Respironics V60 BiPAP, Pre-use Safety Check (Respiratory Therapy)

Site Applicability

St. Paul's Hospital
Mount Saint Joseph Hospital

Practice Level

Respiratory Therapist

Need to Know

The Respironics V60 BiPAP Pre-Use Safety Check must be completed after cleaning and circuiting the ventilator and before using the device on a new patient.

Equipment and Supplies

- Respironics V60 BiPAP with circuit assembled
- 1 liter test lung

Procedure

Setup

1. Gas Supply:
    a. Connect the high-pressure air and oxygen hoses into the wall outlets and check that the connections are tight.
2. Verify Ventilator Operation:
    a. Power on the device. The V60 automatically runs a test of the backup audible alarm followed by the primary audible alarm. Verify that you hear a high-pitched tone, followed by a beep.
    b. Create a patient alarm, such as a disconnect alarm.
    c. VERIFY that the proper alarm is annunciated (audio, visual, flashing, and alarm LED).
    d. VERIFY that the volume setting is adequate for the environment in which it will be used.
    e. VERIFY remote alarm setup, if applicable
3. Setting up the Device for use:
    a. Resolve the alarm condition and manually reset the alarm.
    b. If the backup battery is installed, disconnect the ventilator from AC power while the ventilator is running. If the backup battery is not installed, go to step 4.
    c. VERIFY that the ventilator switches over to battery power (battery symbol in right-hand corner of screen is displayed).
    d. VERIFY that the audible alarm sounds intermittently.

       e.   Reconnect the ventilator to AC power.
4.   Breathing Circuit Check, Running Alarm Tests:

- The ventilator performs a self-check during start-up and continuously during operation
- Alarm functionality is verified by this self-check. You may also want to run alarm tests, which demonstrate the alarm operation
- **To prevent possible patient injury, always return alarm settings to appropriate values after verifying ventilator operation**

Alarm Verification

1. Set the BiPAP up as for normal ventilation with breathing circuit and a 1-liter test lung.
2. Set the mode to S/T and enter the following control settings:

Rate	IPAP	EPAP	I-Time	Rise	Ramp	O$_2$
4 BPM	10 cmH$_2$O	6 cmH$_2$O	1 sec	1	Off	21%

3. Enter the following alarm settings:

Hi Rate	Lo Rate	Hi Vt	Lo Vt	HIP	LIP	Lo E	LIP T
90 BPM	1 BPM	2000 mL	Off	50 cmH$_2$O	Off	Off	5 secs

    a.   High Inspiratory Pressure
        i.   Lower the HIP alarm limit to 8 cmH$_2$O.
       ii.   VERIFY that the High Inspiratory Pressure alarm is activated, the ventilator cycles into exhalation, and pressure falls to 6 cmH$_2$O (the EPAP level)
      iii.   Raise the HIP alarm limit to 15 cmH$_2$O.
    b.   Low Tidal Volume
        i.   Raise the Lo Vt alarm setting above the displayed, measured Vt.
       ii.   VERIFY that the Low Tidal Volume alarm is activated.
      iii.   Turn the Lo Vt alarm setting OFF.
      iv.   VERIFY that the alarm resets.
    c.   Patient Disconnect
        i.   Disconnect the test lung.
       ii.   VERIFY that the Patient Disconnect alarm is activated.
      iii.   Reconnect the test lung.
      iv.   VERIFY that the alarm resets and that the ventilator automatically resumes ventilation.
    d.   Patient Circuit Occluded
        i.   Disconnect the patient circuit (including bacteria filter) from the ventilator outlet and block the ventilator outlet.
       ii.   VERIFY that the Patient Circuit Occluded alarm is activated.
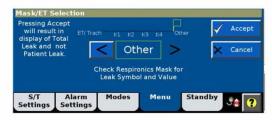   iii.   Unblock the outlet and reconnect the circuit.

iv.   VERIFY that the alarm resets.
4.   Mask and exhalation port setting (for Fisher & Paykel vented full-face mask):

From the same Mask/Port screen as before, touch the forward arrows until Other is selected.
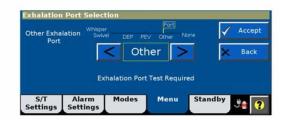Touch Accept.

The Exhalation Port Selection screen is automatically displayed

Touch forward or backward arrows to select type of circuit Exhalation Port.
If other than a Philips/Respironics port, select Other.
Touch Accept and begin the Exhalation Port Test.

Related Documents

B-00-12-12014 - Respironics V60 BiPAP (Respiratory Therapy)

References

Respironics V60 Ventilator Pocket Guide

Respironics V60 Ventilator User Manual

V60 Mask-Port Settings Guide

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