

Respiratory Therapy - Unit Practice Manual
John Dempsey Hospital - Department of Nursing
The University of Connecticut Health Center

PROCEDURE FOR: Neonatal Transport Systems Check of Ambulance

OBJECTIVE: To verify clinical systems are operating at a functional level:

1. Oxygen and medical air systems.
2. Primary and secondary switch panel.
3. Inverter system to transport isolette connections, accessory electrical plus and medical gas storage.

RATIONALE: The neonatal ambulance has clinical systems that support the transport ventilator. Verification checks of these clinical systems need to be completed before departure of the ambulance for transport.

PERSONNEL: Respiratory Therapist

- PROCEDURE:**
1. Function/location check of Primary Rear Switch panel: Located to the rear of the ambulance. Light switches have a high intensity when top part of button is pressed and low intensity when bottom part of button is pressed. The middle position of the button is the off position.
 - a. Dome lights - turn on when the generator is on or when the timer (adjacent to street door) is turned on.
 - b. Cot lights - Amber light illuminates in on position.
 - c. Oxygen compartment light - Amber light illuminates in on position.
 - d. Air compartment light - Amber light illuminates in on position.
 - e. Oxygen valve (switch); Should be in the ON position before departure noted by an amber light.
 - f. Air valve (switch); Should be in the ON position before departure noted by an amber light.
 - g. Exhaust Fan; Should be in the ON position when Nitric Oxide is delivered to the infant.
 - h. Verify Oxygen valve (switch) and Air valve (switch) is on and illuminating (amber) on the rear primary panel and the secondary panel.
 2. Function/location of Primary Rear Treatment Panel.
 - a. Patient Status indicator - Buzzer indicates a change in status to ambulance driver.
 - b. Remote inverter panel (backup system when generator has malfunctioned). This panel will illuminate a solid green when operational. This panel will not have illumination when nonoperational.
 - c. Suction 1 - Controls primary suction unit. Suction canister is located under seat cushion. Suction is to be set 80-100mmHg.

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3. Function/location of Secondary Treatment Area - located streetside to the ambulance.
 - a. The Secondary treatment Area is used for the second infant transport.
 - b. Suction 3 - Controls used for second transport isolette to be set 80-100mmHg.
 - c. Verify that the Oxygen valve (switch) and Air valve (switch) is opposite in position to the same switch on the Primary Rear Switch Panel and is illuminating amber when operational.
4. Function/location check of Climate Control Panel - located street side to the ambulance.
 - a. Heat/Cooling - switches system from heating to cooling; center position is off.
5. Function/location of Oxygen and Medical air system:
 - a. Verify working PSI pressure of air and oxygen H cylinder to read 50 psi. Variation may occur once transport ventilator is utilizing the H cylinders. Notify ambulance driver if the pressure is not 50 psi.
 - b. Verify a combined minimum of 2500 psi in the primary and reserve oxygen H cylinders and no less than 500 psi in each cylinder through communicating with the ambulance driver.
 - c. Verify a combined minimum of 2500 psi in the primary and reserve air H cylinders and no less than 500 psi in each cylinder through communicating with the ambulance driver.
 - d. Verify three reserve oxygen E cylinders and three reserve air E cylinders.

APPLICATION: 1. Transport Isolette:

- a. Verify respiratory compartment has two ventilator circuits.
 - b. Verify one set of air and oxygen tanks have 2000 psi in each cylinder and the other set has a minimum of 1000 psi in each set of air and oxygen tanks.
2. Ambulance:
- a. Verify vehicle batteries are ON to permit medical gas flow.
 - b. Verify diesel generator is ON to permit electrical supply.
 - c. Verify oxygen and air valves are in the ON position and illuminating amber on the Primary Rear Treatment Panel.
 - d. Connect electrical plug from the transport isolette to the white electrical outlet located in the ceiling.

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- e. Connect oxygen and air hoses to ceiling in ambulance.
- f. Turn oxygen and air tanks switches on isolette to off position.
- g. Verify manometer pressure and ventilator settings on transport ventilator are according to medical order.
- h. Verify transport isolette is in locked position on the van.

TRANSPORTING

TWO ISOLETTES: The second isolette is positioned perpendicular to the primary isolette with the head closest to the wall.

- 1. Connect electrical plug from the transport isolette to the white electrical outlet located in the ceiling adjacent to the door.
- 2. Connect oxygen and air hoses to ceiling adjacent to the door.
- 3. Turn oxygen and air tank switches to off position on the isolette.
- 4. Verify manometer pressure and ventilator settings on transport ventilator according to medical order.
- 5. Verify transport isolette is in locked floor position on the van.

- COMPLICATIONS:**
- 1. Electrical system malfunctions or is overloaded:
 - a. When a malfunction occurs and there is a loss of electricity, push the ON switch on the inverter panel illuminating a green light. Remove transport isolette plus from the white power outlet on the ceiling to the red emergency power outlet. Twist the plug to release from ceiling.
 - b. The inverter panel will illuminate red when the voltage in the vehicle batteries is reaching minimum levels or if the electrical system is overheating or becoming overloaded.
 - 2. Oxygen or medical air system does not deliver gas when activated by the batteries:
 - a. Turn isolette air and oxygen switch ON and maintain ventilator function with transport cylinders.
 - b. Use manual override system if gas flow does not occur when batteries are in the ON position. The electric solenoid for the primary reserve H cylinder is located in the tank compartment accessible from the exterior compartment door on the ambulance. On the outside of the solenoid, turn knob to align direction of notch with direction of hose for prospective gas.

APPROVAL:

EFFECTIVE DATE: 1/2008

REVISION DATES: