Viasys - Pulmonetetic Systems LTV 1200
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Disclaimer
This training program is intended as a “quick reference” for operation of this
ventilator in an emergency situation. Users of this device in an emergency
situation should do under the supervision of a regular user. Regular users
should go through detailed training provided by employers or through Viasys.

Resources
- CD-ROM’s
- Emergency setup card
- www.viasyshealthcare.com

Patient Capabilities
- Patients > 5 kg – volume modes

Quick set-up – High Pressure O2
Quick set-up – Low Pressure O2
Quick set-up – Low Pressure O2

Quick set-up Power
Adapter can be used 3 ways
Quick set-up Power

A/C Adapter

Quick set-up - External Power
Universal Power Supply
or Lithium Ion battery
Quick set-up – Circuit Connection
Quick set-up – Circuit Connection
Quick set-up – Circuit Connection
**Ventilator Checkout**
- Disconnect patient
- Turn Ventilator off
  - Push SELECT button and press ON/STANDBY
  - REMOVE PTNT will be display area and alarm will sound
  - Press SILENCE/RESET
  - Display area will show VENT CHECK
- Press SELECT and ALARM will be shown in the display area
  - Press SELECT and verify audible alarm
- Press SELECT and DISPLAY will be shown in the display area
  - Press SELECT and all LED’s will be illuminated
  - Ventilator Checkout
- Press SELECT and CONTROL will be shown in the display area
- Press SELECT and SELECT will be shown in the display area
  - Starting with SELECT, press each button one at a time
  - The name of the button will appear in the window
  - When done press SELECT
  - LEAK will be shown in the display area
  - Occlude the patient wye and press SELECT
  - The LTV will perform several functions and display either LEAK PASS or LEAK FAIL
  - Refer to troubleshooting in the leak test fails.
- Press SELECT and EXIT will be shown in the display area
- Press SELECT or Press CONTROL LOCK twice to exit and resume ventilation

**Quick start-up**

**Quick Start-up**

**Patient Selection**
- After the power-up self test, SAME PATIENT will be displayed. Press SELECT to return to the previous settings
- Rotate the SET VALUE KNOB to select NEW PATIENT and press SELECT
- Rotate the SET VALUE KNOB to select between INFANT, PEDIATRIC and ADULT and press SELECT
## Quick Set-up - Default Parameters

<table>
<thead>
<tr>
<th>Feature/Function</th>
<th>Infant (&lt;5 kg &lt; 10 kg)</th>
<th>Pediatric (10-40 kg)</th>
<th>Adult (&gt; 40 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm volume</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>HP delay</td>
<td>NO DELAY</td>
<td>NO DELAY</td>
<td>NO DELAY</td>
</tr>
<tr>
<td>LPP alarm</td>
<td>ALL BREATHS</td>
<td>ALL BREATHS</td>
<td>ALL BREATHS</td>
</tr>
<tr>
<td>High f alarm</td>
<td>80 bpm, 30 sec</td>
<td>60 bpm, 30 sec</td>
<td>40 bpm, 30 sec</td>
</tr>
<tr>
<td>High PEEP alarm</td>
<td>PEEP +5 cmH2O</td>
<td>PEEP +5 cmH2O</td>
<td>PEEP +5 cmH2O</td>
</tr>
<tr>
<td>Low PEEP alarm</td>
<td>PEEP -3 cmH2O</td>
<td>PEEP -3 cmH2O</td>
<td>PEEP -3 cmH2O</td>
</tr>
<tr>
<td>Rise Time</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>FLOW TERM</td>
<td>35%</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>TIME TERM</td>
<td>TERM 0.5 sec</td>
<td>TERM 1.0 sec</td>
<td>TERM 2.0 sec</td>
</tr>
<tr>
<td>PC FLOW TERM</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>Leak Comp</td>
<td>LEAK COMP ON</td>
<td>LEAK COMP ON</td>
<td>LEAK COMP ON</td>
</tr>
<tr>
<td>Breath Rate</td>
<td>20 bpm</td>
<td>15 bpm</td>
<td>12 bpm</td>
</tr>
<tr>
<td>Breath type</td>
<td>Pressure</td>
<td>Pressure</td>
<td>Volume</td>
</tr>
<tr>
<td>Tidal Volume</td>
<td>50 ml</td>
<td>250 ml</td>
<td>500 ml</td>
</tr>
<tr>
<td>Insp. Time</td>
<td>0.3 sec</td>
<td>0.7 sec</td>
<td>1.0 sec</td>
</tr>
<tr>
<td>Pres. Control</td>
<td>15 cmH2O</td>
<td>15 cmH2O</td>
<td>15 cmH2O</td>
</tr>
<tr>
<td>Pres. Support</td>
<td>10 cmH2O</td>
<td>10 cmH2O</td>
<td>10 cmH2O</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>2 Lpm</td>
<td>3 Lpm</td>
<td>3 Lpm</td>
</tr>
<tr>
<td>High Pres. Limit</td>
<td>30 cmH2O</td>
<td>30 cmH2O</td>
<td>40 cmH2O</td>
</tr>
<tr>
<td>Low Pressure</td>
<td>10 cmH2O</td>
<td>10 cmH2O</td>
<td>10 cmH2O</td>
</tr>
<tr>
<td>Low Min. Vol.</td>
<td>0.5 ml</td>
<td>1.0 ml</td>
<td>3.0 ml</td>
</tr>
<tr>
<td>PEEP</td>
<td>0 cmH2O</td>
<td>0 cmH2O</td>
<td>0 cmH2O</td>
</tr>
<tr>
<td>Mode</td>
<td>Assist/Ctrl</td>
<td>Assist/Ctrl</td>
<td>Assist/Ctrl</td>
</tr>
</tbody>
</table>

Front Panel Buttons and LED’s
Front Panel Buttons and LED’s
Front Panel Buttons and LED’s
Front Panel Buttons and LED’s - Battery Level
Mode Control
Mode Control - Volume vs. Pressure Modes
**Inspiratory/Expiratory Hold**
- Push once for inspiratory hold
  - $P_{\text{plat}}$ will be displayed
  - Display will cycle between $C_{\text{stat}}$, Delta pressure and $P_{\text{plat}}$
- Push twice for expiratory hold
  - $P_{\text{exp}}$ will be displayed during hold
  - PEEP will be displayed after release

**Manual Breath**
- Push to deliver 1 machine breath
  - Low Pressure O2 Source
- Push and hold to select low pressure (< 10 psig) oxygen source
  - Cylinder, flowmeter, concentrator or liquid system

**Control Lock**
- Push CONTROL LOCK
  - LED on
- Push again to unlock
  - May have to push and hold for 3 sec. (Hard unlock)
  - MANUAL BREATH, SILENCE and SELECT still active

**Changing Controls**
- Rate Control (1-80)
- Tidal Volume Control (50 - 200 ml)
- Pressure Control (1 - 99 cwp)
- Inspiratory Time (0.3 - 99 sec.)
- Pressure Support (1 - 60 cwp)
  - $F_{O2}$ Control (21 - 100%)
- Sensitivity (1 - 9 l/m and off)
- PEEP Control (0 - 20)
- Message Display Area
- Message Display Area
- Message Display Area
- Message Display Area
- High Pressure Alarm (5 - 100 cwp)
- Low Pressure Alarm (1 - 60 cwp and off)
- Low Minute Volume (0.1 - 99 liters and off)
  - Managing Alarms (60 sec.)
**LTV Graphics Monitor**
LTV Graphics Monitor - Wave Screen
LTV Graphics Monitor - Loop Screen
LTV Graphics Monitor - Data Screen
LTV Graphics Monitor - Summary Screen
LTV Graphics Monitor - Trend Screen

**Menu - Extended Features**

**Extended Features**

**Extended Features - Alarm Operations**
- Alarm volume
- Apnea interval
- High pressure alarm delay
- LPP (low peak pressure) alarm
  - High f
  - High PEEP
  - Low PEEP
- PNT assist (remote alarms)

**Extended Features - Ventilator Operations**
- Rise time
- Flow termination
- Time termination
- PC flow termination
- Leak compensation O2 flush
- Control unlock
  - Language
  - Ver xx.xx
  - Usage xx.xx
- Com setting
  - Set date
  - Set time
- Date format
  - PIP LED
  - LTV x.xx
- VHome xx.xx
- Set defaults
- O2 cyl dur
**Extended Features - SBT**

- SBT start
- Pressure support
  - PEEP
- SBT FIO2
- Minutes
- High f/Vt
- Low f/Vt
- SBT high f
- SBT low f Display f/Vt

Unit Highlights (testable)
- Patient capabilities
- Battery – internal external
- Gas sources – High pressure, low pressure
- Circuit - flow transducer, one-way valve and connections
- Start-up and checkout
- Minimum expiratory and inspiratory time
- Extended features

**Conclusion**

Contact milischr@westerntc.edu if there were any problems with the presentation

Please take the quiz for this presentation and move on to the next presentation