Introduction: Poor communication between health care providers is a major contributing factor in many adverse safety events and a common cause of patient and family dissatisfaction. As part of a Quality Improvement (QI) Science course, an improvement team at CCHMC was initiated to improve the operating room to postanesthesia care unit "handoff" process.

Methods: The initial step in this improvement effort was the development of a Key Driver Diagram (Figure 1). This diagram incorporates the "global" and "smart" aim of the project, the "key drivers" inherent to the process we are trying to improve, and specific interventions which might effect each of the "key drivers". In addition, key elements felt to be essential to every handoff were determined so that it would be possible to "measure" the success of individual handoffs. Nursing staff in the PACU randomly observed handoffs between anesthesia and nursing teams and evaluated them based on whether all key elements were addressed. The improvement model used was based on the concept of building knowledge through the use of "Plan-Do-Study-Act (PDSA) cycles" or small "tests of change". An intervention is planned, initiated for a short period of time, and its effect on the process we are trying to improve is measured. The results are then studied, feedback obtained from the improvement team, and the next intervention planned. The primary intervention used for this project was the development of a standardized handoff checklist. (Figure 2) PDSA cycles initiated during the improvement process included a discussion of the postoperative plan, giving all parties the opportunity to ask questions before the handoff is complete, and placing the checklist on laminated cards and distributing them to all staff.

Results: Prior to the initiation of the project the percentage of successful handoffs in the PACU was 55%. During the last 2 months of the 5 month study period the median percentage of successful handoffs increased to 90%. (Figure 3)

Conclusions: The use of a standardized checklist for handoffs in the postanesthesia care unit increased the percentage of successful handoffs, thereby reducing the chance that key patient information will not be conveyed. By using the principles of QI science, improvement teams can focus on specific problems and measure whether interventions lead to system improvement.

This abstract has 3 Additional Files -- Converted Files are included below:

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Project Name: Improving the OR to PACU Handoff Process

Project Leader: James P. Spaeth

Revision Date: 02-28-10

GLOBAL AIM
By developing a standardized PACU handoff process, we will improve patient safety by eliminating serious events where poor communication is a causal factor.

SMART AIM
We will increase the reliability of an appropriate handoff between Anesthesia and PACU Nursing from 56% to 95% by June 30, 2010.

KEY DRIVERS

- Determining the key elements included in an appropriate handoff
- Anesthesia is knowledgeable about the patient, procedure, and intraoperative course
- All vital information about the patient and surgical course is presented
- All staff participating in the Handoff are ready and attentive

INTERVENTIONS (Reliability level)

- Ask process owners (anesthesia, PACU nursing) what key elements should be part of the handoff
- Develop a standardized checklist for Handoff
- Make the final step of Handoff the opportunity to ask clarifying questions
- Provide individual feedback when failures occur
- Monitor compliance with these measures
- Provide individual feedback when failures occur

Key
Dotted box = Placeholder for future additions
Green shaded = what we’re working on right now

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PACU Handoff Checklist

1. Stable airway/vital signs
2. Ask PACU nurse “Are you ready for report?”
3. Name, age, weight, allergies
4. Procedure
5. Relevant medical history
6. Type of airway management (ETT/LMA/mask, awake/deep extubation?)
7. Access/Fluids
8. Medications given
9. Intraoperative complications/issues?
10. Postoperative concerns (pain plan, labs, foreign bodies in airway)
11. Any questions?
OR to PACU Handoff Process between Anesthesia and Nursing

- **Weekly % Reliability**
- **Weekly Tests and Changes**
  - Education
  - Test of standardized checklist
  - Checklist Revised
  - Checklist on laminated card distributed to anesthesia staff
  - Checklist on laminated card placed on PACU nurse computer in three pods

- **Weekly Data Breakdown**
  - 01/06/10 (n=34)
  - 01/22/10 (n=22)
  - 01/28/10 (n=43)
  - 01/29/10 (n=19)
  - 02/08-02/12 (n=56)
  - 02/15-02/19 (n=04)
  - 02/22-02/26 (n=07)
  - 03/01-03/05 (n=10)
  - 03/08-03/12 (n=17)
  - 03/15-03/19 (n=20)
  - 03/22-03/26 (n=31)
  - 03/29-04/02 (n=20)
  - 04/05-04/09 (n=31)
  - 04/12-04/16 (n=42)
  - 04/19-04/23 (n=06)
  - 04/26-04/30 (n=20)
  - 05/03-05/07 (n=24)
  - 05/10-05/14 (n=22)
  - 05/17-05/21 (n=50)
  - 05/24-05/28 (n=25)

- **Graph Key**
  - Percentage
  - Median
  - Goal (95)

- **Goal (95)**: A line indicating the target reliability rate of 95%.