Ventilator Selection

Use this to understand the latest **guidelines** for **COVID-19 ventilator selection**.

Ventilators must:
- Provide Positive End-Expiratory Pressure (PEEP)
- Allow for titration of tidal volume and respiratory rate
- Provide supplemental oxygen greater than room air (>21% FiO2)

Ventilator Choice

Best: EMV+731 transport ventilators readily available & certified for high-altitude use

Better: IMPACT 754 ventilators are sufficient, but no Pressure Control - Inverse Ratio Ventilation

Good: Hamilton T1 transport ventilators provide specialized support options
Note: Not yet certified for use at high altitude

Minimal: Manual Bag-Valve-Mask (BVM), PEEP valve, & supplemental oxygen

Minimal: SAVe II rescue ventilators - limited PEEP (10 cm H2O) & minute ventilation (8 Lpm)
Note: Must use unit's own oxygen reservoir tubing for air intake to maintain oxygenation
Warning: Must transfer casualty soon to location with advanced ventilators

Not Recommended: SAVe I rescue ventilator provides no adjustability or PEEP
Warning: DO NOT USE for critically ill COVID-19 casualties

⚠️ **NOTE: Saros Portable Oxygen Condensers**

- **Problem:** Provides only up to 3 Lpm of 100% O2
- **Solution:** Gain higher oxygen flow (5-6 Lpm) by daisy-chaining multiple condensers with suction Y-adapters
- **Warning: Using continuous oxygen flow, battery limited to 30 minutes**

Ventilator Considerations

Limit personnel to minimum necessary and designated to manage ventilator & casualty

Ensure droplet precautions are implemented & PPE for healthcare personnel

Clamp endotracheal tube when disconnected to prevent decruitment & aerosolization

Use in-line suction, heated humidification and microbiologic filters whenever possible

Initiate lung-protective ventilation strategy using ARDSnet LOW PEEP table

Oxygenate upper SpO2 goal is 95%, may use 88-92% (PaO2 55-80) to extend oxygen supplies

Allow permissive Hypercarbia (arterial pH > 7.20, venous pH >7.15)

Conduct salvage recruitment maneuvers as necessary after suction, ETT disconnection