

# Patient Suffers Cardiac Arrest and Severe Injuries Following Routine Outpatient Surgery

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## Introduction

There is an old expression, “The devil is in the details,” and this certainly can be true in healthcare delivery. Sometimes, the failure to perform the most routine tasks thoroughly to completion can result in a suboptimal outcome for the patient. This case from the West illustrates how this can happen.

## Facts

The patient was a 21-year-old female college student who had no relevant medical history. She denied smoking or any illicit drug use. She was 5’ tall and weighed 126 pounds, with a body mass index of 25.

The patient suffered an injury to her right knee while exercising at her local gym. An orthopedic surgeon recommended an arthroscopy and meniscectomy of her knee to return it to full function. The patient consented, and the

procedure was scheduled at the defendant’s ambulatory surgery center (ASC).

On the scheduled date, the patient presented to the ASC and came under the care of Dr. A, a MedPro-insured anesthesiologist, who was supervising all anesthesia administered at the ASC that day. After an appropriate history and physical examination were conducted, the patient was prepared for surgery.

Nurse C (a certified registered nurse anesthetist), under the direct supervision of Dr. A, administered the anesthesia. Anesthesia commenced at 1:14 p.m. and consisted of 2 mg of midazolam, followed by 200 mg of propofol, 100 mcg of fentanyl, and 2.6 percent of sevoflurane. The patient tolerated the anesthesia and surgery well, and the surgery concluded at 2:03 p.m. After Dr. A examined the patient again, she was transferred to Phase 1 of the postanesthesia care unit (PACU), where Nurse K provided 1:1 nursing.

In the PACU, the patient did well, except for a complaint of significant pain. Dr. A was advised, and she ordered 5 mg of morphine sulfate (MS) every 5 minutes as needed, up to 15 mg. The first dose of MS was administered at 2:15 p.m. As the patient continued to complain of 7/10 pain, the second 5 mg was administered at 2:20 p.m., and the third dose was administered at 2:38 p.m. (at which time she was indicating 9/10 pain).

At 2:44 p.m., the patient was still indicating 8/10 pain, so Dr. A was contacted again and she came and reassessed the patient. After completing her assessment, Dr. A ordered two 1 mg doses of hydromorphone at least 5 minutes apart. The first dose was administered at 2:48 p.m. and the second at 3:05 p.m. In between these two doses, the patient was moved to Phase 2 of the PACU, where there was not 1:1 nursing and the patient was not monitored by means of pulse oximetry. At that time, she came under the care of Nurse L.

At 3:45 p.m., Dr. A was notified that the patient was ready for discharge, and, as was her normal practice, Dr. A came in to do a final assessment of the patient. The patient was dressed, had her glasses on, and appeared to be resting (she was in a recliner at this time). Dr. A spoke to the patient but did not receive a

response. After no further response, Dr. A ordered a pulse oximeter, which registered 88 percent. As she could not palpate a pulse, Dr. A ordered naloxone and began manually ventilating the patient. A code blue was called, the patient was intubated, and emergency medical services was summoned.

The patient was successfully resuscitated at the receiving hospital; however, she suffered significant brain damage from the anoxic event. As a result, she is visually impaired, largely nonresponsive, wheelchair bound, bowel and bladder incontinent, and fed through a feeding tube. The defense neuroradiologist who examined her postinjury brain CT scan opined that the damage is not especially severe, but it is in a very bad location. Her life expectancy is now reduced to 15 years, and there is no expectation that her condition will significantly improve.

A medical malpractice lawsuit was commenced against Dr. A and the ASC (for the actions of the nurses who were employed by the center). Dr. A's defense was complicated by the fact that she was an equity partner in the ASC and a member of its medical executive committee, which is charged with responsibility for all of the center's policies and procedures relating to nursing care. This put Dr. A in the position where she was not only responsible for her

own actions, but also potentially responsible for the actions of the other nurses under various theories of *respondeat superior* (vicarious liability).

At her request, the case against Dr. A was settled by a payment of her policy limits, which put it into the “very high” range, and her defense costs were also in the very high range. The ASC also made a payment in the very high range to settle the case.

## Discussion

In many cases in past issues of *Risk Management Review*, the facts were either not clearly understood or were disputed. That is not the case here; we know *what* happened, but we just don't know exactly *why* it happened.

Everyone seemed to conclude that the patient had a “positional IV,” meaning that, for some reason (e.g., a kink in the catheter, back pressure from a valve, etc.), the IV was passively flowing very slowly, if at all.

It is speculated that all of the analgesia backed up in the IV line, and then it was suddenly released and the patient was administered approximately the equivalent of 19 mg of MS all at one time as she was sitting in a recliner in the Phase 2 PACU. This put the patient into respiratory arrest and then cardiac arrest (the

unconsciousness she suffered was mistaken for her just resting). This theory of causation was supported by the fact that, during her resuscitation at the ASC, the nurse administering the medications through the IV line reported significant resistance to her IV pushes.

Normally, when the plaintiff cannot definitively prove how the patient injury resulted from the defendant's breach of the standard of care, the case would be dismissed. However, this may have been a case where the legal doctrine of *res ipsa loquitur* (Latin for “the thing speaks for itself”) would have been applied. This doctrine can be summarized as follows:

When an event occurs, which would not normally occur in the absence of negligence, and the mechanism of injury was under the defendant's exclusive control, the jury may (but is not required to) infer that the defendant was negligent. (author's definition)

If this case had proceeded to trial, a *res ipsa loquitur* instruction would probably have been given to the jury.

Several anesthesiology experts reviewed Dr. A's care of the patient. All experts except one were supportive of the care she rendered. That expert thought that it was an excessive

amount of analgesia ordered for a person as small as this patient. The general consensus of the other experts was that the total dosage, while on the high end, was within the standard of care, and the time intervals ordered were appropriate. It was also noted that Dr. A was present during the induction of anesthesia and had examined the patient several times. In the end, it was felt that Dr. A was defensible on the standard of care issues. However, there was significant concern about the vicarious liability issues (including her supervision of the PACU) and the possibility of a “runaway verdict.” This concern combined with some very serious personal issues led Dr. A to request resolution of the case within her policy limits.

The defense experts who reviewed the nursing care were critical of two things: (1) after administering the anesthesia as boluses through the IV line, the lines were not flushed; and (2) they felt the patient should have been on a pulse oximeter until the time of actual discharge. The experts thought that if either of these things had occurred, it is likely that this catastrophe would have been avoided — i.e., the nurses would have felt the resistance when pushing the medications, and the pulse oximeter would have alerted them to the respiratory depression in the PACU. This put the ASC in a difficult position to defend, especially since the center’s

policies and procedures regarding these issues were clearly inadequate, which also reflected negatively on Dr. A as a member of the medical executive committee.

The nursing experts also noted that the patient received her second dose of hydromorphone after she had been moved to Phase 2 of the PACU. Because of the lower level of monitoring in Phase 2, they felt she either should not have been administered the second dose, or, if she needed it, she should have remained in Phase 1.

This case also illustrates what is known as the Swiss cheese model, a series of errors that combine to cause injury to the patient (similar to the holes in slices of Swiss cheese lining up with each other). Any single error might have been inconsequential, but, as in this case, their combined effect can be catastrophic.

## Summary Suggestions

The following suggestions may assist healthcare staff when caring for postsurgical patients:

- Standardize routine patient care tasks by means of well-written and regularly updated policies and procedures consistent with national guidelines and/or evidence-based practices.

- Incorporate safe practices into the medication process. Check IV lines periodically to rule out infiltration or flow problems.
- When administering medications via a bolus through an IV line, follow with a “flushing” injection.
- Ensure adequate and reliable patient monitoring is in place to help detect changes and abnormalities in physiological measures, such as heart rate, respiratory rate, blood pressure, and oxygen saturation. Consider whether implementation of continuous vital sign monitoring could help promote the early detection and treatment of postoperative complications.
- Develop a standardized process to evaluate clinical competencies for medication preparation and administration as well as other basic skills upon hire and on an annual basis.
- Confirm that healthcare staff members responsible for patient assessment and monitoring are doing so at the appropriate intervals, adequately documenting patient status in the electronic health

record, and ensuring timely documentation and communication of patient concerns to the responsible provider. Routinely audit documentation to ensure adherence to policies.

- Develop a structured communication process of handoffs to ensure critical clinical information is communicated during transitions of care.
- Conduct drills on a regular basis for emergencies that are high risk and low frequency in order to evaluate processes, teamwork, and communication. Routine drills assist staff to become proficient in practicing skills required in handling emergencies.

## Conclusion

When performing routine patient care tasks, it is easy to go on “automatic pilot” or to cut corners in the interest of time savings or efficiency. Every step in the process exists for a reason, and it is critical to maintain the discipline to perform all steps correctly and to full completion. The failure to do so risks an unlikely, but potentially catastrophic, outcome for the patient.

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