

Mechanical Ventilation

INDICATIONS:

- Respiratory Arrest
- Any Medical Etiology of Dyspnea or Airway Management Intubation
- Any Trauma Etiology of Dyspnea or Airway Management Intubation (except suspected pneumothorax)

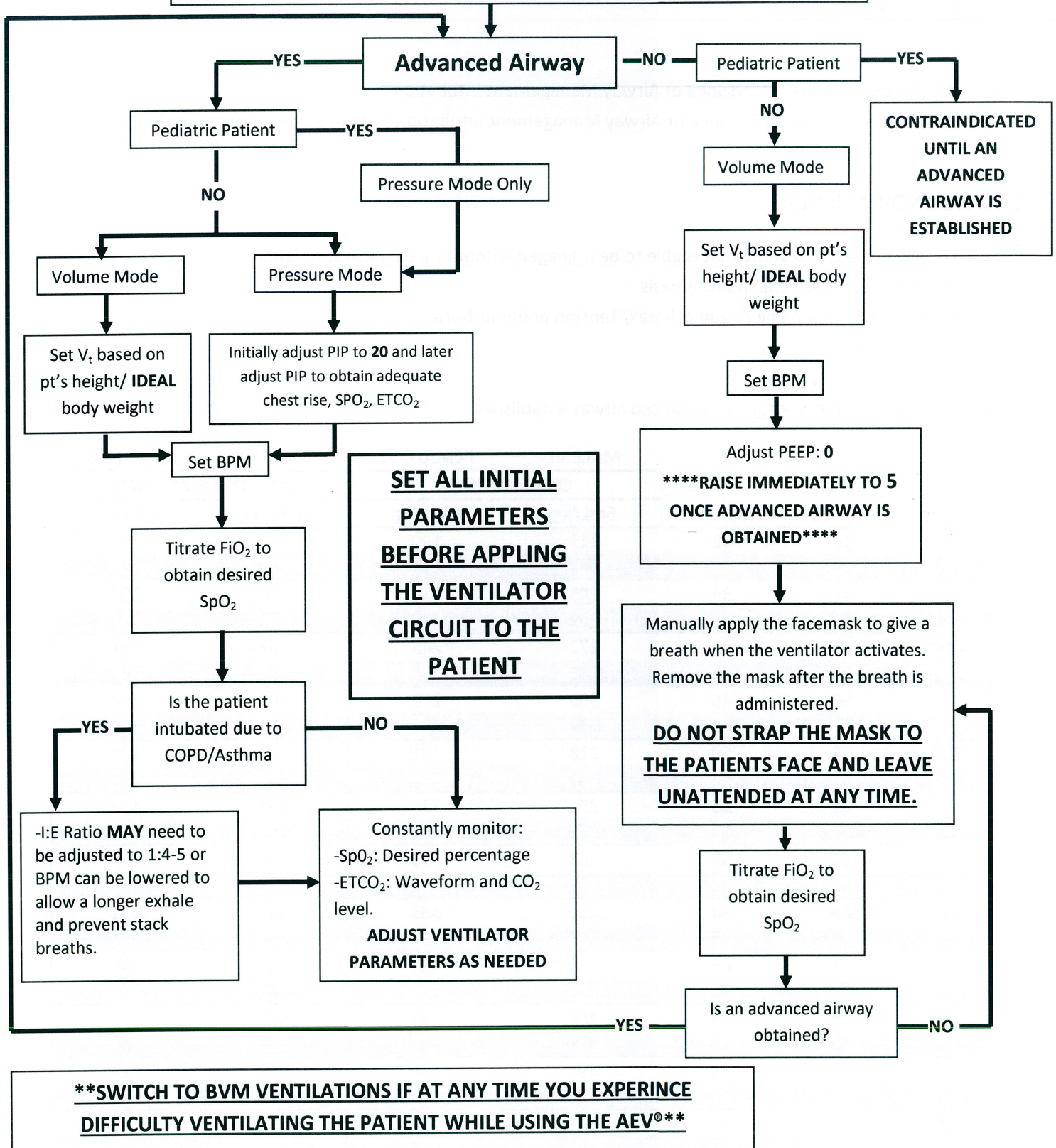
CONTRAINDICATIONS:

- Dyspnea of lesser severity that is able to be managed without mechanical ventilation.
- Active or suspected impending emesis
- Suspected or impending pneumothorax/ tension pneumothorax
- Cardiac arrest
- Neonate patients
- Pediatric patients without an advanced airway established.

Height	MALE IBW KG	FEMALE IBW KG	MALE Vt		FEMALE Vt	
			COPD/ASTHMA		ALL OTHER PATIENTS	
			6mL/kg	6 mL/kg	8 mL/kg	8 mL/kg
4'6"	36	32	217	190	290	254
4'7"	39	34	231	204	308	272
4'8"	41	36	245	218	326	290
4'9"	43	39	259	232	345	309
4'10"	45	41	272	245	363	327
4'11"	48	43	286	259	382	346
5'0"	50	46	300	273	400	364
5'1"	52	48	314	287	418	382
5'2"	55	50	328	301	437	401
5'3"	57	52	341	314	455	419
5'4"	59	55	355	328	474	438
5'5"	62	57	369	342	492	456
5'6"	64	59	383	356	510	474
5'7"	66	62	397	370	539	493
5'8"	68	64	410	383	547	511
5'9"	71	66	424	397	566	530
5'10"	73	69	438	411	584	548
5'11"	75	71	452	425	602	566
6'0"	78	73	466	439	621	585
6'1"	80	75	479	452	639	603
6'2"	82	78	493	466	658	622
6'3"	85	80	507	480	676	640
6'4"	87	82	521	494	694	658
6'5"	89	85	535	508	713	677

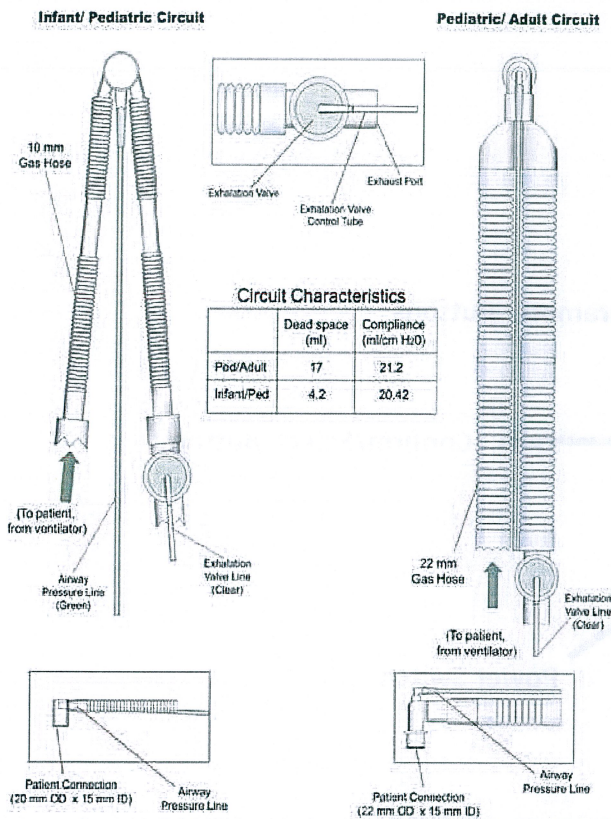
Mechanical Ventilation Cont'

Mechanical Ventilation Indicated



Mechanical Ventilation Cont'

Circuits:



1. AEV® ventilator circuits feature a low dead space design that minimizes CO₂ re-breathing.
 2. Note: dead space (circuit and HME) should never be greater than 25% of the patient's tidal volume (set or spontaneous).
 3. The 2 standard ventilator circuits cover the range of patients from infant to adult.
 - Pediatric/ Adult- patients 20kg through adult, minimum tidal volume 200ml.
 - Infant/pediatric- 5 through 30 kg, maximum tidal volume 300mL.
- ******DO NOT USE FOR NIPPV******

55 psi regulated oxygen port (must be attached to an oxygen source if an increase in FiO₂ is needed.)

Green hose to airway pressure transducer

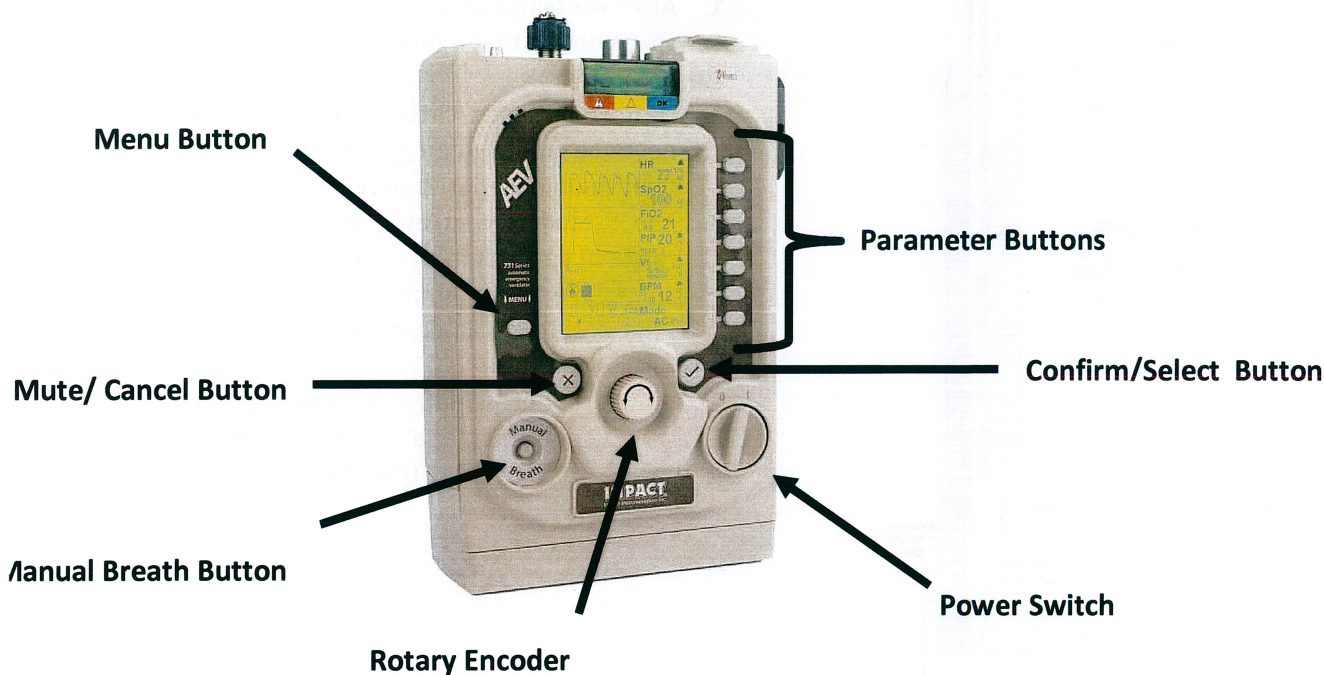
AC power

Clear hose to exhalation valve

Patient circuit corrugated tubing to gas

DO NOT USE

Mechanical Ventilation Con't

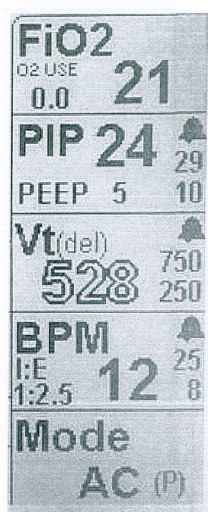
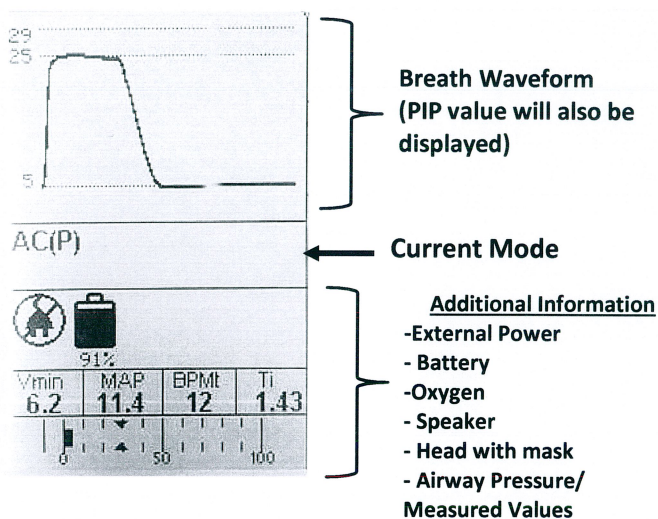


CHECK THE VENTILATOR CIRCUIT FOR PROPER OPERATION BEFORE CONNECTING TO A PATIENT

Procedure:

1. With the breathing circuit connected, turn the **POWER** switch to ON, to allow the ventilator to complete Self Check and begin operation with its default values.
2. The **PATIENT DISCONNECT** alarm should be active. (The audible alarm will be muted during the 2 minute initial mute.)
3. Press the **MANUAL BREATH** button; gas should flow out of the patient connection each time the button is pressed.
Note: The minimum period between manual breaths is limited by the tidal volume and the time required to complete a full exhalation based on the I:E ratio.)
4. Close the patient port with a clean hand or gloved hand. During inspiratory phase, the **HIGH AIRWAY PRESSURE LIMIT** alarm should activate after 2 breaths that reach the PIP High Limit.
5. If the **HIGH AIRWAY PRESSURE LIMIT** alarm fails to activate, ensure that all of the tubing connections are secure, the exhalation valve is closing during inhalation, and that the High Airway Pressure Limit is set to 35 cm H₂O or less.
6. After a breath or two, release the patient port while allowing the ventilator to operate. The **PATIENT DISCONNECT** alarm should activate.
7. Partially close the patient port to reset the **PATIENT DISCONNECT** alarm. With no other alarms occurring, remove external power from the ventilator. The **EXTERNAL POWER LOW/DISCONNECT** alarms should activate. Reconnect external power to reset alarms.
8. If the **HIGH AIRWAY PRESSURE**, **PATIENT DISCONNECT**, or **EXTERNAL POWER LOW/DISCONNECT** alarms fail to activate, continue to manually ventilate the patient, replace the ventilator, and send the unit in for service.

Mechanical Ventilation Cont'



-ANY NUMBER IN BOLD BLACK IS ADJUSTABLE PARAMETER

-ANY NUMBER OUTLINED IS A PATIENT DEPENDENT VALUE (NON ADJUSTABLE)

-PRESS THE PARAMETER BUTTON NEXT TO THE PARAMETER TO MAKE ADJUSTMENTS.

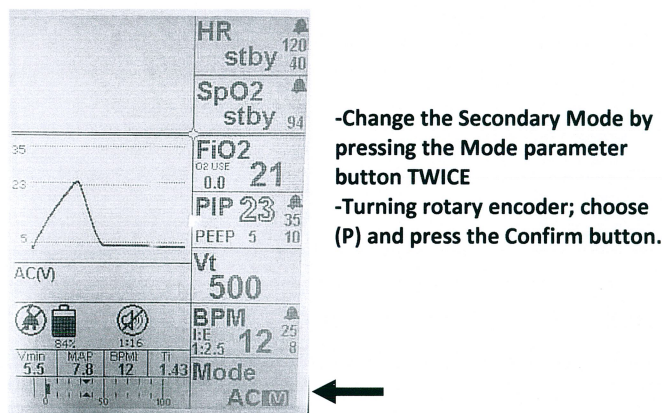
-PRESS THE PARAMETER BUTTON MULTIPLE TIMES TO SCROLL THROUGH THE ADDITIONAL ADJUSTABLE PARAMETERS.

-ROTATE THE ROTARY ENCODER TO CHANGE THE HIGHLIGHTED VALUE.

-PRESS THE CONFIRM BUTTON TO VERIFY THE CHANGE.

**** A PARAMETER STAYS HIGHLIGHTED FOR 5 SECONDS; AFTER THIS TIME; THE UNIT AUTOMATICALLY CANCELS THE OPERATIONS AND RETURNS TO THE DEFAULT SCREEN. ****

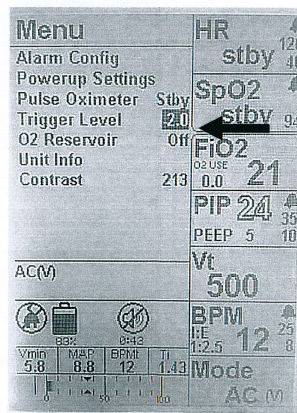
Changing the Secondary Parameter Volume/ Pressure



-Change the Secondary Mode by pressing the Mode parameter button TWICE

-Turning rotary encoder; choose (P) and press the Confirm button.

Changing Trigger Level



-Press the Menu button.

-Adjust the Trigger Level with the rotary encoder to desired value.

-Press the Confirm button.

Safety Notes:

- IBW= Ideal Body Weight
- ↑ SpO₂ = Increase PEEP or FiO₂
- ↓ EtCO₂ = Increase BPM or V_t
- Barotrauma is caused by high levels of T_v, PIP, or PEEP
- If problems arise during AEV® use or if there is uncertainty about the adequacy of oxygenation and ventilations with the AEV®, then STOP and ensure oxygenation and ventilation with usual methods.
- Using a mechanical ventilation device will remove the ability to determine early changes in pulmonary compliance, such as may be detected using a bag- ventilation technique.
- The incidence of a pneumothorax is increased in the presence of chest trauma with any form of positive pressure ventilation.
- Gastric distention can cause resistance to mechanical ventilation. Gastric distention should be suspected in patients with an acutely distended abdomen after non-intubated positive pressure ventilation. Relieve gastric distention impairing respiratory mechanics with either nasogastric or orogastric tub with low suction until distention is relieved.

4