



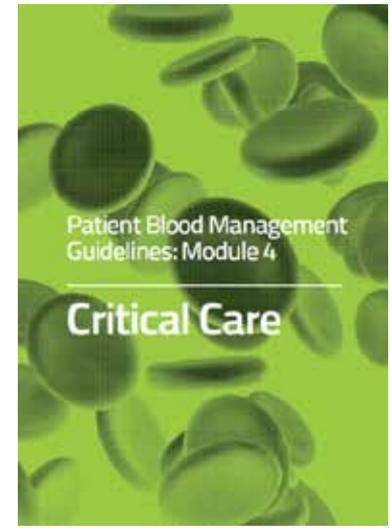
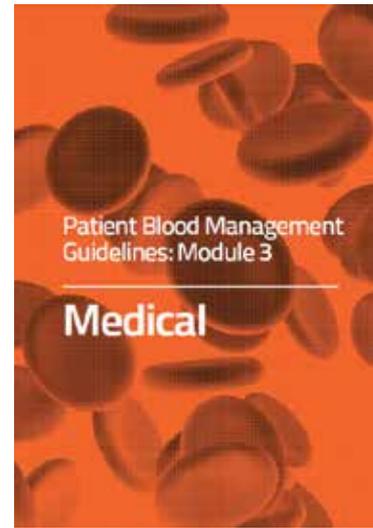
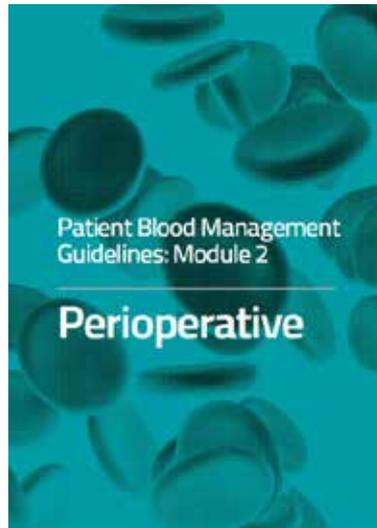
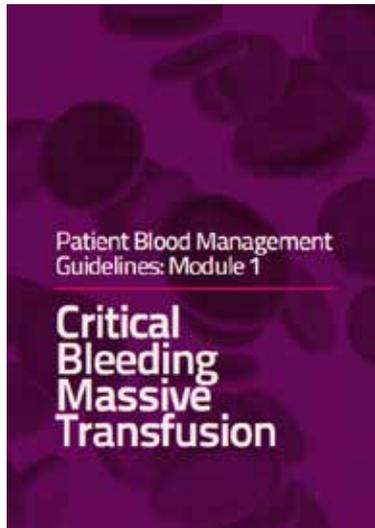
Single Unit Transfusion

for Red Blood Cell Transfusion

Based on the Patient Blood
Management Guidelines

Every **ONE** matters

Patient Blood Management Guidelines



www.blood.gov.au

www.blood.gov.au/pbm-guidelines



Single Unit Transfusion

WHO

- The stable, normovolaemic adult inpatient who does **NOT** have clinically significant bleeding with symptoms of anaemia
- Haemoglobin as defined in the Patient Blood Management Guidelines
www.blood.gov.au/patient-blood-management

“Every **ONE** matters”

WHAT

Transfuse one unit, then reassess the patient for clinical symptoms before transfusing another

- Every unit is a new clinical decision
- Base decision on patient symptoms, not only on haemoglobin





Single Unit Transfusion

WHY

It is important to align practice with the national Patient Blood Management Guidelines

- Transfusion may be an *independent risk factor* for increased morbidity, mortality and length of stay.
- Potential harm from transfusion is *dose dependent*
- Transfusion is a live tissue transplant

The British Committee for Standards in Haematology (2012). Guidelines on the Administration of Blood Components. Addendum to Administration of Blood Components, August 2012 pdf. http://www.bcsghguidelines.com/4_HAEMATOLOGY_GUIDELINES.html

Carson JL et al. 2012. Transfusion thresholds and other strategies for guiding allogeneic red blood cell transfusion – Cochrane Review. *Cochrane Database of Systematic Reviews* 2012: Issue4

Hofmann A, Farmer S, Shander A. 2011. Five Drivers Shifting the paradigm from Product-focused Transfusion Practice to Patient Blood Management" *The Oncologist* 2011;16(suppl 3):3-11

Hofmann, A et al. 2012. Strategies to preempt and reduce the use of blood products: an Australian perspective. *Curr Opin Anesthesiol* 2012, 25:66-73.

Four reasons why excessive transfusion is a problem

Reason 1:

Each transfusion increases the risk of nosocomial infection increases other morbidities

Analysis of 11,963 patients after CABG surgery showed that perioperative RBC transfusion was associated with a dose-dependent increased risk of postoperative cardiac complications, serious infection, renal failure, neurologic complications, overall morbidity, prolonged ventilator support, and in-hospital mortality.

Four reasons why excessive transfusion is a problem

Reason 2:

Transfusion requirements after cardiac surgery (TRACS) study prospectively demonstrated the safety of a restrictive strategy of red blood cell (RBC) transfusion in patients undergoing cardiac surgery. Also reported: **the higher the number of transfused RBC, the higher was the number of clinical complications.**

Four reasons why excessive transfusion is a problem

Reason 3:

Transfusion associated circulatory overload (TACO) is among the high risk adverse effects of red cell transfusion (up to 1 in 100 per unit transfused).

National Blood Authority, 2012. *Patient Blood Management Guidelines: Module 2 - Perioperative*. Appendix B, Table B.2. Transfusion Risks in perspective.

Four reasons why excessive transfusion is a problem

Reason 4:

Perioperative red blood cell transfusion is the single factor most reliably associated with increased risk of postoperative morbid events after isolated coronary artery bypass grafting. Each unit of red cells transfused is associated with incrementally increased risk for adverse outcome.

Koch CG et al. Morbidity and mortality risk associated with red blood cell and blood-component transfusion in isolated coronary artery bypass grafting. *Crit Care Med* 2006, 34: 1608-1616.



Implementing a guideline “Every **ONE** matters”

HOW

- **Identify** key staff / team responsible for implementation
- **Approval and endorsement - CHAMPIONS**
 - From Transfusion Governance Committee / Patient Blood Management Committee
 - Medical and nursing leadership
 - Transfusion Medicine leadership

Implementing a Guideline

“Every **ONE** matters”

- **Implementation**

- *Hospital wide* education; medical, nursing, laboratory staff, in all clinical areas that administer blood products
- Encourage clinical champions to spread the message
- Include in orientation education for new staff
- Key messages, visible signage, electronic media, newsletters.



Clinical Support is Vital

Empower and Support

- Nursing and Laboratory staff who question the appropriateness of a request for blood must have:
 - **Documentation** of the guideline outlining criteria for a second unit of blood
 - Ready access to **medical support - Champions** to discuss episodes of apparent non-compliance
 - **Educational material** to give to staff unaware of the guideline



Guiding Compliance

- **Empower and support staff** to question prescription / order for blood products
 - Laboratory staff, nursing staff, medical staff
 - Guideline accessible at prescription point and in laboratory including prompts for questions about compliance
 - Inclusion criteria for second unit
- **Prompt patients** to enquire about blood transfusion requirements
- **Support** from clinical champions to resolve challenges to requests
- **Utilise Computerised Physician Order Entry systems** if available to guide transfusion decisions and compliance to the guideline



Collect and Report Data

Data collection

- Statistics from laboratory systems:
 - blood packs ordered daily from the Blood Service
 - Daily transfusion numbers – units, patients
 - Number of single unit transfusions
- Log of non-compliant requests to laboratory / local Incident Management System
- Audit of patient medical record for transfusions

*Please note: incidents, adverse events and near misses should continue to be recorded in your incident management system.

Report Data / Feedback

- Reporting Progress – Feedback data
 - To Transfusion Governance Committee, quality committee, clinical governance / executive
 - Medical specialties / divisions, nursing meetings, laboratories.
 - Benchmark between departments, hospitals, health services, states.

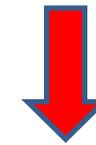
Review and Feedback

- Benchmark internally, locally, externally.
- Share statistics and reports with staff
- Provide a forum for discussion of difficulties, and seek resolutions to problems
- Provide access to articles / reports about progress and new developments
 - in single unit transfusion
 - Patient Blood Management



Every **ONE** matters

Transfuse **One Unit**



Re-assess the patient



Don't increase the RISKS
if
NO BENEFIT





Single Unit Transfusion Guideline

Benefits: Safer, evidence based transfusion

PLUS:

- Reduced risk of non-infectious adverse events
- Reduced demand on limited blood supply
- Reduced risk from new infectious agents

Every **ONE** matters