MINIMAL ACCESS SURGERY

Dr.Ala'a Awees

INTRODUCTION

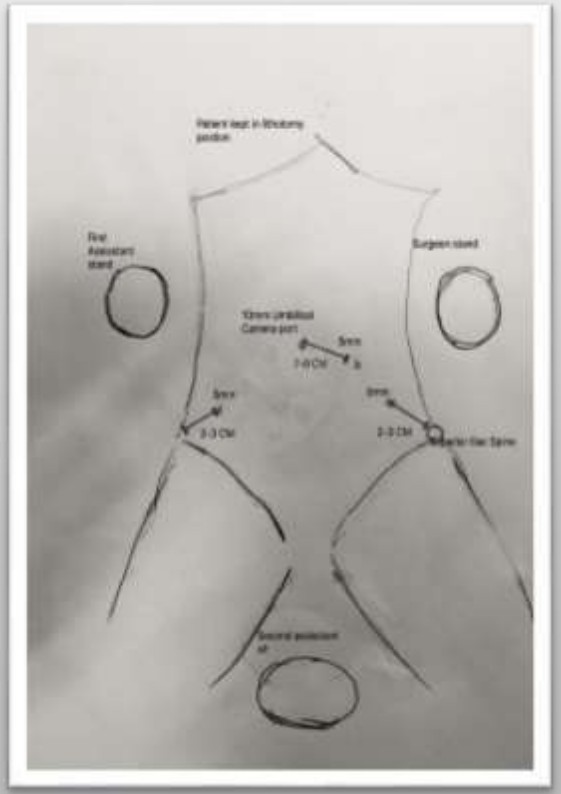
- Laparoscopic Surgery Was Pioneered In Gynaecology With The First Descriptions Of A Broad Range Of Procedures During The 1980s By Kurt Semm, Followed By The First Description Of Total Laparoscopic Hysterectomy Published In 1989.
- Almost Any Abdominal Or Pelvic Procedure Has Been Performed Laparoscopically In All Fields Of Gynaecological Surgery.
- Surgery Is Performed Under Magnification The Surgical View Is Usually Superior To Open Surgery Both For The Operating Surgeon And Their Assistants.
- Laparoscopic Surgery Is Also Associated With Reduced Blood Loss During Surgery, Shorter Postoperative Stay, And Quicker Recovery With Less Pain As Well As Reduced Adhesion Formation

LAPAROSCOPY AND MALIGNANCY

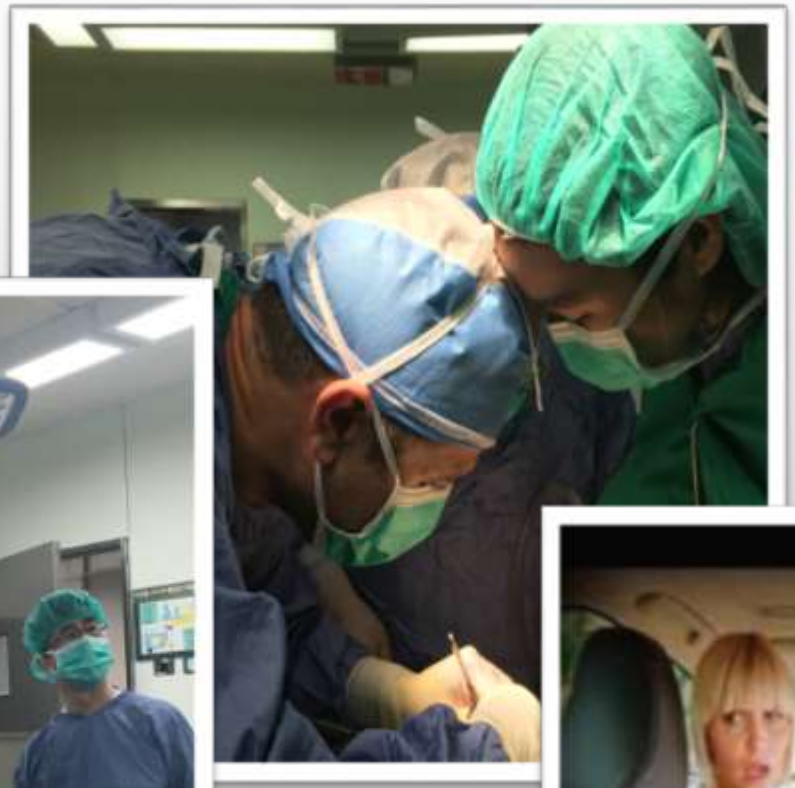
- Laparoscopy Proven To Be Safe Option In Treating Endometrial Cancer And Cervical Cancer In Term Of Overall Survival And Disease Free Survival . With The Advantage Of The Decrease Blood Loss And The Faster Recovery .
- Ovarian Cancer ,Treatment Of Early Stage Ovarian Cancer Is Controversial . Because The Risk Of Tumor Rupture And Spreading The Tumor Is Higher ,In Addition To The Technical Difficulty Of Specimen Retrieval Inside Bag .
- In Advance Ovarian Cancer It Technically Difficult To Perform Optimal De-bulking .

THEATER SETUP

- Lithotomy Position Is The Preferred Position In Most Gyn Operation
- The Surgeon Usually Stand On The Patient Left Side .
- The Monitor Opposite To The Legs So Both Surgeon And Assisstant Can See.
- Light Source, Camera Cable ,Gas Source (Co2), Energy Cables And Suction Must Be Connect In Way To Allow The Surgeon And The Assistant Freely Move



LAPAROSCOPY VS LAPAROTOMY



EQUIPMENT

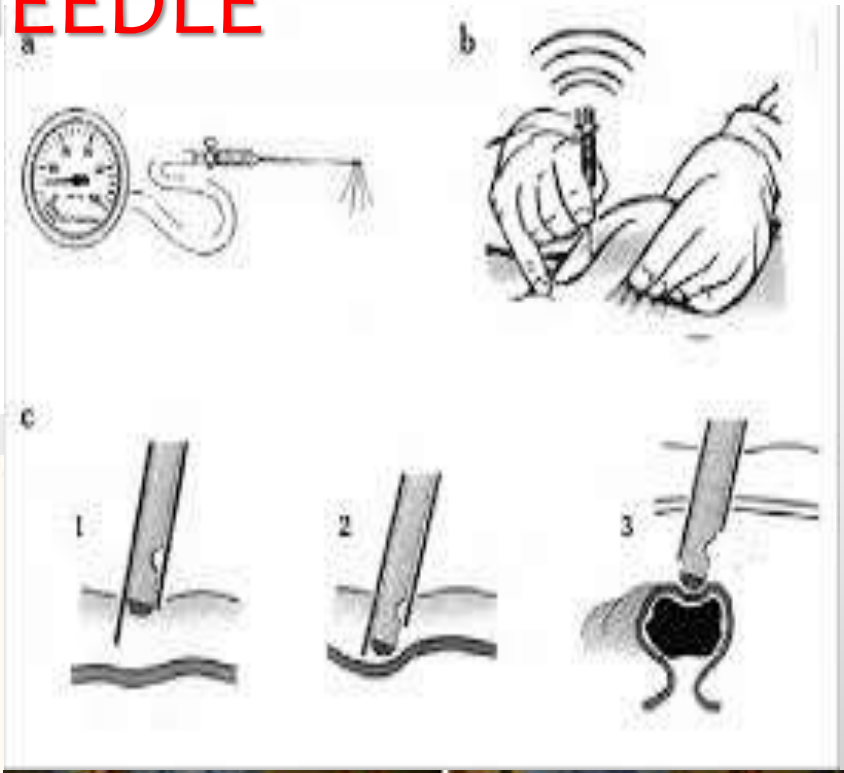
- This Equipment Includes A High Resolution Monitor , Video Camera, High-intensity Light Source And High-flow Co_2insufflator, Which Are Normally Arranged As A 'Stack'.(Recorder Is Also Important)
- To Proceed With Any Laparoscopic Procedure Without The Ability To Achieve Haemostasis And Clear The Operative View Is Unsafe, So An Electrosurgical Generator And A Suction-irrigation System Are Minimum Requirements

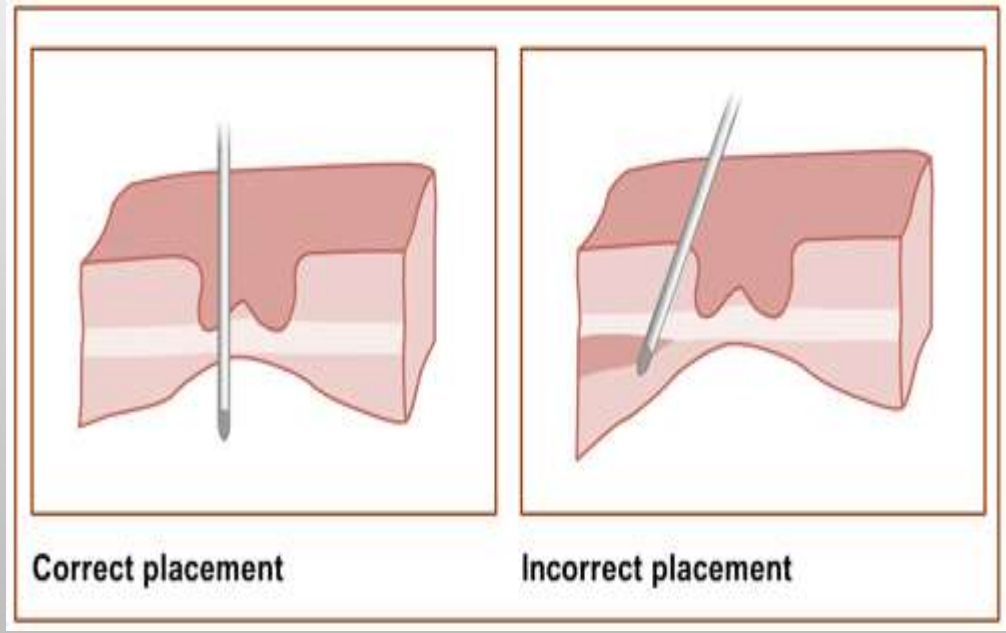
ENTRY TECHNIQUES AT LAPAROSCOPY

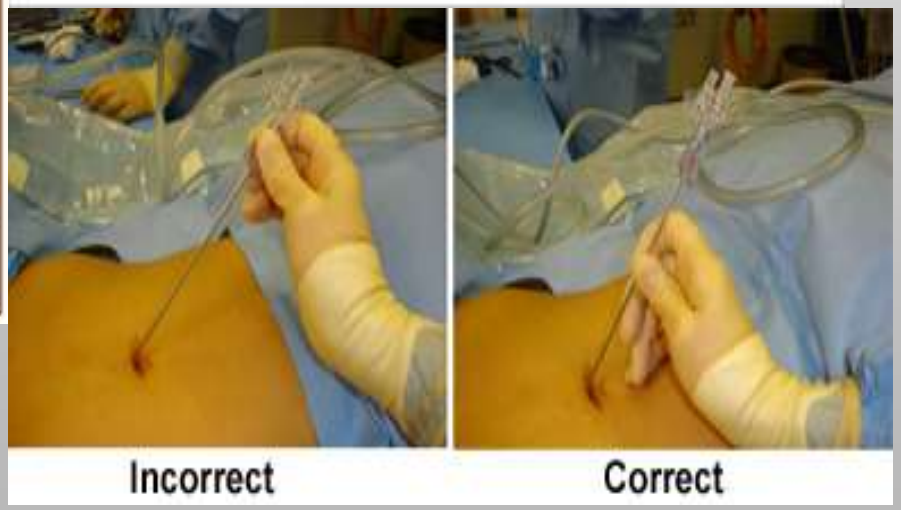
- Direct Insertion : *(Trocar Inserted Directly After Skin Incision)* This Is A Very Rapid Technique That Will Avoid Any Complications Related To The Use Of The Veress Needle. It Will Not, However, Avoid Primary Trocar Injury.
- Open Technique : The Open Technique Described In 1971 By Hasson Is Gaining Popularity, Especially Among General Surgeons. Basically, This Is An Intra-umbilical Mini-laparotomy With A Sealed Cannula. The Peritoneal Cavity Is Entered Bluntly Under Direct Vision.

- **Veress Technique :** The Veress Needle Has An Outer Cutting Sheath And An Inner Spring-loaded, Gas-transmitting Safety Sheath. So, The Verss Inserted Through Umbilicus Inscision . The Point Should Be Sharp And The Spring Functioning Properly. The Gas Tubing Should Be Connected, Insufflation Commenced And Gas Flow Rate Noted. There Should Be No Resistance To Flow Of CO_2 Through The Needle. The Purpose Of The Initial Pneumoperitoneum Is Two-fold. Firstly, It Is To Create A Free Space Into Which The Primary Trocar Can Be Inserted Safely, Avoiding Abdominal Contents. Secondly, It Is To Form A Bubble Of Gas That Will Splint The Abdominal Wall And Prevent It 'Deforming' Downwards With The Insertion Pressure Of That Trocar

VERESS NEEDLE

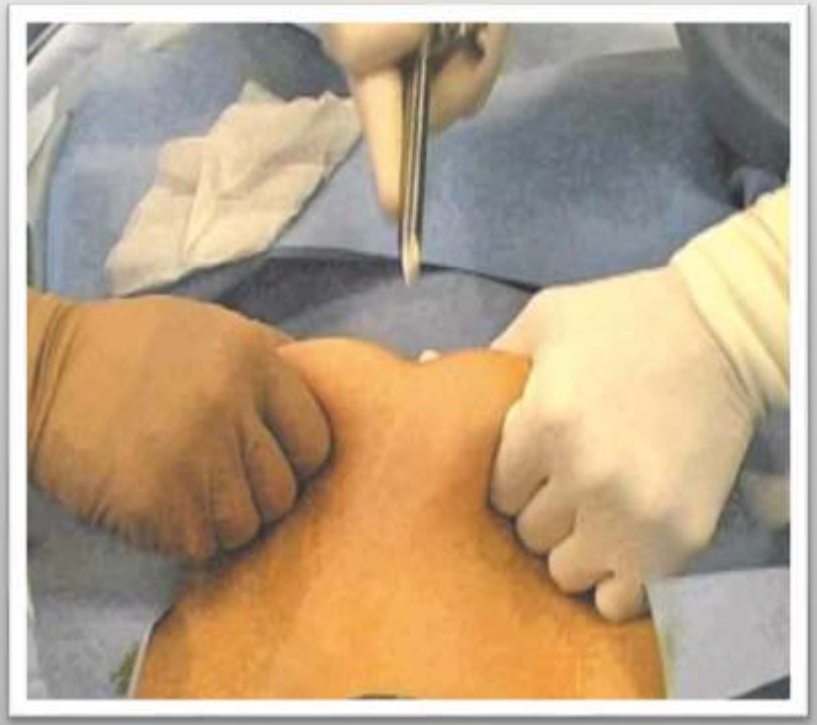






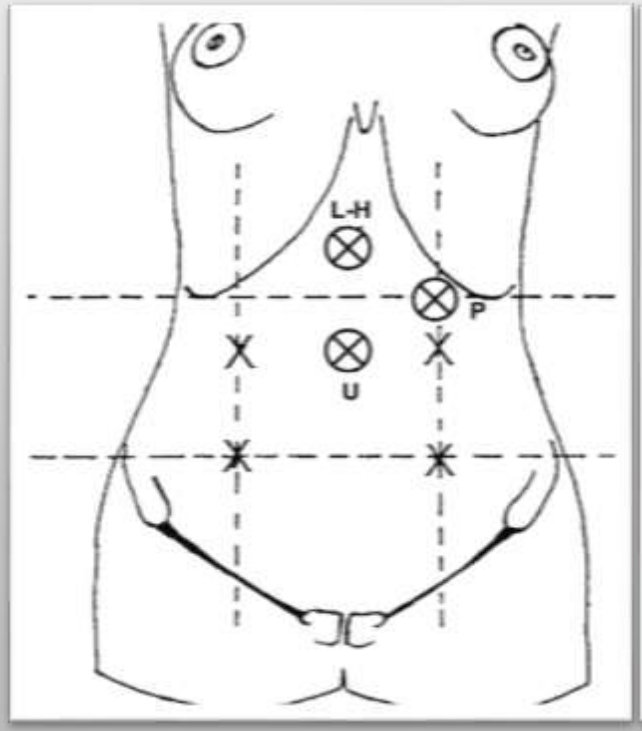
PRIMARY TROCAR INSERTION

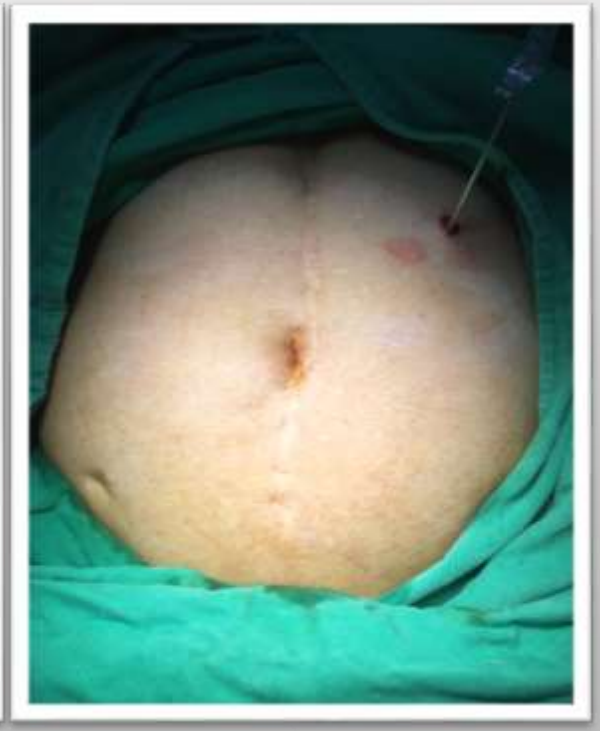
- When The High Pressure Pneumoperitoneum Is Used, This Should Be Held In The Palm Of The Hand, With The Index Finger Extending Down The Shaft To Prevent Inadvertently Over-advancing The Point.
- The Trocar Should Be Inserted Through The Base Of The Umbilicus In A Vertical Direction, As This Is The Shortest Route Through The Thinnest Part Of The Abdominal Wall. Once The Point Has Traversed The Sheath, The Direction Is Altered Towards The Fundus Of The Uterus.



ALTERNATIVE PRIMARY ENTRY SITES

- In case where adhesions is suspected at the umbilical area alternative entry sites can be used.
- Certain operations needs higher level primary trocar (scope).when the operation field reach the umbilicus such as large fibroid, para aortic lymphadenectomy.



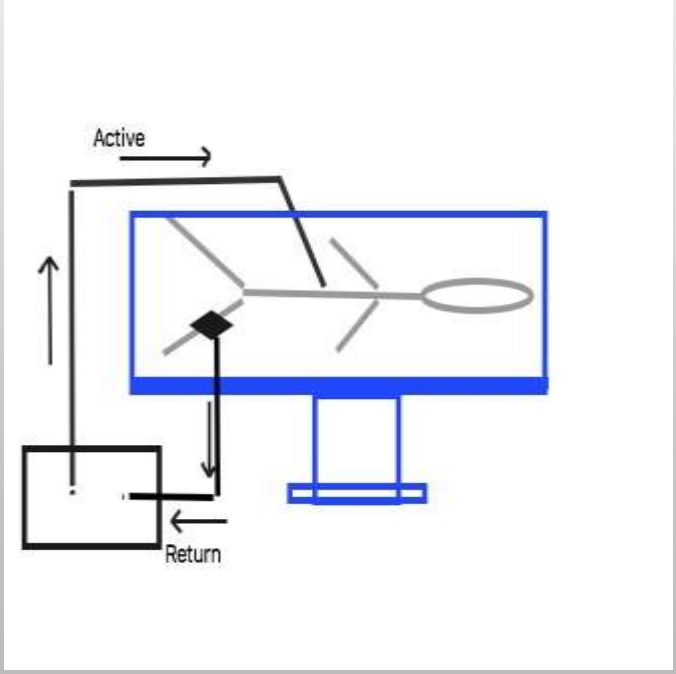


LH: Lee-Huang
P: Palmar
Umbilicus

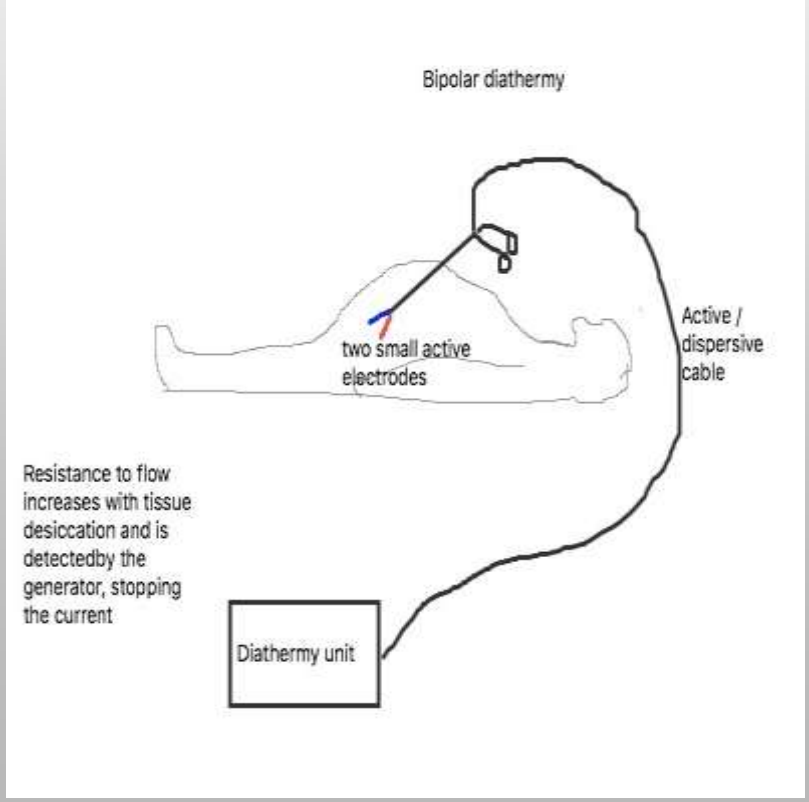
ENERGY SOURCES IN OPERATIVE GYNAECOLOGY

- A Variety Of Energy Sources Have Been Developed For Use During Laparoscopic Surgery. In Principle, All Of These Sources Allow Destruction Or Cutting Of Tissues With Haemostasis.

Monoplar

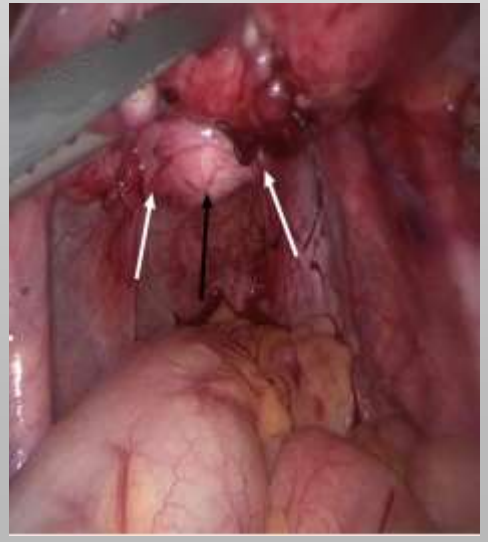


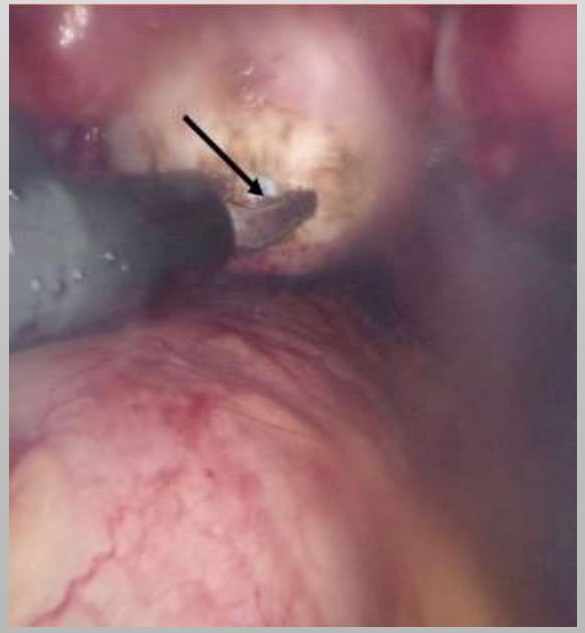
Bipolar



SPECIMEN RETRIEVAL

- Any Surgeon Performing Operative Laparoscopy Needs To Be Familiar With Techniques To Retrieve Specimens From The Pelvis. In Most Cases, It Is Desirable To Avoid Intraperitoneal Spillage Of Cyst Contents Or To Leave Residual Tissue Either In The Pelvis Or Within Port Sites.
- After The Collecting The Specimen In The Bag ,It Can Be Removed Through The Ports (Umbilical Or Ancillary) Or Posterior Copotomy .This Depends On The Size Of The Specimen ,The Experience Of The Surgeon And The Patient (Virgin).

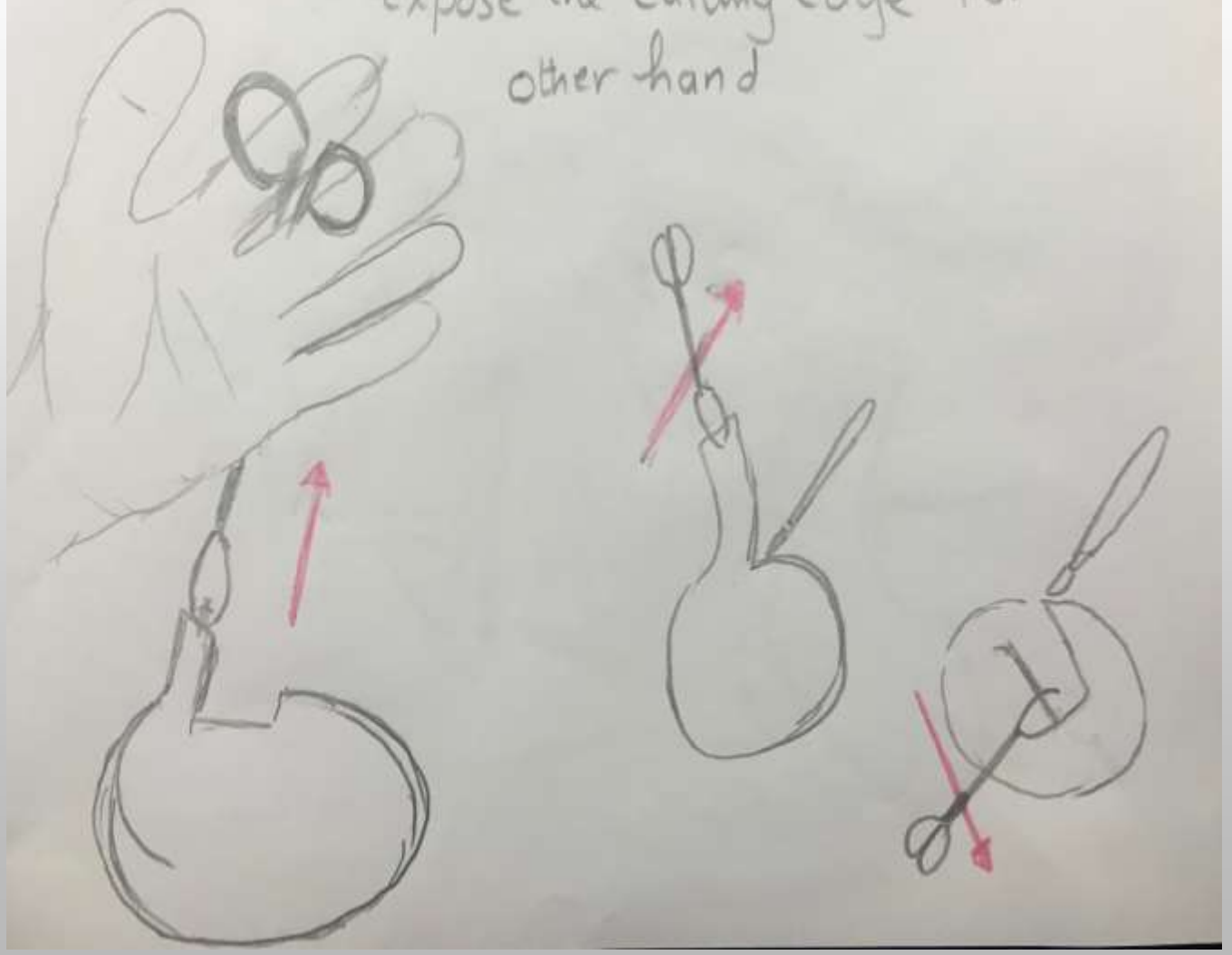




MORCELLACTION

- Large Specimen Needs Morcellation Either Hand Or Mechanical Morcellation .However, They Are Potentially Extremely Hazardous Due To Associated Risk Of Dissemination Of Malignant Disease In Cases Of Undiagnosed Malignancy Espically With Mechanical Morecllator (E.G. Uterine Sarcoma). Thus, The Morcellation Must Done Inside Bag.

During cuttingpull the specimen upward
And move your hand left or right to
expose the cutting edge For the
other hand



PORT CLOSURE

- Ports That Are 10 Mm Or Greater Have A 1–2 % Risk Of Postoperative Incisional Hernia Unless The Fascia Of The Rectus Sheath Is Closed.