

Blood Warmer Guidelines

Who
Division 1 Registered Nursing Staff
Student Nurses (under the supervision of a Division 1 Registered Nurse)
Medical Staff

Expected Outcomes
That the blood component will be warmed, as it flows through the giving set, to no more than 37°C using a device specifically designed for this purpose.

Precautions
The entire blood bag **MUST NOT** be warmed

- **NEVER** run blood under hot water
- **NEVER** use an unmonitored hot water bath
- **NEVER** use a microwave oven

These methods of heating may cause haemolysis of red cells due to uneven heating.

Why
Transfusion of cold blood components may cause complications in specific recipients. (See clinical indications).



Safety Considerations

- Manufacturer's guidelines must be followed for all blood warmers.
- Only approved blood warmers that are calibrated and maintained not to warm blood beyond 37°C may be used.
- Blood warmers must undergo annual quality assurance testing and be equipped with warning systems including an audible alarm and visual temperature gauges.
- The nurse/medical officer must demonstrate knowledge of the appropriate use and operation of the blood warmer.

Clinical Indications for Warming Blood

- Large volume rapid transfusions:
 - Adults greater than 50 ml/kg/hour
 - Children greater than 15 ml/kg/hour
- Exchange transfusion in infants
- Recipients with clinically significant cold agglutinins/cold reactive antibodies



If an adverse event (actual or 'near miss') is associated with the use of a blood warmer, document details in the medical record and complete an incident report.



Aiello, J., Davis, K., Thorp, D., 2004, *Guidelines for the Administration of Blood Components*, 1st edn, Australian & New Zealand Society of Blood Transfusion Inc, Sydney

Blood Component Information: An extension of blood component labels, 2005, Australian Red Cross Blood Service, Fitzroy

The Clinical Use of Blood in Medicine, Obstetrics, Paediatrics, Surgery and Anaesthesia, Trauma & Burns, 2001, World Health Organisation, Blood Transfusion Safety, Malta

Guide to the preparation, use and quality assurance of blood components. 2003, 9th edn, Council of Europe Publishing, Germany

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