THE STUDY VAULT

Clinical Chaos

Ventilator

SKILL SNAPSHOT

Purpose
- Provides mechanical support for oxygenation and ventilation while minimizing ventilator-induced injury.

When to use
- Invasive or noninvasive support for respiratory failure, airway protection, postoperative support, or other prescribed indication.

Supplies needed
- Ventilator/circuit; oxygen/air; humidification; suction; BVM; monitor/capnography; airway securement and emergency equipment.

PREP + PATIENT SETUP

- Verify airway/device, mode, ordered settings, predicted body weight, goals, and alarm limits.
- Assess patient, breath sounds, SpO2, ETCO2/ABG, hemodynamics, sedation, and synchrony.

VAULT TIP

- Every ventilator check follows the same path: patient, airway, circuit, settings, alarms, response.

STEP-BY-STEP

1. Hand hygiene; identify patient; trace airway and circuit from patient to ventilator.
2. Confirm ETT/trach depth, securement, cuff pressure, and bilateral breath sounds.
3. Compare ordered mode/settings with ventilator: rate, tidal volume or pressure, PEEP, FiO2, inspiratory time/flow, and support.
4. Assess exhaled tidal volume and express tidal volume in mL/kg predicted body weight; evaluate lung-protective range.
5. Review peak and plateau pressures, PEEP/auto-PEEP, driving pressure as available, minute ventilation, waveforms, and leaks.
6. Assess patient-ventilator synchrony, respiratory effort, comfort, pain, sedation, and neuromuscular status.
7. Set alarm limits appropriately and verify they are audible. Never disable an alarm.
8. Provide ordered humidification, oral care, head elevation, suction only when indicated, DVT/stress-ulcer measures, nutrition, and mobility.
9. For an alarm, assess patient first, then airway, circuit, and machine. Manually ventilate with BVM if ventilation is inadequate or cause is not quickly corrected.
10. High-pressure: check secretions, biting, bronchospasm, kink, water, coughing, low compliance, pneumothorax. Low-pressure/volume: check disconnection, leak, cuff, or extubation.
11. Titrate FiO2/PEEP and other settings only per order/protocol; reassess after every change with SpO2, ABG/ETCO2, hemodynamics, and waveforms.
12. Perform daily readiness assessment and spontaneous awakening/breathing trials according to protocol when appropriate.

SAFETY REMINDERS

- Never silence alarms without finding cause.
- A BVM must be immediately available.
- Sudden hypotension/hypoxia with high pressures may indicate tension pneumothorax.
- Prevent unplanned extubation during turns/procedures.

COMMON MISTAKES

- Treating monitor instead of patient.
- Ignoring waveforms/auto-PEEP.
- No cuff/securement check.
- Excess FiO2 without titration.

DOCUMENTATION

- Mode/settings and alarm limits.
- Airway depth/cuff/securement.
- Pressures, volumes, waveforms, ABG/ETCO2.
- Assessment, synchrony, sedation.
- Interventions, changes, response, weaning.