

Appendix 9 - Equipment administration sets, blood warmers, infusion devices

NHS Board to complete as per equipment used

Blood Administration:

Blood components can be transfused through most peripheral or central venous catheters, although the flow rate is reduced by narrow lumen catheters and long peripherally inserted central catheters (PICC lines).

They should be transfused through an administration set with a 170 – 200 µm integral mesh filter. Paediatric administration sets with a smaller prime volume are available for small volume transfusions. Although special platelet administration sets are available, it is safe to use a standard blood administration set, but platelets should not be transfused through a set previously used for red cells as some platelet loss will occur. It is not necessary to prime or flush blood administration sets with physiological (0.9%) saline but a new administration set should be used if blood components are followed by another infusion fluid. Although there is little evidence, current guidelines recommend changing blood administration sets at least every 12 hours to reduce the risk of bacterial infection.

Blood and other solutions can be infused through the separate lumens of multi-lumen central venous catheters as rapid dilution occurs in the bloodstream. Where possible, one lumen should be reserved for the administration of blood components.

Blood warmers are most commonly required in:

- Large volume rapid transfusion i.e.
 - >50ml/kg/hour for adults
 - >15ml/kg/hour for infants
- Exchange transfusion in infants
- Patients with cold-agglutinins requiring transfusion

If a blood warmer is required, then the person responsible for the transfusion should strictly follow the manufacturer's guidelines. Blood must NOT be warmed by any other means.

Infusion devices are commonly used to achieve optimum flow rates. Always check the manufacturer's device is suitable for the infusion of blood components. Specific Blood Administration Sets must always be used when using an infusion device for transfusing patients.

In large volume rapid infusions, the use of a pressure device is recommended (rather than manual squeezing of bloodbags). The maximum pressure that should be applied to a blood transfusion pack is 300mmHg.