



# Clinical Safety & Effectiveness

## Session # 6

**Increased Communication of Essential Elements in Patient Transfers of Care During Anesthesia by 50% in the 2nd Floor ORs at University Hospital Over a 4 month Period to Improve Patient Safety**



# The Team

Sponsoring Department: **Anesthesiology**

## Team Members

- **Lois L. Bready**, M.D. – CS&E Participant
- **J. Jeffrey Andrews**, M.D. – Chair, Anesthesiology
- **Erik Boatman**, M.D. - Faculty
- **Eric Wong**, M.D. – Anesthesiology Resident
- **LaCresa Davis**, CRNA
- **Jessica Sulser**, MS4
- **Sammy Stevens**, MS4
- **Noel Schafer**, BSN, RN-C – UH Operative Services
- **Michelle Ingram**, RN – UHS Quality & Process Improvement, Admin. Director
- **Amruta Parekh**, M.D., MPH – Facilitator

# What We Are Trying to Accomplish?

## OUR AIM STATEMENT

Our aim is to increase communication of essential elements in patient transfers of care during anesthesia by 50% in the 2<sup>nd</sup> floor ORs at University Hospital over a 4 month period.

# Project Milestones

- Team Created/Evolved Aug-Oct 2010
- AIM statement created August 2010
- Bi-Weekly Team Meetings Aug-Dec 2010
- Background Data, Brainstorm Sessions, Workflow and Fishbone Analyses Sep-Oct 2010
- Interventions Implemented Nov 2010
- Data Analysis Nov-Dec 2010
- CS&E Presentation January 20, 2011



08/2010

09/2010

10/2010

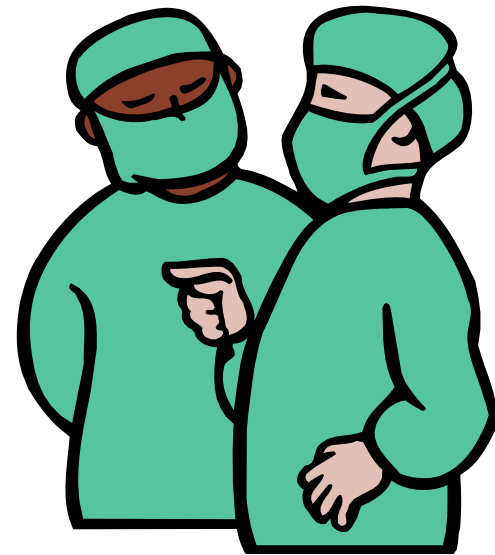
11/2010

12/2010

01/2011

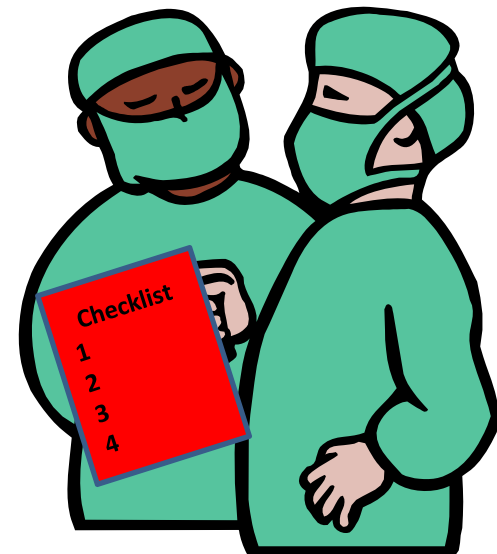
# Background

- An estimated 80 percent of serious medical errors involve **miscommunication between caregivers** when patients are transferred or handed-off.
- The Joint Commission requires the use of a standardized approach to hand-off communications.



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# **What Changes Can We Make That Will Result in an Improvement?**

1. Create a checklist to guide the TOC
2. Ensure that every TOC employs the checklist

# Brainstorming

What are the essential elements of an effective TOC?

- Survey of experts (ASA Patient Safety Committee)
- Survey of project team

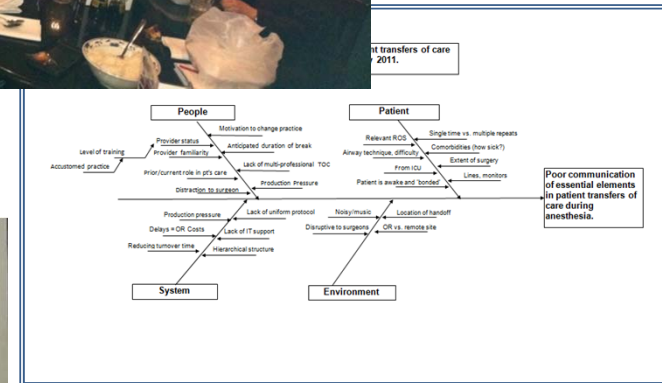
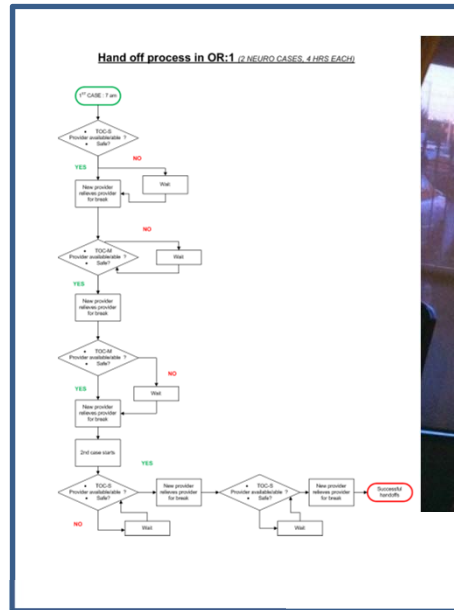
What are operational considerations of safe & effective TOC?

- Appropriate time in conduct of anesthetic
- Safe to relieve
- Availability of able provider



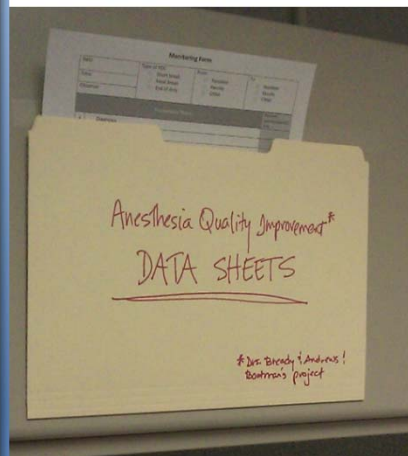
# Selected Process Analysis Tools

- Brainstorming
- Flowchart
- Fishbone
- Checklist



Monitoring Form

Case	Type of TOC	From	To	Event communicated TOC
1	TOC-1	Resident	Resident	
2	TOC-2	Resident	Resident	
3	TOC-3	Resident	Resident	
4	TOC-4	Resident	Resident	
5	TOC-5	Resident	Resident	
6	TOC-6	Resident	Resident	
7	TOC-7	Resident	Resident	
8	TOC-8	Resident	Resident	
9	TOC-9	Resident	Resident	
10	TOC-10	Resident	Resident	
11	TOC-11	Resident	Resident	
12	TOC-12	Resident	Resident	
13	TOC-13	Resident	Resident	
14	TOC-14	Resident	Resident	
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96	TOC-96	Resident	Resident	
97	TOC-97	Resident	Resident	
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99	TOC-99	Resident	Resident	
100	TOC-100	Resident	Resident	



Anesthesiology Quality Improvement Project

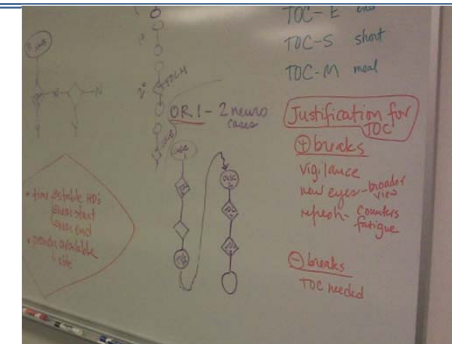
The Department is conducting a quality improvement project looking at patient handovers (transfers of care). During the month of October 2010, we'll be spot checking handovers (no names - just measures) - and need your help!

At 9 p.m., please call the medical student listed below, a few minutes prior to the handover, and s/he will quickly come and monitor the process. (This is a QI process and the IRB has determined that it does not require consent.)

Thanks very much for your help in this important mission!

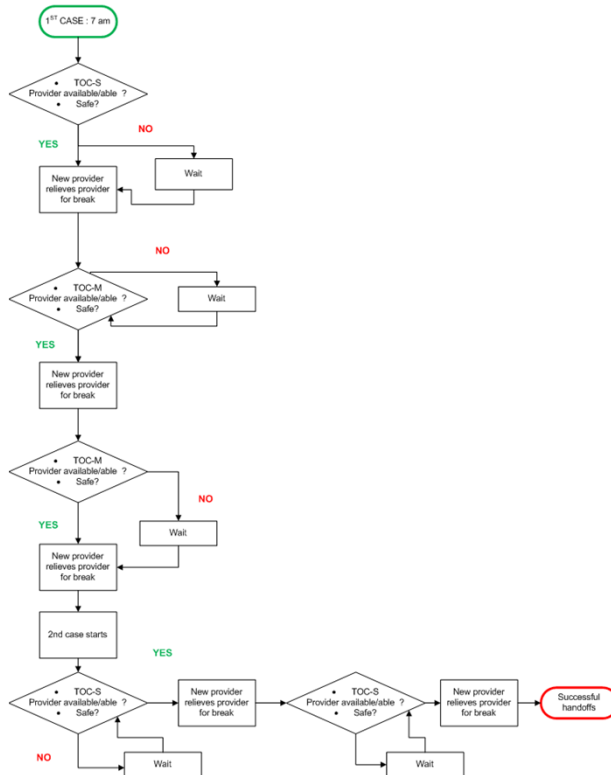
Lisa L. Bready, M.D.

Date	Student Observer	Cell phone
Wed 10/6	Sammy Davis	714-822-8423
Thur 10/7	Alana Entwistle	949-295-6464
Fri 10/8	Sammy Davis	212-288-5167
Sat 10/9	Alana Entwistle	949-295-6464
Sun 10/10	Sammy Davis	212-288-5167
Mon 10/11	Alana Entwistle	949-295-6464
Tue 10/12	Sammy Davis	212-288-5167
Wed 10/13	Alana Entwistle	949-295-6464
Thur 10/14	Sammy Davis	212-288-5167
Fri 10/15	Alana Entwistle	949-295-6464
Sat 10/16	Sammy Davis	212-288-5167
Sun 10/17	Alana Entwistle	949-295-6464
Mon 10/18	Sammy Davis	212-288-5167
Tue 10/19	Alana Entwistle	949-295-6464
Wed 10/20	Sammy Davis	212-288-5167
Thur 10/21	Alana Entwistle	949-295-6464
Fri 10/22	Sammy Davis	212-288-5167
Sat 10/23	Alana Entwistle	949-295-6464
Sun 10/24	Sammy Davis	212-288-5167
Mon 10/25	Alana Entwistle	949-295-6464
Tue 10/26	Sammy Davis	212-288-5167
Wed 10/27	Alana Entwistle	949-295-6464
Thur 10/28	Sammy Davis	212-288-5167
Fri 10/29	Alana Entwistle	949-295-6464
Sat 10/30	Sammy Davis	212-288-5167
Sun 10/31	Alana Entwistle	949-295-6464

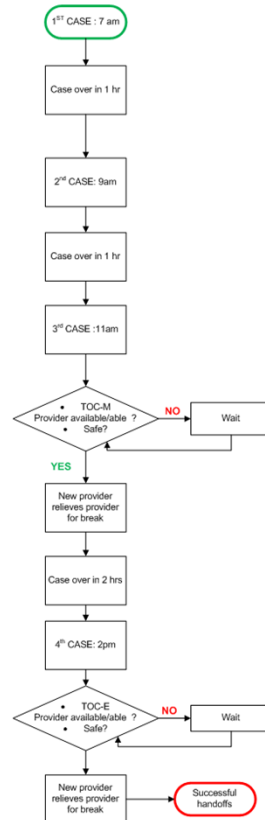


# Process Flowcharts – Various ORs

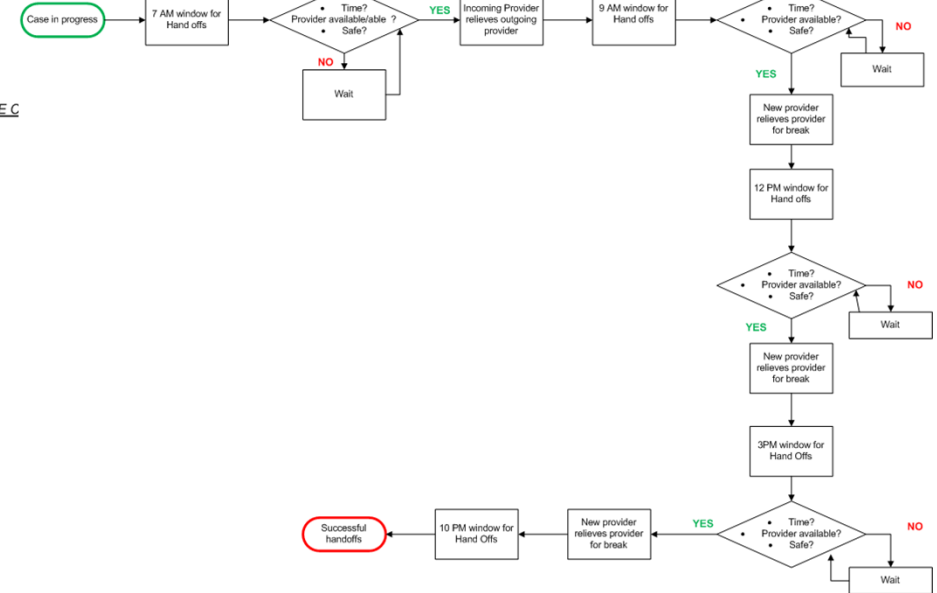
**Hand off process in OR:1 (2 NEURO CASES, 4 HRS EACH)**



**Hand off process in OR:10(4 ELECTIVE C**

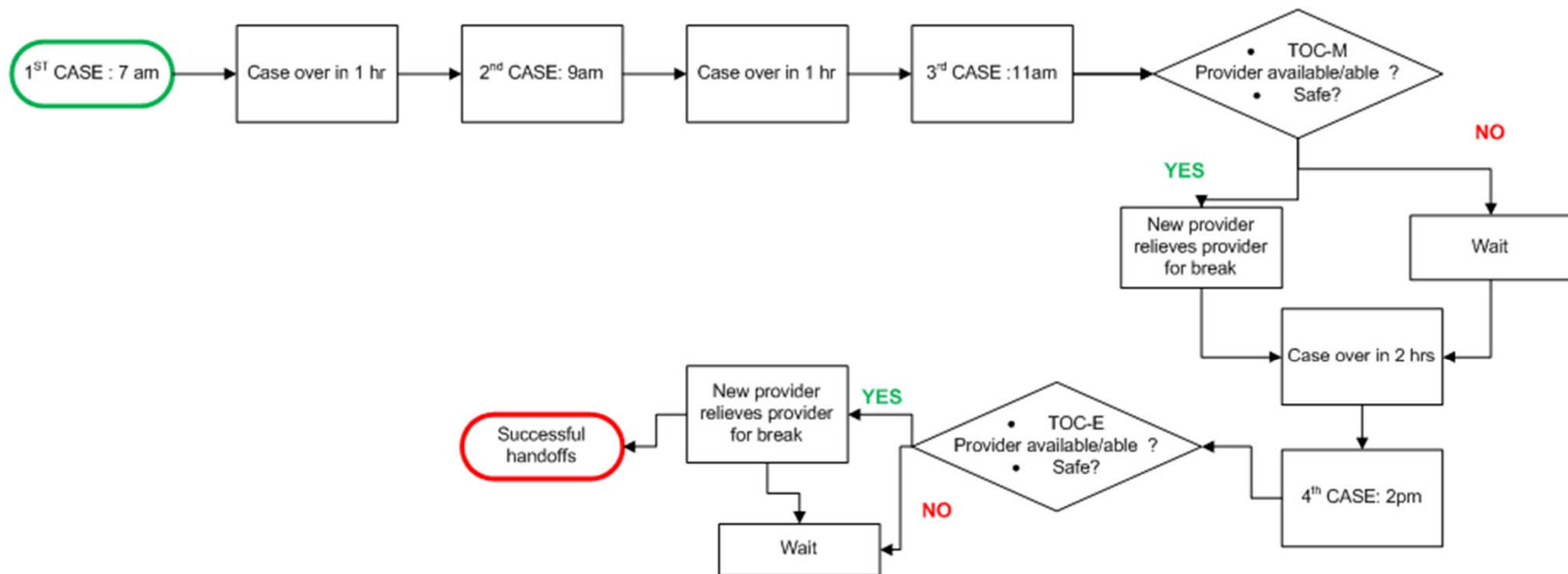


**Hand off process in OR:7 (1 trauma case, prolonged)**

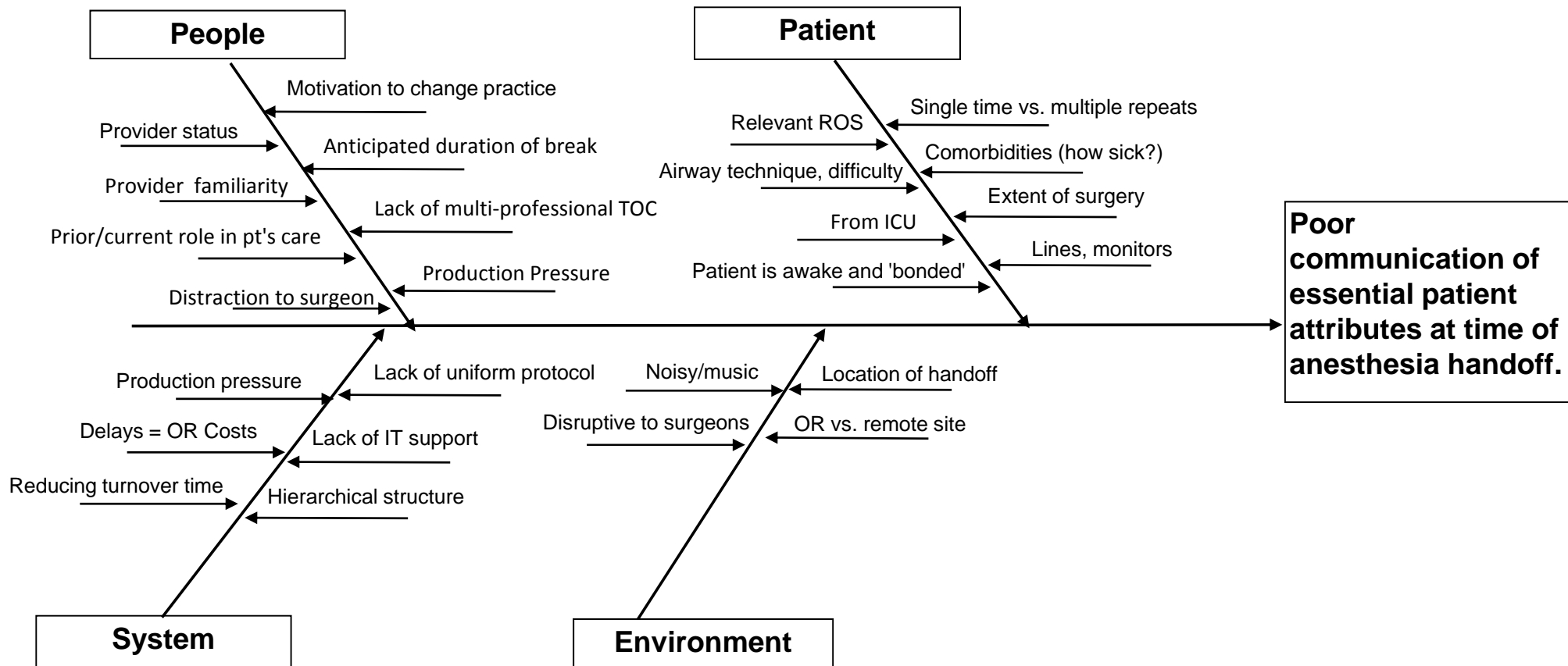


# Process Flowchart – OR 10

## Hand off process in OR:10 (4 ELECTIVE CASES, 1-2 HRS EACH)



# **Checklist to Increase Communication of Essential Elements in Patient Transfers of Care During Anesthesia in the 2nd Floor ORs at University Hospital Over a 4 month Period**



# Checklist Sheets

The image displays five overlapping anesthesia checklist sheets from the UT Health Science Center San Antonio. The sheets are titled "Checklist for Anesthesiology Patient Transfer of Care" and are dated 9/15/10, 9/16/10, 10/13/10, 11/17/10, and 11/17/10. Each sheet includes a header with the UT Health Science Center logo and the slogan "WE MAKE LIVES BETTER". The checklist is organized into three main sections: Preoperative Status, Intraoperative Course, and Postoperative Plans. The Preoperative Status section includes items such as Diagnosis, Surgical procedure, Allergies and reactions, Pertinent review of systems (ROS), Airway management, Anesthetic technique and logic, Major intraoperative events, Antibiotics given, Maintenance drugs, Current vital signs and trends, Fluid balance, Lines, Pertinent labs, and Concerns intraop?. The Intraoperative Course section includes items such as Airway management, Anesthetic technique and logic, Major intraoperative events, Antibiotics given, Maintenance drugs, Current vital signs and trends, Fluid balance, Lines, Pertinent labs, and Concerns intraop?. The Postoperative Plans section includes items such as Questions from the incoming (relieving) anesthesia professional, Postop concerns, Emergence plan, and Tasks to do or follow-up. Each sheet also has a section for Comments at the bottom.

9/15/10

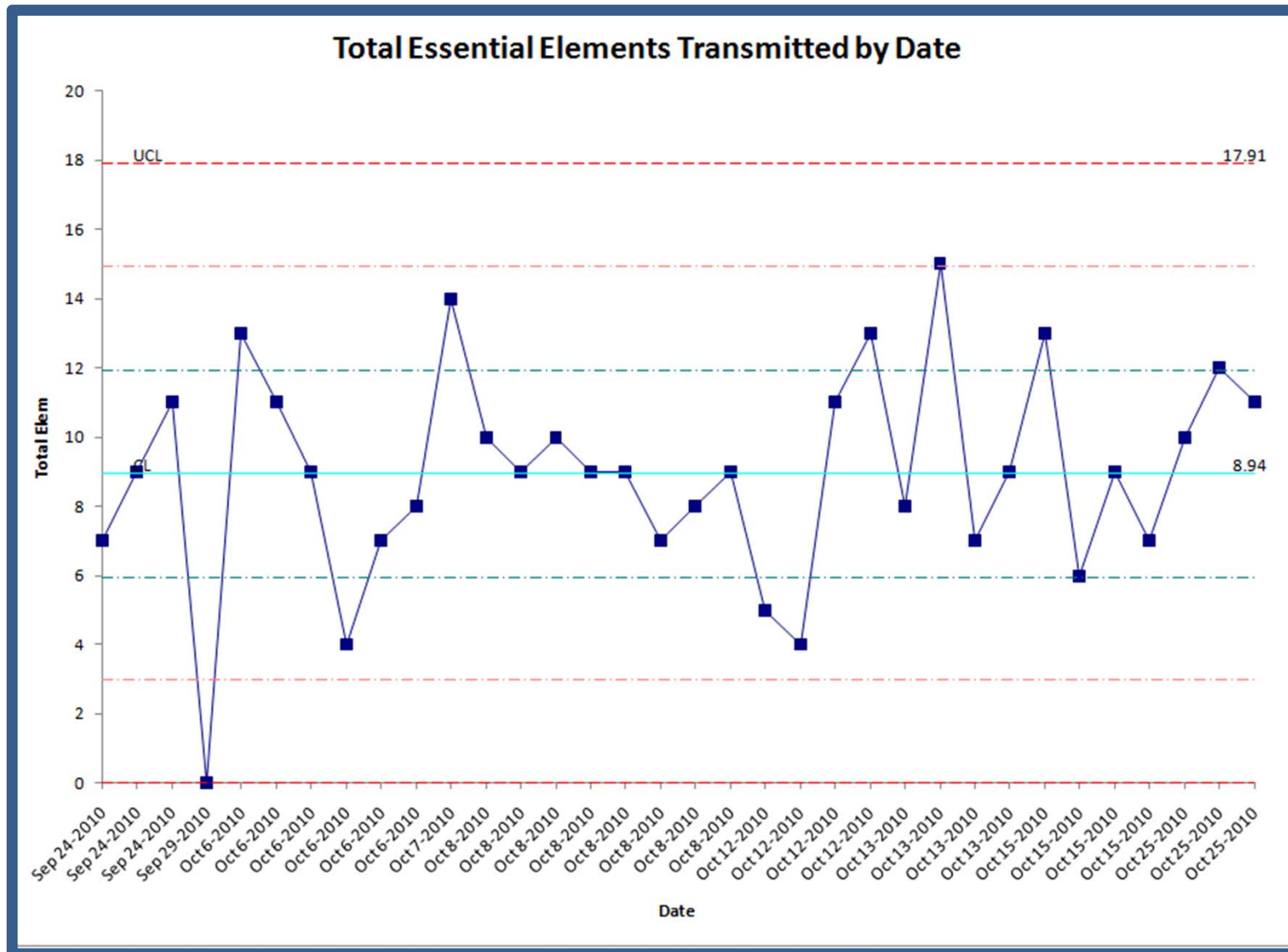
9/16/10

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11/17/10

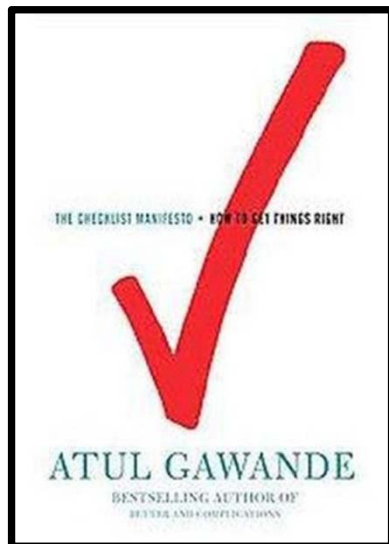
# Run Chart – Baseline Date





# Educational Intervention – 11/18/2010

- Presentation - Patient Safety Project
  - Checklists



WHO | Safe Surgery Saves Lives

World Health Organization

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**Patient safety**

WHO > WHO Patient Safety > Patient safety

**Safe Surgery Saves Lives**

THE SECOND GLOBAL PATIENT SAFETY CHALLENGE

**Surgical Safety Checklist**

Before induction of anaesthesia (with at least nurse and anaesthetist)

- Has the patient confirmed his/her identity, site, procedure, and consent?
- Is the site marked?
- Is the anaesthesia machine and medication check complete?
- Is the pulse oximeter on the patient and functioning?
- Does the patient have a:
- Known allergy?
- Difficult airway or aspiration risk?
- Risk of >500ml blood loss (2ml/kg in children)?

Before skin incision (with nurse, anaesthetist and surgeon)

- Confirm all team members have introduced themselves by name and role.
- Confirm the patient's name, procedure, and where the incision will be made.
- Has antibiotic prophylaxis been given within the last 60 minutes?
- Anticipated Critical Events
- To Surgeon:
  - What are the critical or non-routine steps?
  - How long will the case take?
  - What is the anticipated blood loss?
- To Anaesthetist:
  - Are there any patient-specific concerns?
- To Nursing Team:
  - Has identity (including indicator results) been confirmed?
  - Are there equipment issues or any concerns?
- Is essential imaging displayed?

Before patient leaves operating room (with nurse, anaesthetist and surgeon)

- Nurse Verbally Confirms:
  - The name of the procedure
  - Completion of instrument, sponge and needle counts
  - Specimen labelling (and specimen labels aloud, including patient name)
  - Whether there are any equipment problems to be addressed
- To Surgeon, Anaesthetist and Nurse:
  - What are the key concerns for recovery and management of this patient?

BACKGROUND

[Checklist development](#)

[Pilot site testing](#)

[Frequently asked questions](#)

GET INVOLVED IN THE CAMPAIGN

[Register as a participating hospital and join the 3000+ hospitals already on board](#)



[\(Click to enlarge map\)](#)

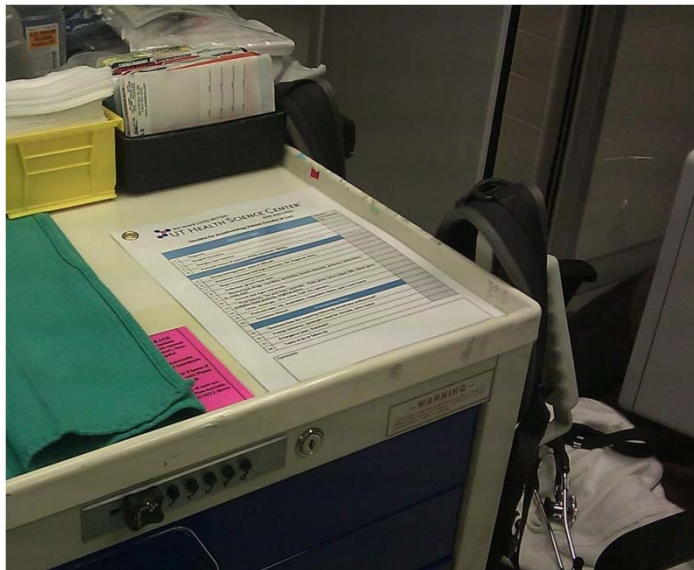
[Over 300 organizations worldwide have endorsed the campaign](#)

[Sign up to be an endorsing organization](#)

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Internet | Protec

# Written Checklist on Every Anesthesia Cart



WE MAKE LIVES BETTER  
UT HEALTH SCIENCE CENTER  
SAN ANTONIO

Checklist for Anesthesiology Patient Transfer of Care

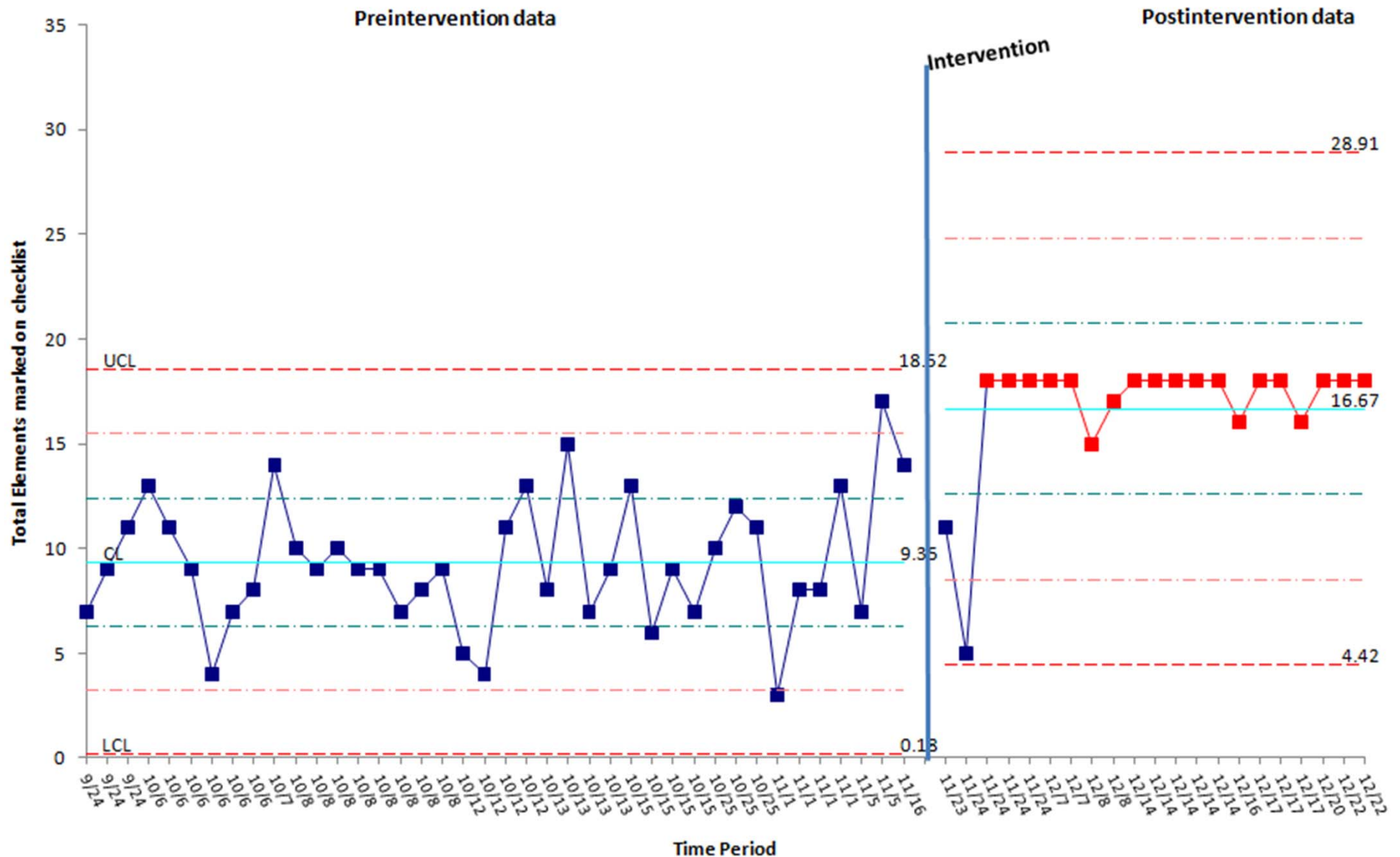
Preoperative Status	Comment communicated? Y/N
1. Diagnosis	
2. Surgical procedure	
3. Allergies and reactions	
4. Pertinent review of systems (ROS) (example, GERD)	
Intraoperative Course	
5. Airway management: easy or difficult?	
6. Anesthetic technique and logic: (example, GA, Regional, MAC)	
7. Major intraoperative events	
8. Antibiotics: given? Next due?	
9. Maintenance drugs: narcotics, amnestics, muscle relaxants, pressors, antiemetics, or meds due?	
10. Current vital signs and trends	
11. Fluid balance: In and Out: (example, , fluids given, urine output, EBL, blood given, available blood products, ongoing plans)	
12. Lines: (example, , IVs, a-line, CVP, PA catheter)	
13. Pertinent labs: Hb, electrolytes, coagulation status, acid / base status	
14. Concerns intraop?	
Postoperative Plans	
15. Questions from the incoming (relieving) anesthesia professional?	
16. Postop concerns: (example, need for consults, urine output)	
17. Emergence plan: Extubate?	
18. Tasks to do or follow-up	

Comments

Checklist for Anesthesiology Patient Transfer of Care  
Department of Anesthesiology  
Printed: 11/17/18



# Auditing use of checklist for Increasing Communication of Essential Elements in Patient Transfers of Care During Anesthesia in the 2nd Floor ORs at University Hospital Over a 4 month Period



# Rapid Cycle

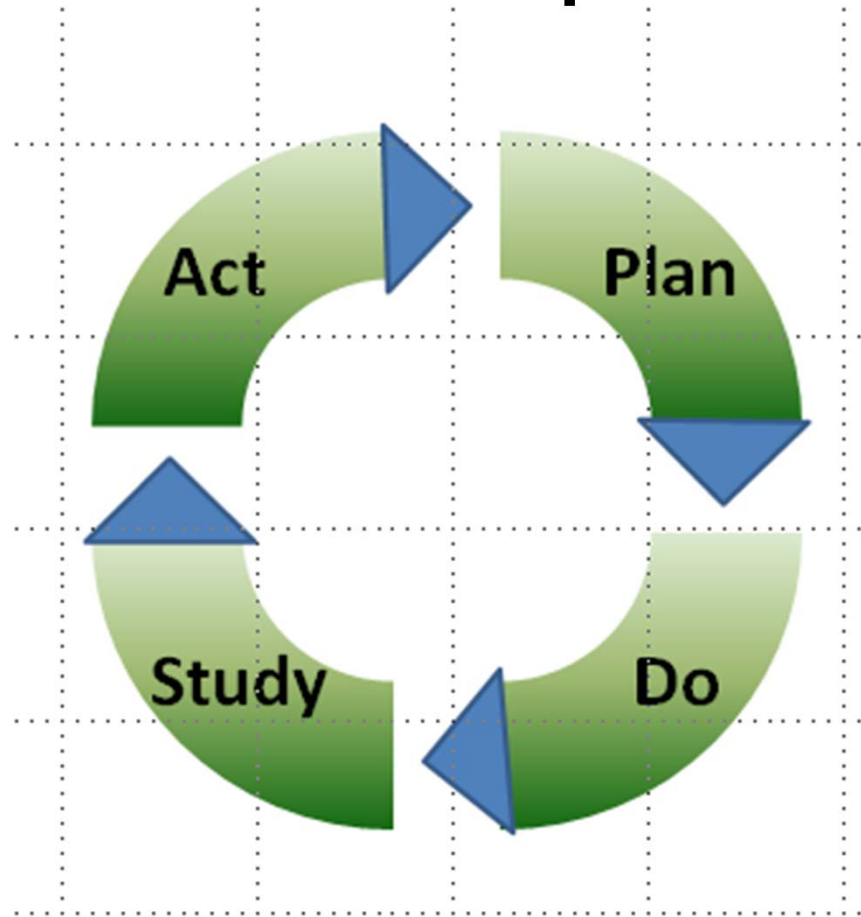
## PDSA Performance Improvement Model

**Act:** Incorporate 18 highest-rated elements into checklist

**Study:** Determine highest rated data elements

**Plan:** Determine important data elements

**Do:** Score proposed elements (experts & our team) by relevance



Cycle 1 – Creating the Checklist

# Rapid Cycle

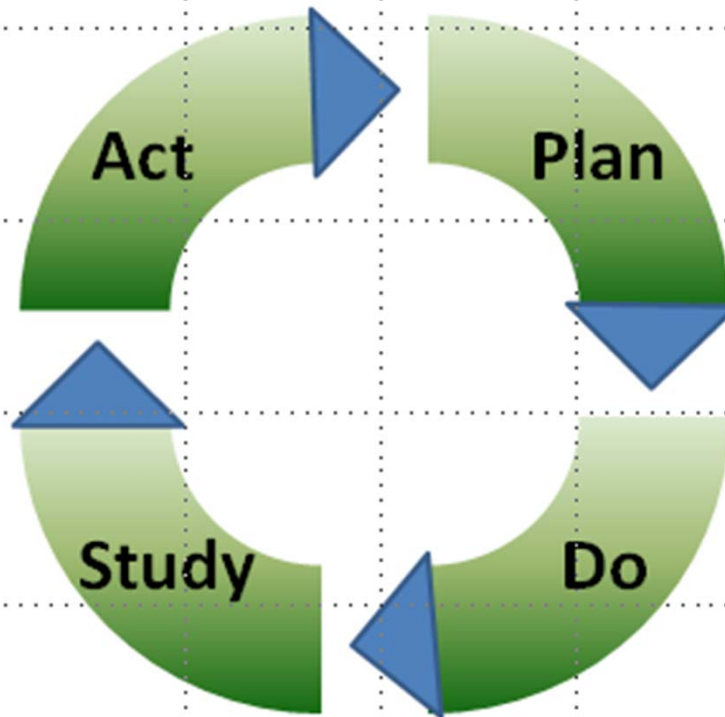
## PDSA Performance Improvement Model

**Act:** Educational intervention

**Plan:** Monitoring tool to score TOCs

**Study:** Determine mean number of data elements conveyed

**Do:** Score baseline TOCs



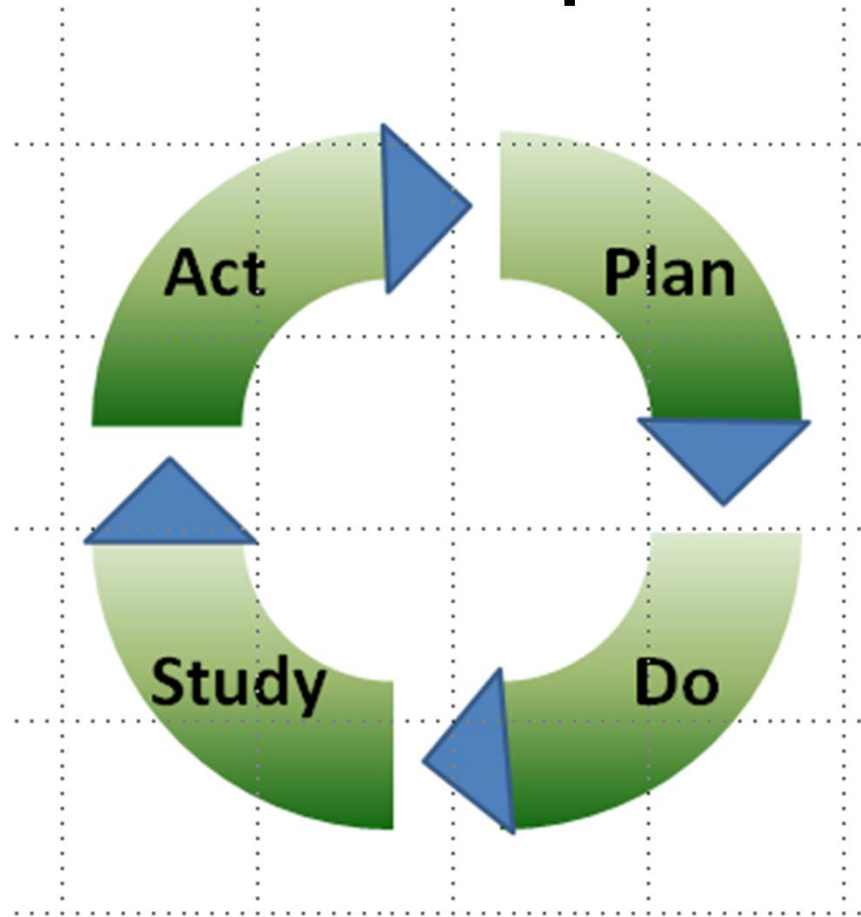
Cycle 2 – Measuring  
Baseline Data

# Rapid Cycle

## PDSA Performance Improvement Model

**Act:** Celebrate!  
Then revise . . .

**Study:** Determine  
mean number of  
data elements  
conveyed



**Plan:** All TOCs to  
be driven by  
checklist; laminated  
checklist in ORs

**Do:** Score TOCs using  
checklist

Cycle 3 – Using Checklist  
for all TOCs

# Return on Investment

- Improved focus on patient safety – providers, medical students
- Student observation: Using checklists for transfers of care makes the conversations during the transfers richer in content without hindering the anesthesia professionals involved. From watching transfers with and without checklists, it struck me that using the checklists people were able to eliminate the "Hmm, what else do I want to tell you?" moments and drill through the 18 points quickly and naturally.

# Return on Investment, cont.

- Improved patient safety = reduced complications, LOS, costs
  - though difficult to measure
- Improved compliance with **SCIP measures**
  - *SCIP INF 1 Time of beginning of ABX admin — surgical incision time <60 min*
  - *SCIP-INF 4 Cardiac surgery patients with controlled 6 a.m. postoperative serum glucose (#200 mg/dL)*
  - *SCIP INF 7 First temp taken within first 15 min. of arrival in PACU is => 36 Celsius*

# What's Next

## Findings:

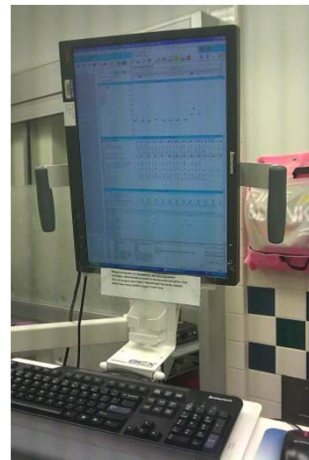
- Without checklist (memory only), **50%** of essential data elements conveyed
- Using checklist, **93%** of data elements conveyed

## Anticipated benefits:

- Higher %age essential data elements communicated = better patient safety
- Increased awareness of safe practice, teamwork

## Plans:

- Implement in other anesthetizing locations, OB
- Transfer to PICIS (Anesthesia EHR) – remind & document





# The A(nesthesiology) Team



J. Jeff Andrews, M.D.



Lois L. Bready, M.D.



Jessica Sulser, MS4



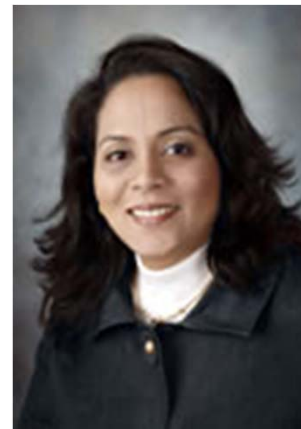
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Noel Schafer, RN



# Thank you!

