transfusion form
4. Check the blood/blood component has not passed its expiry date and will not expire during the transfusion episode
5. Put on apron, wash hands and put on gloves
6. Attach the administration set to the venous access device (IV Cannula)
7. Set the rate and volume to be infused as stated on the fluid chart
8. For each unit transfused check the patients record temperature, pulse, blood pressure and respiratory rate every 15 minutes for the hour and hourly thereafter.

## Complications

- Acute hemolytic reactions
- Delayed hemolytic reactions
- Febrile non hemolytic reactions
- Post transfusion purpura
- Allergic reactions

- Transfusion- associated acute lung injury (TRALI)
- Infection
- Volume overload
- Hypothermia
- Metabolic alkalosis
- Hypocalcemia

**Contraindications**

- Severe injuries and concussion
- Hemorrhage and thrombosis of the brain
- Peripheral vascular thrombosis and acute thrombophlebitis
- Severe coronary sclerosis
- Circulatory failure

**SIGNATORIES**

*Name of staff(MO/NO/CO/COI/MIDWIFE/ ETC)*

*Name: ..... sign..... Date:  
Department in charge*

*Name:..... sign..... Date:  
Nursing Officer in charge*

*Name:..... sign..... Date:  
Hospital Administrator*

*Name:..... sign..... Date:*