

Parameter	Normal lungs	COVID	ARDS / ALI		Asthma / COPD		Metabolic Acidosis	Head Injury	Severe Obesity
<b>Aim</b>	Lung protective strategy Do no harm	Improve oxygenation.  PEEP responsive; HFNO or CPAP may avert intubation. Consider prone position.	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
<b>Position</b>	20-30 degrees head up unless hypotensive and reduced cerebral perfusion a concern								
<b>Mode</b>	VC (SIMV)	VC (SIMV)	PC (SIMV)	VC (SIMV)	PC (APRV equiv)	VC (SIMV)	VC (SIMV)	VC (SIMV)	VC (SIMV)
<b>Vt (ml/kg)</b> lean body weight	8 lbw	6-8 lbw	Monitor	6 lbw	Monitor	5-8 lbw	8-10 lbw	6-8 lbw	8-10 lbw
<b>Resp rate</b>	14	14	14	14	14	8-10	20-30	16	14
<b>I:E ratio</b>	1:2	1:2	1:2	2:1	2-4:1	1:4 – 1:5	1:1 - 1:2	1:2	1:1 – 2:1
<b>Pinsp (cm H<sub>2</sub>O)</b>	-	-	-	-	25-30	-	-	-	-
<b>PEEP (cm H<sub>2</sub>O)</b>	5	5-10	5-10	10-15	10-15	Asthma 0 COPD 5	5	5	10-15
<b>FiO<sub>2</sub></b>	Start at 100% and rapidly titrate down, ideally achieving FiO <sub>2</sub> 0.4. Avoid significant hyperoxia. Generally aim for oxygen saturations ≥ 95%; pO <sub>2</sub> >70. Aim Pplat <30.								
<b>Other</b>	Adjust parameters to ensure O <sub>2</sub> and CO <sub>2</sub> in normal limits	Titrate RR to optimize CO <sub>2</sub> . Late COVID may have a more ARDS like pattern (higher PEEP, lower Vt). Aim Pplat <30. May need to accept O <sub>2</sub> sats ≥ 90%. Use PC under ICU guidance.	Aim Pplat <30; may need to lower Vt and accept higher CO <sub>2</sub> . If Pplat high reduce Vt 1ml/kg (min 4ml/kg); Titrate FiO <sub>2</sub> & PEEP – see ARDSnet doc.	Use Under ICU guidance. 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 matching patient (<35).  Titrate RR and TV as guided by serial arterial blood gases	Avoid high PEEP if possible. Aim PCO <sub>2</sub> 35-40. Tape rather than tie ETT to avoid impeding jugular vein flow	Minimise derecruitment ie minimize suctioning & disconnections	

This document suggests initial ED ventilator settings in different scenarios and has been created in consultation with ICU; monitor and modify as appropriate  
SEEK ADVICE EARLY IF ANY CONCERNS  
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