

الجامعة السورية الخاصة

كلية الطب البشري

قسم الجراحة

LAPAROSCOPIC SURGERY

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SHORT HISTORY

- 1982 Semm performed first Laparoscopic Appendicectomy.
- 1987 Mouret performed first Laparoscopic Cholecystectomy.
- 1992 First UK Laparoscopic Training centre established.

LAPAROSCOPIC SURGERY

- “KEYHOLE SURGERY”
- MINIMAL ACCESS SURGERY
- MINIMALLY INVASIVE SURGERY



What operations can we do laparoscopically?

Diagnosis

- Crohn's Disease
- Diverticulitis
- Rectal Prolapse
- Benign renal disease
- Some Splenic disorders
- Pathological Diagnosis

Treatment

- Appendicectomy
- Cholecystectomy
- Gastro Intestinal Bypass
- Small and Large Bowel resection
- Repair of Rectal Prolapse
- Nephrectomy
- Splenectomy
- Hernia Repair
- Others

Principle Differences between Laparoscopic and Open Surgery

For Patient

- Post operative pain related to size of incision- smaller incisions =less pain.
- Less Handling of intestines results in little or no disturbance of normal function.
- Avoidance of the trauma of abdominal wall injury by the incision allows rapid return to normal activity
- Small incision allows early return to more strenuous activities: driving, lifting, sport etc.
- Short stay in Hospital .
- Reduced cost of hospitalisation .

Principle Differences between laparoscopic and open surgery

For the Surgeon

- Magnified view often better than obtained via an incision .
- allows precise dissection.
- Altered (but not absent) tactile response
- 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.

Instruments

- Redesign of instruments for laparoscopic use.
- Instruments for open surgery in general 15 – 25cm length.
- Laparoscopic instruments in general 33 – 40 cm length with an articulated connecting rod between handles and scissor blades, jaws etc.

Equipment Necessary for MAS

- Video Camera.
- Light Source.
- Insufflator.
- TV Monitor.
- Telescopes.
- Light Guide Cable.
- Trocars .
- Laparoscopic Surgical Instruments .

CAMERA

- These can be single chip or 3 chip.
- CHIP: though is also called a charged coupled device in short, CCD.
- White balance and sometimes .



Light Source

- Halogen or Xenon, cold light but beware can still burn holes in drapes esp. disposable and burn patient's skin if left on the abdomen.
- Brightest to darkest .
- Automatic illumination.
- White balance by making sure white is correct then all the colours through the spectrum are correct.



Insufflator

- CO₂ because this has the same refractive index as air, so doesn't distort the image and is non combustible.
- Intraabdominal pressure run between 10 and 13 mmhg.
- High flow insufflators (35 litres) output determined by size of outlet.
- Ensure you know how to change a cylinder and were they are stored.



TV Monitors

- Usually a 20" screen.
- Horizontal resolution is the number of vertical lines.
- Vertical resolution is the number of horizontal lines
- More lines of resolution, better detail of picture.



Telescopes

- Come in varying sizes, laparoscopes usually 5mm or 10mm.
- Diagnostic 3mm scope available but not in general use in this hospital may be for paediatrics .
- Made up of a rod and lens system.
- Bundles of fibres, incoherent carry light and coherent carry image.
- Wide range of angles available 0 and 30 degree are fairly standard.
- All laparoscopes are autoclavable and can go through sterilization solution .



Light guide Cables

- Different diameters
- Fibre light cable
- Don't bend too acutely as will break fibres.
- Condensers



Trocars

- Are cannulated access of different sizes diameter (5 – 10 – 12 – 15 mm etc.) for inserting instruments through the abdominal cavity .
- Can be disposable (single use) .
- Reusable (multi use) sterilizable .



Instrumentation

- Multiple shaped forcipis .
- Grasping forceps .
- Diathermy hook .
- Diathermy ball .
- Scissors .
- Needle holders .
- Aspirating needles .
- Staplers .
- Section cannula .
- Etc.

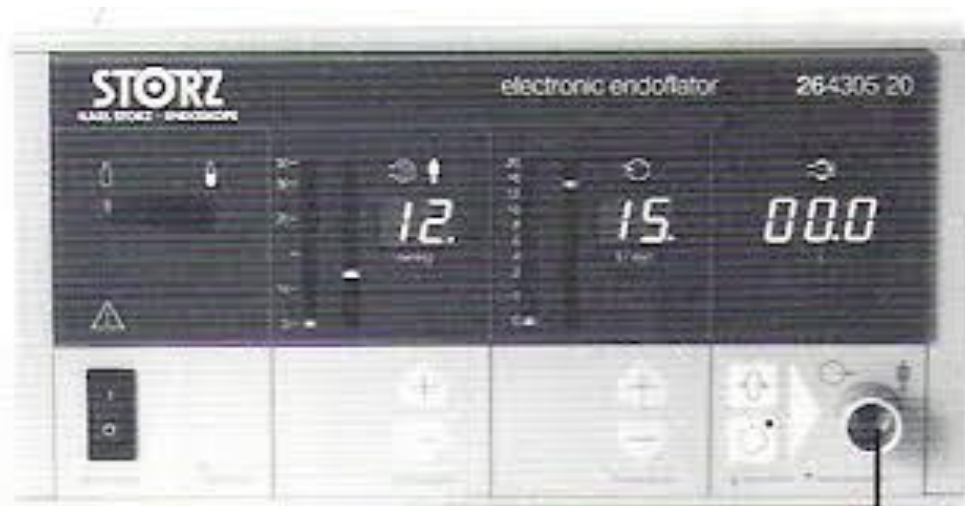




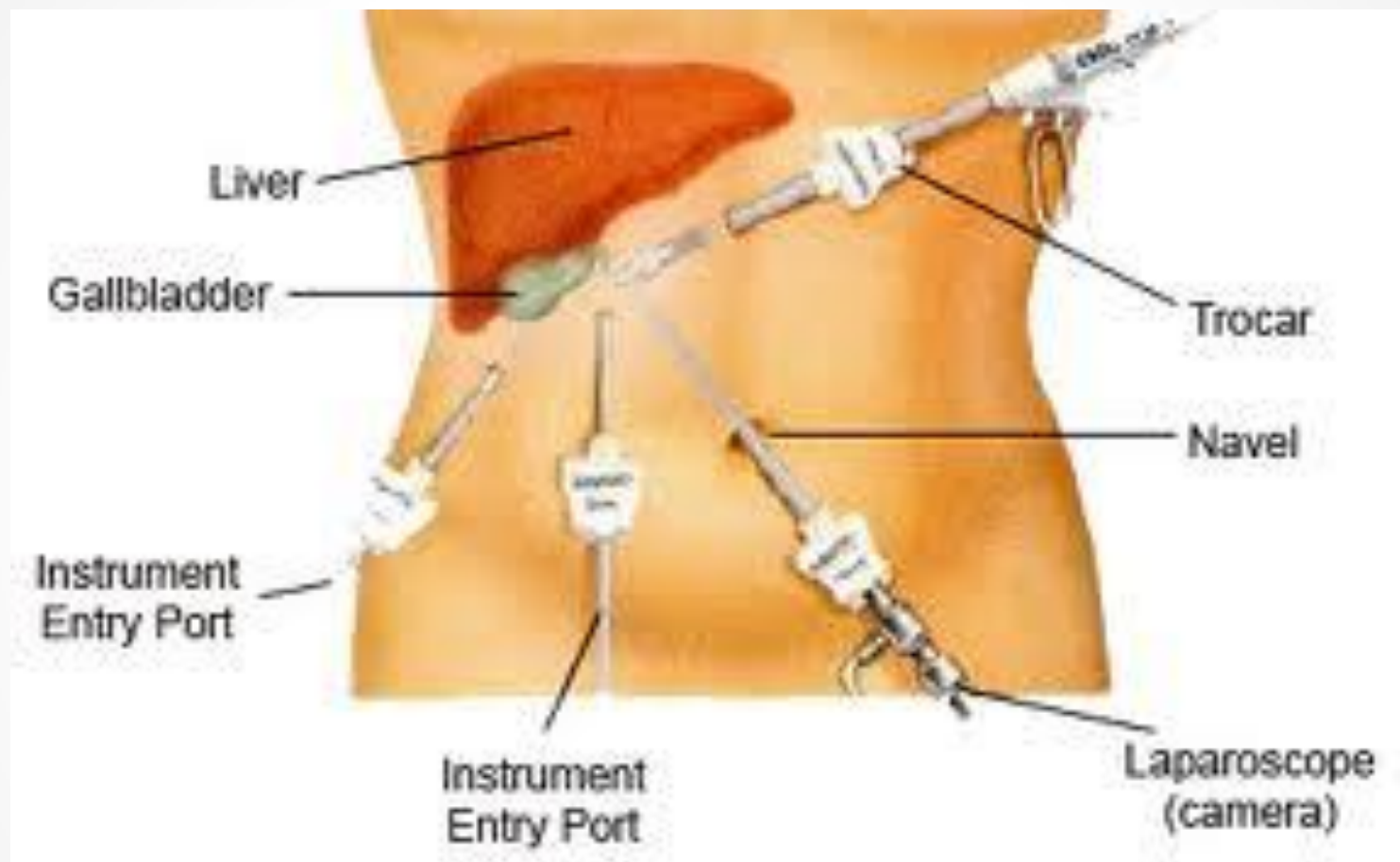
Video Camera & base



Light source & cable



CO2 Insufflator





Alsalam
Hospital

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Media:



الامساك بالزائدة و البدء بتسليخها وتحريرها
Dr Assem Kuptan
Laparoscopic Appendectomy

