



Jackson Hole Fire/EMS Operations Manual

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Title: **Procedure Guideline:
CAREvent Ventilator**

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CAREvent Ventilator Procedure Guideline

SCOPE OF PRACTICE

All Paramedics shall operate within their authorized Scope of Practice as limited to those skills and medication approved for use by the Physician Medical Director and Physician Task Force on Pre-Hospital Care as approved and authorized by the Wyoming Board of Medicine

Scope of Practice: Paramedic

NO VOICE ORDER REQUIRED

INDICATIONS:

- Maintaining artificial ventilation during respiratory and/or cardiac arrest in both the pre-hospital and interfacility transport situations.
- Designed for ventilation of both children and adults.

PROCEDURE:

Manual Ventilation and Cardiac Compressions.

- Use Manual Button to assist in the timing of ventilations in conjunction with compressions.
- Using the manual mode provides a flow rate equivalent to the setting on the automatic setting selector but does not cycle automatically.
- If no respiratory effort is observed, apply face mask over pt's mouth and nose. Hold the mask in place and maintain an open airway.
- Select the MANUAL mode and the tidal volume based on setting for size of pt being ventilated.
- Depress the manual button and observe the rise of the pts chest. Release the button when chest rise is adequate.
- Continue ventilations at an appropriate rate until relieved or until spontaneous breathing occurs.

Automatic Ventilation

- If you have been ventilating manually simply release the manual button, turn the switch to Auto and after a short pause of 17-23 seconds, the ventilator will commence automatically cycling at the rate and volume selected. If you are commencing automatic ventilation immediately, rotate the setting selector to the setting appropriated for the size of patient being ventilated and the ventilator will commence automatic cycling.

Demand breathing and Automatic circuit Shut Off

- Should the patient commence spontaneous breathing the CAREvent ALS+ will sense the patient's inspiratory effort and will stop cycling, automatically allowing the pt to "Demand Breathe" at their own rate and volume on 100% oxygen. If they cease spontaneous breathing the ventilator will recommence automatic cycling after a delay of 5-8 seconds.

PRECAUTIONS:

- Always have an alternative means of ventilating patient available in case of gas supply failure.
- Do not leave patient unattended.
- Not recommended for use on neonates and pregnant women.
- The use of gas pressure regulators that do not maintain a minimum output pressure and flow rate in line with the requirements of the specification may cause the device to fail resulting in the patient not being ventilated.
- As always with any ventilation method, ensure that ventilations are being delivered adequately!
- If rapid patient deterioration is noted, remove patient from the ventilator and resume ventilations via BVM.
- Use the **DOPE** acronym to assess possible causes for patient deterioration.
 - D** = tube **D**isplacement
 - O** = tube **O**bstruction
 - P** = **P**atient (this is the first priority), **P**neumothorax
 - E** = **E**quipment failure

Use the chart below to determine tidal volume based on the patient's body mass.

Body Weight (kg)	min.	13	19	26	32	39	45	51	58	64	71	77	84
(6-7 ml/kg)	max.	18	28	37	46	55	64	73	83	92	101	110	119
Tidal Volume V_T (mL)		100	150	200	250	300	350	400	450	500	550	600	650
Frequency (BPM)		20	20	20	20	10	10	10	10	10	10	10	10
Minute Volume V_m (ltrs)		2.0	3.0	4.0	5.0	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
Automatic flowrate (L/min)		6.0	9.0	12.0	15.0	9.0	10.5	12.0	13.5	15.0	16.5	18.0	19.5

SPECIAL CONSIDERATIONS:

Cylinder duration range for D size cylinder containing 415 L of O₂:

- (Child) 20 BPM / 100ml Tidal Volume = 207 minutes
- (Adult) 10 BPM / 650ml Tidal Volume = 63 minutes