## STANDARDS

All blood components are administered according to BOP DHB Policy and NZBS Guidelines.

## EQUIPMENT

- IV administration set with 260 micron filter – either integrated blood filter; or add on blood filter
- Non-sterile gloves
- Alcohol swab
- Blood warmer – may be required for rapid transfusion (>200ml/hr); or if advised by Transfusion Laboratory.
  Pressure bags – may be used for the rapid administration of blood components during resuscitation or intraoperative management. They must not be used routinely for administration of blood products due to danger of extravasation.
  Volumetric infusion pumps (both Flogard and Colleague) - may be used for blood product administration – however extra vigilance of status of infusion site is required.

| | ACTION | RATIONALE |
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| 1 | **Prior to collection of blood products from the Transfusion Laboratory** - assess individual patient's venous access to identify any patency issues<br>• Ensure that the patient has patent IV cannula - recommended minimum size for adult patients is 20g, paediatric patients - 22-24g.<br>• Blood may be administered via a PICC or CV access device – however some small tubing diameters may pose problems with blood or platelet transfusion leading to slow flow rates and clogging. | To reduce delays in commencement of administration once blood issued. |
| 2 | **Blood product administration must be completed within 4 hours of issue from the Transfusion Laboratory / Blood Bank.**<br>• IF product can not be immediately transfused it must be returned to the Transfusion laboratory within 30 minutes if it is to be reissued.<br>• Blood products must never be stored within the clinical area in anything other than the small transportation cooler bins supplied by the Transfusion Laboratory. Administration of blood products stored within these transportation bins must commence within 60 minutes of dispensing of product from the Transfusion Laboratory. | To meet NZ Blood Service standards for safe management of transfusion components. |

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| 3 | **Checking of blood components and patient identity**<br>The checking process must include: -<br>• Verifying that the patient has consented to administration and that the blood component has been ordered correctly.<br>• Patient ID wristband (and verbal identification of patient whenever possible) - with corresponding NHI number on prescription and transfusion orders and label on the blood product.<br>• Blood product unit number on bag/ bag label and Blood Product Transfusion Request form.<br>• Details of the patient's blood group and Rh against label on Blood Product Bag and product issued.<br>• Time that the product left the Transfusion Laboratory and the appearance of product / container integrity.<br>• Expiry date of the product.<br>**If in doubt about compatibility contact the Transfusion Laboratory.**<br>• The component (particularly red cells) should be mixed thoroughly by gentle inversion before use.<br>• Always use gloves when handling blood components. | To avoid the significant risk to patient safety if incorrect component is administered.<br><br>To ensure blood component meets safe quality standards.<br>To prevent contamination |
| 4 | **Monitoring of Patient**<br>• Record patient baseline pulse rate, blood pressure, temperature, respiratory rate and general condition immediately prior to commencing transfusion.<br>• On commencement of transfusion patient must be monitored closely for any signs of adverse reaction:<br>(a) Baseline observations must be repeated after 15 minutes.<br>(b) Patient must be able to contact nursing staff at all times, if this is not possible, e.g. the patient is unconscious, then the person responsible for administration must stay with the patient for the first 15 minutes of each unit.<br>(c) Patient is assessed every 30 minutes during blood administration. This assessment includes pulse, respiratory rate, and | Transfusion reactions are most likely to occur within 15 minutes of commencement of administration – therefore extra precautions must be taken to observe patients during this time. |

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| | observations for signs of adverse reaction, e.g. urticaria, pruritis, rash, rigors, chills, hypotension, nausea, vomiting, chest pain, oliguria, flank pain, headache, wheezing, laryngeal oedema; or fluid overload e.g. dyspnoea, tachycardia, respiratory failure, hypoxia, cyanosis. Temperature and blood pressure is assessed hourly. | |
| 5 | **Administration:** All products derived from human blood product must be administered using a blood filter.<br>• Transfusion Laboratory will notify the clinical area if a blood warmer is required for product administration.<br>• IV administration sets are changed after every second unit and following the administration of last prescribed transfusion in patient's orders for the day.<br>• Administration sets should be flushed with 0.9 % Sodium Chloride prior to commencing and after completion of blood transfusion.<br>• In emergency / theatre situations - 8 - 10 units may be transfused before the set is changed. For transfusion during prolonged resuscitation (e.g. in theatre) the set must be changed every 8 hours or as soon as last unit of red cells administered.<br>• Platelets must not be administered via a line used for red cell administration.<br>• Blood products should be administered via a peripheral line when at all possible. If this is not possible, and a central line is used for blood product administration - use an electronic pump to ensure steady infusion rate and flush the line with 20 mls 0.9% Normal Saline after transfusion to reduce risk occlusion to central line.<br>• Medication or other additives (other than 0.9% Sodium Chloride or 4% Albumin solution) must never be added to blood products and the use of the blood administration line for medication administration should be avoided when ever possible. In the event of no other access being available the blood product administration must be stopped and the line flushed with 20mls of 0.9% Sodium Chloride before and after | To reduce risk of bacterial contamination<br>Blood components may be incompatible with intravenous solutions (e.g. Glucose).<br><br>To avoid delays to infusion<br>Red cells in the filter may cause platelets to aggregate.<br><br>To avoid incompatibility issues. |

| | ACTION | RATIONALE |
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| | medication administration.<br>• Blood products may be administered using Electronic Volumetric Infusion pumps – Floguard and Colleague, available at both Tauranga and Whakatane Hospitals, using an 'in-line' blood filter and standard IV set (compatible with pump selected). | |
| 6 | **Completion or interruption of transfusion**<br>• Transfusion of blood products must be completed within 4 hours of issuing from the Transfusion Laboratory. If the transfusion is interrupted, for example if IV cannula requires resiting during the transfusion:<br>(a) Assess reason for cannula resiting – if any sign of infection in current site discard giving set and blood product<br>(b) If the cannula can be resited immediately (within 5-10 minutes) and you are certain that the giving set has not been contaminated during disconnection – you may recommence transfusion using existing administration set.<br>(c) If there is a delay (greater than 15 minutes) in resiting cannula or you suspect that the giving set may have been contaminated (e.g. accidental dislodgment of cannula) – replace the giving set using aseptic technique and recommence transfusion within one hour of stopping administration provided transfusion can then be completed within four hours of the product having been dispensed from the Transfusion Laboratory. | To avoid administration of potentially contaminated blood component; or a unit that has been out of monitored storage for longer than recommended time period of 4 hours. |
| 7 | **Adverse reaction to Transfusion**<br>Adverse reactions to blood products are potentially emergency situations.<br>Stop transfusion; assess Airway, Breathing and Circulation; call for emergency assistance if necessary.<br>In the event of the patient experiencing an adverse reaction to any blood product the clinical staff must notify the Transfusion Laboratory immediately.<br>A Transfusion Reaction Investigation Form will be sent from the Transfusion Laboratory and must be completed by the medical staff responding to the reaction - and returned with relevant samples as requested to the Transfusion Laboratory. | |

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| | Reaction must also be fully documented in patient's clinical notes. | |
| 8 | **Documentation and disposal of completed transfusion bags**<br>• The product / patient identification label off the blood product must be entered into patients clinical notes on completion of administration.<br>(a) At Tauranga this is placed onto the back of Blood Product request form in the patient's clinical record.<br>**(b)** At Whakatane this is placed in the patient's clinical record.<br>On completion of transfusion remove administration set and filter, place empty transfusion bag in sealed Biohazard bag and return immediately to the Transfusion Laboratory. Transfusion Laboratory store used bags for follow up in the incidence of delayed transfusion reaction. | |

**REFERENCES**


- Australian and New Zealand Society of Blood Transfusion Inc. Royal College of Nursing Australia, 2004. Guidelines for the Administration of Blood Components. (1st Ed.)
- Mallet J. and Dougherty L. Manual of Clinical Nursing Procedures, The Royal Marsden Hospital, 5th Edition (Internet): Available BOP DHB Intranet Nursing site.

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