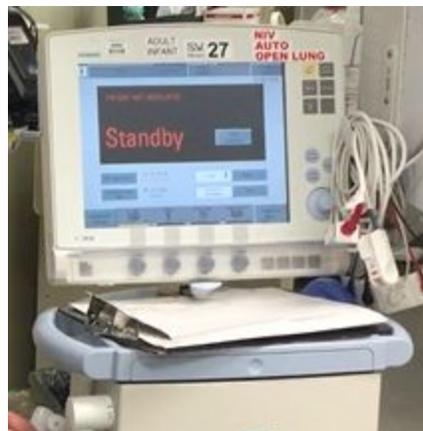## A Simple Step-by-Step Guide for Mechanical Ventilation:

The vent should already be on and look like this. If it is not, the main power switch is on the back.	
Press the power button on the left hand side to start the vent.	
When the vent is on, it should automatically be in its default settings: ● PRVC mode (pressure regulated volume control) ● Adult mode ● Invasive ventilation ● **FiO2 100%, PEEP 5, RR 16, TV 500 mL** To adjust the default settings for PEEP, FiO2, etc., turn the knobs immediately below. Adjust tidal volume so that you are providing 4-6 mL/kg.	

Attach the tubing to the endotracheal tube, ensuring the vent tubing has each of the 3 key components attached (see below):

1. The **EtCO2 monitor**
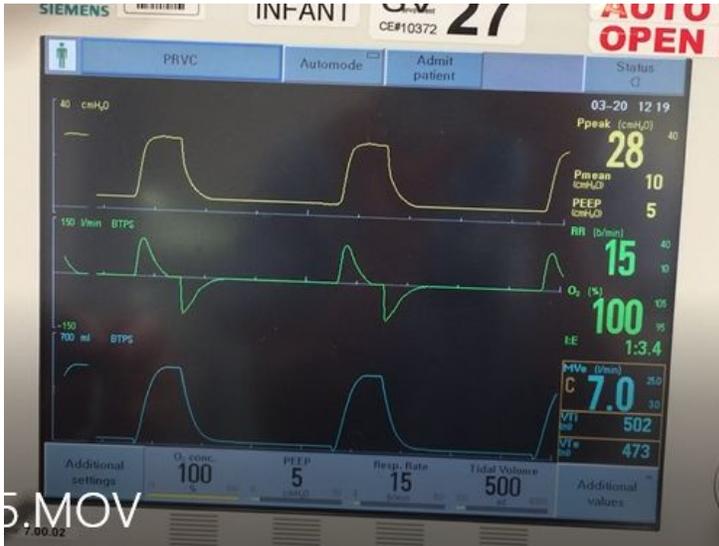2. **HEPA filter** (prevents aerosolization of COVID/pathogens)
3. **Swivel tube**

Each of these components should ALREADY be on the tubing and ready to attach.Ensure the EtCO2 tubing is connected to the monitor. If it is inserted as shown below, but you are still not get a reading, ensure you *push* on the silver box its plugged into so that it is engaged.

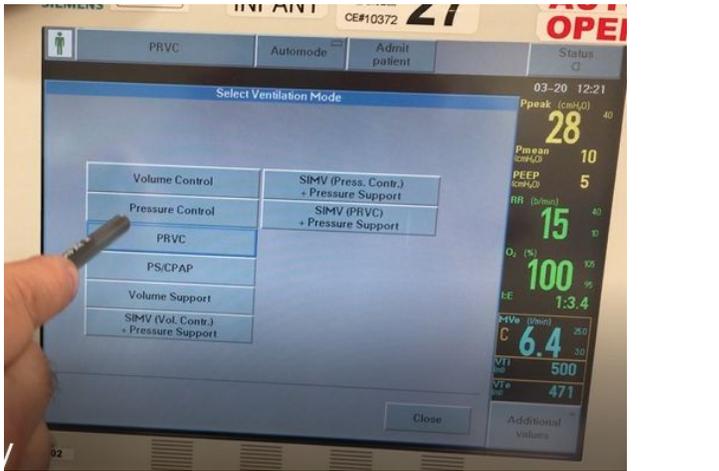|				
EtCO2 connection	HEPA filter	Swivel tube	Full connection	EtCO2 plug in

Check your waveforms:

1) Pressure waveform (yellow): should be squared
2) Flow waveform (green): 'I time' or inspiratory time, represented by area above the baseline. Default is 0.9s.
3) Volume waveform (blue): ensure that volume going in is the same going out (the triangle is smooth and returning to the baseline). If there is a leak, there will be visible variability (though it should be obvious if there is a leak)
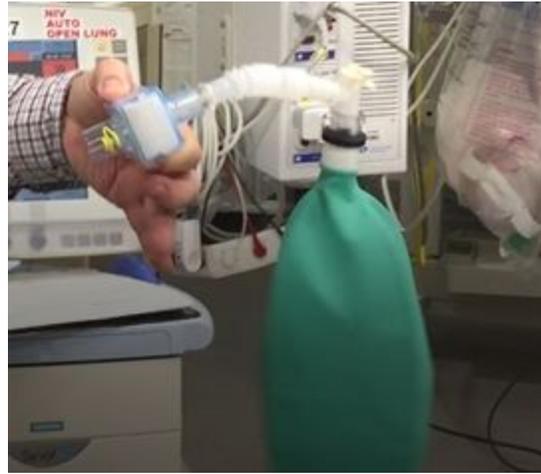

Changing modes:

● Mode setting is on the top left of the screen (should be in default PRVC but if you start the vent and it is in a different setting, this is how to change back to PRVC).

If disconnecting the circuit to go back to bagging, the HEPA filter MUST still be attached to avoid exposing yourself to potential COVID/pathogens!	

Additional notes:

- With PRVC mode, the TV will fluctuate if the patient's lung compliance is reduced and is requiring pressure support beyond the pre-programed settings.
  - If you are requiring high pressures (>40) to achieve the appropriate TV and oxygenation, you will need to use the ardsnet protocol and set a lower TV.
- Alarms:
  - Flashing yellow: FYI message
  - Flashing red: there is an acute problem that needs immediate attention
  - Press the alarm button TWICE to clear the alarm
- Specifics for COVID
  - Allow permissive hypercapnia: pCO_2 (EtCO2) of ~55-60
  - Will likely need high PEEP (16-24), increase PEEP by increments of ~3-4 to get desired oxygenation. Monitor for hypotension and pneumothorax with increasing pressure.