

X. OPTIONAL PROGRAM TRANSPORT OF CHRONIC AND SCENE VENTILATED PATIENTS

1. PURPOSE

To define the indications for use of a mechanical ventilator:

a) Chronic ventilated patient

The level of care required for the interfacility transport of “**chronic ventilated patients**” is within the scope of practice of a paramedic who has been credentialed, is competent, and received adequate training specific to the patient’s condition and the equipment necessary to provide care. Exception: A CRT-I or EMT may transport a chronically ventilated patient who is going for routine medical care and has in attendance a patient provided attendant who can manage the patient’s own ventilator.

b) Patient ventilated at the scene of an emergency

The level of care required for the transport of a ventilated patient from the “**scene of an emergency**” is within the scope of practice of a paramedic who has been credentialed, is competent, and received adequate training specific to the patient’s condition and the equipment to provide care.

2. INDICATIONS

a) **CHRONIC VENTILATED PATIENTS** are defined as:

- (1) Tracheostomy is more than 7 days old. If tracheostomy has been in place for 7 days or less, see "Transport of Acute Ventilated Interfacility Patients" Protocol. **(NEW '20)**
- (2) Ventilator settings that have no changes within 24 hours or changes reflecting improvement in the patient; **and**
- (3) Point of origin or destination is:
 - (a) Long-term care facility,
 - (b) Home,
 - (c) Outpatient setting,
 - (d) Hospital; **and**
- (4) Reason for transport is:
 - (a) Return from or transport to a scheduled appointment, **or**
 - (b) For extended care, **or**
 - (c) For emergency treatment (but not complication of airway or respiratory distress); **and**
- (5) Ventilator settings are:
 - (a) Positive End-Expiratory Pressure (PEEP) less than or equal to 10
 - (b) Peak pressures less than or equal to 30, and
 - (c) No changes in the ventilator settings are required during the transport.

b) **SCENE OF AN EMERGENCY** – Out-of-Hospital

- (1) Point of origin is at the scene of an out-of-hospital emergency
- (2) A paramedic may utilize mechanical ventilation once the patient is intubated.
- (3) Reason for mechanical ventilation is respiratory arrest or when the patient is intubated and not bucking the ventilator.
- (4) Once the patient is on a ventilator, a second clinician (EMT or higher) is required to assist with patient care.

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- (5) Destination – closest appropriate hospital
- (6) Contraindicated in children 8 years of age or less.

3. VENTILATOR STANDARDS

a) CHRONIC VENTILATOR DEVICE STANDARDS

- (1) The ventilator that the service is to use for the acute or chronically ventilated patient should be able to match the existing ventilator settings. The following minimum device features (including circuit) must be present for this category of patient:
 - (a) Set rate of ventilations
 - (b) Adjust delivered Tidal Volume
 - (c) Adjustable Pressure Support Settings
 - (d) Adjustable Inspiratory and Expiratory ratios (I:E ratio)
 - (e) Positive End-Expiratory Pressure (PEEP)
 - (f) Peak airway pressure gauge
 - (g) Modes
 - (i) Assist Control (AC)
 - (ii) Synchronized Intermittent Mandatory Ventilation (SIMV)
 - (iii) Controlled Mechanical Ventilation (CMV)
 - (h) Alarms
 - (i) Peak airway pressure
 - (ii) Disconnect
 - (2) Strongly recommended options are:
 - (a) Continuous Expiratory volume measurement
 - (b) Blend percentage oxygen
 - (3) Must perform periodic maintenance (including calibration) meeting the manufacturer's specifications
- b) CHRONIC VENTILATOR USAGE**
- (1) Ventilator used is:
 - (a) The patient's own ventilator intended for home/transport use and have the patient, home-care clinician, or staff member from the health care facility manage the ventilator, **or**
 - (b) A ventilator maintained by the ambulance service or health care facility specifically designed for transport use and capable of providing the required settings. If the patient's ventilator is the same as the company ventilator, the paramedic may manage the ventilator without the home-care clinician accompanying patient. Exception: A CRT-I or EMT may transport a chronically ventilated patient who is going for routine medical care and has in attendance a patient provided attendant who can manage the patient's own ventilator.
 - (2) Monitoring equipment must include pulse oximeter (provided by family or service).
 - (3) Tracheal suctioning kits/catheters must be available.
 - (4) A replacement tracheostomy tube the same size and one size smaller shall

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be transported with the patient ventilated through a tracheostomy. (The endotracheal tube equivalent may be substituted.)

c) **SCENE OF AN EMERGENCY VENTILATOR DEVICE STANDARDS**

Mechanical ventilator used must:

- (1) Be intended for transport use,
- (2) Deliver 100% oxygen, and
- (3) Have minimal parameters to set rate and volume (both adjustable to meet the needs of pediatric and adult patients)

4. POTENTIAL ADVERSE EFFECTS

- a) Pneumothorax
- b) Barotrauma
- c) Hypoxemia
- d) Hyperventilation
- e) Hypoventilation
- f) Extubation of endotracheal or tracheostomy tube

5. PRECAUTIONS

- a) Any acutely ill or injured **breathing** patient at the “scene of an emergency” requiring assisted ventilation shall be manually ventilated.
- b) If any problems arise with mechanical ventilation, the patient shall be disconnected from the ventilator and manually ventilated.
- c) The Optional Program will require a training program that meets or exceeds the “Chronic and Scene Ventilated Patient” curriculum and be approved by the operational program medical director. A copy of that training program shall be reviewed and be approved or disapproved by MIEMSS.