

Prescribing Red Cells

Always remember that red cell transfusion:

- should be dictated by clinical status (i.e. symptomatic anaemia) and not by haemoglobin (Hb) alone
- may not be required in well-compensated patients or where other specific therapy (e.g. iron therapy) is available, and
- is not without risk, consider patient blood management principles.

Single unit transfusion followed by clinical reassessment to determine the need for further transfusion is current best practice in adults.

Haemoglobin threshold table

Haemoglobin (g/L)	60	70	80	90	100+
Postoperative with acute myocardial ischaemia (AMI) or cerebrovascular ischaemia (CVI)	Transfusion is appropriate.			Transfusion is usually inappropriate.	
Postoperative without acute myocardial ischaemia (AMI) or cerebrovascular ischaemia (CVI)	Transfusion may be appropriate.		Transfusion may be inappropriate.		Transfusion is usually inappropriate.
Acute coronary syndrome	Transfusion likely to be appropriate. ¹		Transfusion may be associated with an increased risk of recurrence of AMI.		Transfusion is usually inappropriate. ²
General medical and surgical unless otherwise specified (includes heart failure, cancer, chronic kidney disease, chemotherapy, haematopoietic stem cell transplant)	Transfusion likely to be appropriate. ¹		Transfusion may not be required. ³		Transfusion is usually inappropriate.
Acute upper GI bleed⁵	Transfusion is appropriate.	Transfusion likely to be unnecessary.		Transfusion is usually inappropriate. ⁴	
Critically ill⁶	Transfusion is likely to be appropriate.	Transfusion may not be required. ³		Transfusion is usually inappropriate.	
Obstetrics	Transfusion may be appropriate. ¹	Transfusion may not be required. ³		Transfusion is usually inappropriate.	
Paediatrics (excluding neonates)	Transfusion is often appropriate.	Transfusion may be appropriate.		Transfusion is often unnecessary and may be inappropriate.	
Thalassaemia	Patients transfused at regular (e.g. monthly intervals) to maintain pretransfusion Hb 90–100 g/L. Generally managed by a thalassaemia specialist, often as outpatient. May be prescribed a predetermined number of units.				A pretransfusion Hb threshold > 100 g/L may be appropriate in some patients.
Myelodysplasia	Decision around appropriate Hb thresholds and frequency of transfusion should be personalised and guided by patient's anaemia-related symptoms, functional or performance status, and response to previous transfusions.				

This table may not be relevant to patients undergoing active resuscitation.

1. Red blood cell transfusion may be associated with reduced mortality.
2. Red blood cell transfusion is associated with increased mortality.
3. Red blood cell transfusion is not associated with reduced mortality.
4. A restrictive transfusion strategy (Hb <70 g/L) results in improved morbidity and mortality compared to a liberal transfusion strategy (Hb <90 g/L).
5. Villanueva C, Colomo A, Bosch A, Concepción M, Hernandez-Gea V, Aracil C et al. *Transfusion Strategies for Acute Upper Gastrointestinal Bleeding*. NEJM 2013;368:11–21.
6. Critically ill refers to patients who are physiologically unstable and at risk of significant morbidity and/or mortality. They require treatment in an intensive care unit.

Neonate and paediatric dose calculation

0.5 x patient weight (kg) x desired Hb rise (g/L)

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