

RAPID SEQUENCE INTUBATION (RSI)

FOR DEPARTMENTS / PARAMEDICS WHO HAVE RECEIVED TRAINING AND MEDICAL CONTROL APPROVAL ONLY

Airway / Breathing

Circulation / Shock

Cardiac

Medical

Trauma



Current Approval / Special Training Required
Must Have at Least 3 Personnel
2 Being Paramedics



Video Laryngoscopy Must Be Available
Have Back-Up Airways Available
Paralytics Do Not Change Poor Anatomy

RSI will likely cause cardiovascular collapse if attempted in the already hypotensive patient – **Resuscitate prior to RSI**

- Indications**
- SpO₂ < 90% on high flow O₂
 - Respiratory rate <10 or >32
 - Partial airway obstruction due to blood, secretions, trauma, or GCS less than 8
 - Respiratory exhaustion or inevitable loss of the airway

Caution
Paralysis lasts longer than the induction / sedative agents
Re-dose ketamine (or benzodiazepine and fentanyl) at 20 min or sooner if patient displays signs of undersedation, which may include Hypertension, Tachycardia, Facial Grimacing, Tearing, and Wakefulness

UNIVERSAL PATIENT CARE PROTOCOL

BASIC MANUVERS FIRST

Open airway
Nasal / Oral Airway
Bag-Valve-Mask

IV / IO PROCEDURE

Apply nasal cannula 15 LPM during intubation attempts

CAPNOGRAPHY PROCEDURE Required

Meets Criteria

KETAMINE
1 - 2 mg / kg IV / IO - Usual Dose 100 mg

If Ketamine unavailable, then ETOMIDATE 0.2 – 0.3 mg / kg IV / IO
Usual Dose 20 mg – No Repeat

Then
ROCURONIUM
1 mg / kg IV / IO – Usual Dose 100 mg

If Rocuronium unavailable, then SUCCINYLCHOLINE
1 – 1.5 mg / kg IV / IO – Average Dose 100 mg – No Repeat
See additional SUCCINYLCHOLINE warnings on next page

INTUBATION PROCEDURE

Max 2 Intubation Attempts
Document Failed Attempt(s)

Extraglottic (BIAD) Airway Device If Intubation Unsuccessful

Post Intubation Sedation
After 20 min or sooner if clinical signs of undersedation - as needed
KETAMINE 1 mg / kg IV / IO

If Ketamine unavailable, then
MIDAZOLAM 2.5 mg IV / IO
OR
LORazepam 1 mg IV / IO

If Evidence of Pain
fentaNYL 1mcg / kg doses until pain tolerance prn

ONLY IF additional paralysis is needed
ROCURONIUM
1 mg / kg IV / IO – Usual Dose 100 mg

Ventilate to maintain CAPNOGRAPHY and PULSE OXIMETRY

TRANSPORT to appropriate facility CONTACT receiving facility CONSULT Medical Control where indicated APPROPRIATE transfer of care

EMT Intervention

AEMT Intervention

PARAMEDIC Intervention

Online Medical Control

ADULT PROTOCOL

RAPID SEQUENCE INTUBATION (RSI)

INDICATIONS	SIGNS AND SYMPTOMS	DIFFERENTIAL DIAGNOSIS
<ul style="list-style-type: none"> • SpO₂ < 90% on high flow O₂ • Respiratory rate <10 or >32 • Partial airway obstruction due to blood, secretions, trauma, or GCS 8 or less • Respiratory exhaustion or inevitable loss of the airway 	<ul style="list-style-type: none"> • Gagging • Audible stridor • Change in skin color • Decreased LOC • Increased or decreased Respiratory rate • Labored breathing 	<ul style="list-style-type: none"> • Cardiac arrest • Respiratory arrest • Respiratory failure • Anaphylaxis • Esophageal obstruction
Restrictions and Conditions for Procedure		
<ul style="list-style-type: none"> • You must be approved and trained by Medical Control in Rapid Sequence Intubation • Video laryngoscopy must be available • Salvage airways (extraglottic airways) must be available • Capnography must be available • A minimum of 3 EMS personnel are available to facilitate the procedure, 2 of which are Paramedics 		
The "P's" of Rapid Sequence Intubation <ul style="list-style-type: none"> • P = Preparation • P = Preoxygenation • P = Paralysis with Induction • P = Protection • P = Placement of the Tube • P = Post-Induction Management 		Only if ROCURONIUM unavailable and using SUCCINYLCHOLINE  Burn or Crush Injury > 24hr old  HX: Muscular Dystrophy, Multiple Sclerosis, Amyotrophic Lateral Sclerosis (ALS)  HX: Malignant Hyperthermia (including family)  Hyperkalemia or Renal Failure

INTUBATION CHECKLIST

Preparation	Procedural Equipment	Back-Up Plan
<input type="checkbox"/> Pulse Ox & ECG monitor <input type="checkbox"/> Functional IV WITH fluids attached – 2 optimal <input type="checkbox"/> Appropriate Medications drawn – each in own syringe without extra <input type="checkbox"/> Medication verified by second crew member <input type="checkbox"/> Pre-oxygenation (NRB, BVM, or CPAP) 100% Fio2 <input type="checkbox"/> Position patient – towel roll behind head (not shoulders)	<input type="checkbox"/> Oxygen - BVM on source 1 Nasal Cannula on source 2 <input type="checkbox"/> Ensure enough for extrication (if applicable) <input type="checkbox"/> ETCO ₂ in-line detector connected, monitor initialized <input type="checkbox"/> Suction on and functioning <input type="checkbox"/> Video laryngoscope -functioning – recording if capable <input type="checkbox"/> Tube with intact pilot balloon <input type="checkbox"/> Syringe (10ml) <input type="checkbox"/> Bougie <input type="checkbox"/> Stylet as back up <input type="checkbox"/> Stethoscope <input type="checkbox"/> Commercial tube holder <input type="checkbox"/> Wrist Restraints	<input type="checkbox"/> Prepare for hypotension (even if not in shock) <input type="checkbox"/> IV fluids spiked and hung (not running unless needed) <input type="checkbox"/> Prepare push dose epi <input type="checkbox"/> Back-up handle, blade(s), tube(s), and stylet <input type="checkbox"/> Extraglottic airway out and sized <input type="checkbox"/> Surgical airway equipment available

KEY POINTS

- Waveform Capnography is required before, during, and after intubation attempts. Ventilate to maintain Capnography and SpO₂.
- Paralytics are never given alone. It is always preceded by an induction agent (a hypnotic / sedative medication) such as Ketamine or Etomidate .
- Set up and test all equipment prior to intubation attempt, including suction and back-up airways
- Limit attempts post paralysis to 2 attempts then utilize an extraglottic airway such as a King or an LMA.
- Do not attempt RSI if the team is not able or trained to perform a cricothyrotomy, either surgical or cricothyrotomy kit.
- Once paralytics are administered the airway must be managed from that point forward.
- Apply a nasal cannula to supply 15 LPM during the intubation attempts to maintain oxygen saturation
- Consider Mallampati grade to determine difficulty PRIOR to intubation attempt
- A 30% Change in HR or BP post procedure suggests light sedation and additional sedation must be added.
- If Succinylcholine is used there is no repeat dosing for additional paralysis.
- Succinylcholine is contraindicated in persons with personal or family history of malignant hyperthermia, skeletal muscle myopathies, known or suspected hyperkalemia, and hypersensitivity to the medication.
- If patient becomes hyperthermic post administration of Succinylcholine advise receiving facility immediately stressing it was post Succinylcholine administration. Begin cooling measures per the HYPERTHERMIA PROTOCOL / HEAT EXPOSURE.
- Larger doses of Succinylcholine may be required in myasthenia gravis.
- Ketamine is the preferred induction agent with asthmatic patients.