

Parameter	Normal lungs	ARDS / ALI		Asthma/COPD		Metabolic acidosis	Head injury	Severe Obesity
Aim	Lung protective strategy Do no harm	Recruitment, shunt reduction, avoid atelectatic 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)	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	8-10 lbw
Resp rate	14	14	14	8-10	20-30	16	14	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	1:1 – 2:1
Pinsp (cm H₂O)	-	-	25-30	-	-	-	-	-
PEEP (cm H₂O)	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 O ₂ and CO ₂ 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 PCO ₂ 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								