# 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 1-8L/min to maintain SpO2 goal**
*GOC and code status discussion

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**NC >8L/min to maintain SpO2 goal**
*Consult RT → start venturi mask @ 9L/min and FiO2 0.28
*Consult anesthesia → pre-intubation planning
*Consult ICU triage → planning ICU transfer when needed

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**Venturi Titration: first FiO2 to 0.35, then flow to 12 L/min**
*If rapidly increasing FiO2 requirement OR work of breathing OR tachypnea OR FiO2 0.6 and SpO2 <92%
→ CALL ANESTHESIA TO INTUBATE

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**Early intubation**
*Use lung protective ventilation → see below for details
*If persistent hypoxemia → see right side panel for approach
*Determine ICU unit with 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)

Version 3.20.2020
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 ICU triage pager (#39999)

SCAN ME

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