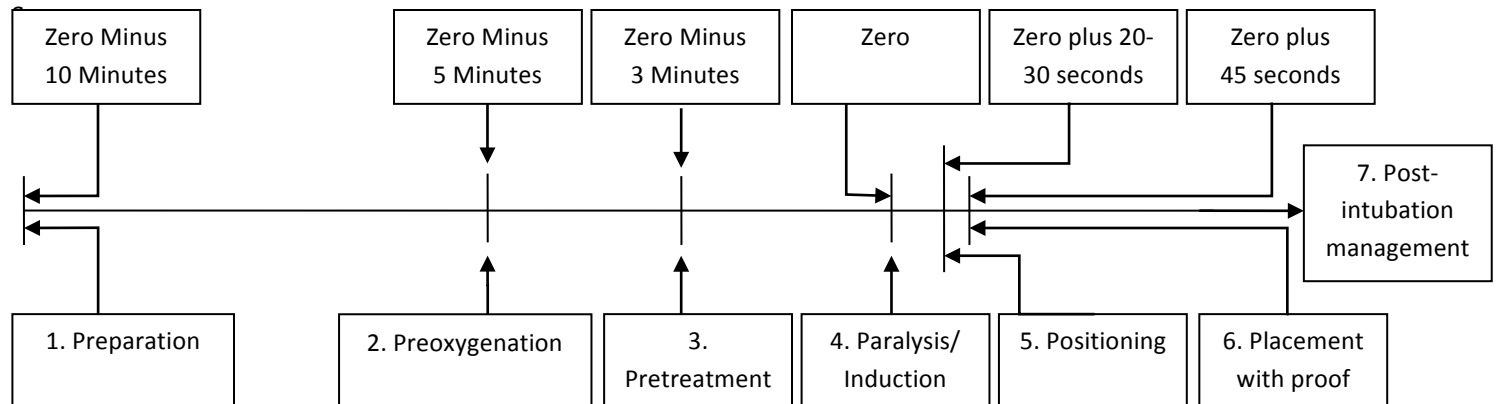


Rapid Sequence Intubation: Medications, dosages, and recommendations

Timeline of Rapid Sequence Intubation



1. **Preparation** – Assemble all necessary equipment, drug, etc.
2. **Preoxygenation** – Replace the nitrogen in the patient’s functional reserve with oxygen – “nitrogen wash out – oxygen wash in”
3. **Pretreatment** – Ancillary medications are administered to mitigate the adverse physiologic consequences of intubation
4. **Paralysis with induction** – Administer sedative induction agent via IV push, followed immediately by administration of paralytic via IV push
5. **Positioning** – Position patient for optimal laryngoscopy; Sellick’s maneuver, if desired, is applied now
6. **Placement with proof** – Assess mandible for flaccidity; perform intubation, confirm placement
7. **Post-intubation management** – Long-term sedation/analgesia/paralysis as indicated

Pre-treatment – agents should be given 3 minutes prior to intubation (can be given in any order)			
Drug	Dose	Indication	Other notes
Lidocaine	100 mg	Head injury, traumatic brain injury, unknown mechanism of injury, elevated ICP	Lidocaine will help protect the patient from increases in intracranial pressure caused by intubation
Fentanyl	2-3 mcg/kg	Elevated ICP, cardiovascular disease (ischemic coronary disease, aneurismal disease, great vessel rupture or dissection, intracranial hemorrhage)	Fentanyl helps decrease catecholamine discharge secondary to intubation, thus decreasing the risks associated from BP increases in pts with CV disease, aortic dissections, etc. Be careful if the patient is already hypotensive
Rocuronium (defasciculation)	0.1 mg/kg (e.g., 7 mg in a 70 kg pt)	Head injury, traumatic brain injury, unknown mechanism of injury, elevated ICP	Defasciculation no longer routinely recommended. May consider if pt. w/head injury to be paralyzed with succinylcholine (SCh). SCh causes transient muscle fasciculation (twitch) which theoretically may increase intracranial pressure.

Summary of Induction Agents						
Agent	Usual Emergency Induction Dose	Onset (sec)	Duration of Action (min)	Indications	Adverse Effects	Comment
Thiopental	3 mg/kg IV	<30	5-10	Patients with elevated ICP or status epilepticus who are hemodynamically stable	Histamine release Myocardial depression Venodilation Hypotension	Not routinely used Avoid intra-arterial injection (may cause gangrene) Pregnancy category C
Midazolam	0.2-0.3 mg/kg IV	60-90	15-30	Not routinely recommended for RSI. May use for post-intubation management	Respiratory depression Apnea Paradoxical agitation	Not recommended for RSI. Patient response may be extremely variable
Etomidate	0.3 mg/kg IV	10-15	4-10	Used in almost all patients for emergency RSI. May consider alternative agent if patient is septic or in status epilepticus	-Adrenal insufficiency -Pain on injection -Myoclonic activity	Communicate to subsequent providers that patient received etomidate if patient septic
Ketamine	1.5 mg/kg IV	45-60	10-20	Good option for patients with reactive airway disease or who are hypovolemic, hemorrhaging, or in shock	Increased: BP HR Intraocular pressure	Not recommended in hypertensive or normotensive patients. Use caution in patients with cardiovascular disease
Propofol	1.5 mg/kg IV	15-45	5-10	Hemodynamically stable patients with reactive airway disease or in status epilepticus	Hypotension Myocardial depression Reduced cerebral perfusion pressure Pain on injection	Ultra-short acting Negative CV effects limits use for induction in RSI

Paralytic Summary – Depolarizing						
Agent	Usual Emergency Induction Dose	Onset (sec)	Duration (min)	Indications	Adverse Effects	Comments
Succinylcholine	1.5 mg/kg IV Increase to 2 mg/kg IV in myasthenia gravis 4 mg/kg IM (only in life threatening situations)	45	6-10	Essentially all patients except those with: Malignant hyperthermia Hyperkalemia ->5d after burn, crush, denervation, severe infection	Hyperkalemia Muscle fasciculations Elevated IOP	Bradycardia may occur after repeated doses, have atropine ready in the event it occurs

Paralytic Summary – Nondepolarizing						
Agent	Usual Emergency Induction Dose	Onset (sec)	Duration (min)	Indications	Adverse Effects	Comments
Rocuronium	1 mg/kg	60-75	40-60	RSI when succinylcholine contraindicated	No, clinically significant ADEs	Ensure contingency plan in place in the event of failed airway
Vecuronium	0.01 mg/kg priming dose followed 3 minutes later with 0.15 mg/kg	120-180	45-65	Not recommended for RSI unless a nondepolarizing agent is indicated and rocuronium is not available	No clinically significant ADEs	Ensure contingency plan in place in the event of failed airway