Transforming RCA^2

See One, Try One, Take it Home!

Root Cause Analysis Case

An 86-year-old male with past medical history notable for moderate dementia, hypertension and metastatic prostate cancer on chronic opioids presented to the Emergency Department on the evening of July 4th with lower extremity pain and swelling that developed after an insect bite. He was evaluated by an Emergency Medicine Physician's Assistant (ED PA) to whom he reported that he might be allergic to morphine. Before the ED PA was able to confirm the allergy with the family, a bed on an inpatient unit became available. There was overcrowding in the waiting area so the ED PA decided to transfer the patient to the inpatient bed without confirming the allergy with the family who had briefly stepped away to get coffee on campus. During pass-off, the ED PA used a structured handoff mnemonic (I-PASS) but forgets to mention this detail.

The medicine resident who received the pass-off from the ED PA promptly interviewed the patient with the family present and diagnosed the patient with an abscess. The patient's wife confirmed that the patient was allergic to morphine (rash), but had taken oxycodone and dilaudid in the past without issue. The medicine resident was well trained and could expertly use the electronic medical record. The resident documented the allergy in an admission note but skipped the allergy entry section in the electronic medical record because he was feeling pressured for time. Overnight, several more admissions came in and the resident did not have time to rest before morning rounds.

The next morning, the patient complained of escalating pain refractory to non-opioid analgesics. In addition to the new abscess, a recent CT scan had revealed multiple lesions concerning for widespread bone metastases. The medicine resident, now tired and nearing the end of his/her shift, and forgetting about the allergy, prescribed a Morphine PCA.

A pharmacist approved the order for morphine as written after checking for coded allergies in the EMR, but was soon notified that the Omnicell on the floor was out of stock of the appropriate concentration. Four different concentrations of Morphine were available on the hospital's formulary and stored in adjacent bins in the pharmacy. The lowest concentration was ordered for the patient. When the pharmacist was preparing to send the medication, he/she was interrupted by a phone call. After the interruption, the pharmacist mistakenly selected a higher concentration of Morphine than intended for the patient.

The higher concentration was delivered to the floor and immediately hung by the nurse without being scanned or checked. The patient received a bolus and basal rate of morphine 10x the intended dose and the nurse left the bedside to tend to another patient. Approximately 15 minutes later the nurse returned to find that the patient apneic, with angioedema, and a barely palpable pulse. A code blue was called and the patient was transferred to the ICU.

*****Fictitious case for teaching purposes only*****