

# Using simulation to obtain a baseline on new surgery interns' knowledge and skills

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# Rationale

- Simulation is an accepted practice in the delivery of training and assessment experiences in undergraduate medical education.
- Adoption of simulation in residency programs – slow growth
- New Sim Center allowed for new intern orientation for surgery residents to be implemented (June 2009)

# Objectives

- Participants will have an understanding of how simulation can be used as a baseline for new surgical interns and new interns as a whole.
- Participants will be able to view a sample of the integrated simulation cases and videos.
- Participants will have a better understanding of the logistics required to implement this kind of integration into an existing new intern orientation week.

# Evaluation of interns' perceived need of supervision (pre-test data)

Level of supervision which you feel prepared to perform the following procedures:				
	Unsupervised	W/limited sup	W/direct Att sup	Not prepared at all
Chest tube		7	9	3
ET intubation	2	4	13	
Lumbar Punct	1	3	11	4
IV insertion	8	9	2	
<b>Foley Cath inst</b>	<b>12</b>	7		
NG tube	9	6	4	
Needle decomp	1	5	8	4
Central line	1	6	9	3
EKG leads placed	9	4	6	
Lumbar shunt		1	6	11
Swan Ganz		1	9	9
Arterial Cath	1	5	11	2
I&D	6	9	3	1
Paracentesis	1	8	8	2
Thoracocentesis		7	10	2

# Evaluation of interns' perceived need of supervision (pre-test data)

Level of supervision at which you feel prepared to do the following:

	Unsupervised	W/limited sup	W/direct Att. sup	Not prepared at all
<b>Lead ACLS in code situation***</b>	3	3	10	3
Assess an acute pt emerg	2	9	10	
Assess sudden onset altered mental status		9	9	
Present new patient	15	4		
<b>Know when to seek consult</b>	10	8	1	
Inform patients about medical error	7	6	4	2
Respond to EKG emergency		8	9	2
<b>Collaborate w/healthcare personnel*</b>	16	3		
Deliver bad news to pt	10	4	5	
<b>Deliver bad news to patient's family</b>	9	4	6	
Discuss pros/cons of DNR order w/pt & family	7	6	4	2
<b>Respond to angry pt</b>	11	7	1	
<b>Respond to uncooperative pt</b>	11	7	1	
Perform clinical handoff	10	9		
Pronounce a patient dead	1	10	7	1

# New Intern Orientation Setup

- **Half-day simulation experience for 19 new surgical interns**
- **Three stations:**
  - Mock Code/Team Training
  - Fundamentals of Laparoscopic Surgery
  - Professionalism in the Clinic Setting

# Interns displaying a team approach to patient care

- Mock code
  - Prior to this simulation, all interns had completed:
    - ACLS
    - Crew Resource Management training

# Interns displaying a team approach to patient care (con't.)

- Mock code
  - Interns were divided up into On-call code teams
  - Teams self-selected roles
  - Teams entered patient hospital room and nurse notified team of unresponsive patient
  - Team assessed patient and performed code
    - Division of roles:
      - Code team
      - Management of family member
      - Management of roommate
      - Recorder of code activity

# Mock Code scenario

- Residents received morning check-out that noted Mr. Johnson was doing well and would be discharged the next day.
- 78 yo white male who is status post left colon resection for colon cancer. Procedure performed laparoscopically. Post-op ileus and a little shortness of breath...
- Call to resident on call from nurse on 5West that patient is unresponsive. Residents arrive and find nurse, tech and family member in room. Nothing has been done for the patient. They are trying to arouse the patient.

# Mock Code in action



# Interns displaying a team approach to patient care (con't.)

- Mock code debriefing
  - How team divided up
  - Initial assessment/Primary survey
  - Length of time before compressions
  - Video review of encounter

# Video of Mock Code

- Sim 1 – Bed 2
- Sim 1 – Bed 1
- Sim 1 - Mobile



# Typical surgery clinic visit

- SP encounter
- Typical patient with biliary colic
- Received morning list of patients they would be getting calls on
- Professionalism component

# SP encounter in action



# SP Encounter debriefing

- Faculty observer
- Intern
- SP
  - 5-10 mins. of feedback

# Video of SP Encounter

- Exam 2 Left
- Exam 2 Right



# Aspects of professionalism built into cases

- Mock Code
  - Family member present
  - Dual patient room
  - Curious roommate
- SP H&P encounter
  - Intern paged periodically
  - Stressed nurse at door
  - Patient on cell phone



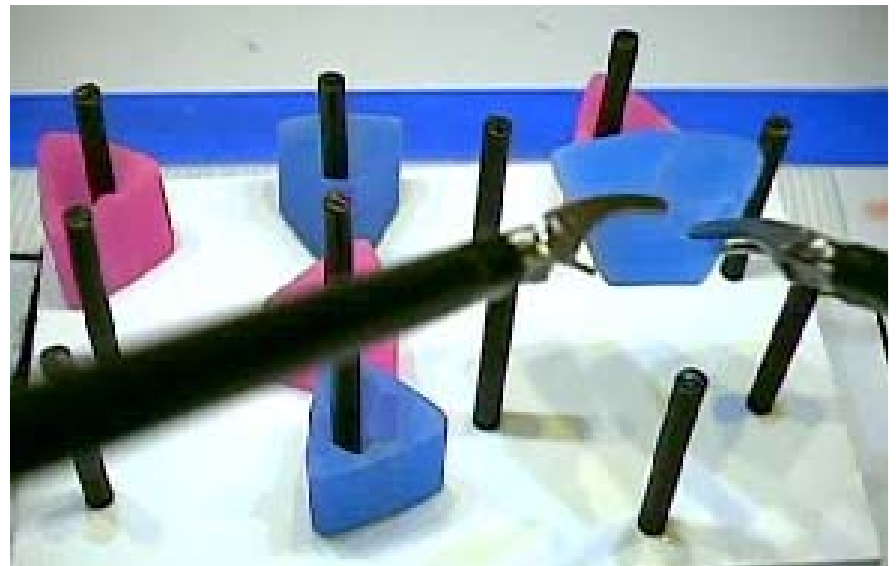
# Evaluation in Observation room

- Faculty observer checklist of SP encounter
- Nurse observer checklist of SP encounter
- SP checklist
- Student self-assessment



# Task trainer stations

- Lap trainers
  - 5 skill stations
- FLS
  - Timed and evaluated
- Virtual reality



# Required resources (Materials & Personnel)

- Participating staff:
  - Department of Surgery
    - ▶ 9 surgeons
    - ▶ 2 chief residents
    - ▶ 1 physician assistant
    - ▶ 1 nurse practitioner
  - Hospital staff
    - ▶ 6 nurses
  - 4 Simulation staff

*With few exceptions, faculty/staff were present for 4-5 hours the day of the simulation. They helped either run the simulations themselves or performed evaluations and debriefing after each simulation.*

# Departmental Support

- Cost of simulation event
  - \$1,000 to Sim Center
    - simulation staff
    - video recording
    - standardized patients
    - Simulators
    - room charges and set-up for 4.5 hours
  - \$13,893.75 = total cost to the Department of Surgery
    - Average of missed revenue for physicians
    - Surgical staff support

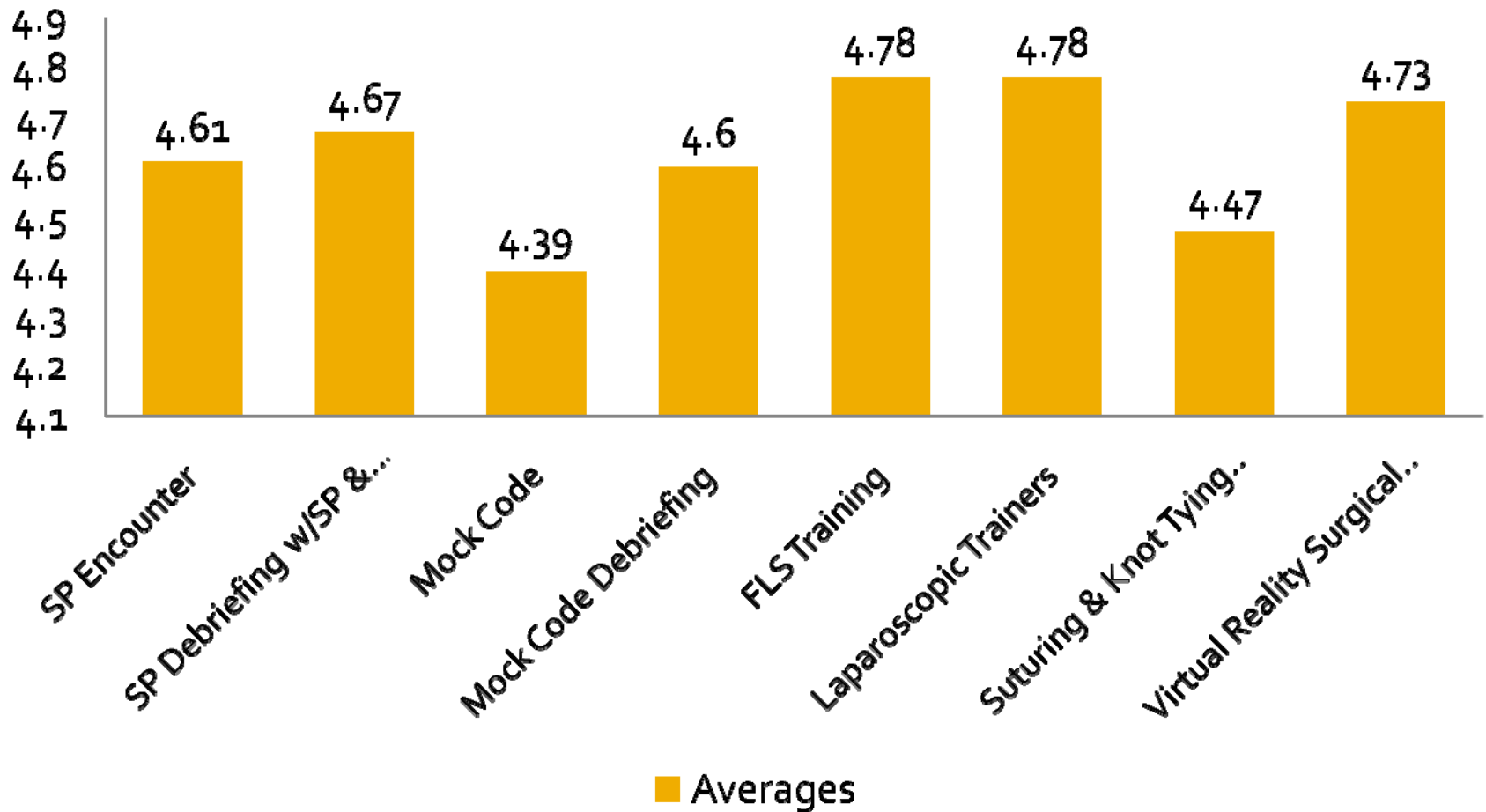
# Required resources (Facilities/Equipment) (con't.)

- **1 Hospital sim room**
- **Crash cart**
- **1 hifi simulator**
- **1 sim technician**
- **1 in-room evaluator**
- **2 SPs**
- **2 nurses**
- **Debriefing room w/projection capabilities**

# Required resources (Facilities/Equipment) (con't.)

- **SP Exam rooms (6)**
- **Observation/control room**
- **2 nurses (at one time)**
  - Placed phone calls
  - Paged interns
  - Interrupted patient visit
- **1 hallway monitor/student assistant**

# Learner feedback



# Learner Comments

## ■ Positive

- Excellent learning opportunity
- Glad we had the opportunity to participate
- Loved the FLS training

## ■ Room for Improvement

- Run code more than once, specifically after debriefing
- Minor problem with monitor syncing w/simulator in code

# Conclusions

- Institutional Goals
  - Expectations
  - Patient-Centered care
  - Re-introduction to clinical medicine
  - Baseline of new interns' skills
  - Face time with attending staff

# Questions?

- Thank you!
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