**BLOOD TRANSFUSION THERAPY - BLOOD COMPONENT & BLOOD PRODUCT ADMINISTRATION**

**GENERAL GUIDE TO SAFE TRANSFUSION PRACTICE**

Always confirm the identity of the recipient and check the unit, as well as the expiry date, before commencing the transfusion. Consent is required prior to transfusion.

**OBSERVATIONS**
- Record baseline temperature, pulse, respiration rate and blood pressure before the start of infusion.
- Indicate the patient for at least 15 minutes after the start of the transfusion.
- Monitor the patient throughout the transfusion for evidence of adverse reactions.
- Record observations on the patient's chart, including start and stop time of each unit.
- Report all adverse reactions.

**RATE OF TRANSFUSION & PRECAUTIONS**
- Transfuse blood components within 4 hours, (platelet concentrates within 1 hour).
- Return the blood component to blood bank for appropriate storage if the transfusion can not be started within 30 minutes. Red cell components must only be stored at the designated accredited blood fridges.

**ADMINISTRATION, INFUSION SETS AND FILTERS**
- Select at least an 18-20G needle for adults, (smaller gauge can be used but they restrict the flow rate), and 22-24G for children. Centra vein catheters can be used, check local policies.
- Transfuse blood components via a new infusion set containing a 170-200 micron filter. If the addition of microaggregate filters is not tolerated;
- Change blood infusion sets when the transfusion is completed or every 12 hours. Any number of units may be administered during the 12 hours as long as the flow rate remains adequate.
- Check for specific recommendations from the manufacturer defining the maximum number of red cells each set can accommodate.
- Biodex leucocyte-depleting filters are not required. Blood components are universally leucocyte-depleted during processing.

**CMV NEGATIVE COMPONENTS**
- Required for intrauterine (IUT), exchange transfusion (ET), premature low birth weight (<1500g) or immunocompromised neonates.
- Inform blood bank of CMV requirements.

**IRRADIATED COMPONENTS**
- Inform blood bank when red cell preparations require irradiation.

**RED CELL COMPONENTS**
- Transfuse within 1 hour from time of issue.
- Transfuse cryoprecipitate within 4 hours from time of issue.

**PLATELET COMPONENTS**
- Platelet Concentrates that are ABO identical or ABO compatible (new red cell compatibility table) will generally be provided. It is not a strict requirement to be ABO compatible.
- Platelets may be stored for up to 24 hours in blood bank controlled refrigeration. Return the component to the blood bank immediately for appropriate storage, if the transfusion cannot be started within 30 minutes.

**PLASMA & CRYOPRECIPITATE COMPONENTS**
- Fresh frozen plasma (apheresis or whole blood derived)
- Neonatal FFP
- Cryoprecipitate

**GRANULOCYTE COMPONENTS**
- Apheresis Granulocytes
- Buffy Coat

**BLOOD GROUP COMPATIBILITY**

**ABO**
- Red cell component compatibility is as follows:
  - Recipient group
  - Compatible donor group
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

- Plasma component compatibility is as follows:
  - Recipient
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

- Platelet compatibility is as follows:
  - Recipient
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

- Cryoprecipitate compatibility:
  - Providing the product does not contain a high ABO haemolysin, any ABO group can be provided.

**RhD**
- RhD-positive platelet concentrate will be provided for RhD-negative recipients where possible.
- Anti-D prophylaxis may be clinically indicated if RhD-negative recipient is known to be RhD-negative in the absence of RhD-negative platelet concentrates.

**STORAGE TEMPERATURE**

**RED CELL COMPONENTS**
- Stored in a monitored (2-6°C) refrigerator designated for blood.
- Return the component to the blood bank immediately for appropriate storage, if the transfusion cannot be started within 30 minutes.

**PLATELET COMPONENTS**
- Store at 20-24°C with constant agitation (usually in blood bank).
- Store at 20-24°C in blood bank controlled refrigeration.
- Allow 20 minutes for thawing by blood bank, prior to transfusion.
- Return the component to the blood bank immediately for appropriate storage, if the transfusion cannot be started within 30 minutes.

**BLOOD GROUP COMPATIBILITY**

**ABO**
- Red cell component compatibility is as follows:
  - Recipient group
  - Compatible donor group
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

- Plasma component compatibility is as follows:
  - Recipient
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

- Platelet compatibility is as follows:
  - Recipient
  - A
  - A
  - B
  - B
  - AB
  - AB
  - O
  - O

**RhD**
- RhD-negative platelet concentrate will be provided for RhD-negative recipients where possible.
- Anti-D prophylaxis may be clinically indicated if RhD-negative recipient is known to be RhD-negative in the absence of RhD-negative platelet concentrates.

**INFUSION SETS/FILTERS/SPECIAL PRECAUTIONS**
- Use a standard blood infusion set that has a 170-200 micron filter.
- Use gravity flow infusion sets or volumetric infusion pumps.
- Use leucocyte-depleting filters.

**RATE OF INFUSION & PRECAUTIONS**
- Rates vary according to product type and clinical status; refer to manufacturers package insert guidelines and local policy.
- Each batch of ABO or RhD product should be infused within 4 hours of spiking.
- Coagulation factors should be administered at 3ml/kg and infused within 3 hours of reconstitution.
- Never add medications to fractionated plasma products.

**ADMINISTRATION AND FILTERS**
- Use a standard 4Fr infusion set, a filter is not needed.
- Allow product bottles and vials to reach room temperature prior to administration.
- Vent glass bottles to administer.
- Do not mix blood components.
- Electromechanical volumetric infusion pumps can be used for Albumin and FFP products.

**IMMUNOGLOBULINS**
- Intravenous Immunoglobulin (IVIg):
  - Intralymph® 5% - 5g, 10g or 20g.
  - Intravac Immunoglobulin (SC) 5%.
  - Evacovig 16% - 0.8g, 1.6g or 3.2g.
- Intravenous Specific Immunoglobulin:
  - Hepatitis B Immunoglobulin-VF 100 IU or 400 IU
  - HyperHep B® 5/10/20 IU
  - Normal Immunoglobulin-VF 250 IU
  - Rhophylac®-VF (Anti-D) 250 IU or 500 IU
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  - Intravenous RhD Immunoglobulin
  - Rhophylac® 1500 IU

**COAGULATION FACTORS**
- Bistrell® (factor VIII & VWF) 5000 IU & 10000 IU
- Mann-KRN-VF, Baxter 300 IU & 1000 IU
- Prothrombin/Vit K (factor II, IX, X, XI, XII) 100 IU
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- Administration of Coagulation Factor Products:
- Do not mix with saline.
- Do not use the reconstitution filter device provided by the manufacturer.
- Use a constant infusion pump.

**ALBUMIN**
- Albumin® (4 albumin 4%) 50mL, 100mL
- Albumex® (2 albumin 2%) 10mL, 100mL
- Administration of Albumin Products:
- Monitor for fluid overload.

**MEDIATIONS**
- Do NOT add medication to red cell components.
- Do NOT add medication to platelet concentrates.
- Do NOT add medication to plasma or cryoprecipitate.

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