

Amber Guidelines

31 October 2022

- Use the Emergency Blood Management Arrangements (EBMA) checklist.
- Decrease stock holding when safe to do so using the recommended guidance provided by the Blood Stocks Management Scheme.
- Remove age requirement for red cells used for red cell exchanges in haemoglobinopathy patients. Age requirements are not in place in other countries that use red cell exchange in sickle cell disorders.

- Identify and treat haematinic deficiencies with the appropriate supplement (iron, B12 or folate), unless the patient has haemodynamic compromise.
- Minimise iatrogenic anaemia (reduce frequency or volume of blood sampling where appropriate).
- Use a restrictive red cell transfusion threshold, haemoglobin of 70 g/L unless patient is bleeding, has acute coronary syndrome, or is on a chronic transfusion programme.
- Transfuse one unit of red cells at a time (or equivalent volumes calculated based on body weight for children from 1 year of age, or adults with low body weight), in patients who are not bleeding or on a chronic transfusion programme. Reassess the patient clinically and with a further blood count to determine if further transfusion is needed.
- Decision to transfuse (in all settings) should be consultant led, unless it is an emergency.
- Any delays to transfusion or any avoidable transfusion should be reported to Serious Hazards of Transfusion (SHOT).

- Ensure patients with anaemia who are due to have elective surgery are properly diagnosed and treated prior to the planned surgery.
- Ensure early pre-assessment of patients in categories P2-3, check haematinic status and treat deficiencies with appropriate oral and intravenous supplements. Early screening for anaemia and other significant comorbidities is recommended by other [NHSE guidance](#) and can be supported by using Hemocue or similar point-of-care devices.
- Ensure booking and scheduling teams are aware of any changes to patient selection criteria for list population, including the need to reprioritise patients being sent for pre-operative assessment in line with the suggested clinical guidelines.
- Optimise care of patients in P1 category with iv iron infusions pre-operatively or at induction.
- Continue P4 category surgery not expected to require blood component support.
- § At the WHO patient team brief and time out discuss blood loss and blood management. Review preoperative haemoglobin level and expected blood loss. If preoperative haemoglobin low or intraoperative blood loss could be greater than 500ml (in adults) use tranexamic acid and cell salvage unless contraindicated (CI). CI to either tranexamic acid or cell salvage should be documented. Ensure that operating theatres have adequate access to cell salvage equipment and appropriately trained staff to deliver cell salvage when it is indicated.
- Use point-of-care coagulation testing to guide intraoperative blood component management.
- Consider use of post-operative iv and/or oral iron in anaemic patients to avoid need for transfusion.

Patients requiring or who may require a chronic transfusion programme

- Use alternatives to transfusion, where appropriate, e.g. iv iron or Epo ([MDS guidance](#), [oncology guidance](#)).
- Review local protocols for red blood cell transfusions if they are used to maintain haemoglobin levels above a target level during curative radiotherapy (e.g. in cervical or head and neck cancers). The evidence that transfusion improves cancer outcomes in this situation is of poor quality.
- Red cell exchange for haemoglobinopathy patients:
 - Consider, where possible exchanging to a higher post HbS% and then giving a simple transfusion.
 - Reconsider bringing HbS% post exchange to below 15%. To achieve this often requires many additional units because at lower HbS% levels you are removing mostly transfused blood. Other mechanisms of maintaining a sufficiently low HbS% could include aiming at a higher Hb following the exchange.
 - Reassess use of red cells during previous red cell exchanges to ensure optimising red cell component use.
 - If available, use the depletion mode in the Spectra Optia if safe to do so and if it results in less blood use.

§ The Centre for Perioperative Care (CPOC) has recently developed a perioperative anaemia guideline using a whole pathway approach. It contains recommendations for patients of all ages undergoing surgery and for health care professionals in both emergency and elective surgical settings and across specialties. CPOC is a cross-organisational, multidisciplinary initiative led by the Royal College of Anaesthetists to facilitate cross-organisational working on perioperative care for patient benefits and is a partnership between patients and the public, other professional stakeholders including Medical Royal Colleges, NHS England and the equivalent bodies responsible for healthcare in the other UK devolved.