Fire Drill Preparedness: Coordinating OR Patient Evacuations into the PACU

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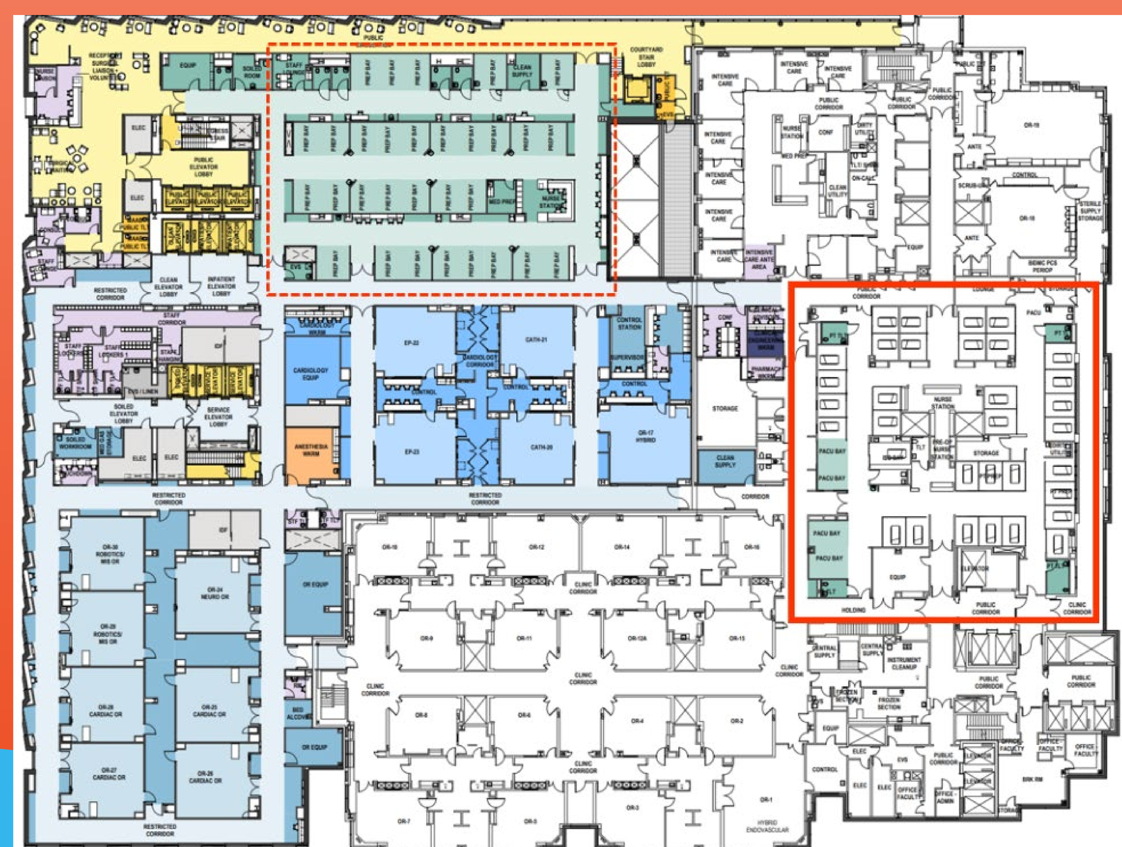
BACKGOUND

The operating room (OR) is high-risk for surgical fires due to ignition sources, oxygen-enriched atmospheres, and flammable materials. Traditional fire drills focus on OR evacuation, neglecting PACU reception and triage of evacuated patients, leaving a preparedness gap in managing vulnerable post-anesthesia patients during real emergencies.

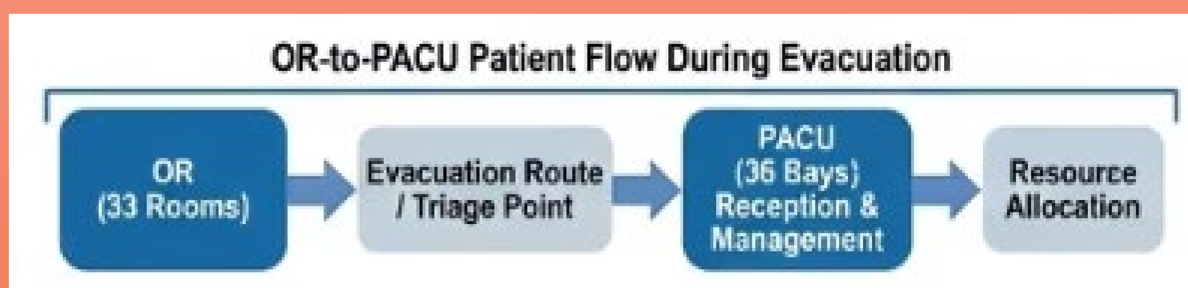
PURPOSE OF THE STUDY

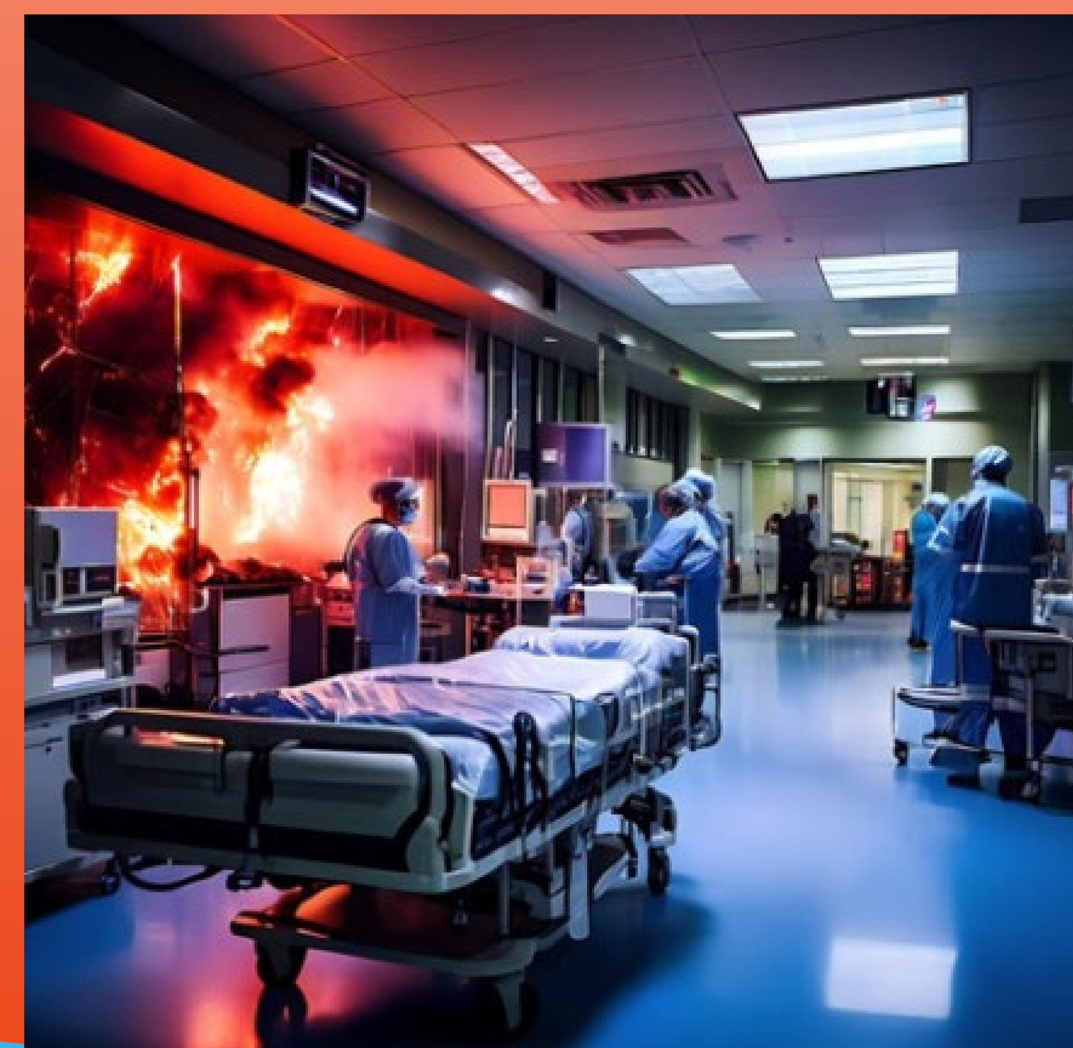
This quality improvement initiative aimed to enhance institutional fire drill preparedness by integrating PACU staff into the OR evacuation process. Specifically, the initiative focused on equipping PACU nurses to assess and triage incoming surgical patients across various stages of anesthesia and recovery, ensuring patient safety and operational efficiency during potential emergencies.



METHODS

- A comprehensive tabletop exercise designed by emergency management, PACU leadership, and perioperative services was conducted involving 33 operating rooms and 36 PACU bays.
- The simulation presented PACU nurses with realistic scenarios, including mid-procedure OR evacuations and patients at various stages of recovery in the PACU.
- Staff practiced triage, resource allocation, and decanting of current PACU patients to accommodate incoming surgical cases.





OUTCOMES AND RESULTS

- The exercise highlighted the complexity of receiving OR patients in varying clinical states.
- PACU nurses gained hands-on experience in prioritizing care based on patient acuity and surgical stage.
- Communication workflows between OR and PACU teams were clarified and streamlined.
- The drill also identified previously unrecognized system vulnerabilities, including supply needs for mid-procedure patients, bed availability, and space constraints.

CONCLUSION AND IMPLEMENTATION OF PRACTICE

Integrating PACU nurses into OR fire drills strengthen institutional emergency preparedness and provided a scalable framework for perioperative departments. Involving the PACU ensured coordinated, safe responses for evacuated patients, enhanced nurse readiness, and supported interunit communication. Future research should evaluate skill retention, patient outcomes, and optimal simulation frequency to guide evidence-based emergency preparedness strategies.

Patient 17
Surgery: Lower extremity angiogram
Projected End Time: 1645
State of Surgery: Moderate sedation, groin sealed, PACU nurse will assume care.

Patient 18
Surgery: L internal hemipelvectomy
Projected End Time: 1443
State of Surgery: Surgery complete, arriving intubated with plans to extubate in PACU.

Patient 19
Surgery: ORIF Pelvis
Projected End Time: 1543
State of Surgery: Surgery complete; PACU nurses will assume care.

Patient 20
Surgery: Arthroplasty shoulder
Projected End Time: 1438
State of Surgery: Surgery complete; extubated in OR, arrives to PACU in respiratory distress, difficult to bag valve mask.

Patient 21
Surgery: Percutaneous Tracheostomy
Projected End Time: 1500
State of Surgery: New tracheostomy needs an ICU bed; bed is not available.

Patient 22
Surgery: Open Whipple
Projected End Time: 1522
State of Surgery: Mid surgery, temporary closure, needs to go back into OR to complete the procedure. Will come out intubated. Anesthesia will assume care of this patient.

Patient 23
Surgery: Lower extremity angiogram
Projected End Time: 1501
State of Surgery: Moderate sedation, groin sealed, PACU nurse will assume care.

Patient 24
Surgery: C5-6 ACDF
Special Equipment/Precautions: None

Patient 1
Surgery: PVI
Arrival to PACU: 1311
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: Outpatient
Special Equipment/Precautions: None, bed rest/groin access

Patient 2
Surgery: Diagnostic Lap
Arrival to PACU: 1342
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: Inpatient
Special Equipment/Precautions: None

Patient 3
Surgery: EVAR
Arrival to PACU: 1041
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: SDA-VICU
Special Equipment/Precautions: None

Patient 4
Surgery: Cardioneuro Ablation
Arrival to PACU: 1311
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: Outpatient
Special Equipment/Precautions: None, bed rest/groin access

Patient 5
Surgery: Renal Angiogram
Arrival to PACU: 1210
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: Outpatient
Special Equipment/Precautions: None, bed rest/groin access

Patient 6
Surgery: Robotic VATS
Arrival to PACU: 1400
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: SDA
Special Equipment/Precautions: None

Patient 7
Surgery: L3-5 Revision
Arrival to PACU: 1348
Ready to Move (Y/N): N
SDA/Inpatient/Outpatient: Outpatient
Special Equipment/Precautions: None

Patient 8
Surgery: Mitral Valvuloplasty
Arrival to PACU: 1005
Ready to Move (Y/N): Y
SDA/Inpatient/Outpatient: Outpatient
Special Equipment/Precautions: None

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