

Knowledge, Attitude, and Practices Regarding Laparoscopic and Robotic Surgery Among Medical Students & Residents in Lebanon

Dear Medical Student ,

The following is a study assessing Lebanese Medical student's knowledge, attitude and practices towards the subject of Laparoscopic and robotic surgery in Lebanon. After obtaining your consent, you will be asked a series of questions that aim to assess your viewpoint of these types of surgery at the moment in Lebanon.

We assure you that your answers are completely anonymous and cannot be traced back to you in any way.

The collected data from this questionnaire will be used for scientific research purposes only.

* Indicates required question

1. Do we have your consent to proceed *

Mark only one oval.

☐ Yes

☐ No

Section 1: Demographics

2. What is your date of birth? *

Example: January 7, 2019

3. What is your gender ? *

Mark only one oval.

☐ Male

☐ Female

4. What is your current year of medical school ? *

Mark only one oval.

☐ MED I

☐ MED II

☐ MED III

☐ MED IV

5. Type of Medical School *

Mark only one oval.

☐ Public

☐ Private

6. Intended future specialty *

Mark only one oval.

☐ Medical subspecialty (e.g: Cardiology, neurology etc)

☐ Surgical Subspecialty (e.g: Urology, orthopedic surgery etc)

7. Do you consider yourself a tech-savy person ? *

Mark only one oval.

☐ Yes

☐ No

Section 2: Knowledge on laparoscopic surgery

Please select the single correct answer for each question

8. Which gas is commonly used to insufflate the abdomen during laparoscopic surgery? *

Mark only one oval.

☐ Oxygen

☐ Carbon dioxide

☐ Nitrogen

☐ Helium

9. What is the primary purpose of a trocar in laparoscopic surgery? *

Mark only one oval.

☐ To cut tissue during dissection

☐ To inflate the abdominal cavity with gas

☐ To provide access ports for inserting surgical instruments

☐ To suture the internal organs

10. What type of image is typically displayed to the surgical team during laparoscopic procedures? *

Mark only one oval.

- ☐ A 2D magnified, high-definition video image on a monitor
- ☐ A 3D projection of the anatomy in view
- ☐ Vital Signs of the patient for monitoring

11. A common complication specifically related to laparoscopic surgery is *

Mark only one oval.

- ☐ Increased bleeding
- ☐ Deep vein thrombosis
- ☐ Trocar site hernia
- ☐ Higher infection rates

12. The term "pneumoperitoneum" during laparoscopic surgery refers to *

Mark only one oval.

- ☐ Air in the lungs
- ☐ Gas insufflation of the abdominal cavity
- ☐ Gas in the thoracic cavity
- ☐ Liquid in the abdominal cavity

13. Compared to open surgery, laparoscopic surgery generally results in: *

Mark only one oval.

- ☐ Longer hospital stays and more blood loss
- ☐ Larger incisions and higher infection risk
- ☐ Shorter recovery times and less postoperative pain
- ☐ Increased risk of nerve damage

14. Visualization during laparoscopic surgery is usually obtained by *

Mark only one oval.

- ☐ Ultrasonography
- ☐ Fluoroscopy
- ☐ Direct eye observation
- ☐ A laparoscopic camera

15. Which core skill is most critical for surgeons performing laparoscopic surgery? *

Mark only one oval.

- ☐ Manual stitching
- ☐ Hand-eye coordination
- ☐ Physical strength
- ☐ Suture tying speed

16. What tool is often used for laparoscopic surgical training in medical schools *

Mark only one oval.

- ☐ Pelvi trainer dry lab
- ☐ Cadavers
- ☐ Direct real patient training
- ☐ Computer gaming

17. Check the correct answer *

Mark only one oval per row.

	True	False
To get certified in Laparoscopy you need seek learning opportunities in foreign universities abroad(Europe,USA,etc)	☐	☐
In Lebanon, laparoscopic surgery training is mostly unofficial and peer-led in enabled hospitals.	☐	☐

Untitled Section

18. What is the primary advantage of robotic surgery over traditional laparoscopic surgery? *

Mark only one oval.

- ☐ Lower cost
- ☐ Greater range of motion and precision
- ☐ Easier sterilization
- ☐ Reduced length of instruments

19. Robotic surgery reduces hand tremors through a feature known as *

Mark only one oval.

- ☐ Voice activation
- ☐ Remote control
- ☐ Motion scaling
- ☐ Automatic cauterization

20. From the list below, which are robotic surgical systems that are currently used in Lebanon *

Mark only one oval.

- ☐ Hugo RAS System
- ☐ Zeus Robotic System
- ☐ Senhance Surgical System
- ☐ Hugo RAS System & Zeus Robotic System
- ☐ Versius CMR
- ☐ Davinci Surgical System
- ☐ Versius CMR & Davinci Surgical System

21. Compared to laparoscopic surgery, robotic surgery generally requires *

Mark only one oval.

- ☐ More physical effort from surgeons
- ☐ Less physical effort from surgeons
- ☐ Larger incisions
- ☐ Longer hospital stays

22. A unique component found in robotic surgery and not in laparoscopic surgery is *

Mark only one oval.

- ☐ Laparoscope
- ☐ Pneumoperitoneum
- ☐ Surgeon console
- ☐ Trocars

23. Robotic surgery was initially developed to improve outcomes primarily in which specialty *

Mark only one oval.

- ☐ Cardiac surgery
- ☐ Orthopedic surgery
- ☐ Urological surgery
- ☐ Neurosurgery

24. Please indicate whether the following statements about training in laparoscopic/robotic surgery are true or false. *

Mark only one oval per row.

	True	False
Robotic surgery allows surgeons to perform operations remotely	☐	☐
Robotic surgery generally provides enhanced 3D visualization for surgeons compared to laparoscopic surgery	☐	☐
Robotic surgery generally results in smaller incisions and fewer complications compared to open surgery	☐	☐
Robotic surgery can improve patient outcomes by reducing hospital stay and postoperative pain.	☐	☐

25. Please indicate whether the following statements about training in laparoscopic/robotic surgery are true or false. *

Mark only one oval per row.

	True	False
Training to proficiency in robotic surgery typically takes longer than training in laparoscopic surgery	☐	☐
In Lebanon, robotic surgery training is mostly unofficial and peer-led in enabled hospitals.	☐	☐
Robotic surgery is generally more expensive than laparoscopic surgery	☐	☐

Sources of Knowledge

26. From where have you primarily obtained your knowledge about laparoscopic and robotic surgery *

Check all that apply.

- ☐ Internet
- ☐ Medical school curriculum
- ☐ Workshops/Seminars
- ☐ Medical professionals
- ☐ Non-medical individuals
- ☐ Peers/Colleagues

Practices

27. Have you observed a laparoscopic surgery? *

Mark only one oval.

- ☐ Yes
- ☐ No

28. Have you observed a robotic surgery? *

Mark only one oval.

- ☐ Yes
- ☐ No

29. Have you attended workshops/seminars specifically about robotic surgery? *

Mark only one oval.

- ☐ Yes
- ☐ No

30. Have you personally interacted with robotic surgical systems (e.g., simulators) *

Mark only one oval.

☐ Yes

☐ No

31. Would you actively seek opportunities to participate in laparoscopic surgical training? *

Mark only one oval.

☐ Yes

☐ No

32. Would you actively seek opportunities to participate in robotic surgical training? *

Mark only one oval.

☐ Yes

☐ No

Barriers ,Limitations and future perspectives

33. What are the main barriers preventing broader implementation of robotic surgery in Lebanon? *

Check all that apply.

☐ High cost

☐ Lack of awareness among patients

☐ Insufficient training for surgeons

☐ Limited access to robotic technology

☐ Cultural acceptance issues

☐ Institutional resistance

34. Should the current curriculum include training on laparoscopy skills ? *

Mark only one oval.

☐ Yes

☐ No

35. Should the current curriculum include training workshops on robotic surgery *

Mark only one oval.

☐ Yes

☐ No

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