

GENERAL PROTOCOLS

Last Revised: September 2017

EMS INVOLVEMENT IN CRIME SCENES

PURPOSE: To define those situations in which Police personnel, who have examined the victim, determine in their judgment that a victim is dead and rightly deny entry to Fire/EMS personnel in order to maintain the integrity of a potential crime scene.

PROCEDURE: ALL LEVELS

1. When Police personnel arrive before Fire/EMS personnel at the scene of an incident that involves what appears to be the death of a victim, they shall report the general condition of the victim to the Fire/EMS personnel.
 2. If the victim shows signs of **lividity, rigor mortis, decomposition,** or has been **decapitated,** then they shall report the condition of the victim to the Fire/EMS personnel in these terms. If the victim is reported by Police personnel to show any of these conditions, then Fire/EMS personnel will not be required to examine the victim or run an EKG strip.
 3. If the previous conditions are not present, then Police personnel shall allow two Fire/EMS personnel to check the condition of the patient. Entry will be limited to individuals who are certified to run the EKG strip.
 4. Fire/EMS personnel who are involved in providing care for a victim that may not be a viable patient need to be cognizant of the need to maintain the integrity of a potential crime scene.
 5. Other conditions will be dealt with on a case by case basis. If other conditions are present that are obviously inconsistent with life, such as total evisceration or extreme disfigurement and distortion of the body, then Police personnel must describe the condition of the victim to the Fire/EMS personnel. The Fire/EMS personnel will then make a determination as to whether or not the victim should be evaluated for signs of life and the ultimate decision in this case rests with Fire/EMS personnel.
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INTERCEPT CRITERIA

NOTE: The decision not to request an intercept or to disregard an intercept on a patient who meets the intercept criteria should always be made in the patient's best interest. The EMS agency should contact Medical Control for guidance in these situations.

CRITERIA:

The appropriate ALS vehicle will be dispatched to intercept with a BLS or ILS unit / team when:

1. The BLS or ILS unit or team requests intercept or;
2. The ECRN or MD at the receiving hospital deems it necessary based upon the condition of the patient or;
3. The patient meets one or more of the following:

BLS Intercept Criteria:

- a. Active seizures
- b. Anaphylaxis
- c. Cardiopulmonary Arrest
- d. Chest Pain (Acute Coronary Syndrome)
- e. Diabetic Emergencies
- f. Drowning/Near drowning
- g. Electrical injuries (High or Low)
- h. Obstetrical emergencies (i.e. prolapsed cord, abnormal presentations)
- i. Obstructed airways that cannot be cleared
- j. Respiratory Arrest/Distress
- k. Signs/symptoms of shock (i.e. tachycardia, tachypnea, abnormal skin signs, hypotension)
- l. Symptomatic overdose or poisoning
- m. Any patient situation that higher level of care may benefit the patient

ILS Intercept Criteria:

- a. Cardiogenic shock
 - b. Obstructed airways that cannot be cleared
 - c. Cardiac tamponade
 - d. Symptomatic overdose or poisoning
 - e. Any patient situation that higher level of care may benefit the patient
4. The decision to utilize an intercept may be influenced by various factors such as:
- a. Geographical location
 - b. Improvement of patient condition
 - c. Refusal of higher level of care by patient with appropriate documentation
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MEDICATION ASSISTED INTUBATION

CRITERIA: Inability to intubate by standard measures in a patient needing sedation for any of the following situations:

1. Imminent respiratory arrest
2. Imminent tracheal/laryngeal closure due to severe edema secondary to trauma, allergic process, or burns.
3. Severe flail chest and/or severe open chest wounds with cyanosis and a respiratory rate >30 or <10
4. Glasgow Coma Score <8

ILS/ALS TREATMENT:

Intubation

1. Refer to the UNIVERSAL AIRWAY ALGORITHM Protocol.
2. Have surgical airway device equipment available. (**ALS ONLY**)
3. Continue to assist ventilations with 100% oxygen during this procedure.
4. VERSED 0.05mg/kg IVP q 3-5 minutes up to a total of 3 doses as needed or total maximum 10mg.
5. FENTANYL 1 mcg/kg IVP (maximum initial dose 100 mcg); may repeat x 1 after 3-5 minutes at 0.5 mcg/kg (maximum second dose 50 mcg)
6. Spray posterior pharynx with CETACAINE (1-2 second spray; may repeat once after 30 seconds if needed).
7. Attempt oral or in-line intubation per UNIVERSAL AIRWAY MANAGEMENT ALGORITHM.

Post Intubation

8. If after intubation patient exhibits movement that might lead to extubation, administer FENTANYL as long as BP allows (SBP > 90 or MAP > 65). If the initial medication is not effective, then use VERSED at the appropriate dose:
 - a. FENTANYL 1 mcg/kg IVP (maximum initial dose 100 mcg); may repeat x 1 after 3-5 minutes at 0.5 mcg/kg (maximum second dose 50 mcg)
 - b. VERSED 0.05mg/kg IVP q 3-5 minutes up to a total of 3 doses as needed or total maximum of 10mg.
9. Continuous monitoring of patient with cardiac monitor, continuous SpO2 and capnography (if available) is required.

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10. If more sedation or analgesia is needed, contact **Medical Control** for additional orders.

MEDICATION FACILITATED AIRWAY

(ALS RSI Credentialed Providers Only)

DISCLAIMER: BLS airway support should be used first! This protocol is strictly for the “can’t intubate **AND** can’t ventilate” patient. This protocol should **ONLY** be considered as a “last attempt before a surgical airway” in a rare critical case.

CRITERIA: Inability to manage an airway by the Universal Airway Algorithm by any method other than a surgical airway:

- Imminent respiratory arrest and inability to oxygenate and ventilate with BVM. This includes patients with clenched jaws.
- Imminent tracheal/laryngeal closure due to neck trauma, severe edema from allergic process, or burn injury.
- **Must have continuous waveform capnography available.**

ALS TREATMENT:

1. All “can’t ventilate” situations are true load-and-go emergencies and the protocol should be utilized ENROUTE to the hospital or Air EMS evacuation point, unless extreme contingency (i.e. entrapment) exists.
2. Have rescue airway and surgical airway equipment immediately available. Pre-oxygenate with nasal cannula at 15 LPM and non-rebreather mask at 15 LPM.
3. If unable to achieve SpO₂ ≥ 93%, assist ventilations via BVM with 100% oxygen and a PEEP valve during this procedure.
4. If SBP > 140, administer FENTANYL 1 mcg/kg IVP (maximum dose 100 mcg) AND ETOMIDATE 0.3 mg/kg IVP.
5. If SBP ≤ 140, administer KETAMINE 2 mg/kg slow IVP or KETAMINE 5 mg/kg IM. *KETAMINE may be used for respiratory failure associated with bronchospasm regardless of HR or SBP.*
6. ROCURONIUM 1 mg/kg IVP or SUCCINYLCHOLINE 1.5 mg/kg IVP.
7. As soon as jaw relaxation is felt (about 90 seconds), remove NRB and suction the airway if necessary. If foreign body airway obstruction is present, immediately use Magill forceps.
8. Place appropriately sized OPA. Ventilate (without intubation attempt) for at least sixty seconds. If SpO₂ is not > 94% after 60 seconds, but SpO₂ is increasing, continue ventilation for another 60 seconds. The paramedic may attempt **ONCE** to place endotracheal tube via video or direct laryngoscopy. Documentation of ETI via continuous capnography and O₂ saturation monitoring is required throughout transport. If the ET tube doesn’t pass on **one attempt**, immediately insert a supraglottic airway and ventilate during transport to the hospital or helicopter.
9. Failure to adequately ventilate after line 8 is an indication for IMMEDIATE cricothyrotomy.

POST INTUBATION CARE:

1. After intubation, if SBP > 120, administer FENTANYL 1mcg/ kg (max 100mcg).
 2. If patient still exhibits restlessness/ anxiety after fentanyl, administer VERSED 0.05mg/kg IVP q 3-5 minutes up to a total of 3 doses as needed or total maximum dose of 10mg.
 3. After intubation, if the SBP \leq 120, administer KETAMINE 0.2mg/kg IV.
 4. If patient still exhibits restlessness/ anxiety, and SBP \leq 120, administer KETAMINE 1mg/kg IV.
 5. If patient still exhibits restlessness/ anxiety, and SBP > 120, administer FENTANYL or VERSED as above.
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6. If more sedation or analgesia is needed, contact **Medical Control** for additional orders.

NOTE: Ketamine analgesic dose is 0.1-0.25mg/kg IV. Doses in the 0.4-0.7mg/kg range can cause partial dissociation. Patients may become restless or more anxious at these doses.

Doses in the 0.8-2.0mg/kg cause full dissociative sedation.

NOTE: Utilization of this protocol triggers an automatic requirement for notification of the EMS System Coordinator **AND** a face-to-face follow up call review with the EMS Medical Director. Contact EMS Coordinator with applicable PCR number(s).

PAIN MANAGEMENT

Exclusion Criteria:

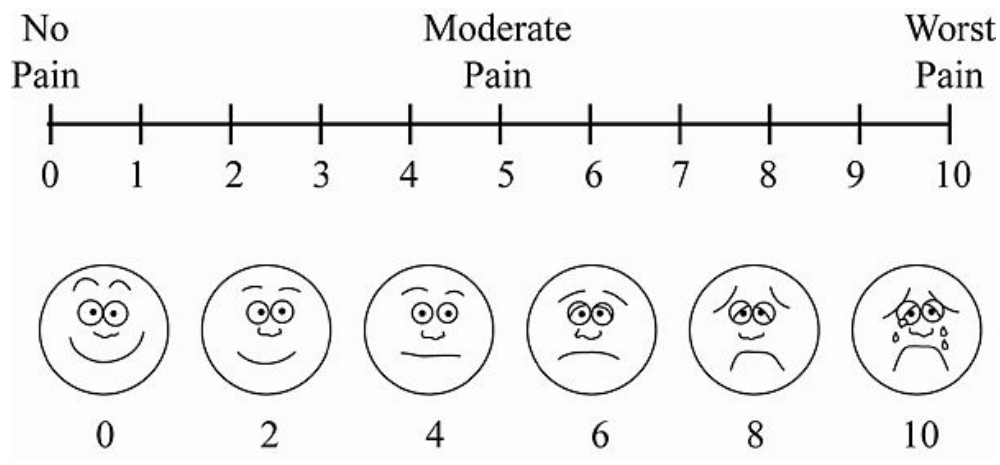
1. SBP < 90 or MAP < 65
2. Allergy to listed pain medications
3. Patients with Altered Level of Consciousness

FR/BLS TREATMENT:

1. **INITIAL MEDICAL CARE** or **INITIAL TRAUMA CARE**
2. Place patient in a position of comfort
3. Verbally reassure patient to control anxiety

ILS/ALS TREATMENT:

1. Continue FR/BLS TREATMENT
 2. Determine pain score and continue to monitor/trend score
 3. MORPHINE SULFATE 5 mg slow IVP or 10 mg IM. May repeat IVP dose x 1 after 15 minutes if needed.
-OR-
 4. FENTANYL:
IV – 1 mcg/kg slow IVP (maximum initial dose 100 mcg); may repeat x 1 after 15 minutes at 0.5 mcg/kg (maximum second dose 50 mcg).
IM – 2 mcg/kg (maximum dose 100 mcg).
IN – 1 mcg/kg via atomizer*(maximum initial dose 50 mcg); may repeat x 1 after 5 minutes at 0.5 mcg/kg (maximum second dose 25 mcg).
 5. Continuous monitoring of patient with cardiac monitor, continuous SpO2 and capnography (if available) is required.
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PATIENT REFUSAL

NOTE: Minors may not refuse medical care if their legal guardian is not present or cannot be contacted.

CRITERIA:

1. Patient refuses treatment or transport.
2. Patient is > 18 years old, or an emancipated minor.
3. Patient is < 18 years old, and one of the following:
 - a. Legal guardian is present.
 - b. Legal guardian contacted from the scene and consents to refusal.
4. Patient or legal guardian is competent to make refusal decision, including:
 - a. No signs of intoxication, such as:
 - i. Drug or alcohol influence
 - ii. Alcohol odor or drug paraphernalia present
 - b. No signs of physical or psychological impairment, such as:
 - i. Hypoxia
 - ii. Head injury
 - iii. Postictal status
 - iv. Mental instability
 - v. Hypoglycemia

TREATMENT: ALL LEVELS

1. Ensure all refusal criteria are met.
 2. Ask patient or guardian to explain reasons for refusal.
 3. Explain risks of refusal to patient or guardian.
 4. If patient or guardian does not demonstrate understanding risks of refusal, initiate care under implied consent.*
 5. If refusal represents a significant risk to the patient, based upon mechanism of injury or severity of illness, contact Medical Control for advice.
 6. If all criteria are met for refusal and risks of refusal have been explained, with reasonable understanding demonstrated by patient or guardian, refusal can be accepted and patient or guardian should sign refusal form.
 7. If patient or guardian is unable or unwilling to sign, document circumstances.
 8. Contact Medical Control as necessary.
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***Implied consent: If a person were capable of giving consent, he or she would in these circumstances.**

RADIO REPORT

RADIO PROCEDURE: ALL LEVELS

1. Unit must identify call letters, level of service and city of origin.
 - a. Non-transport agencies may use MERCI, local radio frequency or cellular phone to communicate with Medical Control.
 - b. Report should be called to receiving facility on all transports.
 2. Standard report:
 - a. ETA
 - b. Age and sex
 - c. Mechanism of injury/Nature of illness
 - d. Pertinent findings
 3. Orders must be confirmed when received from Medical Control by repeating them verbatim back to Medical Control for verification.
 4. In the event of communications system failure, protocols may be used as listed, including Medical Control considerations. Protocol usage must be documented by risk screen or incident report and submitted to EMS system office within 24 hours.
 5. In the event that a provider deviates from these protocols, a complete written explanation must be completed and submitted to the EMS Medical Director within 24 hours of the occurrence.
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SPINAL MOTION RESTRICTION

-ALL LEVELS-

NOTES:

1. Penetrating trauma patients **DO NOT** require transport on a long spine board.
2. Patients who are ambulatory on EMS arrival generally **DO NOT** require full spinal motion restriction on a long spine board **UNLESS** any criteria in section (A) is present.
3. Patients outside these guidelines will be treated by the judgment of the prehospital provider on scene, with the assistance of online medical control if needed.

High Risk Spinal Injury Criteria:

These include, but are not limited to:

1. Ejection from motor vehicle
 2. Separation from motorcycle/ ATV
 3. Vehicle rollover
 4. Prolonged extrication
 5. Pedestrian struck by vehicle at speed > 20 mph
 6. Falls > 3x patient's height
 7. Suspected dive into shallow water
 8. Hanging
 9. Signs of spinal cord injury from a blunt mechanism
 10. GCS < 14
 11. Depressed or open skull fracture
- A. **Full** spinal motion restriction (c-collar, CIDs, and long board) should be used for High Risk Spinal Injury Criteria **AND** any of the following:
1. Unconscious during exam
 2. Altered mental status
 3. Intoxication
 4. Language barrier
 5. Neurologic deficit present or reported
 6. Any thoracic or lumbar spine deformity or midline tenderness on palpation or with movement
- B. **Cervical-collar-only** motion restriction should be applied to blunt trauma patients with **ANY** of the following:
1. Presence of cervical deformity or midline tenderness on palpation or movement
 2. Age > 65
 3. Distracting injury present
 4. High Risk Spinal Injury Criteria
 5. Prehospital Provider's discretion

- C. It is always acceptable to use a long spine board for extrication. **Patients who do not meet any of the criteria in section (A) should be logrolled off of the long board onto the cot and be seat belted for transport.** This includes those patients packaged by other responders. Patients with back pain should be transported supine, and reasonable effort to slide as a unit between EMS cot and receiving hospital bed should be made.
- D. Additional long spine board indications include:
1. Lower extremity fractures- to support splinted limb(s)
 2. CPR- to enhance compressions
- E. Pregnancy: Third trimester pregnant patients who need to be immobilized on a long spine board should have the board tilted ~25 degrees into the left lateral recumbent position.
- F. Children: In addition to the history and physical exam findings of adults, other signs in children that should raise your suspicion of cervical spine injury include significant torso injury, torticollis, and conditions that predispose the patient to cervical spine injury such as Down's syndrome, osteogenesis imperfecta and others. If torticollis is present, collar and secure the child in the position of comfort. Try to maintain neutral alignment by padding beneath shoulders if a long board must be used, or use a vacuum splint instead of a long board. For children who do not require long board immobilization, secure them in their car seats. If car seat is unavailable or child was unsecured in a MVA, the child should be fully immobilized so long as doing so does not cause the child to struggle and compromise the SMR effort.

TERMINATION OF RESUSCITATION

CRITERIA:

1. Patient **found** in ASYSTOLE.
2. Unwitnessed arrest or with bystander CPR in progress for 15 minutes or longer prior to arrival of EMS personnel without Return of Spontaneous Circulation (ROSC).
3. No defibrillation delivered.
4. Persistent EtCO₂ < 10 mmHg despite 20 minutes of high quality CPR/ACLS with a patent airway. (if available)
5. Absent carotid and femoral pulses on multiple checks by 2 EMS providers.
6. Patient **remains** in ASYSTOLE, without ROSC despite 20 minutes of high quality CPR/ACLS with a patent airway and treatment of reversible causes.

EXCLUSIONS:

1. Obviously Dead Patient: refer to the TRIPLE ZERO protocol.
2. Valid DNR orders: refer to DNR policy.
3. Patients ≤ 18 years of age
4. Pregnant patients in the third trimester
5. Traumatic injury: refer to TRAUMA FIELD DEATH DECLARATION protocol.
6. **NOT** associated with hypothermia, drowning, electrical/lightning injury, overdose/ intoxication, or uncertain time of arrest.
7. Patient transport has already been initiated.

TREATMENT: ILS / ALS

1. Contact Medical Control; after reaffirming all procedures in CRITERIA have been accomplished, the physician may then give the order to terminate resuscitative efforts.
 2. Notify the county coroner/medical examiner and law enforcement.
 3. If family members disagree with termination of resuscitation despite an explanation of such, continue resuscitation as per Region 6 protocols.
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TRIPLE ZERO

CRITERIA:

1. Patient is unresponsive, pulseless and apneic and;
2. Exhibits one or more of the following long-term indications of death:
 - a. Rigor mortis
 - b. Lividity
 - c. Decomposition
 - d. Mummification
 - e. Decapitation
 - f. Full arrest that has been unequivocally present for at least 20 minutes without efforts at resuscitation prior to EMS arrival.

EXCLUSION:

1. Valid DNR orders: refer to DNR policy.
2. **NOT** associated with hypothermia, drowning, sedation, intoxication, uncertain time of arrest or found in a cold environment.

TREATMENT: ALL LEVELS

1. Apply AED and confirm “no shock advised” or apply cardiac monitor and confirm asystole in 2 leads.
 2. Contact Medical Control to confirm Triple Zero.
 3. Notify the county coroner/medical examiner office and law enforcement.
 3. EMS should remain on the scene until the coroner arrives or the coroner’s office requests a transfer of the victim to the morgue.
 4. When law enforcement personnel are involved in an investigation, please refer to the “EMS Involvement in Crime Scenes” protocol.
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UNIVERSAL AIRWAY MANAGEMENT **ALGORITHM**

Note: This algorithm is intended for use when faced with a need to secure a patent airway.

1. Begin by positioning the patient to achieve proper head placement. Sniffing position (head tilt-chin lift) for non-trauma patients and in-line neutral position (modified jaw thrust) for trauma patients.
2. Ventilate with 100% oxygen via a bag-valve-mask and a correctly sized oral pharyngeal airway (OPA) at rate and depth that is appropriate for the age of the patient. A nasal pharyngeal airway (NPA) may be used if the patient has intact gag reflex. *An NPA is contraindicated in patients with known or suspected head injuries.* Have suction equipment immediately available.
3. To optimize pre-oxygenation before and during intubation, apply a nasal cannula at ≥ 15 lpm and elevate the patient's head 10-20° during intubation.
4. Consider the need for an advanced airway.
 - Patient needs to have airway protected from vomit, blood, etc.
 - Provider cannot achieve/maintain proper head alignment.
 - Cannot ventilate with an adequate tidal volume.
 - Cannot achieve/maintain an adequate mask seal.
 - Too much air is entering the stomach.
5. **For FR/BLS providers-** Utilize a Blind Insertion Airway Device approved by the EMS System to achieve a patent airway. Follow manufacturer's recommendations for insertion procedure. Make sure suction equipment is immediately available.
6. **For ILS and ALS providers -** If it is determined an advanced airway is needed, assess the patient for a probable difficult oral intubation. Examples of a probable difficult oral intubation include, but are not limited to:
 - Severe facial or neck trauma
 - Buck teeth
 - Mallampati score of 3 or 4 (scale is attached to this policy)
 - Less than 2 fingerbreadths space between the patient's teeth when mouth is open
 - Decreased neck mobility
 - Decreased jaw mobility
 - Wired jaw
 - Tumors or abnormal neck or facial anatomy.

If a difficult oral intubation is predicted, the most experienced advanced provider should attempt intubation. Have a rescue airway and/or Endotracheal Tube

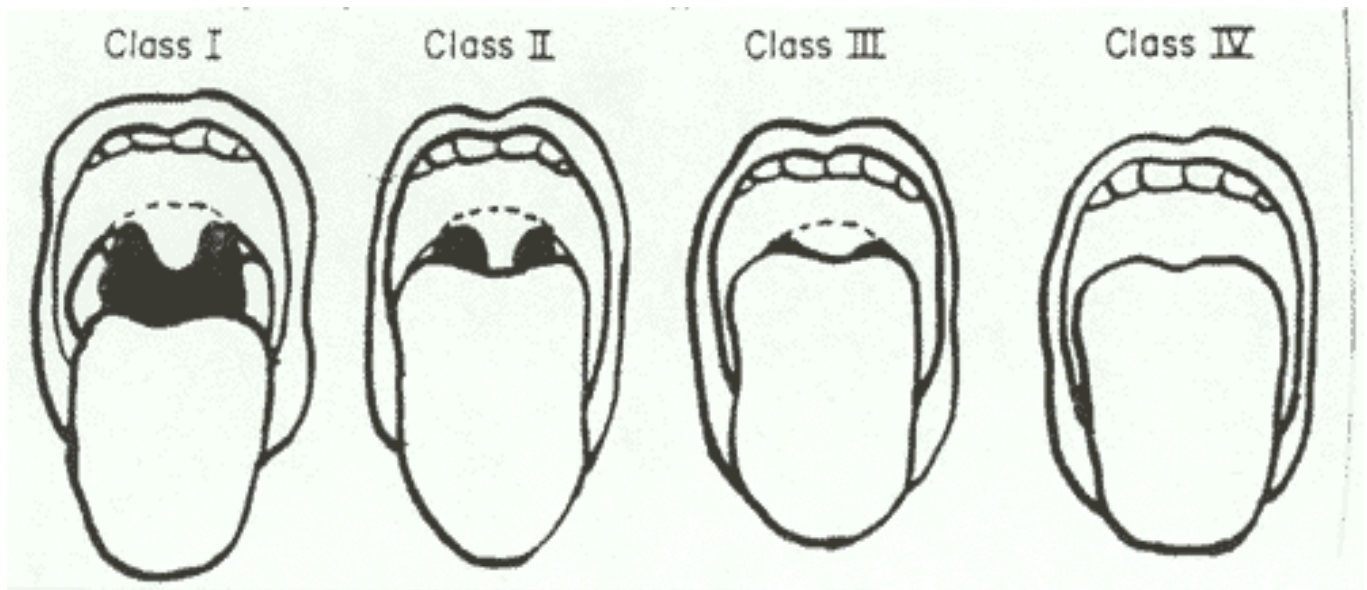
- Introducer (Bougie) set up and ready to use in case intubation attempts fail. If the only advanced provider on scene is not confident in their ability to intubate the patient, then immediately consider managing the airway with a rescue device.
7. In the absence of a predicted difficult oral intubation, continue ventilating with 100% oxygen via a bag-valve-mask or similar device with an OPA or NPA in place. Prepare intubation equipment and have suction ready.
 8. If managing a breathing patient's airway, determine if the patient is relaxed/flaccid enough for intubation. If not, consider employing the Conscious Sedation Protocol.
 9. For optimal results, consider using the Sellick's maneuver (cricoid ring pressure), B.U.R.P (Backward, Upward, Rightward, Pressure) or Bimanual Laryngoscopy techniques during the attempt to orotracheally intubate the patient).
 10. If successful, perform post-intubation management procedures including:
 - Verification of proper placement via at least four independent measures, with capnography being mandatory if available.
 - capnography with appropriate waveform, CO₂ reading of 4-5% or reading of 35-45 mmHg (know how your machine measures CO₂ levels)
 - absent epigastric sounds
 - bi-lateral breath sounds
 - equal chest rise and fall
 - direct visualization of ET tube going through the vocal cords
 - color change end tidal CO₂ device
 - Note the centimeter marking of the ET tube adjacent to the teeth
 - Secure the ET tube with a commercial device or tape
 - Place a cervical collar to prevent accidental dislodgement (even on non-trauma patients)
 11. If unsuccessful, resume attempts to ventilate via bag-valve-mask and OPA or NPA. Consider changing the type of laryngoscope blade or the size of the blade. Two additional attempts to perform orotracheal intubation may be performed by the most appropriate advanced provider on scene. If available, consider using a video laryngoscope or Endotracheal Tube Introducer (Bougie) – see ENDOTRACHEAL TUBE INTRODUCER Protocol.
 12. If successful, see step #10. If unsuccessful, proceed to step #13
 13. Continue ventilation via bag-valve-mask and use of OPA or NPA. Consider insertion of a rescue airway. Be sure to use appropriate size device and follow all manufacturer recommendations for the device's use.
 14. If successful insertion of a rescue airway is achieved, perform post intubation management procedures, continue to ventilate the patient with 100% oxygen at an appropriate rate and transport to the closest appropriate facility. If unsuccessful, continue to attempt to oxygenate with BVM and NPA/OPA.

If ALS LEVEL, see #15.

STEP 15 IS FOR ALS LEVEL ONLY!!

15. When a “can’t ventilate, can’t intubate” situation occurs and ALL attempts to manage the airway and ventilate the patient have failed, the paramedic should utilize a surgical airway device. Only providers that are trained to do so should perform a cricothyroidotomy using an EMS System approved cricothyroidotomy device.
16. Once the device is successfully inserted follow the post intubation management procedure (step #10) and secure the device according to the manufacturers recommendations. Ventilate with 100% oxygen and ventilate at an appropriate rate for the age of the patient during transport.

MALLAMPATTI CLASSIFICATIONS



Scoring is as follows:

Class 1: Full visibility of tonsils, uvula and soft palate

Class 2: Visibility of hard and soft palate, upper portion of tonsils and uvula

Class 3: Soft and hard palate and base of the uvula are visible

Class 4: Only Hard Palate visible

Class 1 and 2 are considered a predicted easy intubation. Class 3 and especially 4 is considered a predicted difficult intubation.

UNIVERSAL AIRWAY MANAGEMENT **ALGORITHM**

-Endotracheal Tube Introducer (Bougie)-

CRITERIA:

1. Predicted difficult intubation based on Mallampatti Score (Class 3 or 4)
2. Unsuccessful initial intubation using direct laryngoscopy

EXCLUSION:

1. Age less than 12
2. ETT unable to fit over Endotracheal Tube Introducer.

TREATMENT: ILS / ALS

1. Continue UNIVERSAL AIRWAY MANAGEMENT ALGORITHM
2. Lubricate the tip of the Endotracheal Tube Introducer (ETI).
3. Perform laryngoscopy and visualize the vocal cords if possible using Sellick's/B.U.R.P or Bimanual Laryngoscopy as needed.
4. Introduce the ETI with curved tip anteriorly and visualize the tip passing the vocal cords or above the arytenoids, if the cords cannot be visualized
5. Once inserted, gently advance the ETI until you meet resistance or "hold-up" (if you do not meet resistance you have a probable esophageal intubation and insertion should be reattempted)
6. Withdraw the ETI ONLY to a depth sufficient to allow loading of the ETT while maintaining proximal control of the ETI.
7. Gently advance the ETI and loaded ETT until you have "hold-up" again, thereby assuring tracheal placement and minimizing the risk of accidental displacement of the ETI.
8. While maintaining a firm grasp on the proximal ETI, introduce the ETT over the ETI passing the tube to its appropriate depth.
9. Once the device is successfully inserted follow the post intubation management procedure (step # 10 – UNIVERSAL AIRWAY MANAGEMENT ALGORITHM)

***Preloaded ETT on Endotracheal Tube Introducer can also be used.