



Information for clinicians

Restrictive haemoglobin thresholds and single unit transfusion for red blood cells

“Don’t give two without review”

Using restrictive haemoglobin (Hb) thresholds and targets for red blood cell transfusions, and transfusing one unit at a time, minimises inappropriate transfusion and reduces serious risks such as transfusion-related circulatory overload (TACO). It also improves patient outcomes, reduces hospital costs, and preserves blood stocks.

All suspected cases of TACO, under/over transfusion, and inappropriate transfusion are SHOT reportable incidents¹.

These guidelines apply to all patients apart from those with major bleeding and those requiring regular red cell transfusion or exchange transfusion. The single unit policy also applies to platelet transfusions.

These recommendations are based on those provided by the National Institute of Health and Care Excellence (NICE). NICE Guidance on Blood Transfusion {NG24} (2015)² and NICE Quality Standards for Blood Transfusion (2016)³.

Restrictive red blood cell transfusion Hb thresholds and targets:

- For patients who need red blood cell transfusions and who do not have major haemorrhage or acute coronary syndrome, use a Hb threshold of 70g/L and a target of 70-90g/L after transfusion
- For patients with acute coronary syndrome, use a Hb threshold of 80g/L and a target of 80-100g/L after transfusion
- For each patient with chronic anaemia requiring regular red cell transfusions, set individual Hb thresholds and targets to enable optimal wellbeing and activity levels

Single unit transfusions

Clinical reassessment and measurement of Hb after each unit of red cells transfused helps decision-making about the need for further transfusions and minimises the risk of over transfusion.

When considering transfusion in stable non-bleeding patients:

- Does the patient's current clinical state and Hb indicate a need for transfusion?
- Is the Hb below the threshold for transfusion?
- What is the target Hb level?
- Provide the patient with information about transfusion and obtain and document consent for transfusion
- Use weight-adjusted red cell dosing to guide the appropriate number of units required, for all nonbleeding adult patients
- Transfuse one unit at a time and reassess the Hb and the patient's clinical state before further transfusion
- Document the reason for transfusion, the response to transfusion and any adverse events

After each unit transfused:

- Is the patient still displaying symptoms of anaemia?
- Re-check the Hb
- Has the target Hb been achieved?
- Is further transfusion appropriate?

References

1. Serious Hazards of Transfusion UK haemovigilance scheme (2018): Definitions of current SHOT reporting categories & what to report
<https://www.shotuk.org/wp-content/uploads/myimages/SHOT-Definitions-update-10.01.20-FINAL.pdf>
2. National Institute for Health and Care Excellence (2016) Quality Standards for Blood Transfusion. NICE QS138. 2016
<https://www.nice.org.uk/guidance/qs138>
3. National Institute for Health and Care Excellence (2015) Guidelines for Blood Transfusion. NICE Guideline {NG24}. 2015
<https://www.nice.org.uk/guidance/ng24>

Further reading

Choosing Wisely UK

<https://www.choosingwisely.co.uk/i-am-a-clinician/recommendations/#1476655947791-98e68713-aae4>

NHS Blood and Transplant Hospitals and Science Patient Blood Management website

<https://hospital.blood.co.uk/patient-services/patient-blood-management/single-unit-blood-transfusions/>

Serious Hazards of Transfusion UK haemovigilance scheme Annual Report (2020)

<https://www.shotuk.org/shot-reports/report-summary-and-supplement-2020/>

National Comparative Audit of Blood Transfusion: Transfusion Associated Circulatory Overload audit (2017)

<https://hospital.blood.co.uk/audits/national-comparative-audit/medical-audits/transfusion-associated-circulatory-overload-audit-2017/>

NBTC Indication Codes

<https://www.transfusionsguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

Contact us

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