CLINICAL PRACTICE GUIDELINES

Appropriate Use of Red Blood Cells

Summary of NHMRC/ASBT guidelines

This summary is derived from the National Health and Medical Research Council (NHMRC)/Australasian Society of Blood Transfusion (ASBT) *Clinical Practice Guidelines on the Use of Blood Components* (red blood cells, platelets, fresh frozen plasma and cryoprecipitate). The guidelines were produced in cooperation with the Commonwealth Department of Health and Aged Care, the Royal Australasian College of Surgeons, the Australian and New Zealand College of Anaesthetists, and other relevant groups. The coalition of organisations involved in developing the guidelines demonstrates the degree of interest across the specialties in promoting the appropriate use of blood components.

The recommendations included in this summary have been endorsed by the NHMRC and the ASBT. The recommendations aim to support:

- clinical decisions about the use of red cells; and
- quality processes to promote appropriate use of blood components and optimise patient outcomes.

The clinical recommendations are summarised overleaf. For further details, consult the NHMRC/ASBT guidelines.

Organisational practice

Changing organisational practice through quality improvement is as important as changing clinical practice. A quality management system that includes monitoring, assessment, action and evaluation will allow audit of usage at the local level and eventual evaluation of changes in practice and effect on health outcomes.

Documentation used in ordering or administering blood components (eg request forms or blood administration forms) should summarise the clinical recommendations of these guidelines and collect standardised data items. Clinical and laboratory indications for blood components should be accurately recorded in that documentation and in the patient's medical record.

As well as a record of the clinical or laboratory indications for the use of blood components, other relevant data could include: reasons for giving blood components if not in accordance with the guidelines (eg if red blood cells are given when the haemoglobin level is >100g/L); and other relevant medical history of the patient's condition.

In all situations where blood component therapy is given, a process for clinical review should be in place to monitor the appropriateness and safety of its use and to develop systems for the implementation of these guidelines.

Clinical review groups or 'transfusion committees' should include senior representatives of relevant clinical specialties and administration, nurses, blood bank and staff involved in quality improvement. In larger hospitals this is likely to be a separate committee. However, this is not necessary and in smaller hospitals, the role could be undertaken by the medical advisory committee or through a local geographic or organisational network.

As part of the informed consent process, a patient should be given clear explanation of the potential risks and benefits of blood component therapy in his or her situation.

Community concern about blood issues and the safety of blood component therapy makes the consideration of consumer issues and processes for informed consent particularly important. Change at clinical and organisational levels within hospitals will help to standardise the use of blood components. Consumers can also be important drivers of change to practice, if they are aware of the issues surrounding use of blood components and know about the risks and benefits in their own situation.

Contact Details

This document is one in a series of documents developed by the NHMRC/ASBT about the use of blood components. These documents are available from:

- NHMRC Website at: http: //www.nhmrc.gov.au, or
- ASBT Website at: http://www.asbt.org.au

Print copies of all documents can be obtained by emailing:

- *HEALTH ADVISORY CTTEE NHMRC@nhmrc.gov.au* or by telephoning (02) 6289 9520 (24hr answering machine) or 1800 020 103. Alternatively you can contact the ASBT by telephoning (02) 9256 5456 or emailing to the secretariat@asbt.org.au.

NHMRC
National Health & Medical Research Council

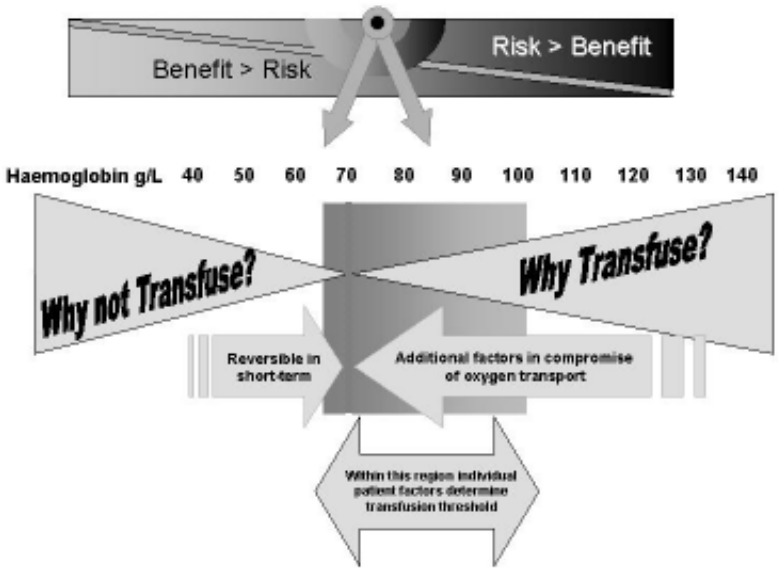
AUSTRALASIAN SOCIETY OF BLOOD TRANSFUSION INC

Appropriate Use of Red Blood Cells

In deciding whether to transfuse red blood cells, the patient's haemogolobin level, although important, should not be the sole deciding factor. Patient factors, signs and symptoms of hypoxia, ongoing blood loss, the risk to the patient of anaemia and the risk of transfusion should be considered.

Hb*	Considerations
<70g/L	Lower thresholds may be acceptable in patients without symptoms and/or where specific therapy is available.
70–100g/L	Likely to be appropriate during surgery associated with major blood loss or if there are signs or symptoms of impaired oxygen transport.
>80g/L	May be appropriate to control anaemia-related symptoms in a patient on a chronic transfusion regimen or during marrow suppressive therapy.
>100g/L	Not likely to be appropriate unless there are specific indications.

* The use of red blood cells for indications not listed in this table is unlikely to be considered appropriate as prophylaxis or therapy. Consult the NHMRC/ASBT guidelines for further details. Clinical and laboratory indications should be documented.



Specific factors to consider

- Patient's cardiopulmonary reserve — if pulmonary function is not normal, it may be necessary to consider transfusing at a higher threshold.
- Volume of blood loss — clinical assessment should attempt to quantify the volume of blood loss before, during and after surgery, to ensure maintenance of normal blood volume.
- Oxygen consumption — this may be affected by a number of factors including fever, anaesthesia and shivering; if increased then the patient's need for red blood cell transfusion could be higher.
- Atherosclerotic disease — critical arterial stenosis to major organs, particularly the heart, may modify indications for the use of red blood cells.

Prescribing blood components: checklist for clinicians

Decisions should be based on the NHMRC/ASBT *Clinical Practice Guidelines for the Use of Blood Components*, taking individual patient needs into account. Before prescribing red blood cells, ask yourself the following questions.

1. **What improvement in the patient's condition am I aiming to achieve?**
2. **Can I minimise blood loss to reduce the patient's need for transfusion?**
3. **Are there any other treatments I should give before making the decision to transfuse?**
4. **Have cross-matching and any other relevant tests been carried out?**
5. **What are the specific clinical or laboratory indications for red blood cells for this patient?**
6. **What are the risks of transmitting infectious agents through the available blood products?***
7. **Do the benefits of transfusion outweigh the risks for this particular patient?**
8. **Will a trained person monitor this patient and respond immediately if any acute transfusion reactions occur?**
9. **Have I recorded my decision to transfuse and reasons for transfusion on the patient's chart and any documentation used in the ordering or administering of blood components?**
10. **Has the patient been given a clear explanation of the potential risks and benefits of blood component therapy in his or her particular case?**

* Note that the rates of non-infective complications are probably higher than those of infective complications.

Adapted from WHO (1998) *Transfusion Today* 38: 3–6.

Abbreviations: Hb = haemoglobin

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