

## Guess What I've Given." Medication Errors from the Supervisor's Perspective

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### Introduction

Toxidrome is a term commonly used in emergency medicine to signify the clinical symptom complexes of drugs. The thought process for determining what to do when a patient has had an unknown exposure is similar to the approach one takes for a medication error in the hospital, a situation in which supervising anesthesiologists may find themselves. In some cases, it is essential for the offending agent to be determined rapidly to avoid injury to the patient.

Using a simulated patient care environment we demonstrated four scenarios where the wrong medication or wrong dose of medication was accidentally administered. Real cases were chosen to demonstrate different types of errors. Trainees observed the events of the case and then were "called in" as the attending to assist the provider. A well-respected attending anesthesiologist played the role of primary provider who makes the error.

### Methods

Case #1: 53 yo male trauma patient with severe upper extremity laceration and associated hemorrhage requires urgent assessment and treatment in the OR. He is extremely anxious and is given a small dose of midazolam. Soon afterwards, the patient becomes obtunded.

Teaching point: Different concentrations of medication available. This patient received 3 cc of midazolam totaling 15 mg instead of 3 mg.

Case #2: 35 yo female for gastric bypass after full bowel preparation. Prolonged hypotension after induction is completely refractory to phenylephrine despite reasonable volume loading.

Teaching point: No medication in the mix. In this case the resident was using phenylephrine that had been mixed by someone else. When a new solution was made, the patient responded.

Case#3: 71 yo male for emergency placement of suprapubic catheter for urinary retention and possible cystoscopy. Pt is on an antihypertensive of unknown variety which he took today. When he continues to be hypertensive and tachycardic post-induction, he receives a beta-blocker and develops asystole.

Teaching point: Asystole can occur with the combination of a beta-blocker and a calcium-channel blocker. Treat with calcium, epinephrine, or glucagon +/- pacing if available.

Case #4: 51 yo male for flap to non-healing leg wound under general anesthesia. He is breathing spontaneously at the end of the case, so the resident gives the reversal agent. The attending is called to be present for extubation and finds the patient is not breathing spontaneously.

Teaching point: Drug swap. The resident has accidentally drawn up more muscle relaxant instead of reversal agent. The full, unopened vial of reversal drug is in view.

### Results

The residents rated this session very highly overall at  $4.7 \pm 0.11$  (Avg  $\pm$  SE) on a 5-point scale. The residents gave similar scores for the realism, quality, and goals of the session. Comments included statements that the session made them more aware of medication errors, made them feel like they were really dealing with the complication, and that there should be more simulation sessions such as this one.