

Regulations/legal

Don't err on air pressure: Joint Commission is watching

Moving quickly up the ranks of the top 10 most frequently scored standards for Joint Commission accreditation is EC.02.05.01.

At the end of 2012, this standard was just barely in tenth place, with 34% of hospitals noncompliant. By the first half of 2013, it had moved to fourth place and was being scored on 46% of hospital surveys.

Though there are 13 elements of performance (EP) in this standard, the focus is on EP 6: Ventilation system is unable to provide appropriate pressure relationships, air-exchange rates, and filtration efficiencies.

"It is the only EP in this standard with an R for risk, and it deals with controlling airborne contaminants," says John Rosing, MHA, FACHE, vice president and principal, Patton Healthcare Consulting, Milwaukee.

The major problem encountered with this EP is making sure negative pressure environments are consistently negative and positive pressure environments are consistently positive, Rosing told OR Manager. In addition, there must be a correct number of air exchanges per hour.

"We are seeing this issue being scored on many Joint Commission survey reports that we review, and we commonly see problems with this EP on our mock survey work," he says.

The EP focuses on these specific areas and their pressure environments:

- operating rooms—positive pressure
- endoscopy procedure rooms—neutral pressure unless state regulations say otherwise
- endoscopy decontamination rooms—negative pressure
- bronchoscopy rooms—negative pressure
- central sterile supply decontamination areas—negative pressure
- sterile processing instrument preparation and storage areas—positive pressure.

Rules for air pressure relationships and air exchanges are in the Facility Guidelines Institute's guidelines, which were recently updated, or in the American Institute of Architects Guidelines 2001 or 2006 if a facility is older and not renovated.

Tissue test not always reliable

"Part of the reason this EP is increasing in findings is that surveyors are using a relatively rudimentary testing methodology," says Rosing.

Surveyors are holding a tissue just off the floor near the bottom edge of a door to see if the tissue is pushed out (positive pressure rooms) or is drawn in (negative pressure rooms). If the tissue isn't pushed out or drawn in at that moment, the surveyor will make a finding of noncompliance.

The tissue test—a relatively new method of testing—is attractive for a surveyor because it is easy to do and readily detects positive or negative pressure, says Rosing. "And, it is irrefutable in the moment; if the tissue blows the wrong way, everyone looking at it sees it. It is hard to argue otherwise."

The problem is that many occurrences can temporarily affect room pressure, he

says. Any time a door is opened, it will take a few minutes for air balancing to occur. If a door on the other side of the room is opened momentarily while the surveyor is doing the tissue test, it will throw off the pressure gradients.

"The Joint Commission should view the tissue test as a preliminary screening test," says Rosing, "and not determine there is a problem based just on that test."

To that point, he notes that in a Joint Commission 2013 Healthcare Environment Update, George Mills, director of the Joint Commission's department of engineering, recommends that the tissue test be used only as a prescreening tool to evaluate if further investigation is needed.

Another reason for the uptick in the number of findings on room pressures, notes Rosing, is that the Centers for Medicare & Medicaid Services identified this issue in their state agency draft worksheets for infection control and advised the Joint Commission to look for it, too. "So now it has become a hot topic," he says.

Some findings legitimate

Though surveyors draw false conclusions in some instances, often their conclusions are correct, says Rosing.

Root causes of incorrect room pressures include:

- seasonal variation as heating, ventilation, and air conditioning (HVAC) systems alter airflows and inadvertently throw pressure gradients out of balance when transitioning to and from heating and cooling modes
- fan belts or blower motors that are beginning to fail or have failed and, therefore, fail to move the specified amount of air to and from the area
- clogged filters or ducts that impede the specified flow of air.

Adjusting the finding

If the finding happens at the beginning of a 3- to 5-day survey, hospital engineers can investigate the problem while the surveyors are still at the facility.

If they discover the room pressure wasn't correct because someone was stocking the room and propped a door open momentarily on the other side, they can do a more sophisticated test of air exchanges. If this test shows the system is indeed producing the correct pressure, the hospital can request a special issue resolution during the survey.

"What you are saying to the surveyors is, 'we would like to challenge your thinking on that finding,'" says Rosing. "You bring them back to the area in question and demonstrate that the pressure is correct. If the surveyors accept your reasoning and test data, they can remove the finding before they leave the hospital."

Short of removing the finding, if the hospital engineers find, for example, that the fan motor speed needs to be turned up to correct the pressure, and they indeed correct it (termed, "observed corrected onsite"), the surveyors can downgrade the finding from a condition level to a less serious standard level.

If a hospital is left with a condition level finding, it triggers a follow-up visit within 45 days. "Obviously, you always want to avoid a condition level finding," notes Rosing. Otherwise, the issue of a negative room being positive or a positive room being negative is one that scores at a condition level automatically, he says. Surveyors view it as a very serious breach of building functionality.

A third way to adjust the finding is to hire a consultant to study the issue and submit a clarification. A clarification has to be submitted within 10 days of the survey. If the Joint Commission accepts the clarification, the finding disappears.

For example, Rosing says he wrote a clarification for a client recently, noting that the historical records of the department showed it had been testing at a positive pressure level and perhaps the surveyor erred in the tissue test. He wrote in his conclu-

sion that “if the finding is left to stand, we don’t know what we will do to correct it because the system is functioning as it is designed, with 10 air exchanges per hour.”

However, if the system is not functioning correctly and the finding is legitimate, the hospital has 45 days to correct the problem. Doing so usually entails having an architect and an engineer look at the system to determine the root cause of the problem. It could be that there is not enough capacity in the air handling unit or that the duct work has to be changed.

“Such corrections can be very costly and are not always possible to complete in 45 days,” says Rosing. “In these instances, you might have to suspend use of the room or rooms while the insufficiency exists.”

Preventing the issue from being scored

Traditionally, the engineering department and/or outside vendors take care of periodic testing and correction of air exchanges and room pressure. A report is made and filed away.

One problem Rosing sees in mock surveys is that the user department seldom has a copy of the last check of airflow or any personal knowledge of the air handling requirements.

He suggests more of a team approach: “OR directors should be in the loop of knowing how often the system is tested, what the results are, and how stable the system is.” The OR director should review the report, and any defect reported must be corrected and the corrective action documented in the report. The same goes for directors of sterile processing and endoscopy.

Surveyors will ask for these reports, and too often a defect is noted and there is no evidence that anyone did anything about it, says Rosing.

Because the air handling issue increasingly is scored, he suggests that this be a focus of discussion at upcoming hospital-wide accreditation meetings.

Ask in the discussion:

- Do departmental staff understand what the air handling and ventilation requirements are in their area?
- Is there a recent report that verifies that the pressure gradients are correct, and is the report properly annotated if corrections were needed?

“When surveyors go to OR directors and ask them about the management of pressure relationships, air exchanges, temperature, and humidity in their ORs, they will not be impressed if the answer is ‘engineering handles all of that,’” says Rosing. “OR directors ought to have firsthand knowledge of how often it gets tested, how it gets tested, what the results are, and how stable on a day-to-day basis the system is.”

Putting the spotlight on this issue, Rosing says, is probably a good thing because it is getting people to think about this relatively mundane topic in a new way. ❖

—Judith M. Mathias, MA, RN

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