



## Ventilators: Plan Like They'll Fail

Event reports [submitted to ECRI Institute PSO](#) (login required) underscore that clinicians must be ready to provide back-up measures to ensure patient safety when mechanical ventilators unexpectedly stop functioning.

In addition to device failures, the ventilator events in ECRI Institute PSO's database describe alarm management issues that also indicate safety concerns associated with the use of ventilators. ECRI Institute has repeatedly highlighted alarm management issues as a top safety concern, including with ventilators. In 2017, ECRI Institute named [missed ventilator alarms as a top health technology hazard](#) because a missed alarm could be deadly for patients supported by the life-sustaining therapy.

Healthcare providers must be prepared with back-up measures to support patients when ventilators fail. "It's not a matter of if, but when. You need to assume that every ventilator can fail," says Jaime Schlorff, senior project officer with ECRI Institute's Health Devices Group. "Ventilators can fail randomly and catastrophically," agrees Brad Bonnette, Health Devices senior project officer, who has conducted several accident investigations of ventilator failures.

### **Make a Date: Check Ventilators Regularly**

Many safety problems can be detected during routine ventilator checks before and during use. Any time a ventilator is set up for a patient, the respiratory therapist should conduct a series of checks to ensure it is operating properly and document the pre-use check in the patient's medical record, says Marc Schlessinger, RRT, MBA, FACHE, senior associate with ECRI Institute's Applied Solutions Group. Once a ventilator is in place, the following should be checked regularly:

- Verification of alarm activation
- Verification of proper alarm settings
- Confirmation of proper patient/circuit connections
- Verification that alarm volume is loud enough to be heard outside the room—if alarms are not loud enough, consider using a remote alarm system

In addition to pre-use checks, organizations must perform inspection and preventive maintenance (IPM) on ventilators according to manufacturers' recommendations. Typically, these intervals are at least every 6 to 12 months to prevent equipment problems and emergency repairs, says Bonnette. Most hospitals report to ECRI Institute that the IPM interval for their ventilators is every six months, he says. For some facilities, the interval is even shorter.

### **If You See It, Say It: Report Events**

Thanks to staff who are empowered to report events and near misses involving ventilators, organizations can gain insight into the causes of these events. Through its medical device problem reporting system and its PSO database, ECRI Institute investigates ventilator failures and shares its findings to ensure that mechanical

ventilators are safe to operate. Organizations can support staff in reporting adverse events and near misses by fostering a culture of safety dedicated to learning from errors and overcoming system failings.

### Congrats to Our Winner

Boston Medical Center wins Health Devices Achievement Award, which is presented each year to an ECRI Institute member institution that has demonstrated an outstanding initiative that improves patient safety, reduces costs, or otherwise facilitates better strategic management of health technology. [Learn more about the winning submission.](#)

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