When do we Transfuse?

Kate Musgrave

Haematology Registrar

kathrynpullman@gmail.com

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Key Points: When to Transfuse?

1. Who needs a red cell transfusion?
2. How much?
3. Hb trigger

Case Studies

Case 1

- 32yr old lady presents feeling tired. History of menorrhagia.
- Hb 69 g/L

Case 2

- 75yr old gentleman Myelodysplastic Syndrome, requires tranfusion every 4-6 weeks.
- Feeling tired and feels like he is ‘ready for next tranfusion’
- Hb 89 g/L

Case 3

- 67yr old lady with chronic kidney disease
- Feels tired
- Hb 82 g/L

Case 4

- 81yr old gentleman who had a myocardial infarction 2yrs ago
- Hb 80 g/L

Case 5

- 65yr old lady awaiting bowel surgery in the four weeks time.
- Hb 87 g/L

Who to Transfuse

The Old Way

80yr old lady on AAU with LRTI & Hb 83 g/ L

•Ward round: antibiotics, give 2 units, move on!

What's the Problem?

Considerations

- Why is she anaemic? Is there an alternative?
- Is she symptomatic
- Weight of patient ?90kg ?40kg
- Is she at risk of fluid overload?
- Does she consent?
- Special requirements
  - Irradiation
  - CMV negative

‘Symptomatic Anaemia’

Its not feeling a bit tired!

- **Unstable** cardiac disease
- Orthostatic hypotension
- Tachycardia not responding to fluid
- Congestive cardiac failure

Alternatives?

- Does something need to be replaced
  - Iron infusion
  - Folate/B12
- Kidney failure
  - Erythropoietin +/- iron
- Pre-operatively
  - Iron infusion

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How Much Blood

How Much?

If not actively bleeding and haemodynamically stable:
Give one and review

Weight is crucial

4 mL/ kg raises Hb by approx 10 g/L

1 unit ≠ 10g/L

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Trigger?

Trick Question

There is no Universal Trigger!

- Should be based on
  - clinical assessment of the patient
  - supported by the results of laboratory tests
  - informed by evidence-based guidelines

Some General Guidelines

< 80g/ L if haemodynamically stable & non-bleeding

Haemato-oncology patients

- ok if >80 g/ L and haemodynamically stable

Long term transfusion dependent e.g. MDS

- No arbitary number use quality of life

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Critical Care

Red Cells in Critical Care

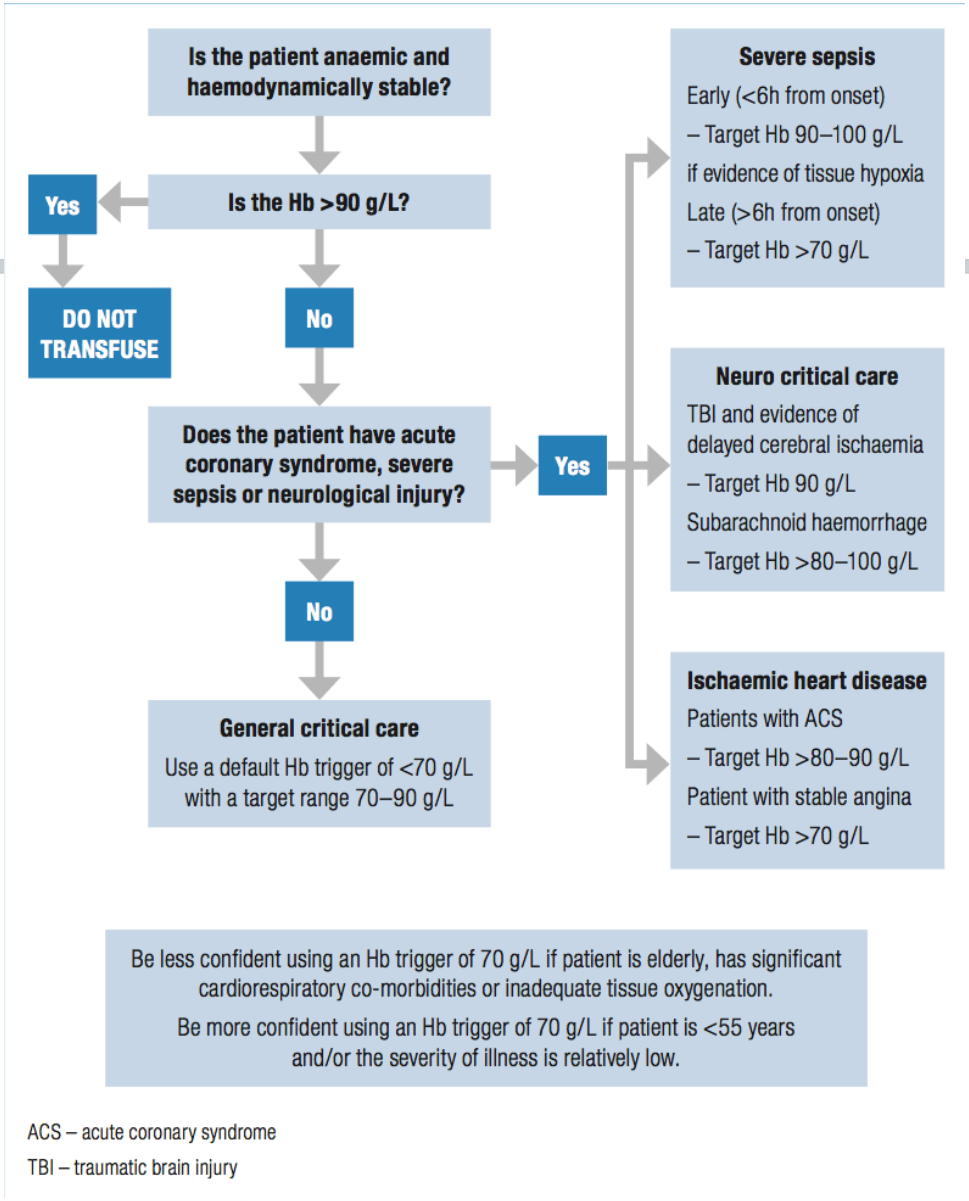
Previous logic:

- They're very sick
- Body already under stress
- Need to improve tissue oxygenation

Unfortunately it appears to be wrong!

Red Cells in Critical Care

- **TRICC** (Transfusion Requirements In Critical Care)
  - Liberal group (Trigger Hb <100g/ L)
  - Restrictive group (Trigger Hb <70g/ L)
  - Lower rates of new organ failure in restrictive group & ?lower mortality
  - ?more Acute Respiratory Distress Syndrome in liberal group
- **TRACS** (Transfusion Requirements after Cardic Surgery)
- **FOCUS** (Transfusion Trigger Trial for Functional Outcomes in Cardiovascular Patients Undergoing Surgical Hip Fracture Repair)



ACS – acute coronary syndrome

TBI – traumatic brain injury

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Questions?

References

1. TRICC study: Critical Care Medicine, 29, 227–234.

2. JPAC: Transfusion Handbook

www.transfusionguidelines.co.uk

- Chapter 6: Alternatives and adjuncts to blood transfusion
- Chapter 8: Effective transfusion of medical patients

3. BCSH Guidelines: Red Cells in Critical Care
www.bcshguidelines.com