

B02: Airway Obstruction

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Introduction

Airway obstructions are relatively rare yet life-threatening conditions that require immediate recognition and intervention to avert disaster. Whether they are complete or partial, airway obstructions can result from foreign bodies entering the trachea, pathological conditions that produce narrowing of the upper airway, or trauma to the mouth, face, head, and neck. The core treatment of an airway obstruction involves attempting to obtain or maintain a patent airway, while at the same time identifying and reversing the underlying clinical problem where possible.

This guideline focuses on foreign body airway obstructions (FBAO). Paramedics should refer to other guidelines for the management of croup, epiglottitis, or anaphylaxis as necessary.

[→ B04: Croup and Epiglottitis \(Stridor\)](#)

[→ E09: Anaphylaxis](#)

Essentials

- Unconscious patients should have their breathing and circulation assessed concurrently. If the patient is found to be pulseless, immediately begin chest compressions and attach a defibrillator – do not attempt to ventilate these patients prior to beginning CPR. In cardiac arrest, the lack of a patent airway is significantly less important than the need to establish circulation.
- Chest compressions are at the core of the management of a complete FBAO. If in doubt as to the ability to ventilate an unconscious patient, begin chest compressions. The ratio of chest compressions to ventilation attempts is unimportant, but the sequence of actions is: visualize the oropharynx, attempt to remove any foreign body that is seen, attempt to ventilate, and then resume chest compressions.
- Consider the use of patient positioning while attempting to manage partial airway obstructions, especially in facial or oral trauma. “Sit up and lean forward” can be a very useful technique when combined with aggressive suction.
- Partial airway obstructions often require only supportive care and encouragement, although paramedics must be prepared to intervene if the situation deteriorates. However, patients with a partial airway obstruction and signs of poor air exchange – stridor, weak cough, and/or cyanosis – must be treated as a complete airway obstruction.
- Rapid transport, with ACP/CCP intercept and hospital notification, is indicated for persistent airway obstruction, whether partial or complete.
- The elastomeric half-face respirator (EHFR) is the primary device to be used for respiratory protection during COVID-19. If an N95 is worn, it can be used for the full duration of a shift. The N95 mask and/or face shield should be replaced or discarded if it becomes grossly contaminated with blood, secretions, or body fluids. The N95 respirator and/or face shield must be discarded if it becomes obviously soiled or damaged (e.g., creased, torn, or saturated) or if visibility is impaired. Paramedics are required to wear a procedure mask over the exhalation port as the exhalation port on EHFRs are not filtered.

Additional Treatment Information

- Abdominal or chest thrusts are indicated for complete airway obstructions in conscious patients. Use chest thrusts in pregnant women or the obese; these can be performed with the patient supine, and are identical to chest compressions in CPR. No evidence exists to support the superiority of chest thrusts over abdominal thrusts (or vice versa) in any population, and controversy exists among resuscitation councils as to the effectiveness of back blows in adult populations.
- Back blows may be effective in children under one year of age, and should be alternated with chest thrusts as necessary. Children over one year old should be managed with abdominal thrusts.
- When confronted with a patient who cannot be ventilated, advanced providers should begin chest compressions or abdominal thrusts while preparing for both video laryngoscopy and a surgical airway. Under laryngoscopic visualization, foreign bodies may be removable using Magill forceps – do not attempt to blindly insert forceps into

the airway. Direct laryngoscopy may be required in some cases of FBAO but should otherwise be avoided.

- High vacuum suction, coupled with the Ducanto catheter, may help relieve some airway obstructions. Exercise extreme caution when applying suction.
- Advanced providers should have a low threshold to perform a surgical airway in patients who cannot be ventilated effectively where the obstruction cannot be visualized or readily removed, or in cases of pathological airway obstruction that cannot be immediately reversed.
- Open cricothyrotomy is contraindicated in children under the age of 12. In these patients, needle cricothyrotomy can be performed instead.

Referral Information

- Paramedics should be aware that abdominal thrusts have the potential to cause significant trauma, including lacerations of internal organs. Patients who received abdominal thrusts, whether from health care providers or lay rescuers, should be transported for observation and evaluation.
- Patients with resolved partial airway obstructions, who are no longer symptomatic and are not experiencing any distress, may be left at home in consultation with CliniCall.
- Pathological airway obstructions must be transported for evaluation and treatment.

General Information

- In adults, eating is the most common precipitating event in a FBAO, with meat being the most likely culprit. Children, by contrast, are more prone to have non-food foreign bodies.
- Submersion or drowning victims do not, as a general rule, experience airway obstructions. The use of abdominal thrusts is not recommended for these patients; the focus should be on the initiation of chest compressions as early as possible for those who are unresponsive and pulseless, and effective bag-valve mask ventilation to address the underlying hypoxia. Patients who are conscious and breathing spontaneously may benefit from CPAP use.

Interventions

First Responder

- Position patient for optimal intervention.
- For partial airway obstruction: have patient wear procedure mask and encourage patient to cough.
- For complete airway obstruction **in conscious patients**: begin abdominal thrusts.
 - In children under 1 year of age, administer alternating sequence of five back blows and five chest compressions until the obstruction clears or the patient becomes unconscious.
- For complete airway obstruction **in unconscious patients**: begin chest compressions.
 - → [PR06: High Performance CPR](#)
- Visualize oropharynx prior to every attempt at ventilation. Remove foreign bodies if seen. Do not attempt blind finger sweeps.

Emergency Medical Responder – All FR interventions, plus:

- Initiate transport with notification.
- Consider ACP/CCP intercept.

Primary Care Paramedic – All FR and EMR interventions, plus:

- Initiate transport with notification.
- Consider ACP/CCP intercept.

Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

- As above, plus:
 - Consider video laryngoscopy for FBAO removal using Magill forceps, with or without suction. Direct

laryngoscopy may be required in some cases of FBAO but should otherwise be avoided.

- Consider surgical airway.
 - → [PR22: Surgical Airways](#)

Evidence Based Practice

[Foreign Body Obstructions](#)

References

1. Kleinman ME, et al. Part 5: Adult basic life support and cardiopulmonary resuscitation quality: 2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. 2015. [\[Link\]](#)
2. Atkins DL, et al. Part 11: Pediatric basic life support and cardiopulmonary resuscitation quality: 2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. 2015. [\[Link\]](#)

