Choosing an Automatic Transport Ventilator "Need versus Desire"!

When the decision to use an automatic ventilator to provide better patient outcomes (and make rescuers' jobs easier) is made, the next step is deciding what type of ventilator should be acquired. Like any important purchase, it is essential to understand the applications for the product and by whom. The needs of an EMS first responder will be different from a Respiratory Therapist in Critical Care. There may also be a compromise on the optimal solution based on a budget so it is important to know what the essential features are versus "desirable".

There are many applications for automatic ventilators which will determine what features will be required including uses in land ambulance, air ambulance, pre-hospital care, inter-hospital transports, intra-hospital transports, BLS care, ALS care, transport of long term ventilated patients and resuscitation (to name a few). With a focus on short term EMS care, below are some questions and considerations to aid in making the best choice for patients, rescuers and budgets:

- Tidal Volume and Breathing Frequency Ranges - the size of patients to be transported will dictate the flexibility required.
- Oxygen Concentrations - longer transports may benefit from less than 100% oxygen to conserve cylinders and there may be patient conditions where the use of 100% oxygen is contraindicated.
- Demand Breathing – if patients spontaneously start breathing (which is the hope) can the ventilator support their efforts without "stacking" automatic ventilations?
- Fixed I:E Ratio – in normal breathing, it takes half the time to inspire as expire. Does the automatic ventilator support a 1 to 2 ratio? Do you need I:E ratio adjustment?
- Ability to meet current CPR Guidelines – does the automatic ventilator provide for the different recommendation for the compression : ventilation ratio for mask ventilated and intubated patients ?
- Therapy - CPAP can be used in treating patients with "difficulty breathing" conditions and there are "CPAP-only" devices on the market. CPAP is also available as a feature on some automatic ventilators to provide a single device solution for those patients moving from respiratory distress to full respiratory arrest.
- Manual Ventilation Capability – can the ventilator provide manual ventilation or does it require the EMS personnel to use a bag-valve-mask?
- Number of rescuers available- how many rescuers would be required to manage the airway and ventilate, particularly in non-intubated patients? Two rescuers should provide manual ventilation with a bag-valve-mask. Does the automatic ventilator have the same requirement or can one perform the task?
- Simplicity – is the device so complicated with features that EMS personnel are afraid to take it out of the bag or will they spend more time messing with the controls than looking after the patient?
- Operating environments – where the device is to be used will affect its functionality (MRI departments, air ambulance, extreme environments etc.).

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Fortunately for you, O-Two Medical Technologies took all these issues into consideration when we developed our eSeries Automatic Transport Ventilator range. With three, easy to use, models ranging from the e500 to the sophisticated e700 this range of products provides the healthcare provider with the features they need for their patient, the type of transport and their individual skill level.

Time should be spent understanding the needs of the patients served and the staff performing the task to prioritize the "must have" from "desirable" features. When you have made this assessment, check out the o-Two eSeries Automatic Transport Ventilators. We know we have a product that is right for you!

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