

QUICK GUIDE FOR MANAGEMENT OF CRITICALLY ILL PATIENTS WITH COVID19: RESPIRATORY FAILURE

OXYGEN THERAPY: **Goal SpO2 92-96% PaO2 >75**

- Notify anesthesiology in advance if anticipate difficult airway: eg prior difficult intubation, prior head/neck surgery or XRT
- AVOID CPAP or BiPAP for ARDS, but can consider in reversible cases (e.g. flash pulmonary edema, mild COPD exacerbation)

RESPIRATORY FAILURE ALGORITHM: See full guidelines for details

NC 1-6L/min to maintain SpO2 goal

GOC and code status discussion

If NC 6L/min persistently does **not** achieve SpO2 goal

*Consult RT → try oxymyzer or venturi mask titration

Oxymizer: start at 8L/min titrate to max 12L/min

Venturi: start at 12L/min + FiO2 40%, titrate to max FiO2 60%

If need Oxymizer 10L/min or Venturi FiO2 50% for SpO2 goal

→ call COVID ICU triage pager (p39999)

If SpO2 <92% on Oxymizer 12L/min or Venturi mask FiO2 60% OR if dyspnea, tachypnea (RR>24), or increased work of breathing (accessory muscle use, nasal flaring) regardless of FiO2 (*consider pre-existing cardiopulmonary disease in your clinical assessment) → CALL COVID anesthesiology airway team (p39265) to intubate

Intubation per anesthesiology COVID intubation guidelines

UPFRONT VENTILATOR SETTINGS: Immediately upon intubation

- Volume control with Vt 6cc/kg IBW + RR 16-24 + FiO2 1.0 + PEEP based on BMI as below
- If BMI<35 PEEP 5; if BMI ≥35 PEEP 10

INITIAL VENT ADJUSTMENTS:

- 1) **TITRATE PEEP** use ARDSNET LOW PEEP table for BMI <35; for BMI ≥35 use ARDSNET HIGH PEEP table
- 2) **TITRATE DOWN FiO2** goal SpO2 92-96% or PaO2 >75
- 3) **MEASURE RESISTANCE + COMPLIANCE** (ask RT for help to do this)
- 4) **MEASURE PLATEAU PRESSURE:** if >30, decrease Vt to 4cc/kg IBW (tolerate incr pCo2 as a result)

WHAT TO DO FOR DIFFICULTY WITH OXYGENATION

- 1) PEEP titration (as above for initial settings)
- 2) Increase sedation to goal RAAS -5
- 3) Initiate continuous paralysis
- 4) **PRONE POSITIONING if P:F <150 or FiO2 >0.75**
See MICU protocol for proning
1 hr post-prone check mechanics + adjust PEEP as above
DC proning if P:F>200 or if O2 @ goal w FiO2 <0.5
- 5) Inhaled epoprostenol (veletri) trial (see protocol)
- 6) Inhaled Nitric Oxide trial (see protocol)
- 7) ECMO consultation

VENT TITRATION for ACID/BASE ISSUES:

target pH 7.25-7.45

- if pH <7.25 increase RR towards 35
- if pH <7.15 and RR is 35 then increase Vt to 8cc/kg IBW (as long as plateau pressure <30) AND do steps 1-4 above (sedation to RASS -5 + paralysis + prone)

ARDSNET LOW PEEP table (BMI < 35)	
FiO2	PEEP
0.3	5
0.4	5
0.4	8
0.5	8
0.5	10
0.6	10
0.7	10
0.7	12
0.7	14
0.8	14
0.9	14
0.9	16
0.9	18
1.0	18-24

ARDSNET HIGH PEEP table (BMI ≥ 35)	
FiO2	PEEP
0.3	5
0.3	8
0.3	10
0.3	12
0.3	14
0.4	14
0.4	16
0.5	16
0.5	18
0.5	20
0.8	22
0.8	22
0.9	22
1.0	22
1.0	24

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To check for the most up to date recommendations, please visit the [full manual](#) or use the QR code here →
For urgent questions please consult the BWH ICU triage pager (#39999)

