

Kittitas County Prehospital EMS Protocols

SUBJECT: AUTOMATIC VENTILATOR

INDICATIONS FOR USE:

Patients requiring mechanical ventilation

CONTRAINDICATIONS FOR USE:

Do NOT use in patients under 20kg.

PROCEDURE:

- 1) Assemble per manufacturer's recommendations and if available set PEEP valve to 5cm H₂O.
- 2) Determine patient's height and IBW using chart and select appropriate tidal volume between 6 – 8 ml.
- 3) Set inspiratory time selector to "Adult" (2 seconds) or "Pediatric" (1 second).
- 4) Set BPM selector to appropriate ventilation rate.
- 5) If available reduce FiO₂ to 65%.
- 6) Verify BPM rate by counting ventilations delivered for one minute.
- 7) Continue to assess efficacy of ventilations throughout use of device (chest rise, auscultations, skin signs).
- 8) If patient begins breathing spontaneously and is able to activate the demand valve, consider decreasing the BPM to "0"
- 9) If pressure-limit alarm sounds, immediately reassess equipment and patient for kinked tubing, airway obstruction, tension pneumothorax, etc.
- 10) Always have BVM device available for use in the event of device failure.

MALES				Patient Height	FEMALES			
IBW	6ml	7ml	8ml		IBW	6ml	7ml	8ml
22.4	134	157	179	4'0"	17.9	107	125	143
24.7	148	173	198	4'1"	20.2	121	141	162
27	162	189	216	4'2"	22.5	135	158	180
29.3	176	205	234	4'3"	24.8	149	174	198
31.6	190	221	253	4'4"	27.1	163	190	217
33.9	203	237	271	4'5"	29.4	176	206	235
36.2	217	253	290	4'6"	31.7	190	222	254
38.5	231	270	308	4'7"	34	204	238	272
40.8	245	286	326	4'8"	36.3	218	254	290
43.1	259	302	345	4'9"	38.6	232	270	309
45.4	272	318	363	4'10"	40.9	245	286	327
47.7	286	334	382	4'11"	43.2	259	302	346
50	300	350	400	5'0"	45.5	273	319	364
52.3	314	366	418	5'1"	47.8	287	335	382
54.6	328	382	437	5'2"	50.1	301	351	401
56.9	341	398	455	5'3"	52.4	314	367	419
59.2	355	414	474	5'4"	54.7	328	383	438
61.5	369	431	492	5'5"	57	342	399	456
63.8	383	447	510	5'6"	59.3	356	415	474
66.1	397	463	529	5'7"	61.6	370	431	493
68.4	410	479	547	5'8"	63.9	383	447	511
70.7	424	495	566	5'9"	66.2	397	463	530
73	438	511	584	5'10"	68.5	411	480	548
75.3	452	527	602	5'11"	70.8	425	496	566
77.6	466	543	621	6'0"	73.1	439	512	585
79.9	479	559	639	6'1"	75.4	452	528	603
82.2	493	575	658	6'2"	77.7	466	544	622
84.5	507	592	676	6'3"	80	480	560	640
86.8	521	608	694	6'4"	82.3	494	576	658
89.1	535	624	713	6'5"	84.6	508	592	677
91.4	548	640	731	6'6"	86.9	521	608	695
93.7	562	656	750	6'7"	89.2	535	624	714
96	576	672	768	6'8"	91.5	549	641	732

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CONSIDERATIONS:

- If available, use EtCO₂ monitor to fine tune breaths per minute.
- In the patient with suspected intra-cranial pressure, adjust breaths per minute to maintain EtCO₂ of 35-40 mmHg. If intra-cranial pressure is not suspected, then 35-40 mmHg.
- Maintain SPO₂ level of 94%.

DECONTAMINATION:

- Dispose of single use vent circuit/exhalation valve
- Clean device between patient uses per manufacturer's instructions