CLINICAL PRACTICE GUIDELINES

Appropriate Use of Platelets

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 platelets; 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 platelets are given as prophylaxis when the platelet count is >20x10^9/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.

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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.

Appropriate Use of Platelets

Use of platelets is indicated for the prevention and treatment of haemorrhage in patients with thrombocytopenia or platelet function defects. The platelet count is the primary trigger for the use of platelets, with clinical risk factors for bleeding and the extent of bleeding also influencing the decision to transfuse.

Use of platelets is likely to be **appropriate as prophylaxis** for:

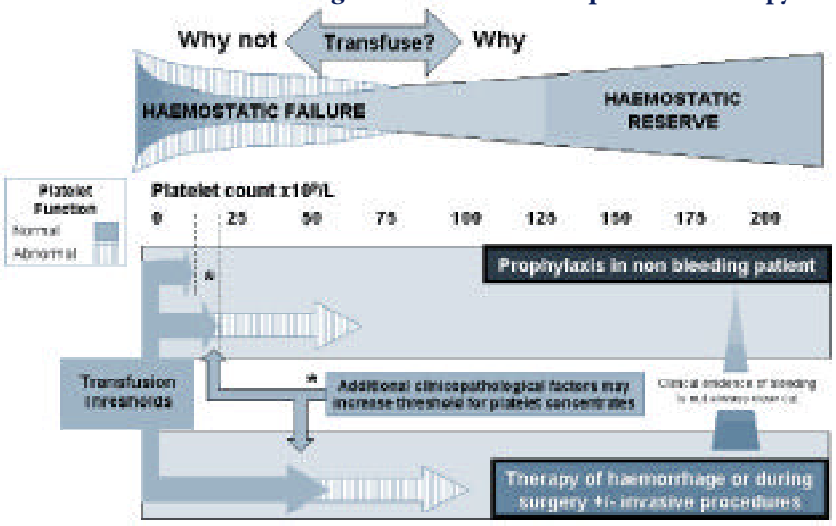
Indication*	Considerations
Bone marrow failure	At a platelet count of $<10x10^9$/L in the absence of risk factors and $<20x10^9$/L in the presence of risk factors (eg fever, antibiotics, evidence of systemic hemostatic failure).
Surgery/invasive procedure	To maintain platelet count at $>50x10^9$/L. For surgical procedures with high risk of bleeding (eg ocular or neurosurgery) it may be appropriate to maintain at $100x10^9$/L.
Platelet function disorders	May be appropriate in inherited or acquired disorders, depending on clinical features and setting. In this situation, platelet count is not a reliable indicator.

Use of platelets is likely to be **appropriate as therapy** for:

Indication*	Considerations
Bleeding	May be appropriate in any patient in whom thrombocytopenia is considered a major contributory factor.
Massive haemorrhage/ transfusion	Use should be confined to patients with thrombocytopenia and/or functional abnormalities who have significant bleeding from this cause. May be appropriate when the platelet count is $<50x10^9$/L ($<100x10^9$/L) in the presence of diffuse microvascular bleeding).

* The use of platelets for indications not listed in these tables is unlikely to be considered appropriate as prophylaxis or therapy. Consult the NHMRC/ASBT Guidleines for further details. Clinical and laboratory indications should be documented.

Factors to consider in deciding whether or not to use platelets as therapy



Contraindications

Use of platelets is not generally considered appropriate in the treatment of:

- immune-mediated platelet destruction
- thrombotic thrombocytopenic purpura
- haemolytic uraemic syndrome or
- drug-induced or cardiac bypass thrombocytopenia without haemorrhage.

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 platelets, 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. What are the specific clinical or laboratory indications for platelets for this patient?
5. What are the risks of transmitting infectious agents through the available blood products?*
6. Do the benefits of transfusion outweigh the risks for this particular patient?
7. What other options are there if no platelets are available in time?
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.

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