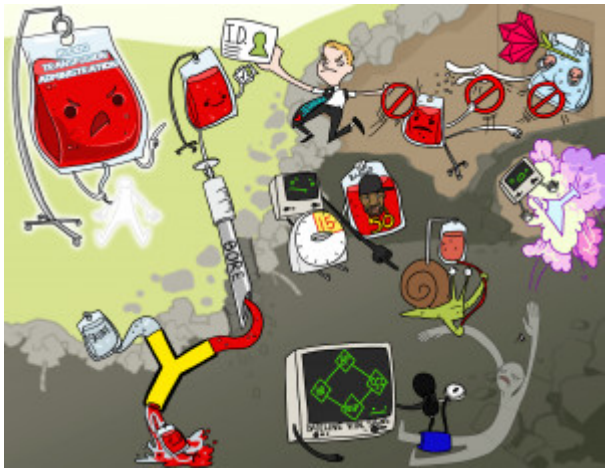
Blood Transfusion Administration

A blood transfusion is the administration of whole blood or blood components to correct deficiencies caused by trauma or hematological diseases. Before administration, baseline vital signs must be obtained, and a two-nurse check must also be performed to ensure proper patient identification. Blood should be administered slowly through Y tubing, using a large bore needle to prevent hemolysis of cells. The patient should be monitored closely for adverse reactions during the first 15 minutes, or 50 mL of the transfusion. Fever is often the first sign of a transfusion reaction. It is important to remember that nothing should be added to the IV line containing the blood product. Normal saline is the only fluid approved for use during a blood transfusion, as dextrose and lactated ringers will cause hemolysis. Keep in mind, administration of blood products may not be acceptable to a patient, such as a Jehovah’s Witness, due to their religious beliefs.



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Proper Patient Identification

Matching Patient ID

A two-nurse check is used to ensure that the patient’s identification number corresponds to the identification number on the blood product before administration. Correctly identifying the patient prior to administering a blood product is critical and can prevent potentially life-threatening transfusion reactions.

Large Bore Needle

Large Bore Needle

A large bore needle has been traditionally used when administering blood to prevent lysis of blood cells. However, current best practices advise selecting the smallest-gauge PIVC that will accommodate the prescribed therapy and patient need. For example, use of a 20- to 24-gauge for most infusion therapies is recommended. Peripheral catheters larger than 20-gauge are more likely to cause phlebitis. Use a 22- to 26-gauge catheter for neonates, pediatric patients, older adults, and patients with limited venous options to minimize insertion-related trauma. Use 16–18 gauge in situations where rapid transfusion is required for adults.

Y Tubing

Y Tube flushing

Special tubing, called Y tubing, is used when administering blood products. This type of tubing contains a filter and allows for saline flushing.

Baseline Vital Signs

Base-line Vitals machine

Vital signs should be obtained prior to starting the blood transfusion. Baseline vital signs will allow the nurse to easily detect changes in the patient’s condition, which could indicate a transfusion reaction.

Slow IV Infusion

Snail IV

Blood products should be administered slowly, under normal circumstances. Typically, blood is transfused at a rate of no more than 2 milliliters per minute for the first 15 minutes.

Monitor During First 15 Minutes or 50 mL of Blood

Monitor 15 Minute Timer and (50) Cent with Blood-bag

The patient should be continually monitored during the first 15 minutes of the transfusion or while the first 50 milliliters of blood is being infused; transfusion reactions typically manifest during this time.

Monitor for Reactions

Monitor at Reaction

Transfusion reactions are likely to occur within the first 15 minutes of the transfusion. The nurse should monitor the patient for changes in vital signs, such as an increase in body temperature; fever is often the first sign of a reaction. Fluid overload may also occur if a large volume of blood is given too rapidly.

Considerations

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Do Not Add Anything To Same IV Line

Not Allowed to Add Anything to IV

The blood product must run through its own IV tubing that has been primed with normal saline.

No Dextrose or Lactated Ringers

No Sugar-rose or Lactating Rings

Only normal saline should be used during a blood transfusion in the Y tubing set up. The use of dextrose or lactated ringers will cause hemolysis.

Jehovah's Witnesses, No Transfusions

Jehovah's Witness Refusing Transfusion-IV

Administration of blood products may not be acceptable to a patient, such as a Jehovah’s Witness, due to their religious beliefs.

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