An Infection Outbreak Associated with Contaminated Roll Boards

Is a checklist used in your ORs that includes a list of surfaces to be cleaned after each patient use?

Are damaged and worn positioning or transporting devices replaced?

An outbreak of multiresistant *Klebsiella pneumoniae* (MRKP) infection occurred among seven patients admitted to the intensive care unit (ICU) of a regional teaching hospital. Four of the patients died as a result of their infections. Six of the seven patients became infected with MRKP shortly (ie, four to five days) after undergoing a surgical procedure.

Infection preventionists conducted a case-control study that found a strong (ie, 36-fold) association between acquiring the MRKP strain and having undergone a surgical procedure in either OR X or OR Y. Environmental cultures of surfaces in OR X and OR Y revealed that samples taken from the roll boards used to transport patients to the OR bed were contaminated with the MRKP strain.

Molecular genotyping of the MRKP isolates from the seven patients and the environmental specimen cultures revealed clonal similarity to an MRKP isolate from a patient admitted with MRKP earlier in the same year. This patient, considered to be the index patient, did not have a surgical procedure but had been in the same ICU as the other patients. No environmental samples for cultures were taken from the ICU, and no clear connection could be found between the index patient and the other seven infected patients. However, although it could not be confirmed, cross contamination could have occurred in the ICU secondary to the transmission in the OR.

The outbreak was contained after thorough disinfection or replacement of the roll boards in the ORs. A process was in place for cleaning and disinfecting the roll boards on a regular basis (eg, when contaminated with blood or other potentially infectious material) but not after each patient use. The study team recommended that more frequent cleaning and disinfection be performed on roll boards.

**TAKEAWAY**

Policies and procedures should be in place for environmental cleaning in the operating room that include items to be cleaned after each patient use. Developing checklists helps to ensure items are not missed during environmental cleaning. Gaps in cleaning provide an avenue for pathogens on uncleaned surfaces to be transferred to clean surfaces and to patients by health care workers’ hands.

**Reference**

Eye Infections Associated with Construction Dust

Are policies and procedures in place for special cleaning measures that may be required when construction or renovation occurs in your ORs?

Do the procedures include isolating areas where dust and air contaminants are produced to prevent contamination of the ORs?

Two cases of serious eye infection following eye surgery were reported on successive days by surgeons in a hospital in which 3,000 eye procedures were performed each year. Eye infections after eye surgery are rare and in this facility typically affected one to three patients per year. Facility managers immediately closed the ORs. The surgeons who performed the procedures believed the infections were a coincidence until a third case was identified five days after the first two infections.

Construction taking place in an adjacent room produced dust, and the OR staff members were concerned that dust control was not adequate and might be associated with the infections. Engineering department personnel performed air sampling on the morning of the OR closures and found air contaminants to be higher than usual for an OR. An investigation of the work area by the engineering department revealed that dust was not controlled effectively. Workmen had placed plastic sheeting over the door space to the work area but it was necessary for the workmen to go through the lobby to reach the work area, and patients were brought through this same lobby doorway.

A team consisting of ophthalmologists, an infection control nurse, a microbiologist, an engineer, and management personnel met to discuss the problem. They could not conclude that dust was causally linked to the infections, but could find no other causes for the infections. The team determined that measures taken to control the dust during construction did not comply with guidance on hospital building work. Although the infections reported were fungal in nature, the dust particles may have allowed the bacteria present in the patients’ eyes to establish infection.

The ORs remained closed until construction was completed. Engineering department personnel re-tested the ORs for air contaminants, and environmental services personnel thoroughly cleaned the ORs after construction was completed. The ORs were reopened and no additional infections occurred.

Takeaway

Policy and procedures specific to controlling environmental contaminants and implementing special cleaning measures during construction and renovation provide guidance and standardize processes to help team members protect perioperative patients from infection risk.

References