

## SIM LAB: AIRWAY

### Indications:

- Failure to oxygenate or ventilate
- Unable to protect their airway
- Expected decompensation in clinical course

### Bag Valve Mask Ventilation:

Evaluate—MOANS

M: Mask Seal

O: Obesity

A: Age(>50 years)

N: Neck Mobility

S: Stiff

(ie lung stiffness)

- Patients should ideally be supine in the "sniffing" position
- Mask should cover the nose and mouth of the patient
- Bring the patient's face UP to the mask, by holding onto the mandible, not the soft tissue under the chin. Don't push the mask down on a patient's face.
- Can use oral or nasal pharyngeal airways to assist with bagging
- Two rescuer technique is best

### Evaluate for Difficult Airway

LEMON

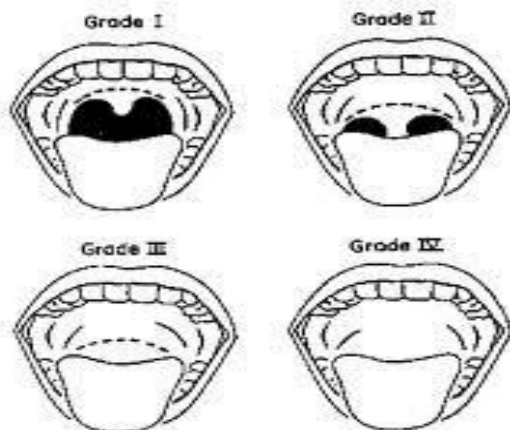
L: Look for any anatomy distortion

E: Evaluate using 3-3-2 method

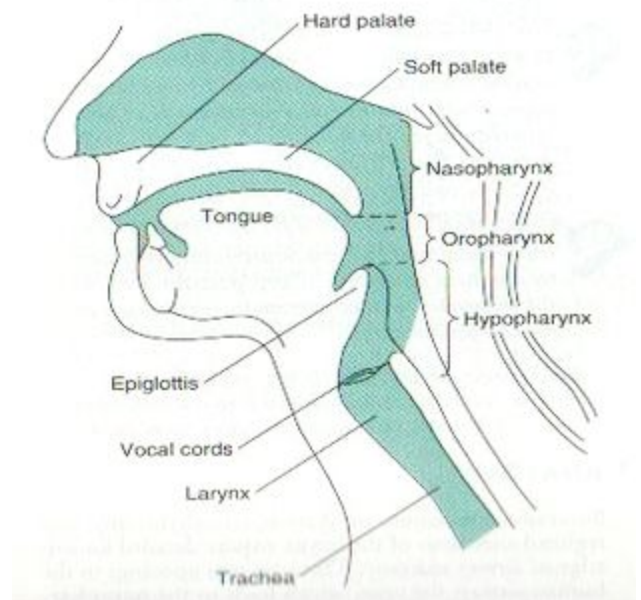
M: Mallampati score

O: Obstruction, any signs of

N: Neck Mobility



### Anatomy:



**RSI:**

- Preparation
- Positioning
- Preoxygenation
- Pretreatment
- Paralysis with Sedation
- Protection of Airway(Sellick maneuver)
- Pass the Tube( with Confirmation)
- Postintubation Management

**Preparation:**

- Oxygen with Bag/Mask and NRB
- Suction
- Endotracheal tubes
- Oral and Nasal Airways
- Syringe
- Laryngoscope Blade with working Handle
- Bougie, LMA
- Mask with Face shield and Gloves
- Surgical airway Equipment

**Positioning:**

"Sniffing" position, with head extension and flexion of the neck on the body. This is usually done by placing a pillow under the head of the patient and extending neck

**Pre-oxygenation:**

- Use 100% O<sub>2</sub> by NRB or Bag/Mask for 2 minutes prior to intubation, even if sats are 100% by NC O<sub>2</sub>.
- Reduces Nitrogen and saturate your patient's alveoli with oxygen.

**Pretreatment:**

Lidocaine: blunts bronchospasm and the reflex response  
Opioid(Fentanyl): blunts reflex response  
Atropine: mitigates bradycardia in kids receiving Succinylcholine (debatable)  
Depolarizing Agent: mitigates fasciculations

**Paralysis/Sedation:**

Common Paralytcs

Succinylcholine—Depolarizing  
Rocuronium—Non-depolarizing

Common Sedatives

Etomidate  
Ketamine  
Ativan  
Versed

**Protection of Airway:**

Sellick maneuver or cricoid pressure, during paralysis, intubation, and confirmation of tube placement. The cricoid ring is compressed with the index finger and thumb.

**Passage of Tube:**

The tube is placed by direct visualization of the tube passing through the vocal cords. Inserted to a distance of approx 3 times the tube size. Usually about 24cm in adult males and about 21 in adult females. Verify tube placement by watching the tube go through the cords, CO<sub>2</sub> detector, auscultation of bilateral breath sounds, and CXR.

**Post-Intubation Management:**

Don't forget long term sedation and vent settings. Also don't forget to check your postintubation CXR.

**PRE-TREATMENT:****SOAP ME:** (RSI equipment)Suction, O<sub>2</sub> (+BVM), Airway (+ backup), Positioning, Mech Equipment, Meds**Pre-O<sub>2</sub> / BMV / Cricoid pressure / Apneic O<sub>2</sub> (15L NC)**

Lidocaine 1mg/kg IV/ETT (blunt incr ICP)

Atropine 0.02 mg/kg IV/ETT (pediatrics, prevent reflexive brady)**RSI- INDUCTION:****Etomidate 0.3 mg/kg IV** (less drop in BP than some)Ketamine 1-2 mg/kg IV (asthma= bronchodilator; avoid in incr ICP)

Fentanyl 2-5 mcg/kg IV

Midaz 0.3 mg/kg IV (can cause drop in BP, HR, RR)

**RSI- PARALYSIS****Succ 1mg/kg IV**Roc 1mg/kg IV (use instead of succ in hyper K, Dialysis, Burns)

\*\*onset 1 min (give before induction), lasts 30min

**POST- RSI****SEDATION:**

propofol 20-50-100mcg/kg/min (bolus 100mcg)

fentanyl 50-100 mcg/hr

midazolam 1-10mg/hr (bolus 2mg)

**VENT:**

	Tidal Vol Vt (mL/kg)	RR	I/E ratio	PEEP	FIO <sub>2</sub>	Measure	Art Blood	Venous Blood
						pH	7.4	7.37
						VpH+0.03=ApH		
Normal Lung	8 mL/kg (4-6L)	10-12	1:2	5	100%	PO <sub>2</sub> (mmHg)	80-100	40
						O <sub>2</sub> Sat of Hb	95-99%	60-80%
Asthma/COPD	6	5-8	1:4	5	100%	PCO <sub>2</sub> (mmHg)	40	45
ARDS	6	10-12	1:2	10-15	100%	Dis CO <sub>2</sub> (mL/L)	27	29
Hypovolemia	8	10-12	1:2	0-4	100%	HCO <sub>3</sub> (meq/L)	25	

**PLACEMENT:** EtCO<sub>2</sub> waveform, color change, bilat breath sounds, condensation, equal chest rise**DOPE** (Trouble shooting): Dislodged/Obstructed tube, PTX, Equipment failure**CXR:** to check placement- 2-3cm above carina**ABG:** consider 30 min after intubation