

Patient Safety Course for OR Nurses



Description

There have been frequent reports in the media about safety in the operating room, for both patients and OR staff members. The fact of the matter is that, on an annual basis, thousands of serious medical incidents take place. Half of those concern surgeries and more than a third of these incidents take place in the operation room. Specific requirements as regards the knowledge and work of the professionals concerned, such as physicians and OR nurses, are necessary.

Trainers from the Education & Research department at the Catharina Hospital developed a course for surgery assistants, with "Safety in technology dependent procedures" as the main theme. The course consists of two half-day parts. Besides enhancing knowledge about laparoscopic surgery, electro-surgery, and the use of equipment and instruments, the course also contains a major hands-on skill component.

Objectives

- ◆ Gain knowledge on how to enhance patient safety and safety awareness in the laparoscopic operating room.
- ◆ Hands-on training of basic laparoscopic skills allows participants to briefly "step into the surgeon's shoes". This raises the consciousness of the psychomotor challenges of laparoscopic surgery in handling laparoscopic instruments and makes it easier to anticipate the surgeon's needs and surgical process.

Specialties

All surgical specialties involving laparoscopic procedures.

Target Audience

Operating room nurses; scrub nurses as well as circulating nurses.

Assumptions

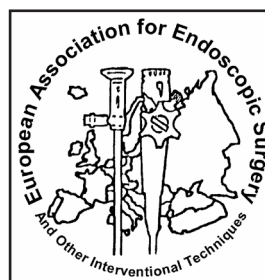
Some experience with assisting in laparoscopic surgery.

Authors

This course was developed by Prof.dr. Jack Jakimowicz, dr. Angelique Dierick, and Gert de Vroom of the Education & Research department of the Catharina Hospital Eindhoven.

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Accreditation



This training has been accredited by the European Association for Endoscopic Surgery (EAES), and concludes with a "scenario-based" test. Participants receive an official certificate after finishing the course.

Task Description and Curriculum Steps

This course consists of lectures, expert discussions, and hands-on practice on surgical simulation tools.

1. Theory

In the lectures and expert discussions the following are some of the topics discussed:

- ◆ The pros and cons of laparoscopic surgery
- ◆ Ergonomics and lay-out of the laparoscopic operating room
- ◆ Ergonomic and safe handling of laparoscopic instruments and equipment
- ◆ How to safely use energized instruments (electro-surgery / LigaSure / ultrasonic dissection)
- ◆ Improving safety by improving non-technical skills (checklist system, team communication)

2. Hands-on training

In this course OR nurses get a first hand experience of the challenges of laparoscopic surgery. Using different simulation systems for laparoscopic surgery, participants repetitively practice various basic laparoscopic skills (e.g. camera navigation, translocation, bimanual manipulation of tissue, stapling) and also various procedural tasks, such as for laparoscopic cholecystectomy. For each task or skill the best fitted simulation modality is selected. Virtual reality simulation tools, box trainers, and augmented reality simulation tools can be utilized in the course.

A variation of simulation modalities enlarges the transferability of skills and keeps repetitive training of basic skills interesting. Some of the simulation tools provide performance scores after each completed task. These scores are used to monitor the participants' progress during the training and assess the skills level at the end of the course.

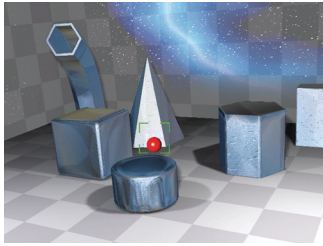
In this course hands-on training is provided on a variety of simulation tools, with the LAP Mentor™ simulator as one of them. The 'Laparoscopic basic skills' and 'Essential skills' modules on the LAP Mentor simulator provide a variety of exercises to practice different basic skills.

Instructions:

- ◆ Before each training task, participants should familiarise themselves properly with the objectives of the exercise and how to perform it well. Preferably this is done by an expert instructor.
- ◆ Repetitive practice of a broad variety of exercises to train the different skills is recommended.



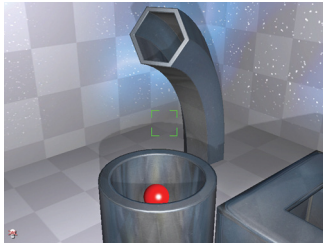
The exercises available in the 'Laparoscopic basic skills' module



Basic Skills Task 1 - Camera Manipulation 0°

Task Description:

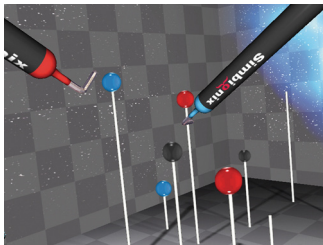
Using a 0° camera, locate and snap photographs of ten balls, in an abstract environment.



Basic Skills Task 2 - Camera Manipulation 30°

Task Description:

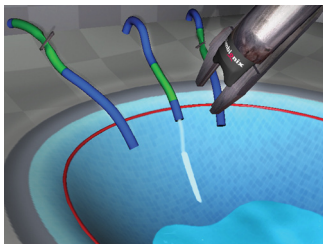
Using a 30° angled camera, locate and snap photographs of ten balls, in an abstract environment.



Basic Skills Task 3 - Eye-Hand Coordination

Task Description:

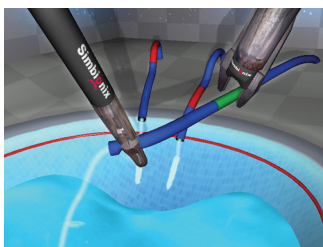
Locate each flashing ball and touch it with the tool of the appropriate color.



Basic Skills Task 4 - Clip Application

Task Description:

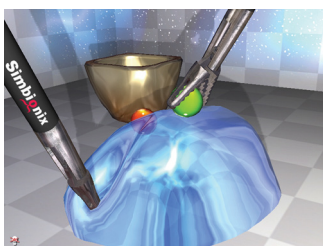
Clip leaking ducts within a specified segment, before the pool fills.



Basic Skills Task 5 - Clipping and Grasping

Task Description:

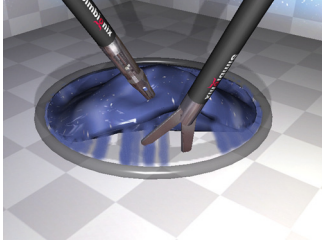
Safely grasp and clip leaking ducts within a specified segment, before the pool fills.



Basic Skills Task 6 - Two-Handed Maneuvers

Task Description:

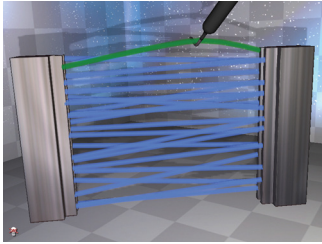
Use two graspers to locate the balls within the jelly mass and then place them in the endobag.



Basic Skills Task 7 - Cutting

Task Description:

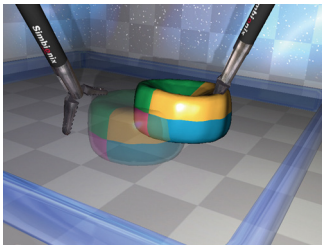
Safely cut and separate a circular form using one tool to retract, and the scissors to cut accurately.



Basic Skills Task 8 – Electrocautery

Task Description:

Use a hook to burn the highlighted band, while retracting other bands with an accessory instrument.

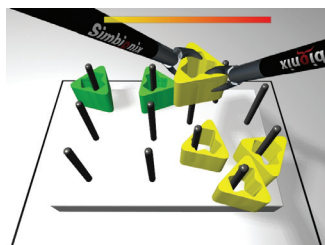


Basic Skills Task 9 - Translocation of Objects

Task Description:

Manipulate object with two graspers and, with a minimum number of translocations, place the object into the orientation of the matching transparent object.

The exercises available in the 'Essential skills' module



Essential Skills Task 1 – Peg Transfer

Task Description:

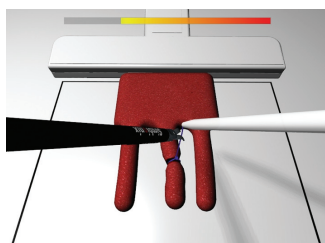
Lift objects from the pegboard with one hand, transfer to the other hand and place them over the pegs on the other pegboard. Then reverse the procedure.



Essential Skills Task 2 - Pattern Cutting (Training Gauze)

Task Description:

Cut out a circle from a square piece of gauze suspended between clips.

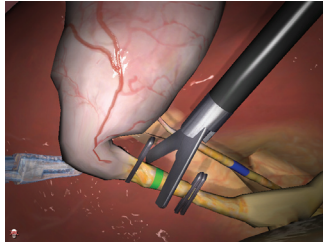


Essential Skills Task 3 – Placement of Ligating Loop

Task Description:

Place the ligating loop around a foam appendage on the provided mark as accurately as possible.

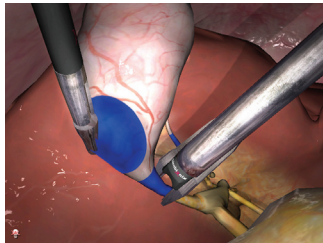
The exercises available in the 'Procedural Tasks - LapChole' and 'Full Procedures - Lap Chole' modules



Procedural Task 1 - Clipping and Cutting - Retracted Gallbladder

Task Description:

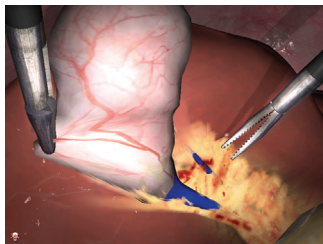
Gallbladder already exposed with Hartmann's pouch retracted by a static tool. Clip the cystic artery and duct within a specified area and then cut safely between the clips.



Procedural Task 2 - Clipping and Cutting Using Two Hands

Task Description:

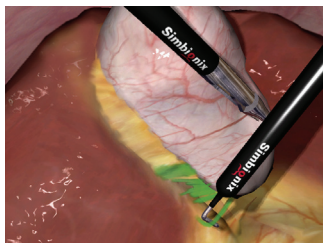
With the gallbladder already exposed use a blunt grasper to retract Hartmann's pouch. Once correct retraction is achieved, clip the cystic artery and duct within a specified area and then cut safely between the clips.



Procedural Task 3 - Dissection - Achieving the 'Critical View'

Task Description:

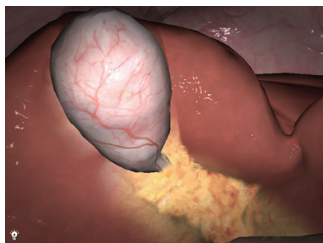
Grasp the infundibulum of the gallbladder, retract away from the liver, and dissect the peritoneal coverings to expose the cystic duct and artery.



Procedural Task 4 - Gallbladder Separation

Task Description:

Separate the gallbladder from the liver bed with appropriate retraction and dissection of the peritoneal adhesions to the liver bed. Continue dissection until the gallbladder is free from the liver.

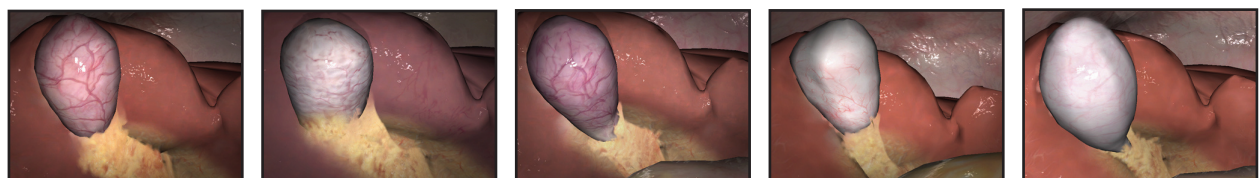


Cases 1-6 - Laparoscopic Cholecystectomy

Task Description:

Practice a complete cholecystectomy procedure.

18 anatomical variations of easy to difficult anatomical variations to the cystic duct and positions of arteries, which may otherwise not be experienced during a training period. The module enables free-style training using different techniques, alternative approaches, and acquisition of the skill and knowledge necessary to safely cope with possible complications.



Acknowledgements



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Disclaimer

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