



LAPAROSCOPY

Insight into minimally invasive surgery.

Laparoscopic surgery is an operation performed within the abdominal or pelvic cavity using small incisions with the aid of a camera. Laparoscopy which is a minimally invasive procedure which allows the surgeon to see inside of the body in real-time, without open surgery.

Laparoscopy is a revolutionary procedure which has seen the greatest advance in surgery that benefits both the patients and the doctors. It is almost the same as the open surgery procedure but using a different method of access. Due

Did you know

**Laparoscopy
invented by George
Kelling in 1901,
in Germany**

to improved patient outcomes, in the last two decades, laparoscopic

surgery has been adopted by various surgical sub-specialities, including gastrointestinal surgery, gynecologic surgery, cardiology, orthopaedics and urology.

LAPAROSCOPIC DEVICES:

Devices typically used during laparoscopy which enables the surgeon to operate through small incisions, generally between 3 to 5 mm.

ENDOSCOPIC DEVICES:

Comprise flexible tubes attached to cameras and lights. Aids the surgeon in the use of the laparoscopic devices during the surgery to oversee the entire surgical procedure.

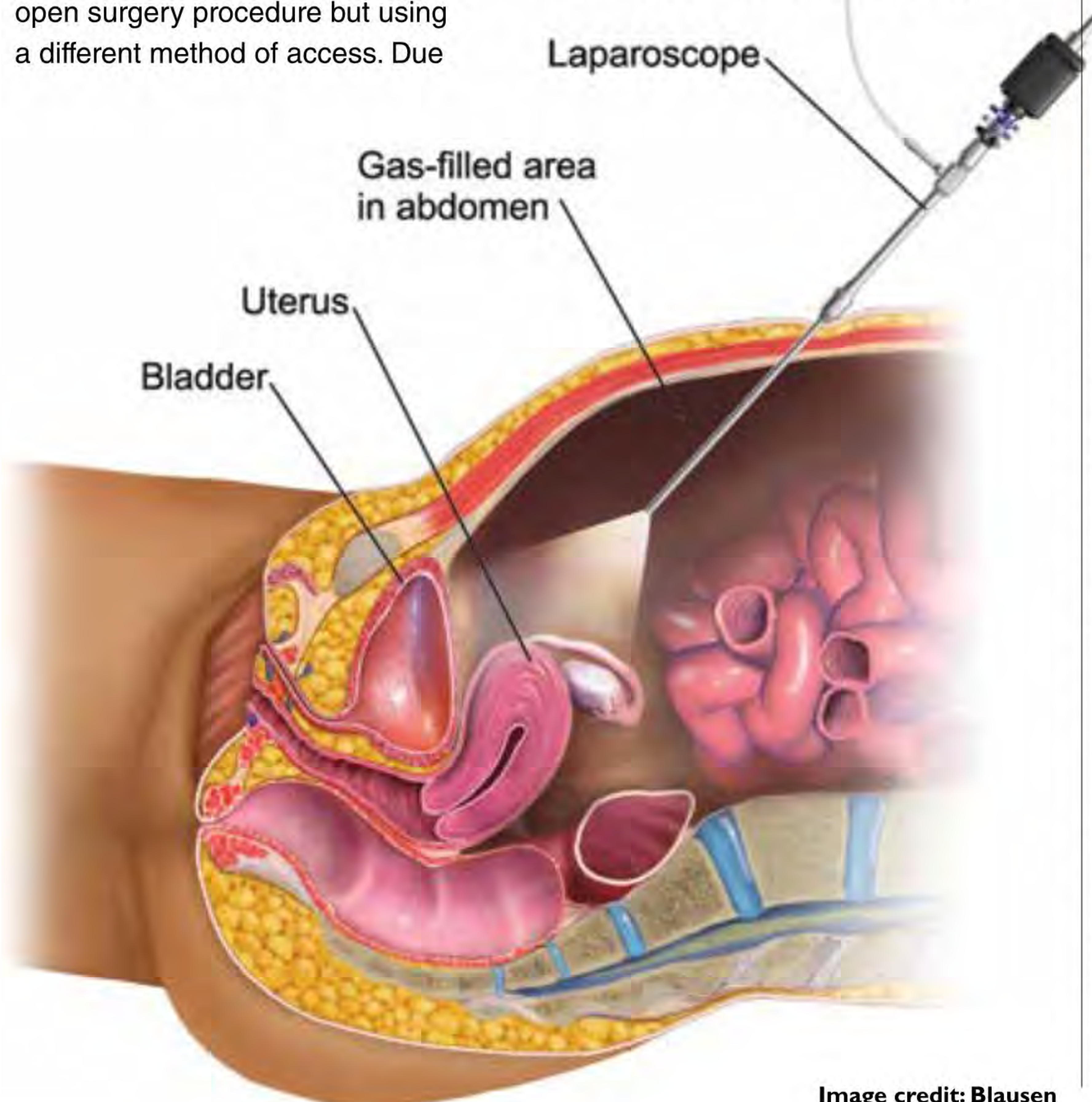


Image credit: Blausen

Developments in laparoscopic instrumentation and procedures are still ongoing, both in the application of vision system and the automation of instruments. The camera is an important component in laparoscopic surgery as it acts as the eyes of the surgeon. Recent advances have been made in enhancing the experience of surgeons through 3D technologies, improving the image quality and the field of vision of endoscopic cameras.

Applications have been developed, enabling multiple views for surgeons using 3D technology. The endoscope 3D visualization system provides customized 3D image with adjustable disparity to serve the very different eye movements and visual perception

of each surgeon at very different operating environment. The fusion of advanced 3D technology provides flexible depth perception adjustment to accommodate doctors during surgery. The 3D images come in handy for the surgeons to perform more precisely and safely. Moreover, it shortens the operating time significantly.

Robots since the year 2000 have been used in operating theaters to facilitate laparoscopic surgeries in various disciplines. It was first approved for prostatectomy and has become the mainstream procedure of minimally invasive surgery of localized prostate cancers in USA and United Kingdom. For surgeons, the recognized advantages of robotic laparoscopic surgery include 3D vision, ten-fold magnification, Endo-wrist technology and tremor reduction. They are thus enabling the surgeon with better control and higher precision to work beyond the limitation of conventional open surgery. Thus, delivering better outcomes for the patients.

InfoMed spoke with Dr Md Hamsan bin Abdul Wahab, Consultant General Surgeon, Columbia Asia Hospital – Klang on laparoscopic surgery to get his perspective on the procedure.



InfoMed: What is laparoscopic surgery?

Dr Hamsan: Laparoscopic surgery is a surgical technique in which the surgeon uses a series of small incisions in the patient to insert a camera to view the surgical field, along with the necessary tools for the surgical procedure or is a type of surgery that uses smaller cuts than you might expect.

InfoMed: What are the surgical interventions suitable for laparoscopy?

Dr Hamsan: Laparoscopy surgery is suitable for gallbladder surgery and gynaecology operations. Then it came in play for the hernia, intestines, liver, joints surgery and other organs surgery.

InfoMed: When would laparoscopic surgery be considered better to open surgery?

Dr Hamsan: Nowadays most of the elective surgeries especially gallbladder, gynaecology operations, hernia and joint surgery or for emergency cases like perforated gastric or duodenal ulcer and appendicitis, are suitable for laparoscopy surgery. Working this way has several advantages compared with traditional surgery. Because it involves less cutting:

- You have smaller scars.
- You get out of the hospital quicker.
- You'll feel less pain while the scars heal, and they heal quicker.
- You get back to your normal activities sooner.
- You may have less internal scarring.

InfoMed: When would you recommend your patients for surgical intervention?

Dr Hamsan: It depends on the disease, pathology, symptoms that the

ADDITIONAL BENEFIT OF LAPAROSCOPIC SURGERY

- Decreased risk of postoperative venous thromboembolism.
- Fewer complications.
- Reduced risk of acquiring infections.
- Reduced hemorrhaging, which reduces the chance of needing a blood transfusion.

patient suffers from, risk and benefit of the laparoscopy surgery to the patient.

InfoMed: What's your speciality interest?

Dr Hamsan: My special interest is laparoscopy cholecystectomy, appendicectomy, perforated gastric or duodenal ulcer, hernia and adhesiolysis for adhesion colic due to previous operation or infection in the abdomen.

InfoMed: What per cent of your surgeries are performed as minimally invasive?

Dr Hamsan: About 25%

InfoMed: How long does it take to recover from a laparoscopy?

Dr Hamsan: Most of the laparoscopy surgery have shorter recovery time with the average around two to five days, depending on the type of surgeries.

InfoMed: Are all patients suitable for laparoscopy?

Dr Hamsan: Not all patients suitable for laparoscopy surgery. It depends on the risk and comorbid illness of the patient.

InfoMed: Can you perform most of the minimally invasive surgeries as a day-care procedure?

Dr Hamsan: Depend on the type and risk of the patients, in general most of the low-risk patient's laparoscopy

surgery can be performed as a daycare procedure.

InfoMed: Is the recovery from a laparoscopic surgery much faster?

Dr Hamsan: Yes, as I mentioned earlier, the recovery from laparoscopy surgery is faster as compared to open surgery.

InfoMed: Minimally invasive surgery is more cost-effective with better outcomes. Your views?

Dr Hamsan: Overall costs for minimally invasive procedures are significantly lower than open procedure costs for appropriately indicated patients. A 2011 study published in the SAS Journal showed the cost for minimally invasive transforaminal lumbar interbody fusion was \$14,183 on average, versus \$18,633 for open lumbar fusion.

Less invasive procedures can be performed in the outpatient setting, including the ambulatory surgery centre, which typically costs less than inpatient hospital stays. Eliminating the hospital stay and lowering the risk for complications and re-operations creates significant cost-savings for laparoscopy procedures.

InfoMed: What are the risks in laparoscopy surgeries, and how do you mitigate them?

Dr Hamsan: The risk of laparoscopy surgeries can be divided into two types, namely risk of anaesthesia and risk of surgery. For risk of anaesthesia, normally are patients with many comorbid illness, they need to be optimized and medically stabilized first by physician before





the operation and these patients need multi-disciplinary approach involving anaesthetist, ICU intensive service, physio and dietician support for preoperative and post-operative care. For surgical risk like wound infection, the patients will be given antibiotics pre and post-operation. Bleeding can be minimized using good surgical technique and energy device like harmonic scalpel.

InfoMed: Does laparoscopy prevent or reduces infections after surgery?

Dr Hamsan: Yes, due to small wounds for access to surgeries.

InfoMed: What new laparoscopic services would be introduced in the near future?

Dr Hamsan: In some countries the robotic laparoscopy has been the trend for laparoscopy surgeries, however in Malaysia only certain medical centres have the robotic facilities.

InfoMed: Advances in laparoscopy that would improve further the surgical outcomes?

Dr Hamsan: Since the first laparoscopy surgery 32 years ago, evidence indicating laparoscopic surgery's superiority over open

alternative has been provided for a variety of procedures and the advanced laparoscopic surgery has been extended hepatectomy, pancreatectomy, urology and gynecology. Given the time, expertise and the advances in laparoscopy surgery, this revolutionary procedure would continue to grow over the years to improve the surgical outcome. This continuous development would enhance the surgeon's experience and capability to efficiently perform the tasks and make it affordable for the patients.

InfoMed: Can we consider minimally invasive surgery is evolving towards precision surgery?

Dr Hamsan: In general laparoscopy or minimally invasive surgery is evolving towards precision surgery.

InfoMed: The use of robotics in laparoscopic surgeries.

Your views?

Dr Hamsan: The use of robotic surgery is a more precise and effective way of doing surgery, but it will require training for the operators which have different learning curve, and it is involved high investment cost for any health centres.

InfoMed: How is the progress with the latest surgical techniques?

Dr Hamsan: The laparoscopy surgery is always progressing parallel to the progression of the technology and new surgical devices. Good progress has been done for the vision system of laparoscopy including improvement of viewing angle and field of view, and clarity of images. **IM**

COLUMBIA ASIA HOSPITAL - KLANG

Columbia Asia Hospital – Klang is the 12th hospital for the group in Malaysia, and 29th hospital within the Columbia Asia group in this region. In Malaysia, the brand is established for the last 20 years serving the communities, especially residential areas. The facilities are built to offer multi-disciplinary specialities closer to home. Ingrained with the concept of providing care to the community and corporations that is affordable and of quality, focusing on consistently delivering positive outcomes for its patients. The planned locations and services are ideal for collaborations with the primary care providers to bring community initiatives that promote preventive medicine and continuous care to the constituents.