Laparoscopic Sterilization Simulation

Preparation

Simulators to be used:
1. Laparoscopic box trainers will be used.
2. Laparoscopic Maryland graspers, endoshears, locking grasper, Fallope ring, or Filschie® clips, or a cautery device like Kleppinger bipolar device
3. Premade uterus (from the Laparoscopic ovarian cystectomy simulation) with regular ovaries

Materials:

a. Laparoscopic box trainer
b. Maryland grasper, endoshears, locking grasper, Fallope ring, or Filschie® clips, or a cautery device like Kleppinger bipolar device
c. Preconstructed uterus (from Laparoscopic ovarian cystectomy simulation)
d. Suture and alligator clamp/ notebook clip
e. Clown balloons – cut in half and one end cut to represent fimbriae
f. 5-inch balloons
g. Cotton
h. Kelly® type clamps
i. Gel hand sanitizer
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Figures

Figure 1. Simulated uterus, tubes and bilateral ovaries

Figure 2: Simulated uterus, ovaries and right ectopic pregnancy
To construct noncystic ovaries:
- Place a cotton ball into a 5 inch balloon and knot the end

Securing the uterus with the attached ovaries and tubes into the laparoscopic box trainer

- Place a chux pad in the box. Attach an alligator clip or paper binder to the back of the box with a string or suture.
- The uterus will be secured in the box using only alligator clips, make sure it is fairly secure using the two clips at the top of the box on at the top of the uterus and the string added to the “uterine cervix”. Some movement of the uterus is expected and desired.
- Two accessory ports will be used to complete the task.

Figure 3: Securing the uterus into the Laparoscopic Box Trainer
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Sequence of Lab

1. The laparoscopic box trainers will be set up as described in the preparation portion of the simulation exercise.
2. The learner will describe the process of a time out
3. The learner will describe the proper positioning of a patient
4. The learner will describe the proper set up of the camera equipment, tubing, and energy sources
5. The learner will then call for and properly identify the instruments used in the simulation. Per the simulation exercise- Maryland graspers, endoshears, a locking grasper, and to perform the occlusion of the fallopian tube either a Fallope ring, or Filschie clips, or a bipolar cautery device like Kleppinger device
6. The learner may also call for what other instruments they may use in the actual operating room.
7. The learner will describe the method upon he/she would gain access to the abdominal cavity
8. The learner discusses the method that he/she would choose to obtain appropriate pneumoperitoneum via Veress needle, Hassan method, direct trocar insertion, or left upper quadrant insertion
9. The learner identifies and describes key surgical anatomy
10. The learner then describes safe secondary trocar placement as needed
11. The learner identifies and evaluates the fallopian tubes using the Maryland graspers and a locking grasper.
12. The learner grasps, positions, and orients the fallopian tube
13. Performs an occlusion of the fallopian tube using his/her method/instrument of choice. If a Kleppinger device is used, it should not be connected up to electricity. The learner is to simulate its use.
14. The learner will identify/discuss proper technique to utilize to avoid injury to the ovary

Figure 4: Attached uterus with ovaries and fallopian tubes
15. The learner describes securing hemostasis
16. The learner then describes how he/she would confirm hemostasis
17. The learner describes or performs irrigating and removing of blood and/or fluid
18. The learner describes proper removal of trocars under direct visualization
19. The learner describes the proper closure of the fascial defect after trocar removal
20. The learner describes the proper closure of the skin incisions

Competency Assessment

The resident will identify, select, and correctly use the appropriate laparoscopic instruments. The resident should be able to discuss how to control bleeding if encountered, the pros and cons of performing sterilization via different methods. The resident will be able to complete a laparoscopic sterilization.