In OR, 10% of med errors harm patients

When medication errors occur in the OR, they are more likely to harm patients than errors in other areas. In 2002, about 10% of med errors in the OR caused patient injury—compared with less than 2% of hospital med errors overall. The findings are from the US Pharmacopeia’s fourth annual report on medication errors in hospitals.

“Because of the drugs used in the OR suite, when errors occur, the patient is more likely to be harmed, and sometimes the harm is less likely to be recognized,” says Diane Cousins, vice president for USP’s Center for Advancement of Patient Safety.

The OR errors include one fatality, which resulted from an overdose of digoxin in a mix-up over verbal orders.

USP drew on 2002 data from MEDMARX, its anonymous national medication-error reporting database. The report includes 192,000 errors submitted voluntarily by 482 hospitals and other health care facilities. More information on the report is at www.usp.org.

Patterns for the OR were similar to the 2001 data. Here are some specific results.

How many drug errors were there in the OR?
- 621 OR med errors were reported to MEDMARX in 2002.
- Of these, 50 errors were harmful:
  - 1 fatality
  - 1 near-death event
  - 7 cases of temporary harm with hospitalization
  - 41 cases of temporary harm

What types of errors occur most often?

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What types of errors are most likely to cause harm?

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What drugs were involved in the most harmful events in the OR?
- Cefazolin: 8 reports
- Vancuronium: 5 reports

What were the most common types of harmful OR med errors?
- Antibiotics were the most likely drug to be omitted.
- Medication allergies were not recognized.
- Patients were given a neuromuscular agent that was confused with an antibiotic, paralyzing patients’ breathing. “This has been a recurrent theme in all of the perioperative areas—the swap of syringes between antibiotics and the paralyzing agent,” says USP’s Rodney Hicks, RN, MSN, ARNP, BC, MPA.
- Patients transferred from the OR to the recovery room received the wrong
strength of heparin in the flush port of the arterial line.

- Pediatric patients were given vasoactive drugs but were not kept on pumps when transferred from the OR to the recovery room and received excessive fluids. “We know it is cumbersome to move those pumps, but these patients deserve the titration accuracy of a pump,” Hicks says.

Case: In the only fatal case from the OR in the 2002 data, a patient died of digoxin toxicity after confusion over a verbal order. The surgeon who gave a verbal order to the anesthesiologist meant to say 18 mg but mistakenly said 180 mg of digoxin. The anesthesiologist did not pick up on the error. The patient died despite aggressive resuscitation efforts.

Case: A patient who was receiving Neo-Synephrine (phenylephrine) for an episode of hypotension and severe bradycardia was positioned with arms tucked. The staff noticed the drug did not seem to be going into the patient even though the IV-line clamp was open. When the arms were untucked, the patient received a bolus of the drug, resulting in severe hypertension. The patient was treated for the hypertension, the case was canceled, and the patient was transferred to the ICU for monitoring and evaluation.

What steps can ORs take to improve medication safety?

- Avoid unlabeled medications on the back table. “There have been a lot of cases where products are swapped on the back table, for example, the wrong basin was put out,” says Hicks.
- Label syringes or develop a color-coding system to avoid confusing drugs such as antibiotics and neuromuscular blocking agents.
- Post an erasable board in each OR where the staff can record verbal medication orders and other pertinent information. Writing the order is an extra visual cue that can help avert errors.
- Minimize handoffs. The perioperative arena has more handoffs than most other clinical areas, which raises the opportunity for error.
- Provide laminated cards to aid the staff with weight conversions from pounds to kilograms.
- Revise forms so medication allergies are documented in the same prominent location on all forms used in all perioperative areas. Documenting allergies in a consistent place makes it less likely allergies will be missed.
- Consider having orders for day surgery patients reviewed by a pharmacist. This does not always happen because of abbreviated stays.