



ANZCA and FPM CPD Program

Can't intubate, can't oxygenate ER session guideline

Purpose

This guideline assists hospitals, private practice groups and other course providers to develop and conduct Can't intubate can't oxygenate (CICO) Emergency Response (ER) sessions. It defines the learning objectives and other requirements for education providers to become recognised CICO ER providers for the purposes of the [ANZCA and FPM CPD program](#).

For CPD participants, this guideline provides information on what recognised CICO ER sessions involve and how to record this activity.

Related documents

1. [CICO ER activity recognition of suitability application form](#)
Course providers must apply for college recognition of your session as a suitable CICO ER activity for the ANZCA and FPM CPD program. Providers are encouraged to develop sessions that also satisfy local needs, incorporating local staff, work environments and equipment.

Importance of CICO ER education

CICO situations occur infrequently but anaesthetists must be prepared to deal with such a crisis if it arises. Coroners' cases have highlighted the need for regular, formal training to maintain familiarity with equipment and techniques.

Numerous factors that pose challenges to anaesthetists in this situation are recognised, including:

- Uncertainty as to when to declare a CICO situation
- Unwillingness to desist with a supraglottic approach to airway rescue (including endotracheal intubation) as the primary method for managing the obstructed airway
- Lack of familiarity with surgical airway techniques
- Inadequate access to appropriate equipment and
- Underdeveloped skills in leading a team in this crisis.

Anaesthetists should:

- Recognise when this situation has arisen, declare it as a 'CICO situation' and commit to airway interventions delivered via the anterior surface of the neck (i.e. infraglottic) aimed at bypassing the obstruction to deliver oxygen
- Have a methodical approach to supraglottic airway management to ensure all reasonable efforts are made to maintain or restore oxygenation and to avoid infraglottic rescue, if possible
- Understand that persistent attempts at supraglottic rescue without concomitant infraglottic rescue interventions increase a patient's risk of death or serious hypoxia-related morbidity.

Knowledge of emergency algorithms, recognition of CICO, familiarity with equipment and rehearsal of emergency procedures are essential components of CICO ER sessions. *Ideally this training occurs within a team, and in the anaesthetist's regular working environment.*

Definitions

No universally agreed definitions exist for much of the nomenclature around CICO. The following terms are used in this guideline and defined here. Alternative definitions may be used in CICO workshops, however providers should demonstrate that these have equivalent meaning.

- **Can't Intubate Can't Oxygenate (CICO):** where airway obstruction in the upper airway (including the larynx) can't be relieved by airway management interventions delivered above the point of obstruction (i.e. supraglottic), resulting in inability to oxygenate the patient (low or falling oxygen saturation).
- **Infraglottic airway access / Front-of-neck access:** Airway management techniques performed below the larynx via the anterior surface of the neck, aiming to maintain or restore airway patency. This includes techniques such as needle or surgical cricothyroidotomy or tracheostomy.

Personnel

Clinical Lead: The medical officer nominated by each department/group/other educational provider to provide oversight of the CICO ER sessions conducted by that provider but does not need to be directly involved in each CICO ER session.

- Must be at specialist level and appropriately skilled and experienced to oversee the development of session content.
- Ideally will have medical education experience and/or credentials.
- Encouraged to complete a provider course for the algorithm being taught, where one has been established.
- May assume the role of lead facilitator for a particular session.

Lead Facilitator: The doctor who oversees the conduct of a specific CICO ER session.

- Must be at least at the level of advanced training year 2 (ATY2) or equivalent.
- Must be appropriately skilled and experienced to deliver the session content.
- Ideally will have medical education experience and/or credentials.

Instructor: A health professional who conducts the individual "hands-on" skills stations/ scenario rehearsals with guidance from the lead facilitator.

- May not be a medical officer.
- Must be appropriately skilled and experienced to deliver the session content.
- Ideally will have medical education experience and/or credentials.

Recognised emergency algorithms

At this stage, ANZCA does not exclusively endorse any one emergency algorithm for CICO situations but recognises the need for clinicians to be familiar with at least one. The following background resources and accompanying algorithms are suitable for use in infraglottic airway access/ front-of neck access:

- ANZCA Airway Management Working Group. Transition from supraglottic to infraglottic rescue in the "can't intubate can't oxygenate" (CICO) scenario [Internet]. 2014. From: <http://www.anzca.edu.au/documents/report-from-the-anzca-airway-management-working-gr.pdf>. Accessed March 4 2019.

Within this document the following algorithms can be found:

- [Figure 1: American Society of Anesthesiologists \(ASA\) Difficult Airway Algorithm \(page 51\)](#)
- [Figure 2: Difficult Airway Society \(DAS\) – Overview \(page 52\)](#)
- [Figure 3: Canadian Airway Group Difficult Airway Algorithm \(page 53\)](#)
- [Figure 4: Dr Andrew Heard's algorithm for percutaneous emergency oxygenation \(page 53\)](#)
- [Figure 5: Vortex™ Model \(page 54\)](#)
- [Figure 6: CriCon2 \(page 54\)](#)

- [Figure 7 & 8: Rural Health Continuing Education Critically Obstructed Airway Course Working Group \(page 55\)](#)
- [Appendix 1: ANZCA Cognitive Aid and User Guide for Transition to CICO \(page 58\)](#)
- Australian and New Zealand College of Anaesthetists. PS61 Guidelines for the Management of Evolving Airway Obstruction: Transition to the Can't Intubate Can't Oxygenate Airway Emergency: Background Paper [Internet]. 2017. From: <http://www.anzca.edu.au/documents/ps61bp-2017>.
- Australian and New Zealand College of Anaesthetists. PS61 Guidelines for the Management of Evolving Airway Obstruction: Transition to the Can't Intubate Can't Oxygenate Airway Emergency [Internet]. 2017. From: <http://www.anzca.edu.au/documents/ps61-2017>.
- Chrimes N, Fritz P. The vortex approach: management of the unanticipated difficult airway [Internet]. 2013. Smashwords Edition [Internet]. From: https://rollcagemedic.com/resources/Archived_newsletters/the-vortex-approach-management-of-the-unanticipated-difficult-airway.pdf.
- Sabato SC, Long E. An institutional approach to the management of the 'Can't Intubate, Can't Oxygenate' emergency in children. Paediatr Anaesth 2016;26(8):784-793. [Internet]. From: <http://onlinelibrary.wiley.com.ezproxy.anzca.edu.au/doi/epdf/10.1111/pan.12926>.
- Heard A. Percutaneous Emergency Oxygenation Strategies in the 'Can't Intubate, Can't Oxygenate' Scenario. Smashworks Editions, 2013. [Ebook]
- Greenland KB, Acott C, Segal R, Goulding G, Riley RH, Merry AF. Emergency surgical airway in life-threatening acute airway emergencies - why are we so reluctant to do it? Anaesth Intensive Care 2011;39(4):578-584. [Internet]. From: <http://aaic.net.au.ezproxy.anzca.edu.au/PMID/21823373>.

Providers of any courses (including 'instructor' courses) must present the chosen algorithm in a manner that accurately reflects the algorithm as published, as per expected standards of scholarly practice.

Session format

All CICO ER sessions must include a practical simulation component. Simulation in this context may mean bench top training in a local department or conference venue, not necessarily fully immersive mannequin-based simulation in a simulation centre.

If CICO ER sessions are delivered virtually, observation of and feedback to each participant must occur in real time. This includes demonstration of leadership skills.

Learning objectives

Scope of CICO ER sessions

Assessment, planning and preparation are of paramount importance in managing the difficult airway and are considered essential steps before embarking on anaesthesia administration. However, these issues are beyond the scope of the CICO ER session content defined in this guideline. Participants are strongly encouraged to review these topics before attending a CICO ER session.

Mandatory learning objectives

As a minimum, CICO ER sessions must provide the opportunity for participants to meet the learning objectives listed below. Objectives marked with an asterisk (*) require each participant to actively engage in activities to practice this skill during the session, including the opportunity to demonstrate how to lead a CICO ER.

Virtual/online workshops will be conducted with live sessions (i.e., participants must be observed in real time). Enrollment in virtual/online learning must ensure participants display leadership skills in a live session if unable to meet physically to direct or lead a team.

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

1. Apply criteria to recognise when a CICO situation has arisen.
2. Communicate clearly to others that a CICO situation exists.*
3. Explain the steps and decision-making points in one of the recognised difficult airway algorithms that addresses CICO (refer to list of recognised algorithms above).
4. Be fluent with equipment and procedures relevant to the preferred emergency algorithm.
5. Direct/team-lead an emergency response for CICO including the following steps:
 - a. Clearly explain supraglottic airway rescue strategies (technical expertise is assumed).*
 - b. Transition to CICO*
 - i. Anticipate and mobilise resources for imminent infraglottic airway access/ front-of-neck access.
 - ii. Recognise and declare CICO (As per definition of CICO above).
 - c. Infraglottic airway access/front-of-neck access*
 - i. Implement the chosen emergency algorithm.
 - ii. Continue supraglottic airway rescue.
6. Recognise that non-technical and teamwork skills, as well as initiation of management protocols, are vital to the management of a CICO situation.

Optional learning objectives

CICO ER session providers may elect to expand the focus of teaching to include additional objectives if it is deemed that this would facilitate more effective teaching for the particular target audience.

Suggestions for consideration include:

- Recognise non-technical and teamwork competencies that have a positive impact in evolving CICO crises, and employ strategies to use these.
- Discuss the role of cognitive aids in the management of CICO situations.
- Recognise the role of human centred design as it relates to emergency equipment and hospital systems.
- Recognise major risk factors for CICO and the relationship of CICO to anaesthesia-related mortality.

Session structure

Each CICO ER session:

1. Must include pre-course reading on the selected CICO algorithm and relevant foundation knowledge for the session.
2. May be delivered as a continuous session or in parts (provided other criteria in this guideline are met)
3. Must have a minimum total duration of ninety (90) minutes and provide hand-on activities, including scenario-based rehearsal to achieve learning objectives marked with an asterisk (*) above. A minimum of eighty (80) minutes of practice is recommended.
4. Must be conducted by a lead facilitator with at least one instructor per four participants. Facilitators must observe each participant working through scenarios and provide verbal feedback to ensure they are achieving the session learning objectives.
5. Include use of the following equipment:
 - neck models allowing practice of infraglottic airway placement
 - oxygen for oxygen delivery for infraglottic airway access / front-of-neck access, and
 - equipment relevant to the preferred emergency algorithm.
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

The following materials (in hard or electronic format) may be provided to facilitators and/or participants, as relevant:

- Facilitator guide (including equipment list, scenario outlines)
- Participant list (date, venue, participant names)
- Session learning objectives and outline
- CICO algorithms handout
- Session evaluation form (feedback from participants)
- Certification of completion, including ANZCA recognition code and session duration in hours (must be provided to participants).

ANZCA and FPM CPD portfolio recording

Participants record this activity under

Category 3 *Emergency response: CICO ER* with the Certificate of completion uploaded as evidence.

Facilitators who are also CPD participants record this activity under

Category 3 *Emergency response: CICO ER* with confirmation of facilitation uploaded as evidence.

Change control register

Version	Author/s	Reviewed by	Approved by	Approval date	Sections modified
1	Advancing CPD 2013 Working Group	CPD team	CPD Committee	2013	Created
2		CPD team ANZCA DPA education		2023	<ul style="list-style-type: none"> • Updated branding • Incorporated change control register