Redesigning a Multidisciplinary Intraoperative Emergency Response Team

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Introduction / Current State

- Intraoperative emergencies, while rare, require effective communication, preparedness, and rapid response times.
- At LPCHS, perioperative CPR occurs approximately once a month.
- Over time, multiple pathways for intraoperative help were developed at our institution depending on clinical urgency (Figure 1).
  - These pathways were not 'official.'
- Feedback from nurses and anesthesiologists revealed that it was difficult to understand which pathway to enact during the urgency.
- These "home-grown" systems were leading to confusion during practical application, resulting in suboptimal patient care.

Current State – Homegrown Pathways for Perioperative Urgencies

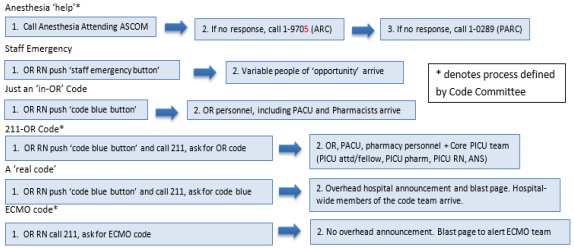


Figure 1

Causes

- People
  - High staff turnover has led to high-volume, rapid orientation of new staff.
  - Given the low incidence of OR codes, education regarding the current process is difficult to routinize.
  - Surgeons are not PALS certified.

Causes (cont.)

- Process
  - Multiple pathways – some home-grown, some sponsored by code committee – have made the system very confusing
- Equipment
  - All personnel on the page response system must be able to receive a page via phone
- Technology
  - Code button electronic response inaudible or ineffective

Countermeasures

Figure 2

OR code response education plan

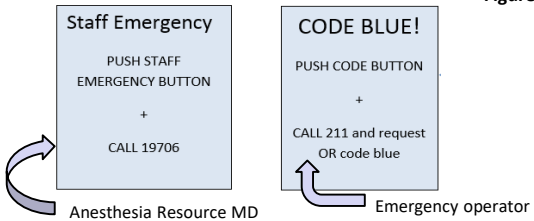
- Code team paging list reviewed and updated, roles clarified
  - Multidisciplinary team consists of PICU attending, fellow, PICU RN, Pharmacist, and nursing supervisor in addition to perioperative personnel.
  - Truncated hospital team is consistent 24/7 to offload multiple anesthesia responsibilities
- Increase pager system reliability with mobile phone paging
- Optimize audible code and staff emergency electronic alarms
- Mock codes with perioperative staff and entire code team
- New dichotomous system – easy to teach, easy to remember (Figure 3)

Results

- Assessment given to all OR staff after education/sims to new process:
  - **Average score 96%**
  - 100% answered correctly: what is your role in an OR code?
  - 100% answered correctly: Do you feel comfortable performing my role in an OR code?
- Reports of subsequent OR codes being run very smoothly

New dichotomous system

Figure 3



Next Steps

- Monthly OR sims that occur during the day in order to prevent education decay
- Competency assessment for new perioperative employees
- Ongoing educational activities for current perioperative staff with follow-up assessments
- Ongoing evaluation and optimization of code response team
  - CV ICU MD has also joined code team