

COPIC Tip:**Specialty Focus: Orthopedic Surgery****Case Study**

A 32-year-old man fell while snowmobiling and sustained a closed, comminuted tib-fib fracture. Orthopedic surgeon #1 evaluated him and performed an ORIF of the fracture with good postoperative alignment and fixation. The patient received routine post operative medication of diazepam (5 to 10 mg) as well as Dilaudid IV q2hr, switching to oral oxycodone when tolerated.

Early the next morning, physician assistant (PA) #1 rounded on the patient. Vitals were WNL, the wound looked good, and the patient had no complaints. The nursing notes described the patient as somnolent, difficult to awaken, and snoring. At noon, PA #2 was called, as the patient was described by nursing as “agitated.” PA #2 renewed the order for diazepam and oxycodone and did not evaluate the patient herself. At 1800, nursing again called PA #2, and said the patient had severe leg pain and was unable to achieve comfort. Orders for more analgesics were given.

The next morning, now 38 hours post-op, PA #1 rounded on the patient. Vitals were WNL, the wound had no drainage, but there was duskiness to the skin, edema, pain on passive stretch, and diminished peripheral pulses. PA #1 called orthopedic surgeon #2, who was on call and available. He immediately diagnosed compartment syndrome, and had to do an extensive debridement of necrotic tissue. The leg never recovered full function, healing with contractures and residual neurovascular compromise and chronic pain. While there was debate about who was partly or mostly responsible for the adverse outcome, COPIC was unable to find expert support for the continuum of care. The case was settled.

Overview

Complications are an unavoidable risk of invasive procedures and the mere presence of a complication does not imply negligence on the part of the physician and/or PA. This case illustrates an example of a “failure to recognize and rescue,” a common source of liability in orthopedic surgery. While the ORIF went well, this fracture is known to have a high incidence of post-operative compartment syndrome. This case demonstrates common issues seen in orthopedic cases such as:

- Use of benzodiazepines with opioids. It’s a black box warning. The oversedation of this patient might have masked the patient’s symptoms and falsely reassured the provider.
- Failure to recognize the most likely complication of this injury. Perhaps a better handoff or better training might have raised the awareness of the PAs who were involved.
- Failure to evaluate a post-op patient who is not doing well. The early post-op period is the critical time for many of the serious complications to arise, and there should be a low threshold for calling the supervising physician or another consultant.
- Poor communication between all providers.

Solutions

Failure to recognize complications and handoffs in communication are examples of specific areas of surgical practice that generate the greatest liability risks. COPIC has developed the below one-sheet summary for orthopedic surgery. We encourage you to share this with other practitioners and members of your staff.

ORTHOPEDIC SURGERY



KEY AREAS for errors and litigation

Delayed Diagnosis of Complications (failure to recognize and rescue)

- ! Compartment syndrome
- ! Neurovascular compromise
- ! Pulmonary embolism
- ! Infections
- ! Communication failures
 - With nursing and physician extenders
 - With primary care providers
 - With other specialists
 - With patients and their families
- ! Review of images

Frequency Reduction and Management of Complications

- ! Informed consent
- ! Appropriate indications
- ! Preoperative evaluation and risk reduction
- ! Acceptable technique
- ! Early recognition of complications
- ! Early reporting of unexpected adverse outcomes to COPIC for consideration of communication and resolution program—3Rs Program



STRATEGIES to reduce errors

- ✓ Recognize that sedation and long-acting blocks can mask complications
 - ✓ Vital signs are vital
 - ✓ Proper communication with providers (especially pathologists/radiologists) and patients/family can avoid delayed or inappropriate operations
 - ✓ Personal review of radiology images reduces chances of arriving at/acting upon an incorrect diagnosis
 - ✓ Training/low threshold for consultation when signs/symptoms of primary complications occur
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- ✓ Person performing procedure completes process of detailing risks, alternatives, indications, benefits, and assessment of understanding
 - ✓ Ensure right operation for right patient based on your assessment
 - ✓ Pre-op evaluation is more of an exact science based on risks and co-morbidities of each patient (e.g. DVT & OSA risk, nutritional status, etc.)
 - ✓ Binary thinking of "cleared for surgery" misses important risk reduction considerations
 - ✓ Evaluation based on documentation in operative note, and adherence to perioperative safety behaviors such as timeouts and briefings
 - ✓ Attention to early warning signs and avoidance of cognitive errors such as anchoring bias



COPIC RESOURCES to help you succeed



Online Library of Medical Tools and Guidelines—Clinical guidelines, consent forms, practice management resources and more



Education—A wide selection of on-demand courses and in-person seminars.



24/7 Risk Management Hotline—Physician risk managers available for guidance



Copiscope—Quarterly newsletter on current topics in risk management and patient safety