Indications

Intubated patient requiring consistent ventilations during transport, rescue, or extrication. The transport ventilator allows care of the patient to continue while caregivers remain restrained in the ambulance, or in situations where manual ventilation is not feasible do to lack of resources or challenges in patient access.

Precautions

Use of the transport ventilator is not a substitute for hands-on patient care. The patient still needs to be closely monitored for developing issues and complications. In situation where the ventilator will be used away from the ambulance, make sure you have an adequate supply of oxygen.

Technique

1. Patient must be intubated or have a King tube placed, and must have no intact respiratory drive. The patient must also be adequately sedated.
2. Manually ventilate the patient with a BVM until the ventilator is ready to use.
3. Select the ventilator setting that most closely matches that patient's ventilatory needs. The settings are indicated by a tidal volume in liters and a ventilation rate. A good starting point is to select a tidal volume that is close to 8cc/kg.
4. Attach the ventilator circuit to the ventilator.
5. Using the press-fit connector, connect the clear hose of the ventilator to the short green hose on the oxygen bottle regulator, or to one of the oxygen port in the ambulance. Fully open the bottle valve. The ventilator will begin delivering the specified tidal volume and rate.
6. If you have not already done so, set up the ETCO2 monitor and attach the adapter. ETCO2 measurement is an essential part of using an automatic ventilator.
7. Using the ventilator circuit, attach the ventilator to the patient's ET or King tube. Be careful not to dislodge the tube. Confirm that the ventilator is delivering proper ventilations, and that the tube is still in place.
8. Secure the ventilator to avoid dislodging it. A 90 degree adapter may facilitate placement of the ventilator while avoiding kinking of the tube.

9. Continue to carefully monitor the patient. The ventilator setting may be adjusted up or down, depending on the patient response. The goal is to maintain adequate oxygenation (SPO2 > 95), and proper CO2 balance (ETCO2 between 35 and 45).

Notes

1. The transport ventilator is a relatively dumb device. It has no sensors and minimal safety devices to prevent patient harm. Therefore, YOU have to be smart and prevent patient harm.
2. The ventilator is powered by oxygen. If you run out of oxygen, it will cease to function.
3. Keep a BVM close by the patient at all times. If at any time you suspect a problem with the ventilator, switch to the BVM immediately. If you can ventilate with the BVM, do so and have someone attempt to diagnose the problem with the ventilator. If you cannot ventilate using the BVM, use the DOPE acronym (Displacement of the tube, Obstruction, Pneumothorax, Equipment failure) to diagnose the problem.
4. Patients who are paralyzed and sedated with usually have lower metabolic demands than normal. You will often find that they can be adequately ventilated using surprisingly low tidal volumes and rates. As long as adequate oxygenation and CO2 balance are maintained, the patient should be ventilated using the lowest tidal volume and rate possible.