

First Semester Basics of Surgery

PRINCIPLES OF LAPAROSCOPIC SURGERY



Sawa University

College of health and medical techniques

Department of Anesthesia

Stage: Second

جامعة ساوة الاهلية

كلية التقنيات الصحية والطبية

قسم تقنيات التخدير

المرحلة: الثانية

محاضرة رقم: 8

Lecture No. 8

نظري

Theoretical

استاذ المادة : م.م. رباب سمير كاظم

LAPAROSCOPE

Laparoscopy (minimally invasive surgery)
can be defined as:

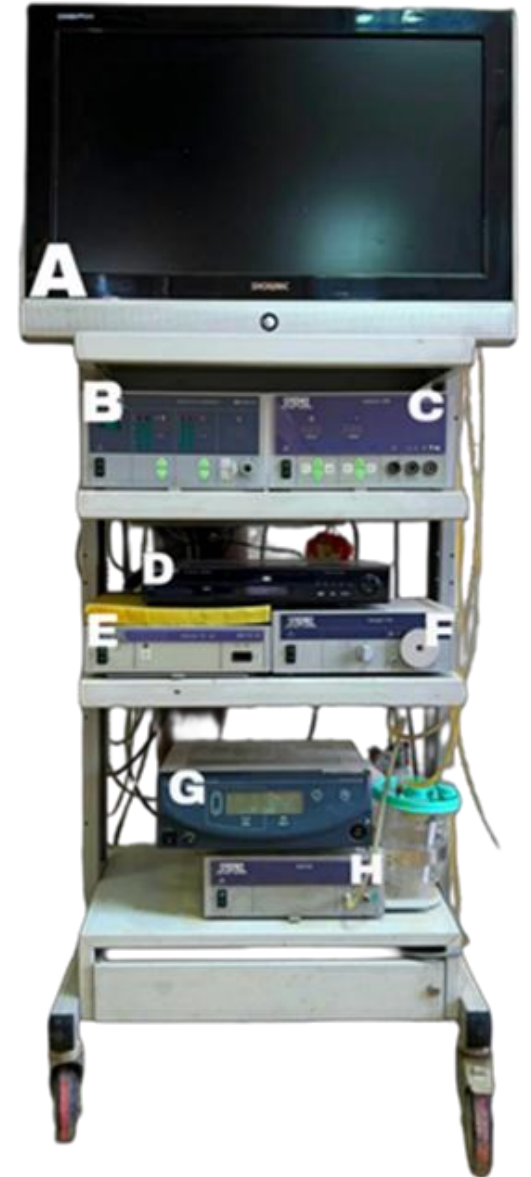
- **Is a minimally invasive diagnostic and surgical method for examining and performing surgical procedures in the peritoneal cavity**

A surgical technique in which operations are performed Abdominal surgery through small incisions (usually 0.5-1.5 cm)



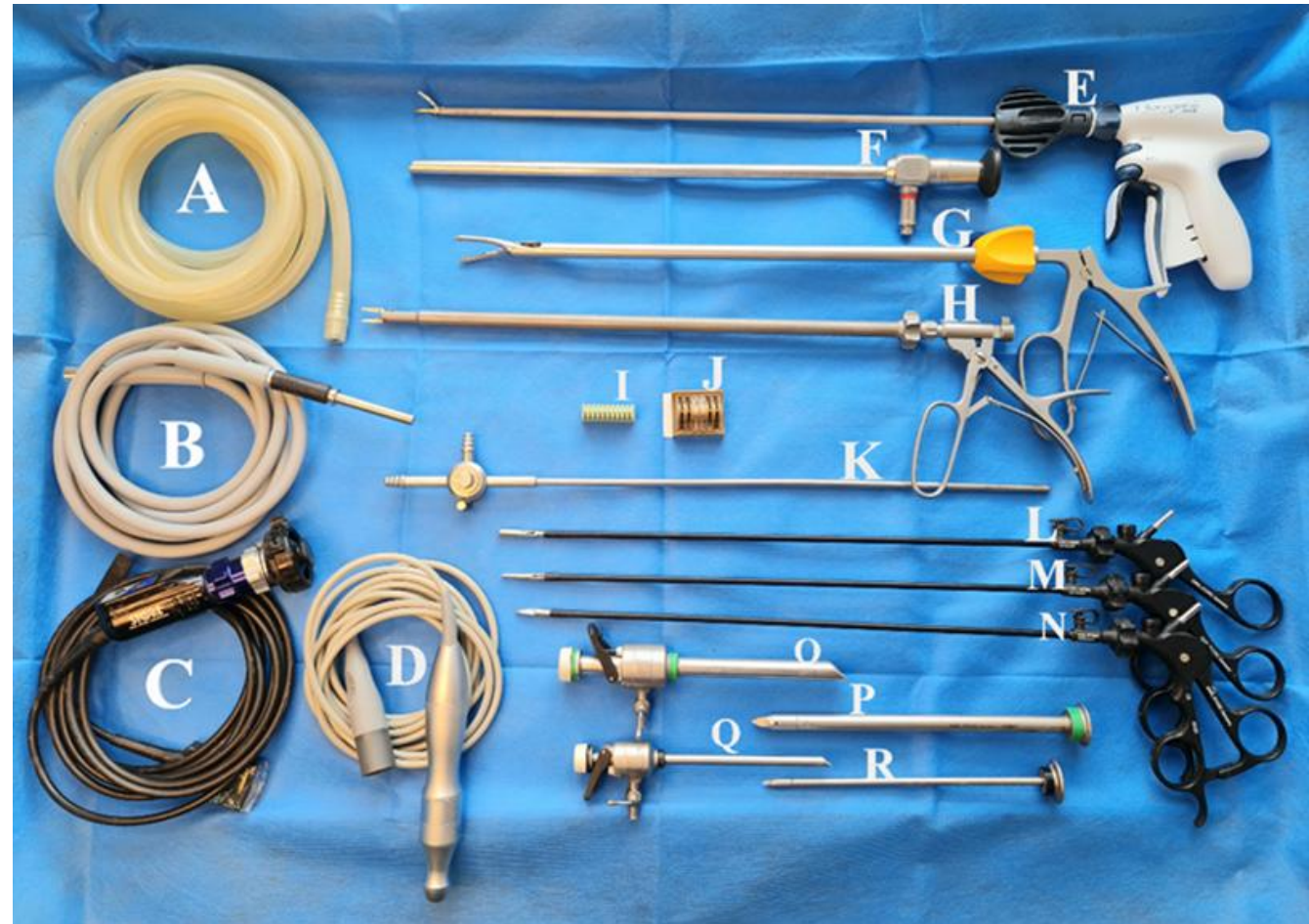
LAPAROSCOPE DEVICE

- A.** Monitor,
- B.** Insufflator,
- C.** Electrocautery,
- D.** D.V.D. recorder,
- E.** Camera unit,
- F.** Light source,
- H.** Suction and Irrigation machine.



LAPAROSCOPE INSTRUMENT

1. Insufflation tube. (A)
2. Light cable.(B)
3. Camera. (C)
4. Telescope. (F)
5. Clip applicator. (G,H)
6. Clips. (J, I)
7. Suction cannula. (K)
8. Trocars and cannulas (O,P,Q,R)

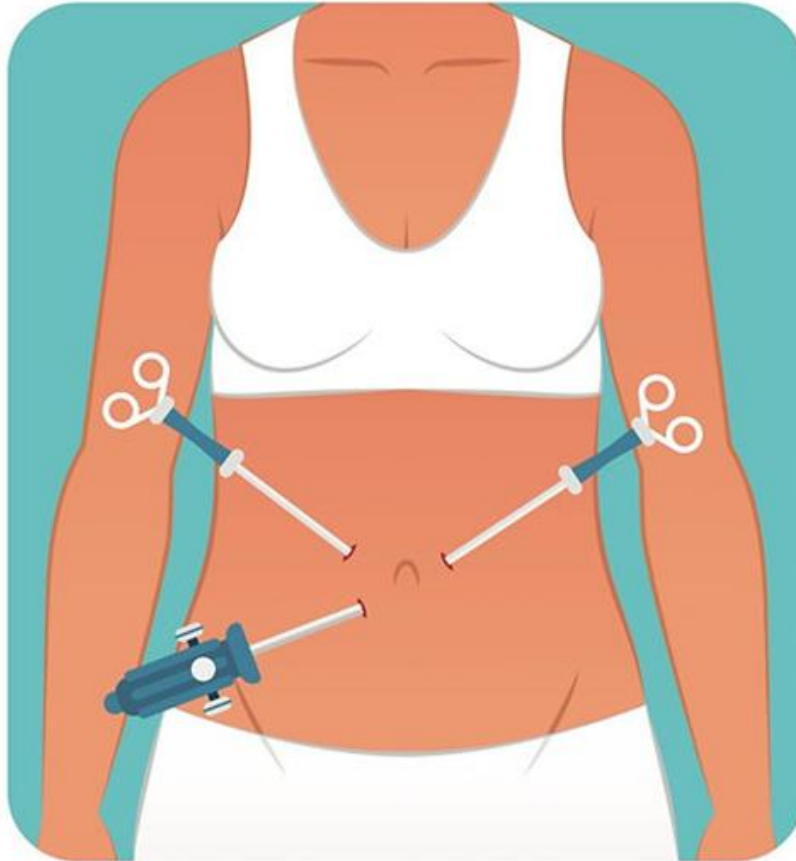


Laparoscopic surgery

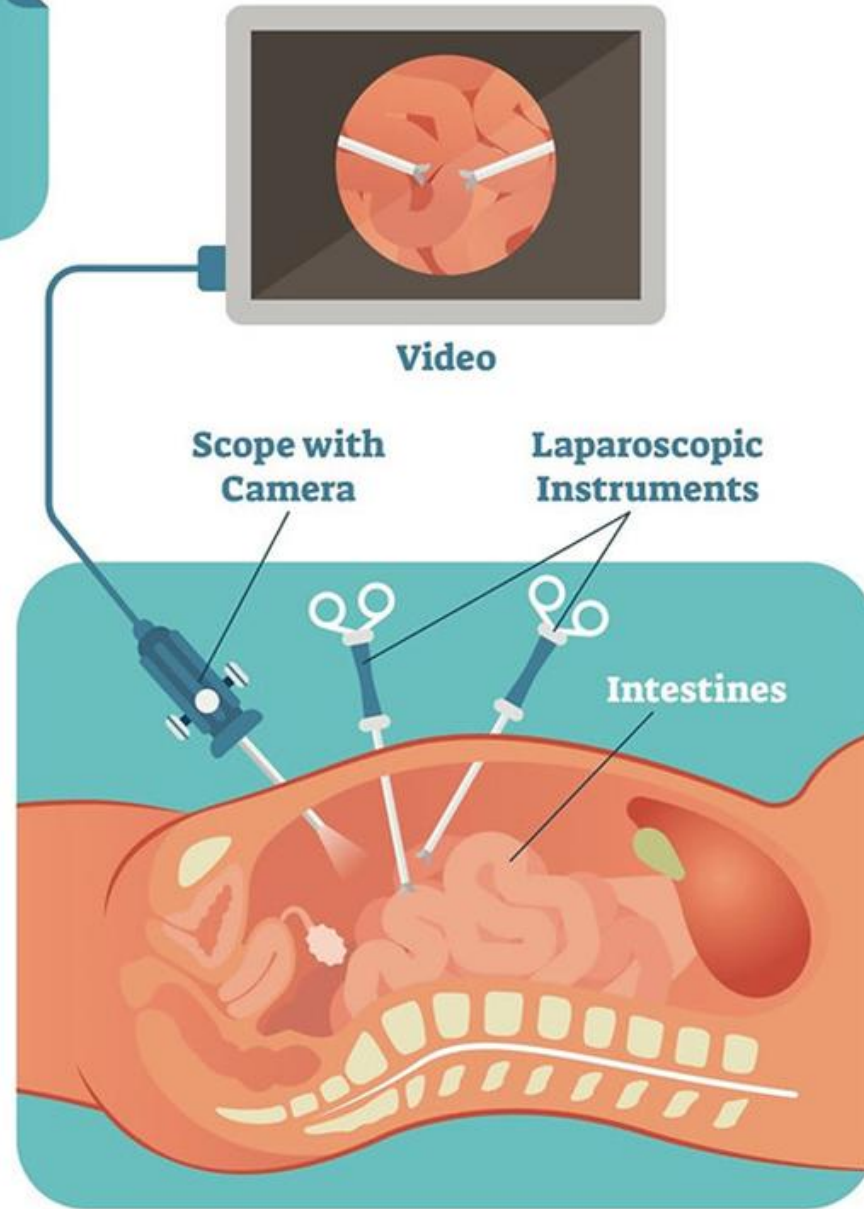
- **Multiple small incisions are made to place a telescope**
- the small instruments into the abdomen to perform the same operation that surgeons can do through a large incision
- **Surgeons uses gases to inflate to the abdomen** so they can see the stomach and intestine
- **Gain visual access to the operating site Via scopes** and watch operating via video screen



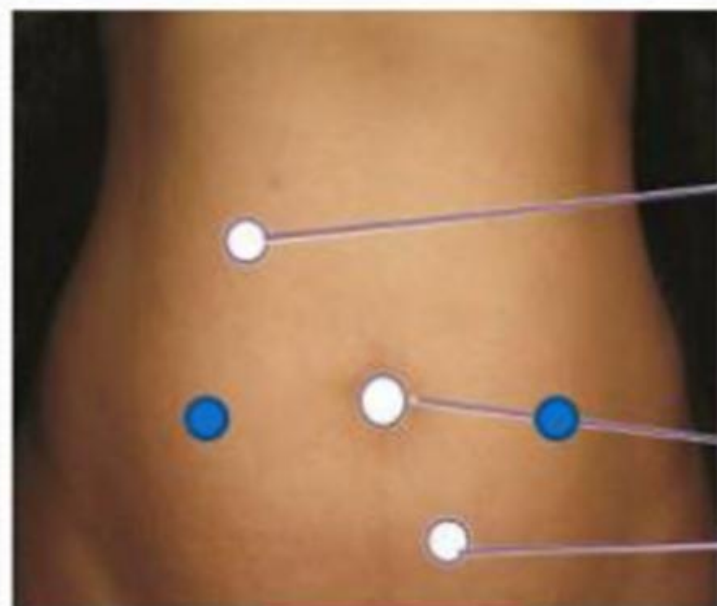
LAPAROSCOPIC SURGERY



Patient Front



Patient Side View

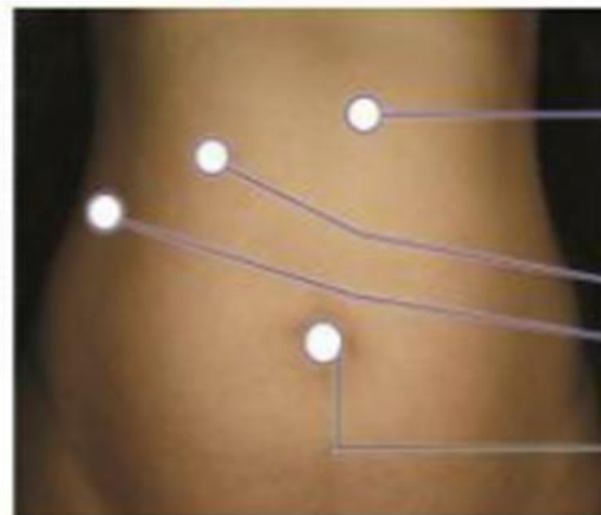


Instrument port
(5mm)

Port for camera (10mm)

Port position for
appendectomy (5mm)

- Port position for appendectomy



Epigastric port should be
left to falciform if 30°
telescope is used

2nd instrument port

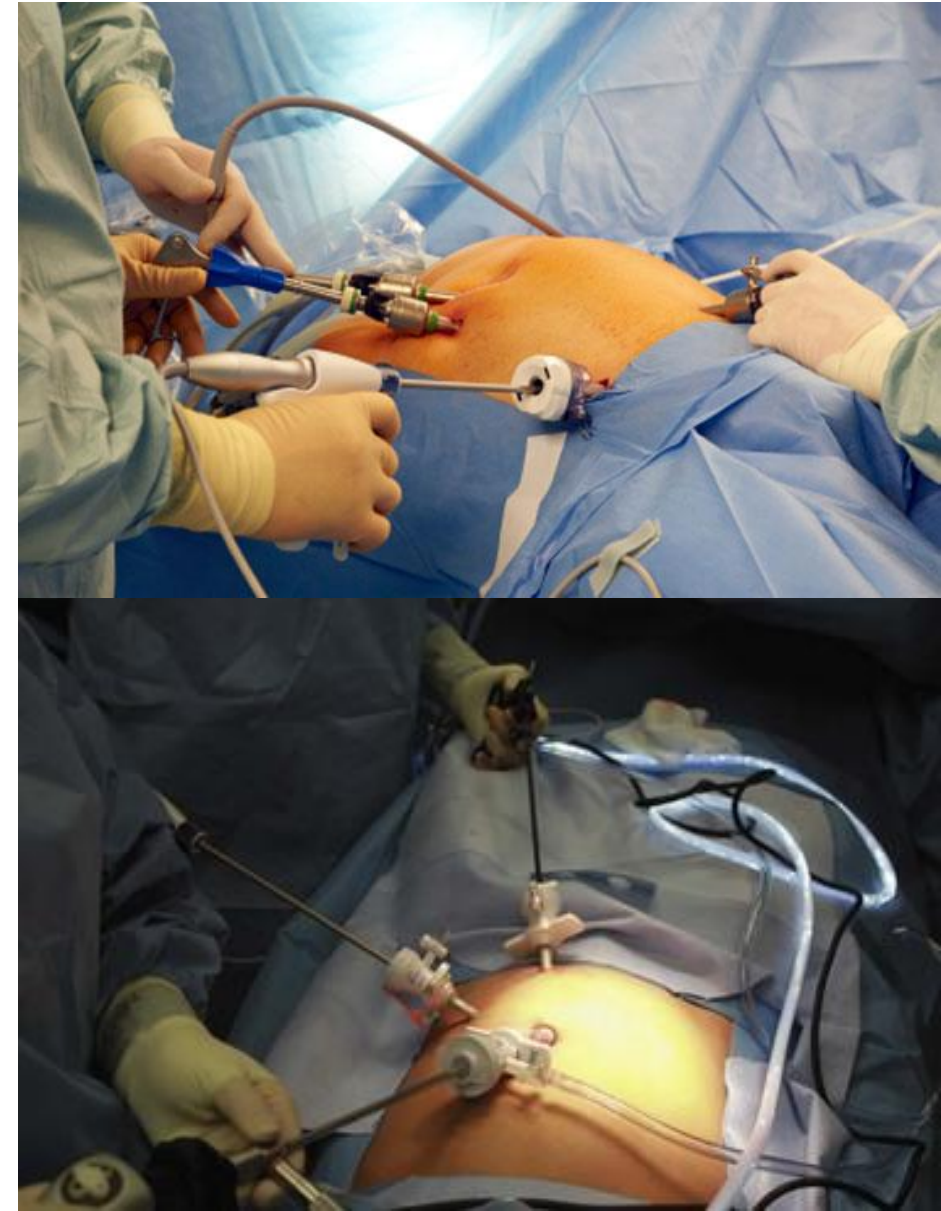
3rd instrument port

Port for camera

- Port position for cholecystectomy

Pneumoperitoneum

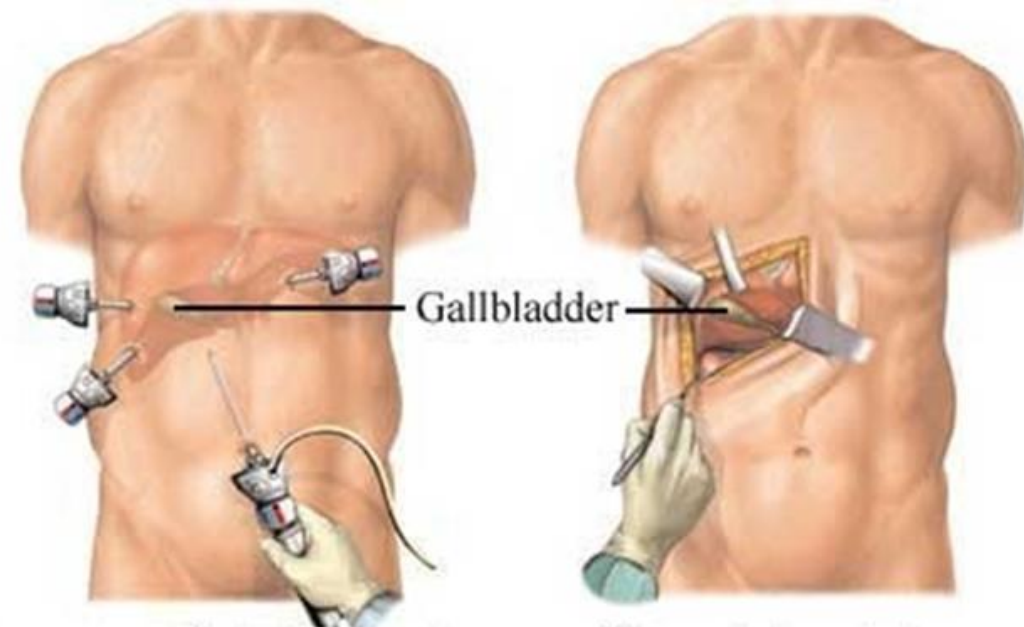
- A working space is most frequently facilitated by the creation of a pneumoperitoneum with a gas.
- ❖ The best gas for insufflation is carbon dioxide (CO₂) because it is:
 - harmless, affordable, colorless, expelled by the lungs, and extremely soluble in water.



Advantages of laparoscopic surgery

In comparison to Laparotomy:

- improved visualization of the organs and it's blood supply.
- Smaller incisions reduce secondary risks of wound infection,
- reduce postoperative pain,
- allow for an earlier return to normal day life
- but it still requires more training and practice



Laparoscopic cholecystectomy

Open cholecystectomy

For the patients:

- ❖ smaller incisions = less pain
- ❖ Less handling of intestine result in little or no disturbance of normal function
- ❖ Earlier healing = earlier return to more strenuous activities.

For the hospital:

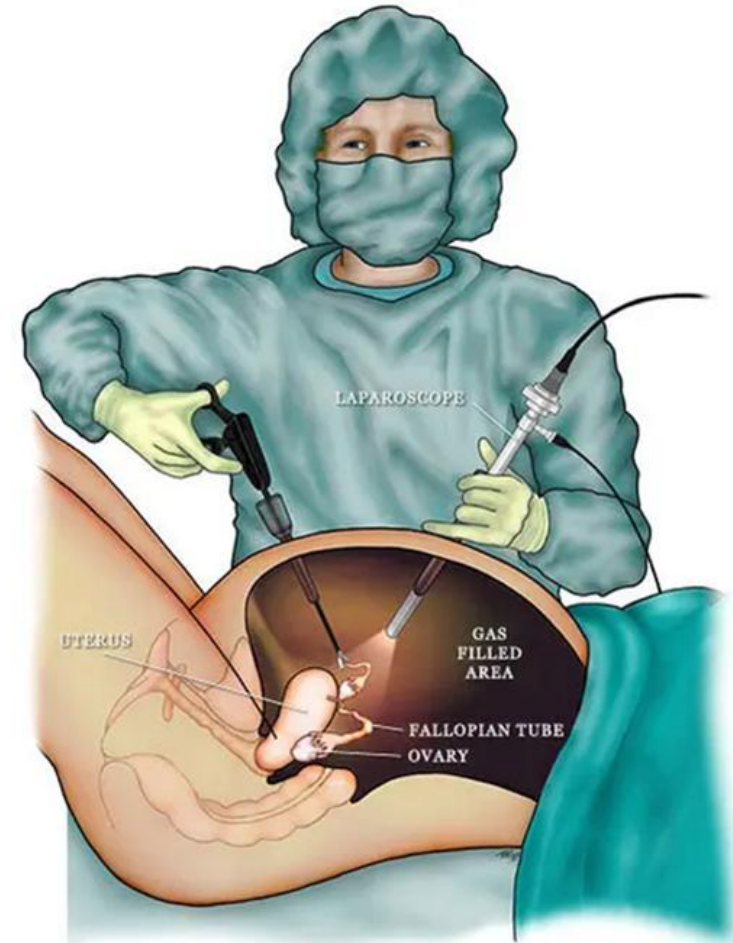
- ❖ Reduce overall cost by shorten Hospital stay, for example hernia repairs reduced from 7 to 3 days

For the surgeon:

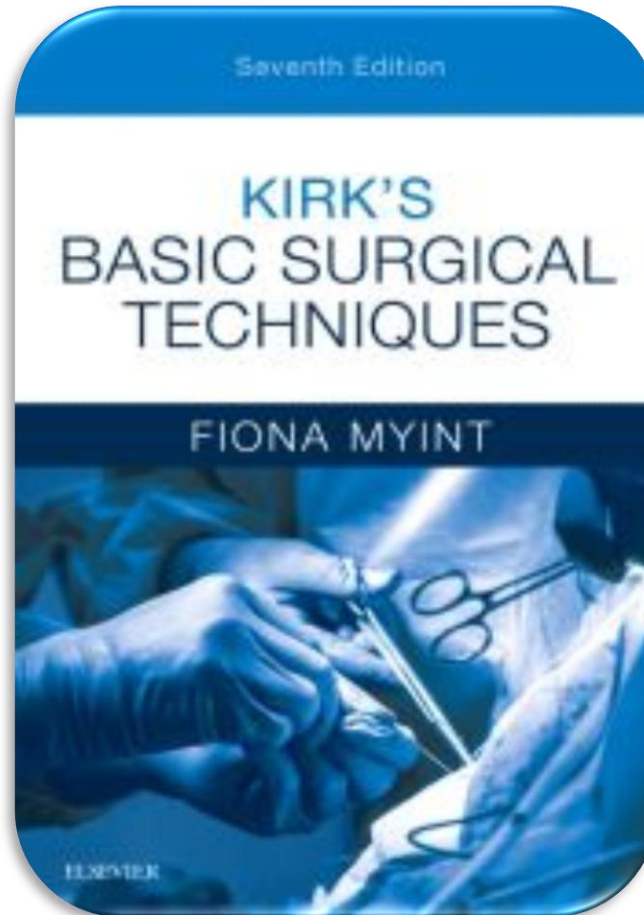
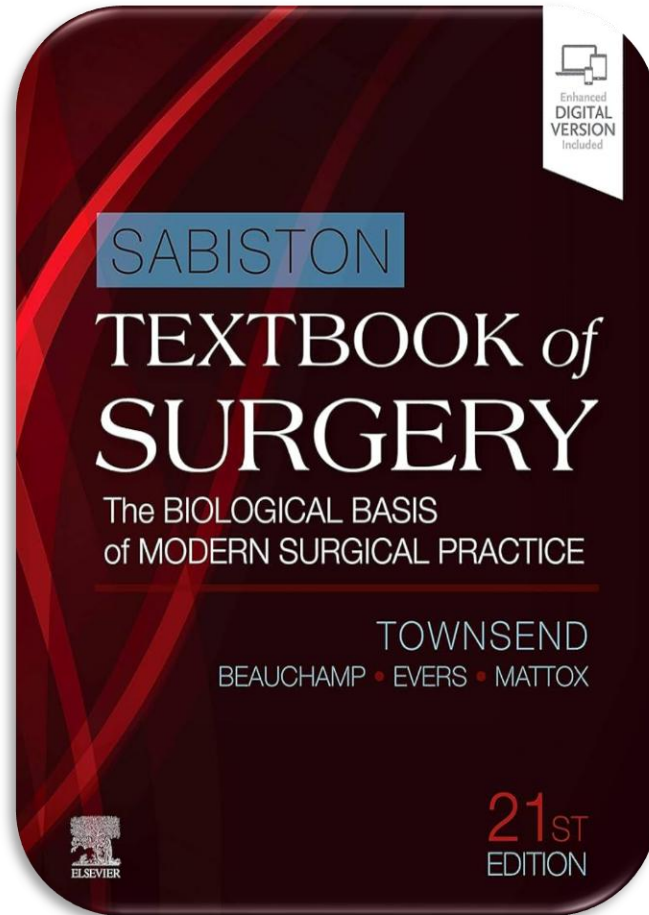
- ❖ Magnified allows a preview dissection
- ❖ Two dimensional flat screen view.
- ❖ Usually ,but not always longer operating time
- ❖ Need to develop entirely different operating technique adaptation of Principles of open surgery to laparoscopic surgery

COMMON LAPAROSCOPIC SURGERIES

1. **Removing Organs such as : appendix or gallbladder, ovary.**
2. **Repair Hernia or bleeding stomach ulcers.**
3. **Weight loss Surgery.**
4. **Cysts Removing.**
5. **Taking biopsies, or Investigation surgeries .**



REFERENCES



Basic surgical technique, Fiona Myint, seventh edition
Text book of surgery, COURTNEY M. TOWNSEND, JR., MD, 21 edition, 2022



THANK YOU

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