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

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

- Nasal cannula 1-6L/min → if need more O2 use venturi mask
- Consult anesthesia EARLY (when Venturi mask @ 60%)
- AVOID CPAP or BiPAP for ARDS, but can consider in reversible cases (e.g. flash pulmonary edema, mild COPD exacerbation)

RESPIRATORY FAILURE ALGORITHM: What to do in each situation…

NC 1-5L/min to maintain SpO2 goal
*GOC and code status discussion

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@ NC 6L/min to maintain SpO2 goal
*Consult anesthesiology → contingency plan re. intubation
*Consult RT → consider venturi mask or non-rebreather
*Consult COVID ICU triage → for ICU transfer when needed

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Venturi Titration: if decide to attempt this after discussion w anesthesiology, first FiO2 to 0.35, then flow to 12 L/min

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*If respiratory deterioration or rapid increase in FiO2
→ CALL ANESTHESIOLOGY TO INTUBATE

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Early intubation (per anesthesiology intubation guidelines)
*Use lung protective ventilation → see below for details
*If persistent hypoxemia → see right side panel for approach
*Determine ICU unit with COVID ICU triage + MICU attending

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 10; if BMI 35-50 PEEP 12; if BMI>50 PEEP 15

INITIAL VENT ADJUSTMENTS: (do this before bedside procedures)

1) **TITRATE PEEP** with RT help if Hamilton G5 vent use PV tool, otherwise Best PEEP protocol (if RT has time) or ARDSNET lower PEEP table w/ RT help see here →
2) **TITRATE DOWN FiO2** for goal SpO2 92-96% or PaO2 >75
3) **MEASURE RESISTANCE + COMPLIANCE** (RT can do this)
4) **MEASURE PLATEAU PRESSURE**: if >30, decrease Vt to 4cc/kg IBW (tolerate incr pCo2 as a result)

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

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) titrate to 0.05mcg/kg/min by continuous neb, x4 hrs if P:F no better wean off per protocol
6) Inhaled Nitric Oxide: 40-80ppm into vent circuit trial x4 hrs if P:F no better wean off over 2 hrs
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)

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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)

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