Emergency Department Useful References

Pretreatment

3 – 5 minutes prior to intubation

- **Fentanyl** 3mcg / kg
  - for High ICP / Vascular (eg dissection) / preeclampsia or eclampsia with elevated BP
- Consider **Lignocaine** 1.5mg / kg
  - for High ICP / Vascular with elevated BP

Immediate "push dose" Inotrope or Vasopressor

- Adrenaline 10mcg/ml = 1:100000; dose 0.5-2ml (5-20mcg as required 1-5 minutely)
  - In 10ml syringe draw up 9ml normal saline; now draw up 1ml of **1:10000** adrenaline (from prefilled syringe) and shake = 1:100000.
  - Label syringe "Adrenaline 10mcg/ml"; discard the other syringe.
- Metaraminol 0.5mg/ml; dose 1-2ml (0.5-1mg as required 2-5 minutely)
  - In 20ml syringe draw up 19ml normal saline; now draw up 1ml of 10mg/ml Metaraminol and shake
  - Label syringe "Metaraminol 0.5mg/ml"

Intubation Drugs

	Drug	Normotensive dose	Normotensive dose in 70kg patient	Hypotensive dose
SEDATION	Ketamine	2mg/kg	140mg	0.5mg/kg
SEDATION	Thiopentone	3-5mg/kg	300mg	0.5-1mg/kg
SEDATION	Propofol	1.5-3mg/kg	150mg	0.2mg/kg
PARALYSIS	Suxamethonium	1.5-2mg/kg	100mg	2mg/kg
PARALYSIS	Rocuronium	For RSI 1.2mg/kg	85mg	1.6mg/kg
PARALYSIS	Sugammadex	16mg/kg reversal of rocuronium 2min post administration	1120mg As 100mg/ml solution In 2 or 5ml vials	16mg/kg

Initial post intubation analgesia / sedation infusions

Infusion	Dose	Mixer	Bolus	Rate	Indication
Morphine & Midazolam	50mg 50mg	50ml NS	0.05 ml/kg	0.05-0.1 ml / kg / hr 70kg adult = 5 ml / hr	Maintain analgesia & sedation
Propofol	500mg (50ml)		0.5 mg / kg	20-30 mcg/kg/min 70kg adult = 10 ml / hr	Stable, with severe neurologic injury.
Ketamine	200mg	50ml NS	0.5mg/kg	0.5mg/kg/hr 70kg adult = 9 ml / hr	Unstable

Contraindications to Suxamethonium

- Malignant hyperthermia history
- Strokes with hemiparesis > 72 hours
- ICU stay > 2 weeks
- Burns / trauma > 72 hours
- NMJ disease
- Myopathies / Muscular dystrophies
- Hyperkalaemia (known or suspected)
- Guillain-Barre
- Penetrating eye injury and acute glaucoma

Initial Ventilator Settings

Adjust as per clinical & ABG assessment
Seek ICU advice if concerns

Parameter	Normal lungs	ARDS / ALI		Asthma/COPD		Metabolic acidosis	Head injury	Severe Obesity
Aim	Lung protective strategy Do no harm	Recruitment, shunt reduction, avoid atelactatic trauma, achieve adequate oxygenation		Oxygenation, adequate exhalation avoiding breath stacking and volutrauma		Ensure adequate respiratory rate to maintain and even improve compensation for metabolic acidosis	Avoid reduced venous return by avoiding high intrathoracic pressures	Avoid atelectasis and shunting due to obesity
Position	20-30 degrees head up unless hypotensive and reduced cerebral perfusion a concern							
Mode	VC (SIMV)	VC (SIMV)	PC (APRV equiv)	VC (SIMV)		VC (SIMV)	VC (SIMV)	VC (SIMV)
Vt (ml/kg) lean body weight	8 lbw	6 lbw	Monitor	5-8 lbw		8-10 lbw	6-8 lbw	8-10 lbw
Resp rate	14	14	14	8-10		20-30	16	14
I:E ratio	1:2	2:1	2-4:1	1:4 – 1:5		1:1 - 1:2	1:2	1:1 – 2:1
Pinsp (cm H_2O)	-	-	25-30	-		-	-	-
PEEP (cm H_2O)	5	10-15	10-15	Asthma 0	COPD 5	5	5	10-15
FiO2	Start at 100% and rapidly titrate down, ideally achieving FiO_2 0.4. Avoid significant hyperoxia. Aim for oxygen saturations ≥ 95%; pO_2 >70. Aim Pplat <30.							
Other	Adjust parameters to ensure O2 and CO2 in normal limits	Watch pressures; may need to lower Vt and accept higher CO_2 Titrate FiO_2 & PEEP	Minimise derecruitment ie minimize suctioning & disconnection Consider recruitment manoeuvres	Watch for breath stacking and volu/barotrauma Consider permissive hypercapnoea. pH should > 7.15 May need to accept higher peak pressures in asthmatics. Aim Pplat <30		Begin with high respiratory rate Titrate RR and TV as guided by serial blood gases	Avoid high PEEP if possible Aim PCO2 35-40 Tape rather than tie ETT to avoid impeding jugular vein flow	Minimise derecruitment ie minimize suctioning & disconnections

SEEK ADVICE EARLY IF ANY CONCERNS

Dr James Rippey For review 2018

This document suggests initial ED ventilator settings in different scenarios and has been created in consultation with ICU; monitor and modify as appropriate

Modified from EmCrit Intubation Checklist Dr James Rippey 2013 Review 2016