Preoperative Anaemia Guidelines

Why?

Where does CPOC fit?

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Disclosures

- NIAA grant holder for 2 IV iron trials
- Consultant for Pharmacosmos and Pfizer
- CPOC anaemia guideline RCOA representative
- British Society of Haematology Preoperative anaemia guideline group
- RCoA clinical quality working group
- National Collaborative Audit NHSBT RCoA lead
- WBS anaemia workstream lead
• Why is a guideline for anaemia essential for Perioperative Care?
• How does anaemia affect patient outcomes following surgery
• What guidelines are available; where does CPOC fit?
• Key points in the CPOC pathway?
• How does this work in your hospital?
• Future research
What is anaemia?

Why is this important?

• Low Haemoglobin

• Iron deficiency is the commonest cause of anaemia in the surgical population\(^1,3\)

• The most common treatment remains a packed red cell transfusion\(^3\)

• Patients receiving transfusion during major surgical intervention have poorer outcomes\(^2\)
  • Difficult to separate cause and effect

Does anaemia affect outcome following surgery?

30% prevalence of anaemia

>mortality and morbidity

Anaemia and transfusion together additive

Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study

Pre-operative haemoglobin levels and iron status in a large multicentre cohort of patients undergoing major elective surgery*

3342 elective patients (2884 data sets)
Hb < 130g/L included
Overall prevalence - 36 % anaemia rate
Less patients with severe anaemias < 100g/L
Majority 100-120g/L

Separated according to iron deficiency
Absolute, low stores, iron sequestration
Prevalence different between surgical specialties

Iron deficiency is associated with higher mortality in patients undergoing cardiac surgery: a prospective study

Julian Rossler et al. BJA Cardiovascular (2019)

The effect of Iron Deficiency on Outcome

- 3-fold risk in 90 day mortality in patients with vs without anaemia
- Increased SAE’s
- Prolonged LOS & Transfusion
Consensus Statement

International consensus statement on the peri-operative management of anaemia and iron deficiency

There are lots of guidelines (and opinion) available......

- NICE NG45 Blood tests
- NICE NG24 Blood transfusion
- International consensus statement
- NATA [Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis]
- British Society of Gastroenterology
- NICE B12 and folate deficiency
- British Society for Haematology (pregnancy, children)

These are all incorporated into CPOC
What is CPOC?
Does the guideline fit with my department?
What is CPOC?
Members of every group include

Centre for Perioperative Care x3
Association of Anaesthetists
Association of Surgeons of Great Britain
Association of Paediatric Anaesthetists
British Dietetic Association
British Society for Haematology
British Orthopaedic Association
College of Operating Department Practitioners
Federation of Surgical Specialty Associations
British Association of Urological Surgeons
NHS blood and transplant
Patient Representatives x2
Preoperative Association
Royal College of Nursing Perioperative Forum
Royal College of Anaesthetists
Royal College of Emergency Medicine
Royal College of Obstetrics and Gynaecology
Royal College of Pathologists
Royal College of Physicians
Royal College of Surgeons of England
The British Society of Gastroenterology
Doctors in Postgraduate training representatives x2
United Kingdom Clinical Pharmacy Association

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Other CPOC guidelines

Diabetes      Pre-op      Frailty      Enhanced care      Day surgery
Defining perioperative guidance means:
- from the moment surgery is contemplated, until full recovery.

Multidisciplinary Team Working, Integrated Pathways, Use of Technology, Data Gathering
Guideline for the Management of Anaemia in the Perioperative Pathway

September 2022

https://cpoc.org.uk/guidelines-resources-guidelines/anaemia-perioperative-pathway
How does CPOC help?

• Evidence based recommendations

• Diagnostic pathway for anaemia with recommended tests

• Treatments

• Covers special groups – pregnancy, paeds

• Timing of surgery and shared decision making

• Patient centred

• Information all in one place
Nurse-led risk stratification

Standard
- Optimise
- Protocolise
- Bring steps earlier
- Anticipate

Complex
- Senior clinician
- Complex optimisation / medication / treat
- Shared Decision Making

Pre-Operative Assessment & Optimisation McNally et al, 2021
https://doi.org/10.12968/hmed.2021.0318
Where is my department?
Does it have guidance for anaemia?

Where is my department? Does it have guidance for anaemia?

Pathway that screens and treats

- @ 6 weeks IV iron
- > 6 weeks, trial of oral remains acceptable (NICE)
- recognise requirement of further referral (gastro/renal/haem)
- timing of surgery
- supported by NICE/ CPOC / PBM & consensus statements
Preoperative Anaemia Treatment – questions to ask when I see a patient in POAC?

• Who is the patient?
• What is the operation?
• Does this surgery fit with > 500ml blood loss with risk of transfusion?
• How long have I got to treat?
• What is the urgency for surgery?
• Shared decision making- discuss pros and cons with patient and surgeon.
Current and future research for Perioperative Care on patients with anaemia
Evidence for IV iron in the Preoperative setting

Impact of treating Iron Deficiency Anemia Before Major Abdominal Surgery

- Decreased Need for Blood Transfusions: 31% → 12% (percent of patients)
- Shorter Hospital Length of Stay: 9.7 → 7.0 (days)
- Recovery of Hemoglobin (Hb) post-discharge: +0.9 → +1.9 (Hb change at 4 weeks)

Randomised Controlled Trials using IV Iron in the Preoperative setting

• Primary outcome measure to detect difference in transfusion
• No difference in transfusion
• No other measures of PBM implemented
Patient Blood Management (PBM)

Three pillars of patient blood management

Pillar 1: Detection and management of anaemia and iron deficiency

Pillar 2: Minimization of blood loss and optimization of coagulation

Pillar 3: Leveraging and optimizing the patient-specific physiological tolerance of anemia

WHO, 2021 https://apps.who.int/iris/handle/10665/346655
Future research goals in trials on anaemia

• Keep the treatment preoperative
• Adequate time for iron to work
• Implement all other measures of PBM
• Include women with Hb 120-130g/L
To finish October 2022...

- NHSBT for the first time ever announced amber alert
- Severe shortage of blood stocks in UK
- Anaemia management in the preoperative setting is crucial to this