

# Mechanical Ventilation: Weaning Pediatric Patients (Respiratory Therapy)

## CHECKLIST

**S** = Satisfactory **U** = Unsatisfactory **NP** = Not Performed

Step	S	U	NP	Comments
Performed hand hygiene before patient contact.				
Introduced self to the child and family.				
Verified the correct child using two identifiers.				
Assessed the child's developmental level and ability to interact.				
Assessed the child's and family's understanding of the reasons for and the risks and benefits of the procedure.				
Before beginning the weaning trial, reassessed the child for readiness to wean.				
Assessed vital signs, including SpO <sub>2</sub> , ETCO <sub>2</sub> or transcutaneous carbon dioxide level, and ABG values.				
Assessed the child's level of fatigue, pain, and sedation, as well as his or her nutrition and fluid status.				
Assessed for signs and symptoms that indicated hypercarbia, including sleepiness, hypertension, and dilated pupils.				
Reviewed criteria for identifying weaning tolerance <i>before</i> initiating weaning.				
Ensured that a manual ventilation bag, mask, and suction were immediately available and connected at the child's bedside.				
<b>Spontaneous Breathing Trials</b>				
Performed hand hygiene and donned gloves.				
Verified the correct child using two identifiers.				
Explained the procedure to the child and family and ensured that they agreed to treatment.				
Ensured that the authorized practitioner minimized sedation while providing adequate comfort measures.				
Defined the duration and time intervals for spontaneous breathing, as well as the method for resting the child with baseline ventilator support between trials if needed.				
1. During the trial, changed the ventilator mode to CPAP based on weight, and pressure support based on the size of the ET tube.				

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2. Alternatively, discontinued mechanical ventilation and allowed the child to breathe through the ET tube connected to a T-piece.				
Observed for signs of weaning intolerance. Notified the authorized practitioner as indicated.				
Once the trial was completed, assessed the child for readiness to be extubated.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Removed gloves and performed hand hygiene.				
Documented the procedure in the child's record.				
<b>Synchronized Intermittent Mandatory Ventilation (SIMV)</b>				
Performed hand hygiene and donned gloves.				
Verified the correct child using two identifiers.				
Explained the procedure to the child and family and ensured that they agreed to treatment.				
Ensured that the authorized practitioner minimized sedation while providing adequate comfort measures.				
Defined the target IMV rate, incremental decreases in rate, and the frequency of changes.				
Observed the type of flow delivery and the sensor used to trigger the ventilator.				
Observed for signs of weaning intolerance. Notified the authorized practitioner, as indicated.				
Once the targeted rate was achieved, observed the child for positive indicators of successful extubation for 2 hours (or longer, as indicated) before the final evaluation of readiness to extubate.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Removed gloves and performed hand hygiene.				

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Documented the procedure in the child's record.				
<b>Pressure Support Ventilation (PSV)</b>				
Performed hand hygiene and donned gloves.				
Verified the correct child using two identifiers.				
Explained the procedure to the child and family and ensured that they agreed to treatment.				
Ensured that the authorized practitioner minimized sedation while providing adequate comfort measures.				
Defined the target pressure support level and frequency of changes.				
Considered decreasing pressure support if the child maintained a VT that was within the goal range.				
Observed for signs of weaning intolerance. Notified the authorized practitioner as indicated.				
Continued to wean the child until the target pressure support level had been achieved.				
Once the targeted pressure support had been achieved, observed the child for positive indicators of successful extubation for 2 hours (or longer, as indicated) before final evaluation of readiness to be extubated.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Removed gloves and performed hand hygiene.				
Documented the procedure in the child's record.				
<b>Pressure Support Ventilation/Spontaneous Intermittent Mandatory Ventilation (PSV/SIMV)</b>				
Performed hand hygiene and donned gloves.				
Verified the correct child using two identifiers.				
Explained the procedure to the child and family and ensured that they agreed to treatment.				

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Ensured that the authorized practitioner minimized sedation while providing adequate comfort measures.				
Chose one of these options:				
<b>Option 1</b>				
Decreased the IMV to a targeted rate with the PSV level continually adjusted to achieve the desired VT.				
Weaned the child from PSV.				
1. Considered an initial decrease in PSV in small increments every few hours.				
2. Continued to wean the child until the targeted pressure support level had been achieved.				
3. Observed for signs of weaning intolerance. Notified the authorized practitioner, as indicated.				
4. Observed the child for positive indicators of successful extubation for 2 hours (or longer, as indicated) before the final evaluation of readiness to extubate.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Removed gloves and performed hand hygiene.				
Documented the procedure in the child's record.				
<b>Option 2</b>				
Decreased SIMV and PSV with each step for a predefined frequency and duration of changes.				
Once the targeted settings were obtained, observed the child for indicators of successful extubation for 2 hours (or longer, as indicated) before the final evaluation of readiness to extubate.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Removed gloves and performed hand hygiene.				
Documented the procedure in the child's record.				

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<b>Time-Cycled, Pressure-Limited Mode</b>				
Performed hand hygiene and donned gloves.				
Verified the correct child using two identifiers.				
Explained the procedure to the child and family and ensured that they agreed to treatment.				
Ensured that the authorized practitioner minimized sedation while providing adequate comfort measures.				
Determined the setting for extubation before initiating the weaning process.				
Decreased the $FI_{O_2}$ . If the circuit provided continuous flow, the child could breathe spontaneously between breaths to ensure that the minute ventilation requirement was being met.				
Decreased PIP by 1- to 2-cm $H_2O$ increments until $P_{aCO_2}$ reached predetermined levels or until the predetermined level of PIP was achieved. Did not continue to decrease PIP if $V_T$ was less than 5 ml/kg.				
Decreased PEEP in 1-cm $H_2O$ increments to predetermined levels, ensuring a $P_{aO_2}$ of more than 80 mm Hg. Considered concurrent decreasing in PEEP with PIP to facilitate maintenance of $V_T$ per minute ventilation without burdening the child.				
Decreased the IMV rate, generally in increments of one or two breaths per minute.				
Once the targeted settings were obtained, observed the child for positive indicators of successful extubation for 2 hours (or longer, as indicated) before the final evaluation of readiness to extubate.				
Ensured adequate cardiopulmonary monitoring: clinical assessments and observations, blood pressure level, respiratory rate, $SpO_2$ , and $ETCO_2$ level.				
Observed the child for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				

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Removed gloves and performed hand hygiene.				
Documented the procedure in the child's record.				

Learner: \_\_\_\_\_ Signature: \_\_\_\_\_

Evaluator: \_\_\_\_\_ Signature: \_\_\_\_\_

Date: \_\_\_\_\_