

University of Georgia Sports Medicine

Emergency Airway/Oxygen Policies and Procedures

Revised 11/29/01

Introduction

In any patient care situation, the first responder must immediately establish and maintain a patent airway. Various procedures and devices are available to assist in this all-important step. Once the airway is established, the first responder must determine whether the patient is breathing. If breathing is adequate, one must provide continued maintenance of the airway and administer supplemental oxygen. If breathing is inadequate, or absent, artificial respiration should be initiated.

Basic Airway Management and Oxygen Administration

In the absence of trauma, the preferred technique for opening the airway is the head-tilt/chin-lift maneuver. With suspected trauma and/or an unconscious patient, the modified jaw thrust technique should be utilized to open the airway.

In the unconscious patient without an intact gag reflex, an oropharyngeal (OP) airway may be inserted into the mouth to lift the base of the tongue forward. A properly sized OP airway will extend from the patient's mouth to the angle of the jaw or the earlobe.

The nasopharyngeal airway may be inserted into the patient's nostril to relieve soft-tissue upper airway obstruction in cases where use of an OP airway is not advised (presence of gag reflex, injury to oral cavity, patient's teeth clenched). A properly sized nasopharyngeal airway is slightly smaller than the diameter of the patient's nostril and is equal to or slightly longer than the distance from the patient's nose to earlobe. The nasopharyngeal airway should be lubricated with a water-soluble gel and inserted into the right nostril.

In the field, an airway may be compromised by a number of elements. Suctioning will remove vomitus, blood, and other fluids and secretions from the airway. The University of Georgia sports medicine trauma kits are outfitted with both oxygen powered suction and manual (V-Vac) suction. Since suctioning reduces a patient's access to oxygen, each attempt should be limited to ten-fifteen seconds. If possible, hyperventilate the patient with oxygen prior to and following each suctioning effort.

The University of Georgia trauma kits are outfitted with supplemental oxygen, bag valve mask (BVM), and non-rebreather masks.

Trauma patients should be supplied oxygen at 15 liters per minute through a non-rebreather mask. Patients in respiratory distress or arrest should be given positive-pressure ventilation with a BVM with 100 percent oxygen at 15 liters per minute. If available, utilize continuous cardiac monitoring and O₂ sat with pulse oximetry with all airway emergencies.

Advanced Airway Management

The University of Georgia sports medicine staff utilizes the Esophageal Tracheal COMBITUBE as an advanced airway device.

The COMBITUBE is designed for emergency or difficult intubation, providing sufficient ventilation

whether the airway is placed into the esophagus or into the trachea. Selection of the appropriate size COMBITUBE is based upon patient height. Patients over five feet should utilize the Adult COMBITUBE while patients under five feet should utilize the Pediatric COMBITUBE. Contraindications for the COMBITUBE include responsive patient with an intact gag reflex, patient with known esophageal disease or is a known alcoholic (may have esophageal varices), and patient who has ingested caustic substance.

Procedure for Use of the COMBITUBE

1. The patient must be unconscious and not have intact gag reflex
2. Begin artificial respiration or CPR, incorporating usual precautions to verify open airway .
3. While maintaining ventilatory support, hyperventilate the patient with 100 percent oxygen
4. Prior to insertion, test cuff integrity by inflating each cuff with the prescribed volume of air
5. Place patient's head in neutral position
6. Insert device using a jaw-lift maneuver to depth indicated by markings on tube (black rings on tube should be positioned between patient's teeth)
7. Inflate pharyngeal cuff (blue) with 100 mL of air, sealing device in posterior pharynx behind hard palate
8. Inflate distal cuff (white) with 15 mL of air
9. Begin ventilation with BVM with 100 percent oxygen through longer blue connector tube (tube #1); watch for chest rise
10. Auscultate both lungs and the stomach; if hear bilateral breath sounds instead of gastric sounds, continue ventilation through Tube #1
11. If hear gastric sounds instead of bilateral breath sounds, begin ventilation with BVM with 100 percent oxygen through shorter clear connector (Tube #2); confirm bilateral breath sounds and absent gastric sounds after changing ventilation tube
12. Continue ventilation with 100 percent oxygen and periodically assess the airway

Procedure for D/C of COMBITUBE

Turn patient on side and deflate first Tube #1 and then Tube #2; be prepared to suction as soon as Tube #2 is deflated as removal stimulates gag reflex and may induce vomiting

Emergency Treatment of Upper Airway Obstruction with Cricothyrotomy

A Rusch QuickTrach cricothyrotomy device may be utilized in care of the athlete who has a complete upper airway obstruction in a potentially life-threatening situation. This procedure may be performed by athletic training staff who are emergency medical technician-intermediates (EMT-I) and have cricothyrotomy training. If in the clinical opinion of the ATC/EMT-I that the athlete is in a life-threatening situation that would benefit from an emergency cricothyrotomy, the ATC/EMT-I should call 911 and may attempt to insert QuickTrach per protocol procedure.

Procedure for Use of the Rusch QuickTrach

1. Begin ventilation with BVM with 100 percent oxygen through longer blue connector tube (tube #1)
2. Place the patient in a supine position. Assure stable positioning of the neck and hyperextend the neck (unless cervical spine injury suspected)
3. Secure the larynx laterally between the thumb and forefinger. Find the cricothyroid ligament (in the midline between the thyroid cartilage and the cricoid cartilage). This is puncture site.

4. Firmly hold device and puncture cricothyroid ligament at a 90 degree angle.
5. After puncturing the cricothyroid ligament, check the entry of the needle into the trachea by aspirating air through the syringe. If air is present, needle is within trachea. Now, change the angle of insertion to 60 degrees (from the head)
6. and advance the device forward into the trachea to the level of the stopper. The stopper reduces the risk of inserting the needle too deeply and causing damage to the rear wall of the trachea. Should no aspiration of air be possible because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made.
7. Remove the stopper. After the stopper is removed, be careful not to advance the device further with the needle still attached.
8. Hold the needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck. Carefully remove the needle and syringe.
9. Secure the cannula with the neck strap
10. Apply the connecting tube to the 15 mm connection and connect the other end to the bag-valve-mask with supplemental oxygen.
11. Continue ventilation with 100 percent oxygen and periodically assess the airway

Procedures for Training and Testing in Use of Emergency Airway Management and Oxygen Therapy

Personnel must complete a training session each year, to include instruction in the proper use, maintenance, and periodic inspection of airway and oxygen equipment, COMBITUBE, and Rusch QuickTrach cricothyrotomy device.

Appendix A: Kendall Sheridan COMBITUBE Esophageal Tracheal Airway product sheet

Appendix B: Rusch QuickTrach Cricothyrotomy Device product sheet

Approved by: _____ *Medical*
Director,

Date: _____