Diagnostic Laparoscopy

Electronic Eye Inside Abdomen

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Definition

- Diagnostic laparoscopy is a minimal access surgical procedure that allows the visual examination and documentation of intra abdominal organs in order to detect pathology.
Importance

- The image of the liver, stomach, intestines, gallbladder, spleen, peritoneum, and pelvic organs can be viewed.
- Manipulation and biopsy of the viscera is possible by introducing forceps through additional ports.
History

- Diagnostic laparoscopy was first introduced in 1901 by **Kelling**, He performed it on a dog.
- A Swedish internist named **Jacobaeus** is credited with performing the first diagnostic laparoscopy on a human in 1910 for ascitis.
Indication

Non-traumatic, non-gynaecologic acute abdomen like:

- Appendicitis
- Diverticulitis
- Duodenal perforation
- Mesenteric adenitis.
- Intestinal adhesion
- Omental necrosis.
- Intestinal infarction.
- Complicated Meckel’s diverticulum.
- Bedside Laparoscopy in the ICU.
- Torsion of intra-abdominal testis.
Indications

Gynaecological abdominal emergencies like:

- Ovarian cysts.
- Pelvic inflammatory diseases.
- Acute salpingitis.
- Ectopic pregnancy.
- Endometriosis.
- Perforated uterus due to criminal abortion
- Salpingitis
- Abdominal trauma:
Anaesthesia

Lignocain injection over inferior crease of umbilicus
Position Of Surgical Team

Surgeon stand left to the patient and camera person right to the surgeon
Port position and Surgical team

• Diagnostic Laparoscopy should always be performed by two ports technique

• Surgeon should hold camera and instrument himself to perform Diagnostic Laparoscopy

• Ideally the working port should be in left iliac fossa
Port Position
Systemic plan

GB
R.LIVER
R.COLOMN
CAECUM
P.CAVITY

STOMACH
L.T
LIVER
Spleen
L.COLOMN

World Laparoscopy Hospital
Essentials of Laparoscopic Surgery
Systemic plan of inspection

- Patient in steep trendelenberg position

- Hepatic flexure
- Right side of ascending colon
- Cecum & Appendix
- Structure just below umbilicus

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Essentials of Laparoscopic Surgery
### Systemic plan of inspection

- **Reverse the Trendelenberg tilt**

<table>
<thead>
<tr>
<th>Right lobe of the liver and gall bladder</th>
<th>Telescope should then be withdrawn a little to cross falciform ligament</th>
<th>Transverse colon</th>
<th>left lobe of the liver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk over to Small Intestine</td>
<td></td>
<td>Spleen</td>
<td>Descending colon</td>
</tr>
<tr>
<td>Sigmoid colon</td>
<td></td>
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<tr>
<td>Descending colon</td>
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</table>

![Image showing anatomical structures](image-url)
Inspection of Pelvis

- Trendelenberg position
- Fallopian tube from cornu to fimbriae
  - + TPT if necessary
- The round ligament
- Anterior cul de sac
  - Uterus
Normal Pelvis
Appendicitis
T.B. Abdomen

Video demonstration of miliary tuberculosis
Cirrhosis of Liver

Video of cirrhotic liver with enlarged lymph node
Carcinoma & Haemangioma liver

Carcinoma of liver secondary to GB CA
Small bowel Lymphoma
Carcinomatosis
Metastasis of Gastric Carcinoma

Video demonstration of Metastasis of Gastric carcinoma
Duodenal Perforation

Video showing Duodenal Perforation
Intestinal Obstruction

Diagnostic Laparoscopy for Intestinal obstruction
Trauma

Video showing rupture diaphragm after RTA
Trauma

Video showing laceration of liver after RTA
Hemorrhagic Pancreatitis

Video showing diagnosis and management of hemorrhagic pancreatitis
Endometriosis

Common site of Endometriosis is Uterosacral ligament
Endometriosis

Chocolate Cyst

Video of Tubo-ovarian Mass after Endometrioma
Ectopic pregnancy

Unruptured Ectopic Pregnancy
Ectopic pregnancy

Unruptured tubal pregnancy

Small ruptured tubal pregnancy
Small Ruptured Ectopic pregnancy

Small ruptured tubal pregnancy of right side
Ectopic Pregnancy

Hematoma after ruptured ectopic pregnancy
Pathology

Tubo-ovarian mass
Fimbrioplasty

Laparoscopic Approach
Bicornuate uterus can be easily diagnosed during diagnostic laparoscopy.
Ovarian Drilling with PCOD Needle
Polycystic ovary

Over drilled polycystic ovary
Ovarian Cyst
Torted Ovarian Cyst

Torted ovarian cyst with start of gangrene of fallopian tube
Torted Ovarian Cyst

Liver

Torted ovarian cyst
Follicular Cyst
Hydrosalpinx
Adhesion

Flimsy adhesion can be removed with the help of scissors
Gangrene fallopian tube

Gangrene of Fallopian tube can be seen occasionally
Fibroid

Sub serous and intramural fibroid
Fibroid

After proper consent Myomectomy can be performed if gynecologist has sufficient suturing skill
Huge cyst of liver

Hydatid cyst of liver can be managed laparoscopically nicely
Lymphangioma of Mesentery
Infertility

Video demonstrating severe adhesion after Chronic PID
Meckels Diverticulum
Impalpable Testes
Adhesiolysis

Video demonstration of adhesiolysis with the help of scissors and Bipolar hook
Adhesiolysis with Harmonics
Staging for Oncology

Lymphomas
End of Surgery

- Specimen is collected for Cytology and Biopsy
- Therapeutic Laparoscopy can be performed if consent of patient is there

Video demonstrating dissection and retrieval of tissue for biopsy
Thank You

Prof. Mishra with trainees of Advanced course September 2006