

Surgical Skills Course

6th Year Surgery II

Curriculum (1 Credit Hour)

Introduction

Continuous quality improvement is an accepted mandate in healthcare services. The delivery of the best, evidence based quality of care ultimately depends on the competences of practitioners as well as the system that supports their work. Medical education has been increasingly called upon to insure that medical students entering postgraduate training the skills and understanding necessary to be able to carry out therapeutic procedures with minimal risk to the patient. However, learning therapeutic procedures in a stressful environment in the wards and OR can lead to errors that can increase morbidity. Patient safety has in the past five years rapidly risen to the top of the healthcare policy agenda, and been incorporated into quality initiatives. Proper training in basic surgical skills like wound suturing, wound care skills cannot be taught in the operation room due to constraints of operative time and prolonging of anesthesia. Endoscopy and laparoscopy have become standards of care and the Medical Student needs to be introduced to these skills early in the training so that he is not unfamiliar with these procedures when he becomes a postgraduate trainee. It is seen that simulated situations and models provide a stress free environment for the student to practice therapeutic skills. Repeated practice on simulators will improve his motor skills. Computerized models provide a controlled environment for emergent scenarios like shock, airway obstruction, trauma etc. With these models, the principles of Teamwork can be inculcated into the Medical Student.

Demand for curricula in patient safety and transfer of safety lessons learned in other risky industries have created new responsibilities for medical educators. Simulation has been used widely for training in other fields like

flying and aerospace navigation. Introduction to medical training has been rapidly popularized in the last decade. The Simulation Laboratory at the Medical College in Al Ahsa, recognizing the need for controlled environment training methods using simulators has been quick to integrate Simulation into surgical skills curriculum

Course Contents

- I. Suturing Skills and wound care
- II. Basics of GI Endoscopy
- III. Basics of Laparoscopy
- IV. Life saving surgical procedures
- V. Shock scenario

At the beginning of each rotation, a Pretest will be given to the students to assess their level of knowledge and skill. This will be followed by a Post Test.

Suturing Skills and wound care

- A. Venue: Simulation Laboratory. Duration: 180 minutes
- B. Learning objectives: At the end of the session, the student will be able to:
 1. Classify traumatic wounds into incised, contused, lacerated and indeterminate
 2. Classify surgically created wounds into clean, clean contaminated etc
 3. Revisit wound healing

4. Understand principles of wound management like Debridement, primary closure, delayed primary closure etc
 5. Understand principles of antibiotic prophylaxis and treatment of wounds
 6. Identify different suture material and needles
 7. Perform different forms of suturing like simple, mattress, subcuticular
 8. Understand principles of local anesthesia infiltration
- C. Course Contents: The course will consist of PowerPoint presentations (45 Min), Demonstrations (45 Min) and hands on practice sessions with mentoring (90 Min)
- D. Course Material: Simulated wound care and suturing mannikin
- E. Assessment: By OSATS (Objective Structured Assessment of Technical Skills). A checklist of actions to be performed by the student with marks awarded for each step.

Basics of GI Endoscopy

- A. Venue: Simulation Laboratory Duration: 180 minutes
- B. Learning objectives: At the end of the sessions the student will be able to
1. Understand the principles of fibreoptics and digital imaging
 2. Identify different parts of a flexible upper and lower GI endoscope
 3. Understand the principles of disinfection of endoscopes
 4. Enumerate indications for upper and lower GI Endoscopy
 5. Position the patient and sedate him
 6. Able to successfully pass the endoscope into the esophagus or the colon without injury
 7. Able to identify main anatomical landmarks

- F. Course contents: The course will consist of PowerPoint presentations (45 Min), Demonstrations (45 Min) and hands on practice sessions with mentoring (90 Min)
- C. Course Material: Immersion GI Simulator
- D. Assessment: By OSATS (Objective Structured Assessment of Technical Skills). A checklist of actions to be performed by the student with marks awarded for each step.

Basics of Laparoscopy

- A. Venue: Simulation Laboratory Duration: 180 minutes
- B. Learning objectives: At the end of the sessions the student will be able to
 1. Understand the principles of pneumoperitoneum and trocar insertion
 2. Perform camera navigation maneuvers
 3. Perform successfully tasks enabling hand eye coordination
 4. Understand laparoscopic anatomy
 5. Course contents: The course will consist of PowerPoint presentations (45 Min), Demonstrations (45 Min) and hands on practice sessions with mentoring (90 Min)
- C. Course Material: Manual and Computerized Lap Simulators
- D. Assessment: By OSATS (Objective Structured Assessment of Technical Skills). A checklist of actions to be performed by the student with marks awarded for each step.

Life Saving Procedures

- A. Venue: Simulation Laboratory Duration: 180 minutes
- B. Learning objectives: At the end of the sessions the student will be able to
 - 1. Understand the Indications for these procedures
 - 2. Revisit steps of life saving procedures taught in the 5th year
 - 3. Perform successfully intubation, cricothyroidotomy, chest tube insertion etc.
 - 4. Course contents: The course will consist of PowerPoint presentations (45 Min), Demonstrations (45 Min) and hands on practice sessions with mentoring (90 Min)
- C. Course Material: Trauma man, Intubation manikin, Central vein manikin Cutdown manikin
- D. Assessment: By OSATS (Objective Structured Assessment of Technical Skills). A checklist of actions to be performed by the student with marks awarded for each step.

Shock scenario

- A. Venue: Simulation Laboratory Duration: 180 minutes
- B. Learning objectives: At the end of the sessions the student will be able to
 - 1. Work as a part of a resuscitation team
 - 2. Recognize priorities in treating traumatic shock
 - 3. Perform procedures in a standardized sequence for resuscitation
- C. Course contents: The course will consist of PowerPoint presentations (45 Min), Demonstrations (45 Min) and hands on practice sessions with mentoring (90 Min)

D. Course Material: SimMan Simulator with scenario

E. Assessment: By OSATS (Objective Structured Assessment of Technical Skills).

A checklist of actions to be performed by the student with marks awarded for each step.