

Standards for *major haemorrhage* education sessions

CONTEXT

The ANZCA CPD standard requires participants to complete two activities from the Emergency Responses category during each CPD triennium.

The purpose of this document is to assist hospital departments, private practice groups and continuing medical education providers to develop and/or conduct education sessions that may incorporate local staff, work environments and equipment.

This document defines the minimum standard required for education sessions to achieve recognition as a valid activity for satisfying the CPD requirement of the management of *Major Haemorrhage*.

This activity requires participants to complete a recognised education session, which acceptable formats include practical simulations, workshops or online learning resources.

BACKGROUND TO THE MAJOR HAEMORRHAGE ACTIVITY

The resuscitation of patients in the perioperative period has traditionally been the responsibility of the anaesthetist. Infrequently the anaesthetist is presented with impending or potential blood loss to a degree that profound cardiovascular instability and coagulopathy may ensue. The most frequent circumstances that this may occur are:

- Obstetric ante or post partum haemorrhage
- Trauma
- Perioperative elective surgical complications
- Pre-existing and developing intraoperative coagulopathies
- Paediatric haemorrhage.

As these circumstances can develop in any area of routine anaesthetic practice, a general proficiency in the management of major haemorrhage is expected in all specialist anaesthetists.

RECOGNISED ALGORITHMS AND GUIDELINES

ANZCA does not exclusively endorse any one algorithm or guideline for the management of major haemorrhage but recognises the need for clinicians to be familiar with at least one. The following guidelines are recognised as being suitable for use in this module:

- National Blood Authority of Australia. Patient Blood Management Guidelines: Module 1 Critical Bleeding/Massive Transfusion. 2011. [Internet] <https://www.blood.gov.au/pbm-module-1>. Accessed August 23 2018.
- Australian and New Zealand Society of Blood Transfusion (ANZSBT). Guidelines for the Administration of Blood Products. 2018. [Internet] <https://www.anzsb.org.au/pages/anzsbt-guidelines.html>. Accessed August 23 2018.
- Spahn DR, Bouillon B, Cerny V, Duranteau J, Filipescu D, Hunt BJ, Komadina R, Maegele M, Nardi G, Riddez L, Samama CM, Vincent JL and Rossaint R. 2019) "The European Guideline on Management of Major Bleeding and Coagulopathy Following Trauma: Fifth Edition. Critical care 2019; 23:1. [Internet] <https://link.springer.com/article/10.1186/s13054-019-2347-3>. Accessed May 8 2019.
- Mavrides E, Allard S, Chandharan E, Collins P, Green L, Hunt BJ, et al. on behalf of the Royal College of Obstetricians and Gynaecologists. Prevention and management of postpartum haemorrhage. BJOG 2016;124:e106–e149. [Internet] <https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1111/1471-0528.14178>. Accessed August 23 2018.
- Cannon JW, Khan MA, Raja AS, Cohen MJ, Como JJ, Cotton BA, et al. Damage control resuscitation in patients with severe traumatic haemorrhage: a practice management guideline from the Eastern Association for the Surgery of Trauma. J Trauma Acute Care Surg 2017;82(3):605-17. [Internet] https://journals.lww.com/jtrauma/Fulltext/2017/03000/Damage_control_resuscitation_in_patients_with.24.aspx. Accessed August 23 2018.

This article is also suggested as recommended reading:

- Blain S, Paterson N. Paediatric massive transfusion. *BJA Educ* 2015;16(8):269-75. [Internet] <https://academic.oup.com/bjaed/article/16/8/269/2364823>. Accessed August 23 2018.

LEARNING OBJECTIVES

To achieve recognition for the ANZCA and FPM CPD program, the education session must address, as a minimum, the objectives below.

By the end of the session, participants will be able to:

1. State the definition of critical bleeding, and massive transfusion.
2. Identify approaches to stop critical bleeding. This may include pneumatic, compressive, topical haemostatic, and systemic.
3. Recognise clinical risk factors that increase mortality with blood loss, that demand an emergency rather than routine resuscitation response. These include degrees of trauma injury, obstetric bleeding, acidosis, haemodynamic instability, and shock.
4. Identify haematology and coagulation investigations indicated to quantify major haemorrhage.
5. Describe minimum requirements including: transfusion and resuscitation equipment; IV access; and personal support to undertake major resuscitation.
6. Determine endpoints of resuscitation management of volume and selection of blood products to maximise patient outcome.
7. Describe advanced coagulation management including the use of blood and pharmacological products.
8. Recognise that non-technical and teamwork skills, as well as initiation of emergency protocols of massive transfusion and when relevant, focus on surgical cessation of bleeding, rather than definitive surgical management (damage control surgery), is vital in the management of critical bleeding/massive transfusion.

OPTIONAL

Departments developing an education session may elect to expand the focus of teaching to the type of major haemorrhage that is most likely to present and understand the team approach needed to deliver large volume blood products at the right time to the patient. Important educational points should include:

- Recognise the non-technical and teamwork competencies that have a positive impact during management of critical bleeding/massive transfusion and evolving crises, and employ strategies to utilise them.
- Adoption of hospital critical bleeding/massive transfusion protocols
- Compare the hospital's critical bleeding/massive transfusion protocols with the Patient Blood Management Guidelines: Module 1.
- Discuss agreed initiation criteria, blood product content, and sources of clinical advice in more complex haemorrhagic cases.
- Describe the indications of shock related to major bleeding that should trigger mandatory referral, including: degree of haemorrhage; nature of haemorrhage; and lack of control of bleeding. Agreed stratification of shock is also useful.
- Demonstrate cooperation with surgical, anaesthetic and ICU/ED teams to practice damage control resuscitation and surgery to allow stabilisation and minimise blood loss in uncontrollable haemorrhage.

Depending on the structure of the participant's clinical environment focus could be also be on:

- Massive Haemorrhage in obstetrics and trauma
- Coagulopathy management in cardiac bypass surgery
- Blood loss in major vascular and aortic surgery, particularly their acute presentation
- Bleeding in the presence of sepsis, liver failure or pre-existing medications that alter coagulation factor or platelet function.

STRUCTURE OF EDUCATION SESSION

Participants may complete either, or both, of the BloodSafe elearning Australia's online modules as each of these have been recognised as a Major Haemorrhage activity.

- [Critical Bleeding](#), based on the National Blood Authority's *Patient Blood Management Guidelines: Module 1 Critical Bleeding/Massive Transfusion*.
- [Obstetrics and Maternity](#), based on the National Blood Management Guidelines: *Module 5 Obstetrics and Maternity*.

Education session delivered in a workshop or structured group discussion format must:

1. Provide pre-course reading that provides relevant foundation knowledge of the session content.
2. Have a minimum total duration of ninety (90) minutes.
3. Provide case-based discussion or scenario-based simulation activities so participants have the opportunity to: apply knowledge learnt through the session or pre-reading; and practice implementation of the guidelines.
4. Be facilitated by a post-Fellowship specialist who is appropriately skilled and experienced to deliver the content of the session. Ideally the facilitator will have medical education experience and/or credentials.
5. Provide one facilitator per 15 participants. Group discussion and/or activities must engage each participant to ensure all attendees are achieving the objectives of the session.
6. Course directors who wish to record information relating to the performance or conduct of participants must obtain written consent and adhere to the privacy policies of their organisation and location. ANZCA does not collect this information and it is optional for the course provider and director to do so.

SESSION MATERIALS

Session materials for delivery via workshop or group discussion must include the following in hard copy or electronic form:

- Session objectives
- Session outline
- Facilitators' guide (including scenario outlines)
- Session evaluation forms for feedback from participants
- Participant list template to record date, venue, names and appointment type of participants