Use of SNS Ventilators in the Pediatric Patient (LP-10, LTV-1200 and Uni-Vent Eagle)

Concepts of Rapid or Volume Based Pediatric Ventilation

- If volume ventilating, start at 10 ml/kg (unless protective lung strategy ventilation required)
- Volume lost to circuit must be replaced unless measurements taken at "wye"
- Set I-time generally between 0.7 – 1.0 sec.

NORMAL RESPIRATORY RATES

- Infant 30-60
- Toddler 24-40
- Preschooler 22-34
- School-age child 18-30
- Adolescent 12-16

ASSESSMENT

- Chest rise
- Breath sounds
- Respiratory Rate
- Work of Breathing
- Pressures required to deliver volume
- ABG/TCM/SaO_2

UNI-VENT® Eagle™ Ventilation System "Quick Set-Up"

Mode	SIMV, Assist Control (A/C), CPAP
Volume	10 ml/kg (displayed on LCD above control)
Breath rate	Set age appropriate (dial is sensitive, 1-150 bpm)
Inspiratory Time	(0.7-1.0 Combination of Inspiratory time and I:E ratio is displayed on LCD (I:E ratio default 1:1 preset)
FiO_2	Dial desired FiO_2 (21% to 100%) value displayed on LCD
PEEP	Pushbutton switch: each push = 1 cwp
Alarms	Set based on average Peak Inspiratory Pressure
Low Alarm Limit	5 cwp below spontaneous Peak Inspiratory Pressure
High Alarm Limit	10 cwp above Mechanical Breaths Peak Inspiratory Pressure
Battery Life	3 hours maximum using internal compressor; 12 hours using external gas source

Development of this document was conducted under the direction and oversight of Illinois Emergency Medical Services for Children and the Pediatric Work Group, Illinois Terrorism Task Force. The development, printing and distribution of this resource tool has been supported through federal funding from the Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Grant.

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Use of SNS Ventilators in the Pediatric Patient (LP-10, LTV-1200 and Uni-Vent Eagle)

LP-10 Ventilator "Quick Set Up"

Mode	SIMV or Assist Control
Volume	10ml/kg (measured by spirometer)
Breath rate	Set age appropriate
Inspiratory Time	(0.7-1.0 second)
FiO_2	Capable of delivering 100%
Back of machine- O_2 enrichment kit	Set liter flow (not > 10 lpm) Analyze FiO_2
Front of machine- Bleed O_2 into circuit	Highest FiO_2 approximately 40% Adjust liter flow and analyze
PEEP	External PEEP valve located on circuit exhalation valve; dial in desired PEEP pressure
Alarms	Set based on average Peak Inspiratory Pressure
Low Alarm Limit	5 cwp below Peak Inspiratory Pressure
High Alarm LImit	10 cwp above Mechanical Breaths Peak Inspiratory Pressure
Battery Life	Internal Battery 30 minutes to 1 hour; External battery 10 hours

LTV-1200 "Quick Set Up"

Preuse	Vent Op/Leak test/New Patient/Patient Size
Mode	SIMV, Assist Control (A/C), Pressure Support-CPAP, NPPV
Volume	10 ml/kg
Breath Rate	Set age appropriate
PEEP	Set on Machine
FiO_2	High pressure source – set oxygen on vent (capable of delivering 100%) Low pressure source – adjust liter flow and analyze
Alarms	Low Pressure – Set 5 cwp below average spontaneous Peak Inspiratory Pressure High Pressure – Set 10 cwp below average Peak Inspiratory Pressure Low Min. Vol. – Set 1 lpm below average minute volume
Ext. Features	Safe to use defaults provided appropriate size patient selected
Battery Life	Internal Battery 1 hour; Small external battery 3 hours; Large external battery 9 hours

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