

# Patient Blood Management Guidelines: Module 3

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# Medical

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**Anaemia is bad for you.**

**BUT**

**Is correction of anaemia with  
Red Blood Cell transfusion good for you?**

# In medical patients, what is the effect of RBC transfusion on patient outcomes?

## PRACTICE POINTS – medical population

### PP1

RBC transfusion should not be dictated by a Hb concentration alone, but should also be based on assessment of the patient's clinical status.

### PP2

Where indicated, transfusion of a single unit of RBC, followed by clinical reassessment to determine the need for further transfusion, is appropriate. This reassessment will also guide the decision on whether to retest the Hb level.

### PP4

In patients with iron deficiency anaemia, iron therapy is required to replenish iron stores regardless of whether a transfusion is indicated.

## PP3

Direct evidence is not available in general medical patients.<sup>a</sup> Evidence from other patient groups and CRG consensus suggests that, with a:

- **Hb concentration < 70 g/L**, RBC transfusion may be associated with reduced mortality and is likely to be appropriate. However, transfusion may not be required in well-compensated patients or where other specific therapy is available.
- **Hb concentration of 70 – 100 g/L**, RBC transfusion is not associated with reduced mortality. The decision to transfuse patients (with a single unit followed by reassessment) should be based on the need to relieve clinical signs and symptoms of anaemia, and the patient's response to previous transfusions. No evidence was found to warrant a different approach for patients who are elderly or who have respiratory or cerebrovascular disease.
- **Hb concentration > 100 g/L**, RBC transfusion is likely to be unnecessary and is usually inappropriate. Transfusion has been associated with increased mortality in patients with ACS.

<sup>a</sup> Recommendations and practice points for medical patients in a critical care setting will be found in the *Patient Blood Management Guidelines: Module 4 – Critical Care*.<sup>3</sup> Recommendations and practice points for specific medical subgroups (ACS, CHF, cancer, acute upper gastrointestinal bleeding and chronically transfused) appear elsewhere in this module.



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- 52 year male
- Presents with acute myocardial infarct to a large city hospital
- He receives thrombolysis therapy for blocked artery
- It is noted his Hb is 80g/L
- Very thoughtful resident asks the cardiologist *“should we transfuse him and if so, how many bags of blood?”*





- Cardiologist carefully thinks of the possible benefits to the patient from the blood transfusion balanced against the potential harm
  - Maybe the anaemia will contribute to more heart damage
  - Maybe the anaemia will increase his mortality and both of these maybe reduced by transfusion
  - However could the blood transfusion somehow contribute to further blockages of his coronary arteries
- Is there any evidence to base this decision on?

## PRACTICE POINTS – acute coronary syndrome

### PP5

In patients with ACS and a Hb concentration  $<80$  g/L, RBC transfusion may be associated with reduced mortality and is likely to be appropriate. (See PP1 and PP2).

### PP6

In patients with ACS and a Hb concentration of  $80 - 100$  g/L, the effect of RBC transfusion on mortality is uncertain and may be associated with an increased risk of recurrence of MI. Any decision to transfuse should be made with caution and based on careful consideration of the risks and benefits. (See PP1 and PP2).

## RECOMMENDATION – acute coronary syndrome

### R1

#### GRADE C

In ACS patients with a Hb concentration  $>100$  g/L, RBC transfusion is not advisable because of an association with increased mortality.



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"I HATE TO TELL YOU THIS, BUT THAT SHOULD BE  
INTENSIVE CARE."

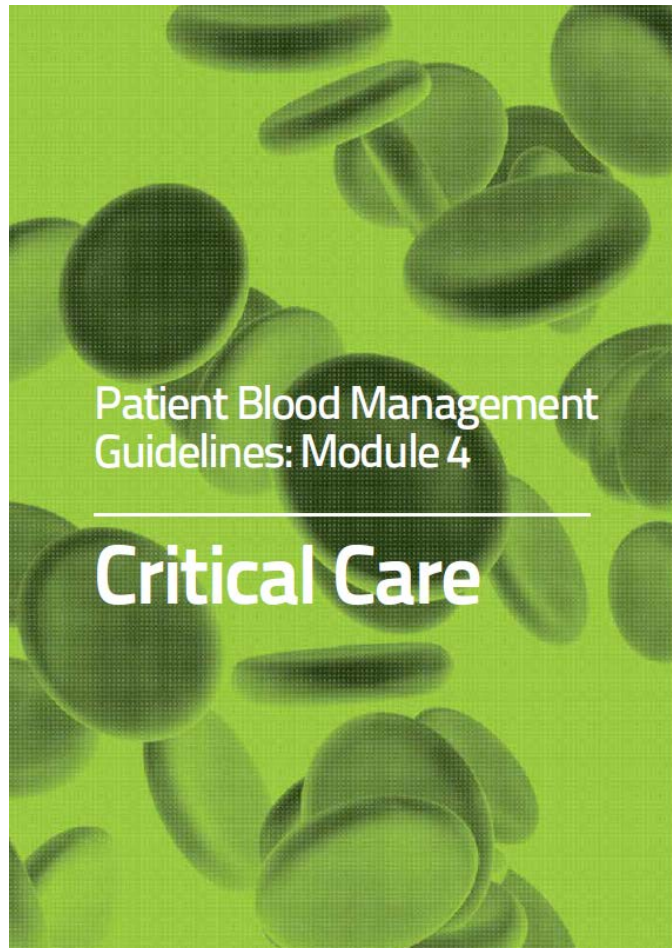
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# Future Modules



- Reasonable body of evidence for RBC transfusion
- Consensus based for Plasma, Cryoprecipitate, Platelets
- Also cover
  - cell salvage for trauma and emergency surgery
  - tranexamic acid in trauma
- Awaiting NHMRC approval

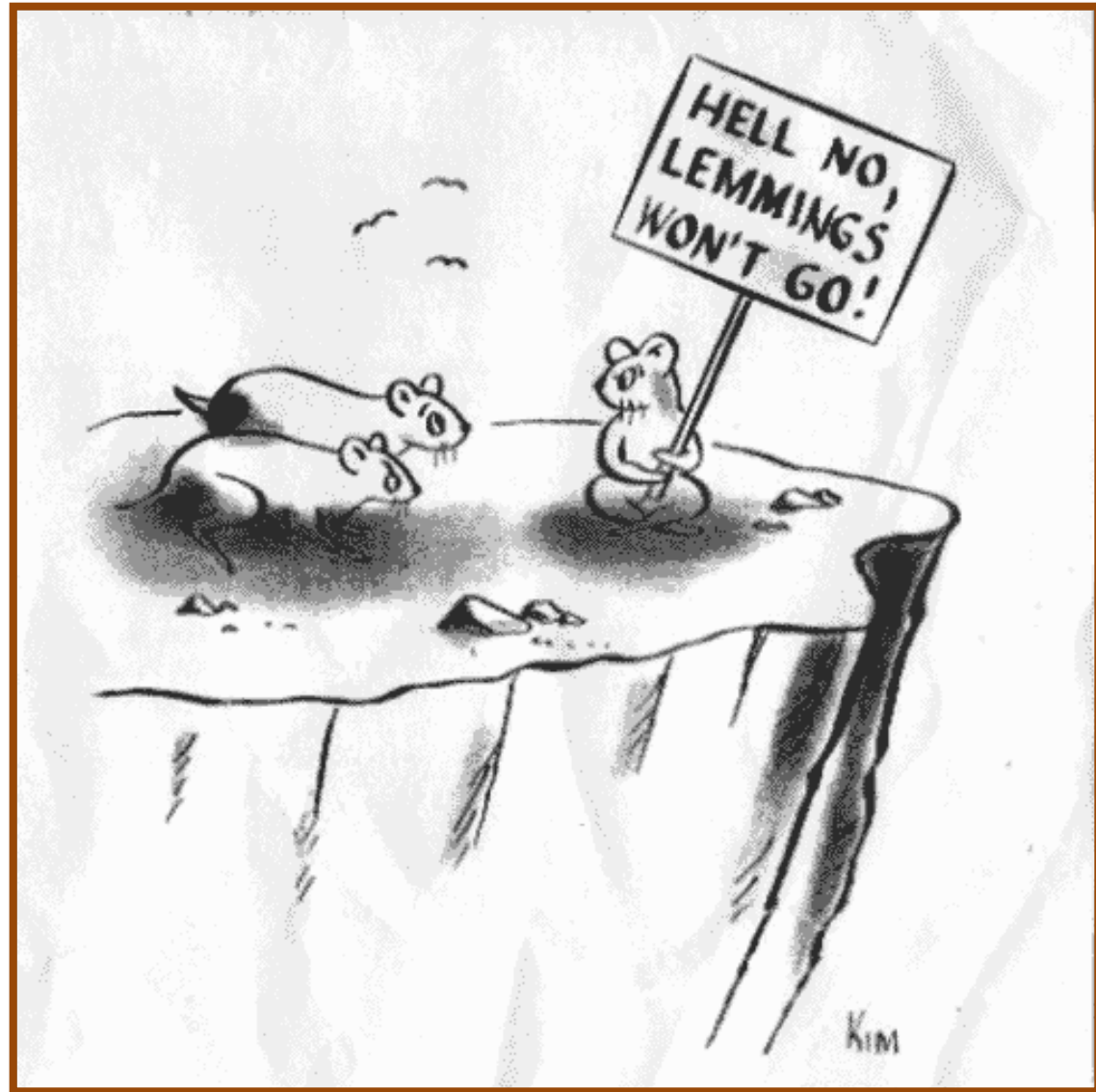
# **Future Modules**

Module 5 - Obstetrics

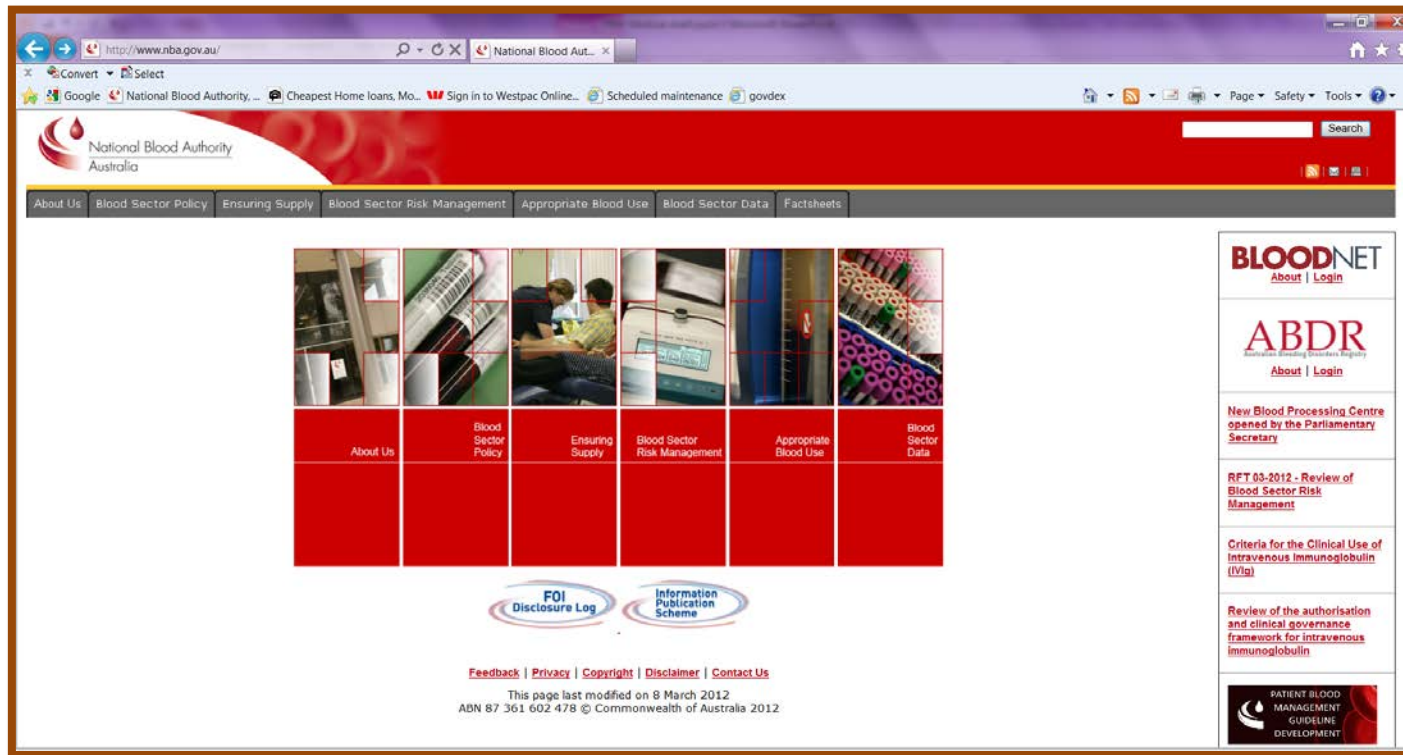
Module 6 - Paediatric/Neonates

Due to commence 2013





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