New Recommendations for Air Quality and Reduction of Surgical Site Infections

AORN Guideline Recommendation[1]	Additional Recommendations and Clinical Context
Recommendation 9.4 The health care organization should implement strategies to reduce the risk of airborne environmental contamination in rooms where surgical or other invasive procedures are performed. [Recommendation]	Reducing the level of airborne contamination is one strategy to reduce the risk of SSIs. Airborne contamination is invisible, causing it to be underestimated and overlooked.
Recommendation 9.5 A perioperative air quality management program may be used as a strategy to reduce the risk of airborne environmental contamination in rooms where operative and other invasive procedures are performed. [Conditional Recommendation]	
Recommendation 9.5.2 Elements of a perioperative air quality management program may include: [Conditional Recommendation]	• reviewing high-quality evidence and professional organization recommendations related to perioperative air quality • specifying the locations and rooms that are included in the scope of the program • reviewing the types of HVAC systems being used in each room (eg, unidirectional air delivery, nonunidirectional airflow [eg, turbulent], filtration level [eg, minimum efficiency reporting value (MERV) 16], high-efficiency particulate air (HEPA) filtration, ultra-low particulate air filtration], supplemental air cleaning devices either in-duct or in-room);

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(continued)

AORN Guideline Recommendation[1]	Additional Recommendations and Clinical Context
Recommendation 9.5.2 Elements of a perioperative air quality management program may include: [Conditional Recommendation]	• verifying that the HVAC systems in use meet regulatory requirements and professional organization standard • determining if the HVAC system is performing as expected (ie, unidirectionality, velocity, filtration) based on the manufacturer's specifications • evaluating if the recommended HVAC system maintenance has been completed • reviewing HVAC issues identified and addressed during scheduled maintenance • reviewing reports from off-cycle HVAC maintenance processes (eg, HVAC failure) for root cause and influence on air quality • understanding the use of and monitoring HVAC setback strategies in the ORs or procedure rooms that are included in the program • verifying that expected room pressure differentials are present • determining the indications that trigger air quality sampling (eg, on a scheduled basis [after HVAC maintenance] or only during specific instances [eg, HVAC failure; investigation of a series of infections changes in room use; initiation of smoke evacuation; changes in drapes, gowns, or surgical attire; changes in door openings])
Recommendation 9.5.3 When an SSI is identified, SSI surveillance may include a review of the air quality sampling data from the OR where the procedure was performed and the recorded or observed equipment, environment, and personnel factors. [Conditional Recommendation]	Reviewing the equipment, environment, and personnel factors when there is an SSI can help identify areas for improvement.

[1]AORN 2024 Sterile Technique Guideline, electronically accessed from www.aornguidelines.org on April 18, 2024.