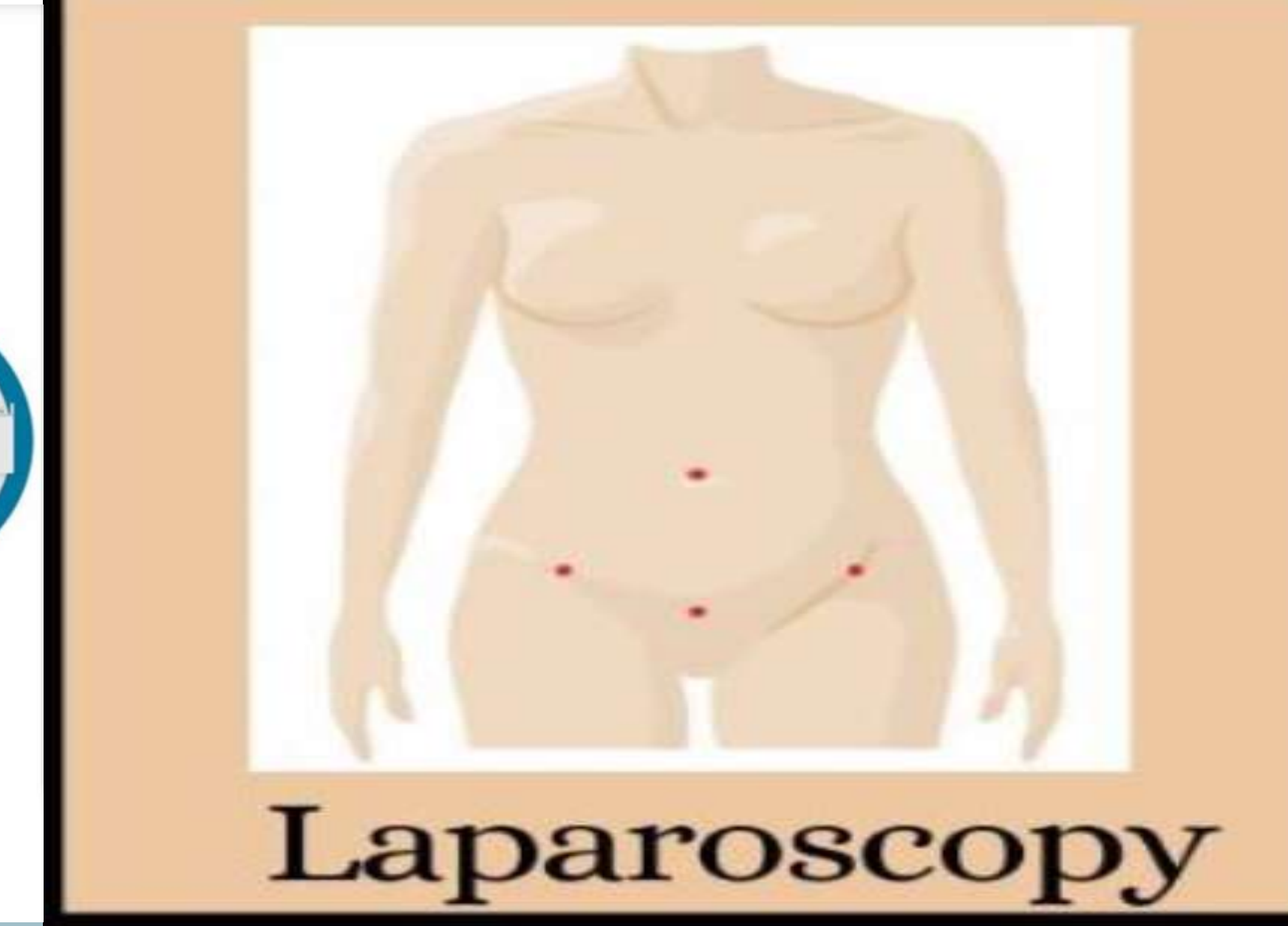
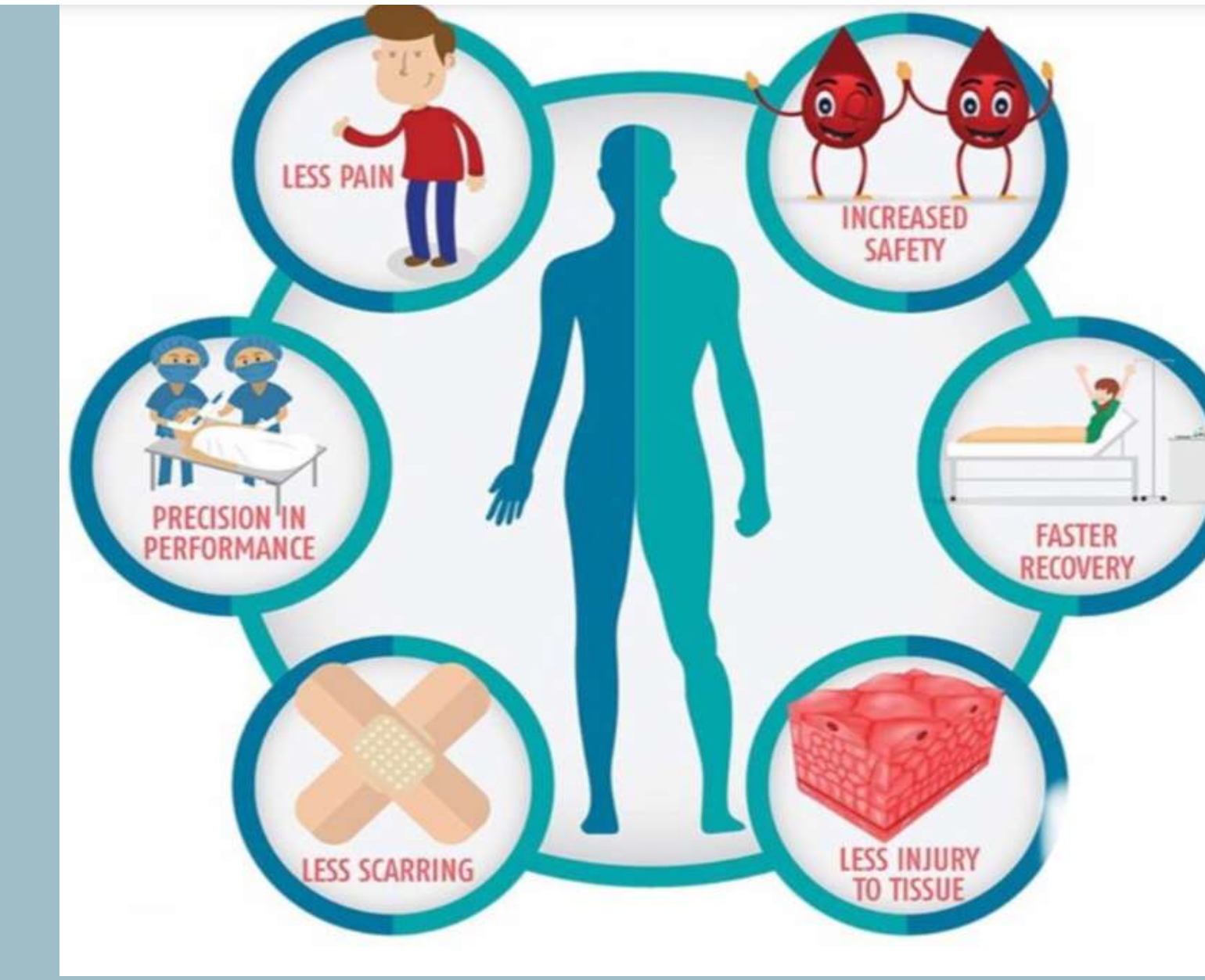


How to draw the line between open and laparoscopic surgery

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Introduction

Since the mid 1960s, laparoscopy has grown from very simple beginnings to become one of the most commonly preferred gynaecological surgeries. The procedure is used extensively in the assessment of infertility, in the diagnosis of pelvic infection, ectopic pregnancies, endometriosis and sterilization procedures. During the late 1980s and 1990s, laparoscopic surgery began to develop into Minimal access surgery which is now used virtually by almost every surgical specialist and is widely established throughout some obstetrical and gynaecological surgeries. However it is important to draw the line between laparoscopic and open surgeries considering patient's interest and well being. Some factors to choose while considering the right surgical approach are general health and fitness of patient, past medical condition, previous history of abdominal surgeries, recovery time, risk of infections, post operative pain. Studies are still needed to better define which advanced procedures are more appropriate to perform laparoscopically from an economic and safety vantage point.

Factors to be considered before choosing laparoscopic or open surgery for the patient -

- Patient's choice - It is applicable in almost all procedures such as Tubal ligation, Hysterectomy etc. Patient's choice comes first except in the presence of absolute contraindications.
- Unavailability of anesthetic fitness or guarded fitness given by anesthetists such as in cases where spinal anesthesia preferred to general anesthesia such as severe hypothyroidism, severe hypertension.
 - Cases where open surgery is a better option to laparoscopic surgery such as a fibroid of 15 to 20 cm size.

- Limitation of resources - Camera limitations, light source limitations, bad equipments etc.
- Competency of anesthetist and surgeon - Anesthetist and surgeon both should be well experienced to manage any laparoscopic surgery related complications and should be confident about the procedure.
- Availability of an expert technician to guide the procedure.
 - If the surgeon is not competent enough or in case of complications if there delay in completion of the procedure, Increase in the time for which the patient is kept in anesthesia often leads to increase in complications, in which cases open surgery is preferred.
- Laparoscopic surgery should not be preferred solely for cosmetic reasons as even with open surgery with good suturing techniques chances of cosmetic scarring has decreased.

Indications for laparoscopy

Diagnostic laparoscopy

1. Aids in evaluation of patients with acute pelvic and abdominal pain - ovarian torsion, ovarian cyst rupture, ectopic pregnancy, pelvic inflammatory disease.
2. In evaluation of chronic pelvic pain and infertility identifies pelvic adhesions, endometriosis, uterine fibroids, adnexal masses.

Operative laparoscopy

- Commonly performed procedures include adhesiolysis, treatment of endometriosis, tubal sterilization, ovarian cystectomy, oophorectomy, salpingectomy, salpingostomy, hysterectomy.
- More advanced procedures include repair of pelvic organ prolapse, tubal reanastomosis, myomectomy, radical hysterectomy, lymphadenectomy.

Pros of open surgery

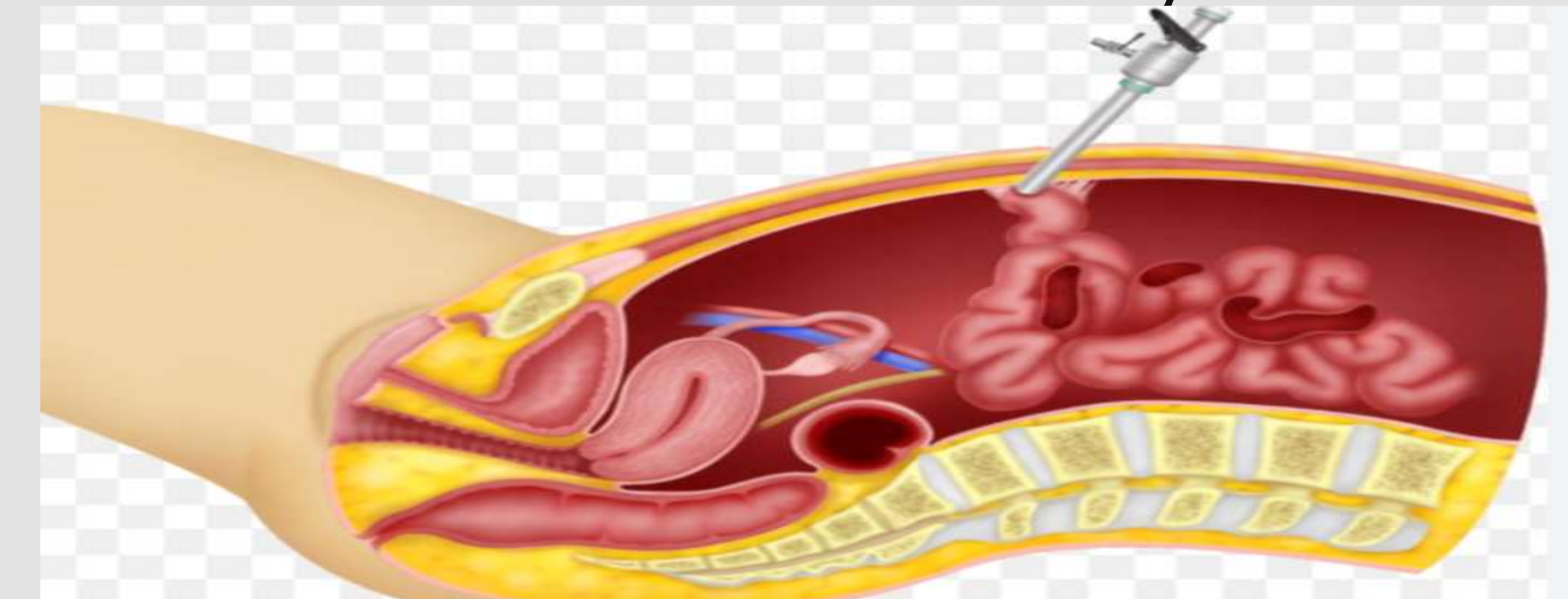
- Surgeon has a clear and direct view of the surgical site, allowing for precise manipulation and control.
- Better access to complex and large structures which may be difficult to reach in minimally invasive surgery.

Cons of open surgery

1. Larger incision leading to more pain, increased blood loss and longer recovery time.
2. Cosmetic scarring.

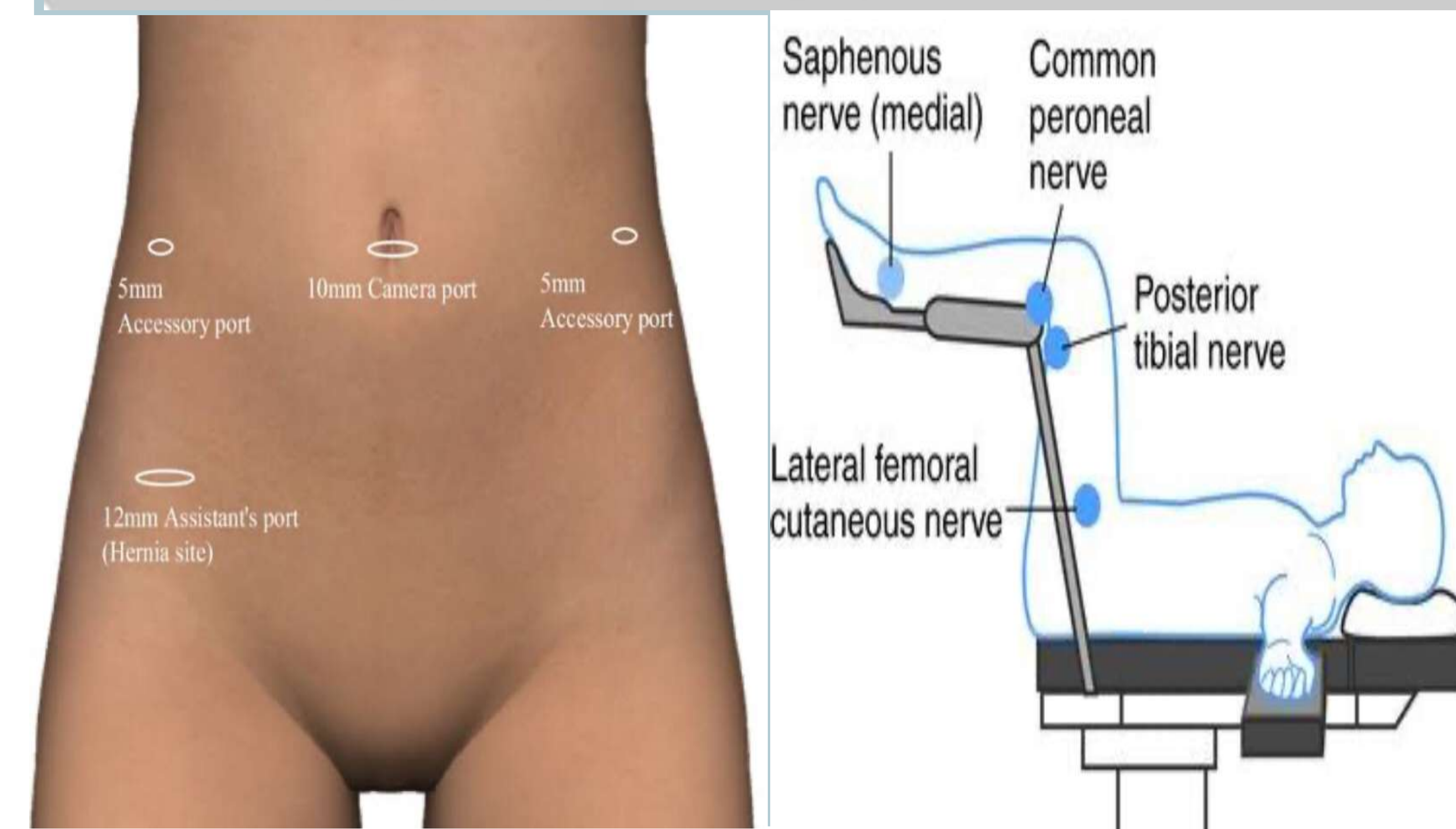
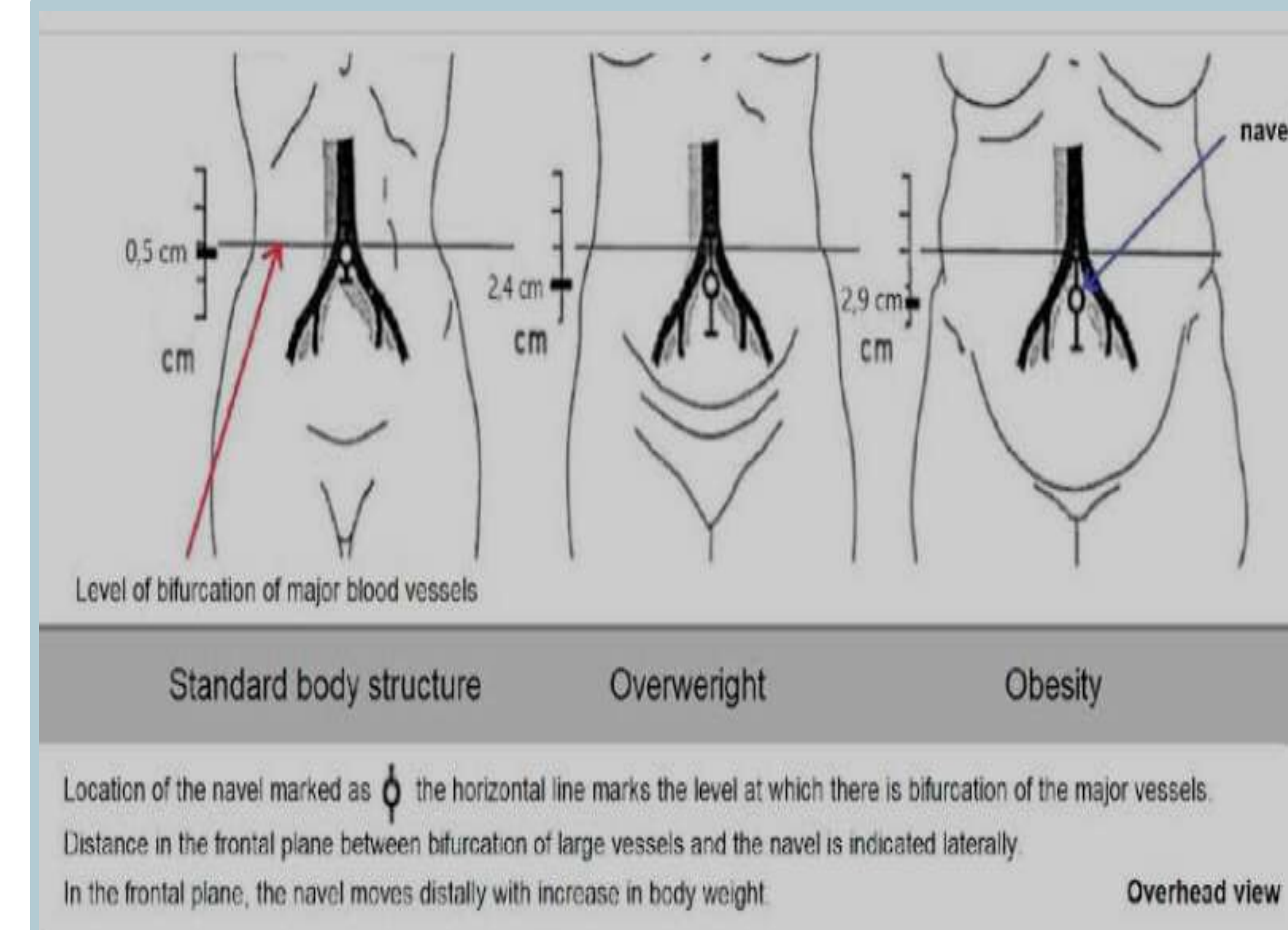
Pros of laparoscopic surgery

- Smaller incisions result in less pain, lesser blood loss and faster healing.
- Provides magnified view of the surgical area allowing for precise and accurate movements.
- Smaller incisions which look better cosmetically.



Cons of laparoscopic surgery

- Costly for the patient
- Nerve injury - Most common injuries are nerve contusion and resolve within 6 weeks.
 - Vascular injuries - most acutely life threatening such as injury to aorta, vena cava, iliac vessels during Veress needle placement or trocar insertion.
 - Gastro intestinal injury
 - Trocar site hernia
 - Urinary tract injury - Higher chances of bladder injury are associated with lap hysterectomy.
- Port site metastasis - Rare complication associated with minimally invasive surgery in gynaecologic oncology



Conclusion- Best surgical practices

1. A good laparoscopic surgeon should know his/her limitations and not hesitate to call for help.
2. Conversion to laparotomy is not considered failure.
3. Careful selection of patients is the first key to success in any surgery.
4. Preparation is essential in laparoscopic surgery and may include a checklist to avoid shortage of instruments.
5. Surgeons are often advised to avoid any shortcuts which modify a surgical procedure.
6. Careful positioning of the patient can help to avoid any nerve injuries also avoiding maximizing operative time.
7. Traction- countertraction and exposure are important in both open and laparoscopic surgeries. To maximize these, an additional trocar port is often helpful.

No conflict of interest.

References - Te Linde's Operative Gynaecology, Bonney's Gynaecological