

Spontaneous Breathing Trials

Daily Screening

1. Partial or complete reversal of the underlying cause for respiratory failure.
2. Meet all of the following:
 - ▶ $\text{PaO}_2/\text{FiO}_2 > 200$ on $\text{FiO}_2 \leq 0.5$ and $\text{PEEP} \leq 10$ cm H_2O and $\text{pH} \geq 7.30$
 - ▶ Hemodynamically stable
 - No need for inotropes or vasopressors (with exception of dopamine ≤ 5 $\mu\text{g}/\text{kg}/\text{min}$)
 - No evidence of active cardiac ischemia (chest pain, ST changes or new arrhythmias)
 - ▶ Ability to initiate an inspiratory effort (no neuromuscular blockers in use, and evidence of spontaneous inspiratory efforts if on sedative infusions)
 - ▶ No evidence of elevated or potentially elevated Intracranial Pressure (ICP).
3. Review sedation goals with bedside nurse and develop a collaborative plan for sedation weaning and SBT

Review Unmet Criteria:

1. Is the reason for failure reversible?
2. Reevaluate readiness in 24 hours

Criteria not met

If the above criteria has been met:

Place the patient on CPAP for 1 –2 minutes (no PSV) and measure the f/V_T .

$f/V_T < 105$

$f/V_T > 105$

Spontaneous Breathing Trial

Place patient on PSV 5 cm H_2O , TC 100%, or T-piece, PAV of 20% for a period of 30 minutes to a maximum of 2 hours. Assess for tolerance

Assess for Extubation

1. Ability to maintain airway patent
(Prone patients have a higher risk of upper airway edema)
2. Ability to protect airway
3. Ability to cough and clear secretions

Meets Criteria

Extubate

Fails Criteria

Is reason for failure reversible?
If not, consider tracheostomy.

Criteria for intolerance of spontaneous breathing trial

1. $\text{RR} > 35$ for 5 minutes
2. $\text{SaO}_2 \leq 90\%$ (unless otherwise indicated)
3. $\text{HR} > 140$ / minute or a sustained change of $\pm 20\%$ from baseline
4. $\text{SBP} < 90$ or > 180 mm Hg or a change of 30% from baseline
5. Increased anxiety or diaphoresis
6. $f/V_T > 105$ for five minutes

No evidence of intolerance

Evidence of intolerance

1. Increase support to provide restful ventilation.
2. Review and modify possible reasons for intolerance.
3. Re-evaluate for trial of unassisted breathing (minimum 1 hour, maximum 24 hours)