15th International Congress of the Jordanian Society of Obstetricians and Gynecologists

In collaboration with The Jordanian British Society for Obstetrics & Gynecology

Guy's and St Thomas' NHS
NHS Foundation Trust

15th International Congress of the Jordanian Society of Obstetricians and Gynecologists
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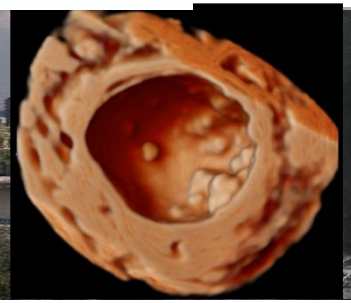
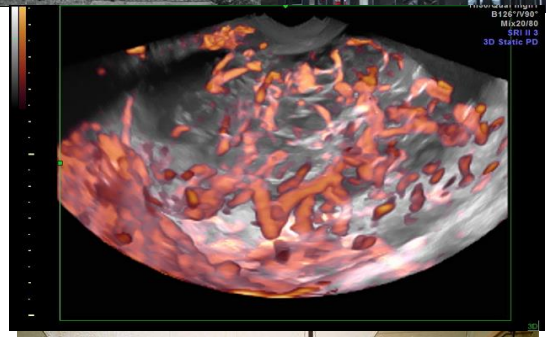
Amman - Jordan





KING'S College LONDON

Minimal Access Surgery for Gynaecological Cancer: Ovarian Masses: Central London Tertiary Level Experience



Asst Prof Ahmad Sayasneh MBChB ArBOG MD(Res) FRCOG

Consultant Gynaecologist and Gynaecological Onclogy Surgeon

Guy's and St Thomas' NHS Foundation Trust

Reader at King's College London

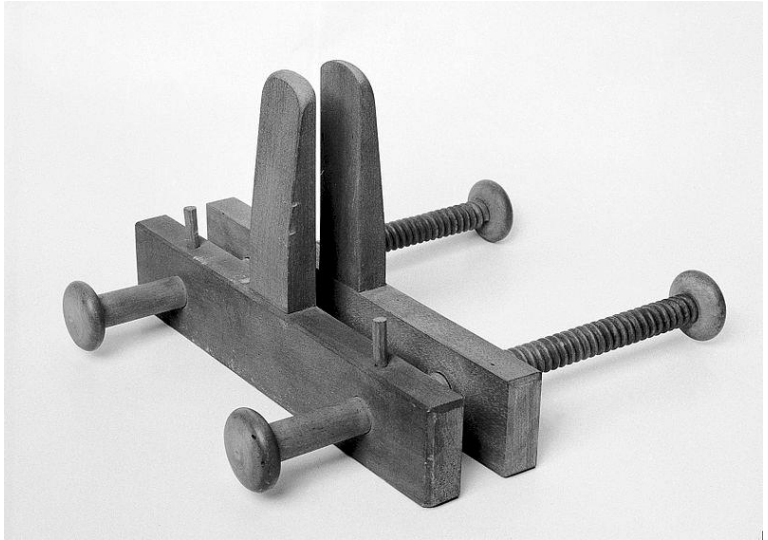
Honorary Senior Clinical Lecturer at Imperial College London

Lead for Undergraduate Education for Women's Health, KCL

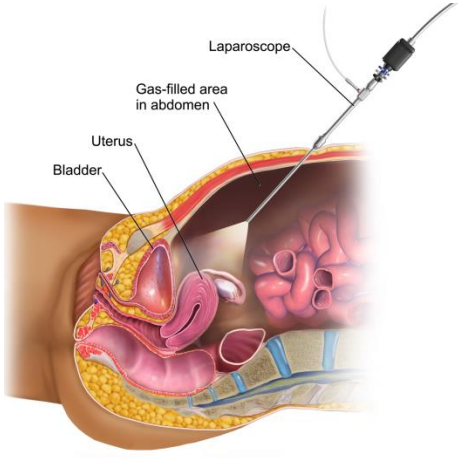
Ovarian Masses Rapid Access Clinic Lead at GSTT

History

- 936-1013: Abulcasis speculum
- 1805: Bozzini visulised human urethra
- Mid 1800s: Fisher and Segales scopes
- 1853: Desormeaux scope using alcohol and a lens
- 1868: Kussmaul esophagoscopy
- 1877: Nitze cystoscopy using electrically heated wires
- 1880: Thomas Edison electrical light bulb
- 1889: Boisseau de Rocher (sheath)



History



1902: Georg Kelling , first dogs celioscopy
1910: Hans Christian Jacobaeus first human laparoscopy
1924: Zollikofer and use of CO2
1929: Kalk and using 135 degrees lens system and double trocars
1938: Janos Veress and the spring needle
1952 Fourestier, Gladu, and Valmiere and "cold light" fiberglass illumination.
1977: Kurt Semm automatic insufflation system, thermocoagulation, irrigation/aspiration device, morcellator and knot tying.
1980: Patrick Steptoe from England, started to perform laparoscopic procedures.
1983: Semm performed the first appendectomy ever done laparoscopically
1987 Phillipe Mouret performed the first video-laparoscopic cholecystectomy in Lyons, France.
1994: robotic arm was designed to hold the laparoscope camera and instruments.
 1996 The first ever live broadcast of laparoscopic surgery via the Internet was performed.

Why minimal access

Less post-operative scarring
Reduced pain
Shorter recovery time
Less time spent in hospital to recover
Reduced haemorrhaging
Reduced risk of exposing internal organs to external contaminants
Quicker return to normal activities
Quicker return to work
Reduced wound complications

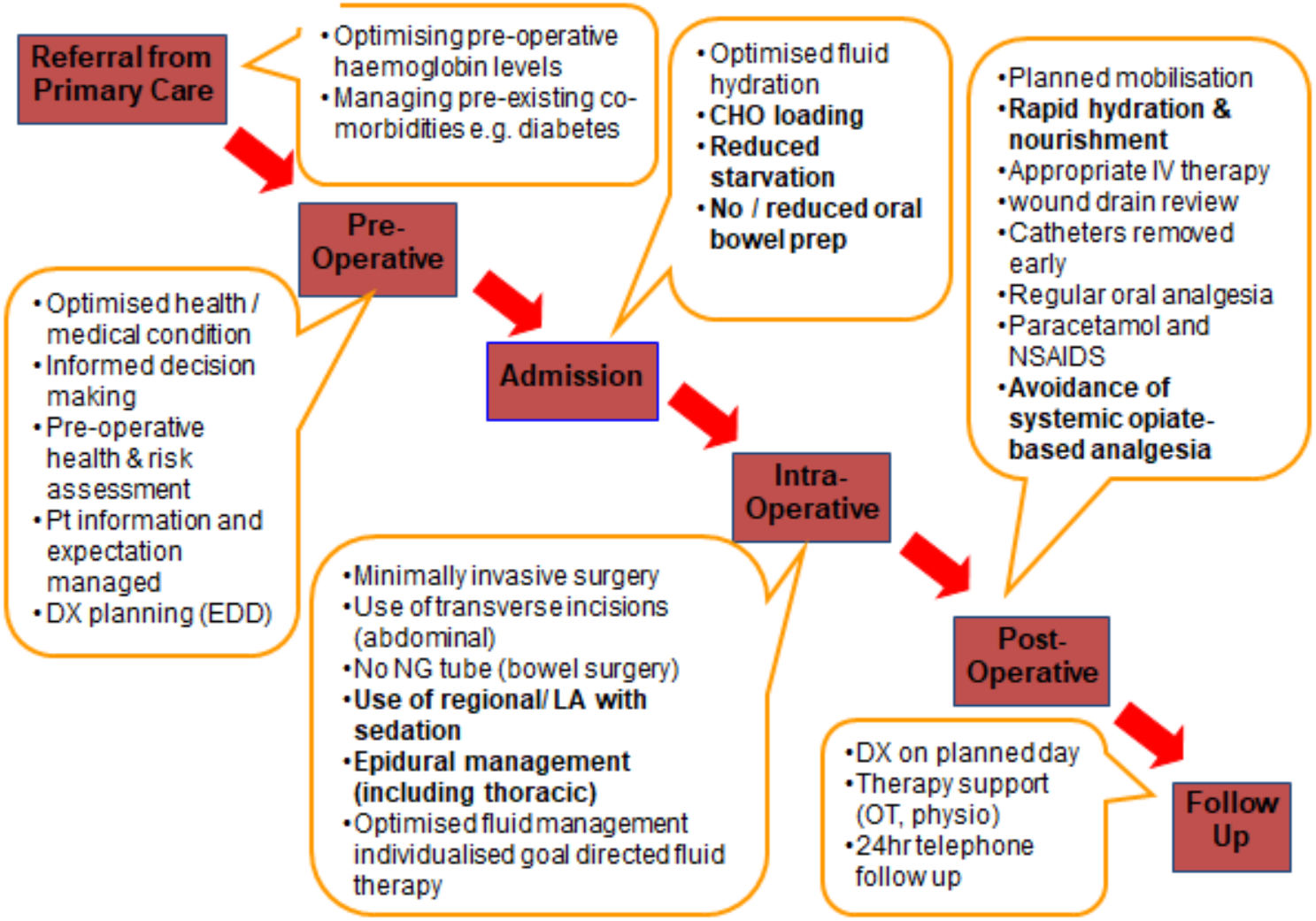
Laparoscopy vs. Robotics

- Depends on Trust policy and strategy
- Benefit to surgeon
- Benefit to patients
- Cost
- Training
- 4 Quadrants operation and redocking?

Complication rate at GSTT

- 123 cases over 18 months
- Majority are endometrial cancer
- 1.5 % bladder injury
- <1% bleeding
- <1% femoral nerve injury
- 2% post op infection
- 1% ileus
- No bowel injury reported
- Similar to laparoscopy complications
- Post op stay was 1-2 days less than laparoscopy cases

Patient pathway

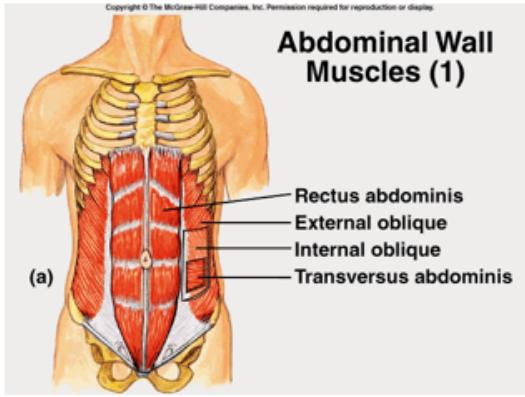


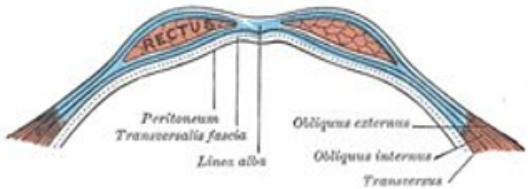
Intra-operative preparation

- WHO STOP moment
- Catheter insertion
- Bimanual examination
- Appropriate preparation and drape

Anterior abdominal wall

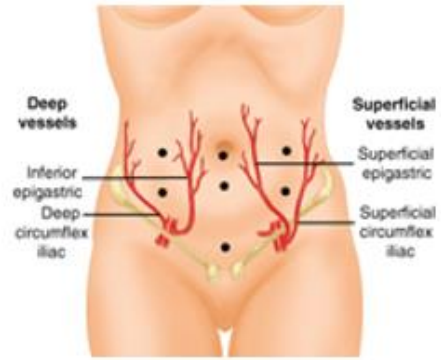
- Skin
- Adipose tissue
- Rectus sheath
  - External oblique
  - Internal oblique
  - Tanversalis
- Rectus abdominis muscle
- peritoneum



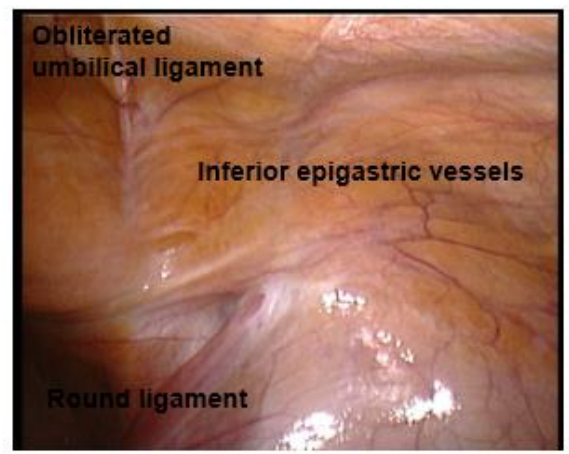


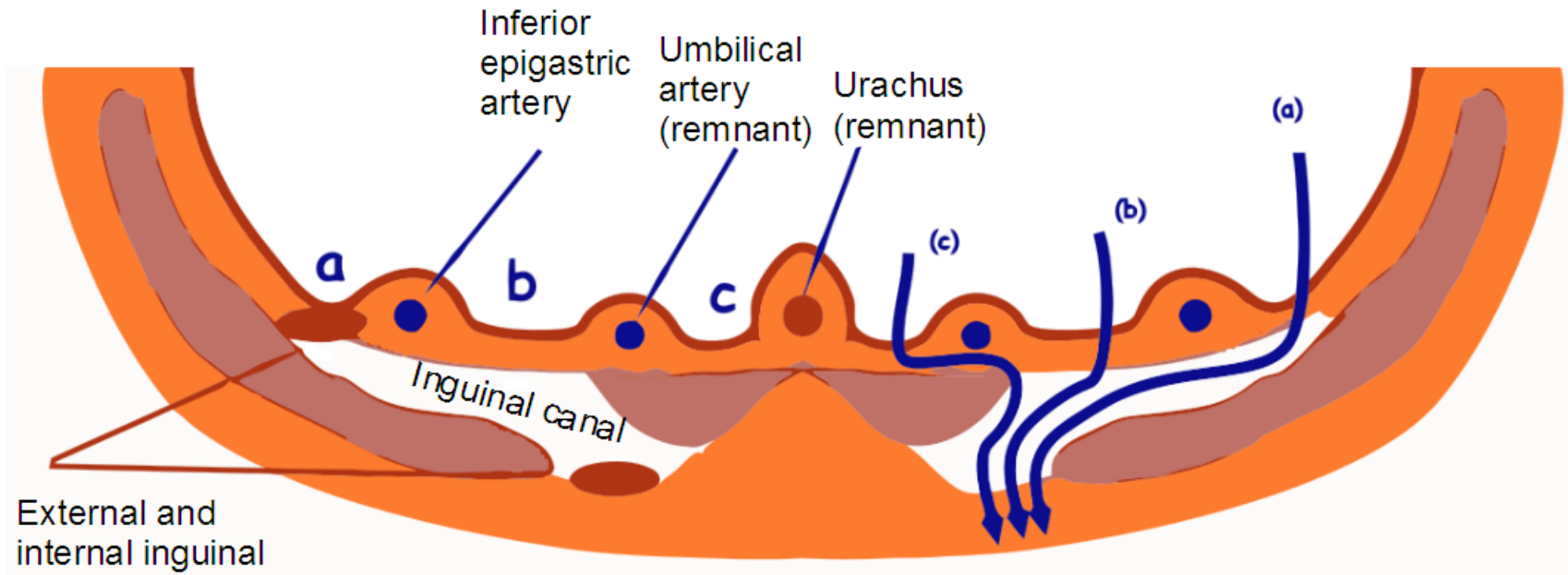
Anterior abdominal wall

- Superficial epigastric vessels (above rectus muscle / sheath)



- Inferior epigastric vessels (below rectus muscle)
  - McBurney's point; 1/3 distance from anterior superior iliac spine to umbilicus





a) lateral fossa
b) medial fossa
c) supravesical fossa

Anterior abdominal wall

- Umbilicus lies at bifurcation of the aorta (~L4)
- LCI Vein crosses the midline ~ 3-6cm below the umbilicus
- Renal vessels (L2)
- Ovarian arteries (L3)

The American Journal of Surgery

Volume 192, Issue 6, December 2006, Pages 843–847

PAPERS FROM THE SOUTHWESTERN SURGICAL CONGRESS

58th Annual Meeting of the Southwestern Surgical Congress

Papers presented

Use of transabdominal ultrasound to identify intraabdominal adhesions prior to laparoscopy: a prospective blinded study

Presented at the 58th Annual Meeting of the Southwestern Surgical Congress, Kauai, Hawaii, April 3–7, 2006

Shanu N. Kothari, M.D.[a,] · , Larry J. Fundell, M.D.[a], Pamela J. Lambert, R.N.[b], Michelle A. Mathiason, M.S.[b]

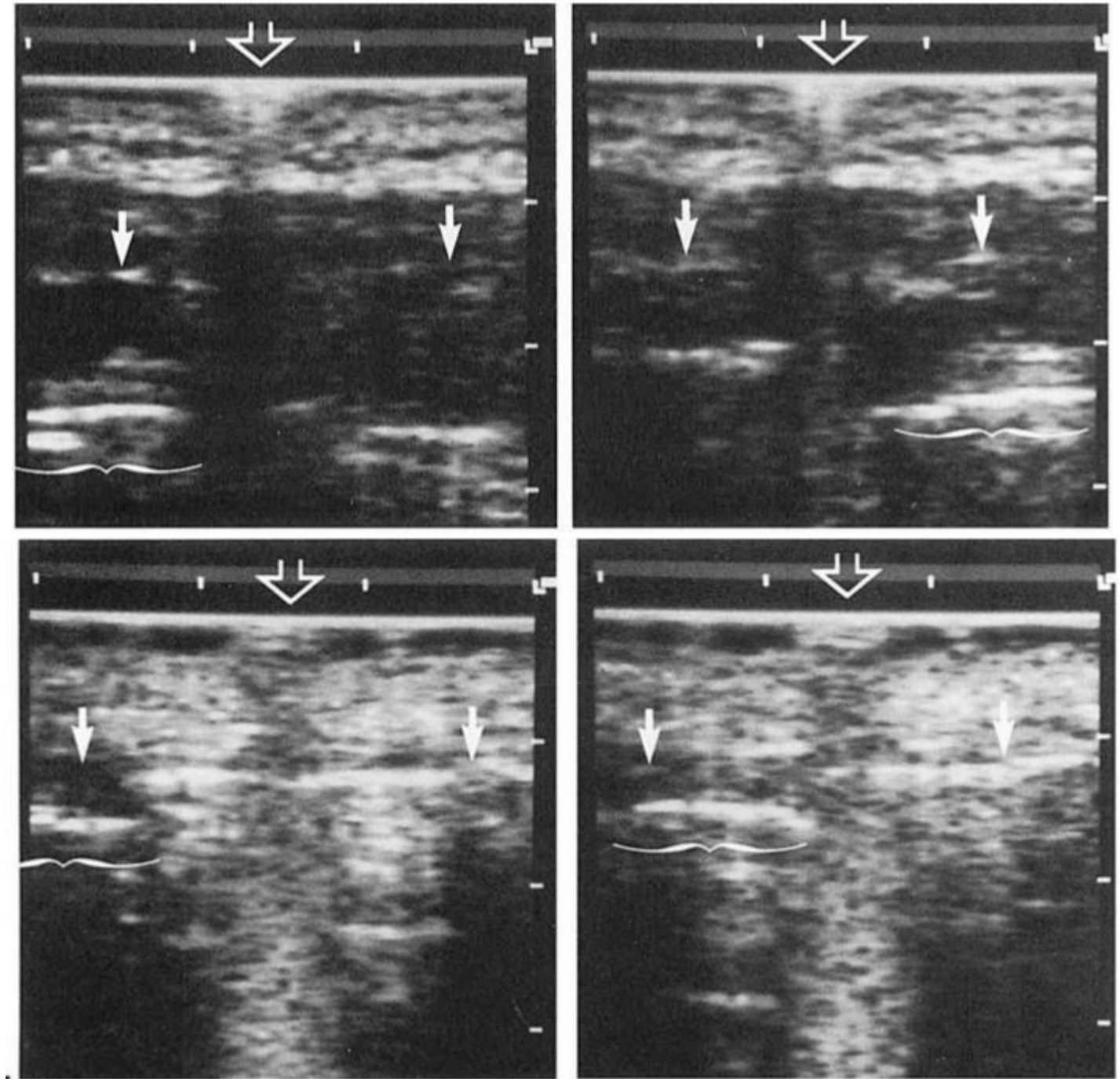
Kodama's visceral slide

J Clin Ultrasound 20:375–380, July/August 1992
 CCC 0091-2751/92/060375-06 $04.00

Ultrasonic Detection of Viscera Slide as an Indicator of Abdominal Wall Adhesions

Issei Kodama, MD, Laurie A. Loiacono, MD, Bernard Sigel, MD,
Junji Machi, MD, PhD, Robert M. Golub, MD, Richard E. Parsons, MD,
Jeffery Justin, Howard A. Zaren, MD, and Ajit K. Sachdeva, MD

- Sliding of 1 cm with normal breathing and 3 cm with enhanced breathing



Guidelines

The various Veress needle safety tests or checks provide very little useful information on the placement of the Veress needle (II-1 A)

The Veress intraperitoneal (VIP-pressure 10 mm Hg) is a reliable indicator of correct intraperitoneal placement of the Veress needle (II-1 A)

Elevation of the anterior abdominal wall at the time of Veress or primary trocar insertion is not routinely recommended, as it does not avoid visceral or vessel injury (II-2 B)

The angle of the Veress needle insertion should vary according to the BMI of the patient, from 45 in non-obese women to 90 in obese women (II-2 B)

The volume of CO2 inserted with the Veress needle should depend on the intra-abdominal pressure (II-1 A)

In the Veress needle method of entry, the abdominal pressure may be increased immediately prior to insertion of the first trocar (II-1 A)

There is no evidence that the open entry technique is superior to or inferior to the other entry techniques currently available. (II-2 C)

Direct insertion of the trocar without prior pneumoperitoneum may be considered as a safe alternative to Veress needle technique. (II-2)

Direct insertion of the trocar is associated with less insufflation-related complications such as gas embolism, and it is a faster technique than the Veress needle technique (I)

Shielded trocars may be used in an effort to decrease entry injuries. There is no evidence that they result in fewer visceral and vascular injuries during laparoscopic access. (II-B)

The visual entry cannula system may represent an advantage over traditional trocars. Visual entry trocars are non-superior to other trocars since they do not avoid visceral and vascular injury (2 B)

- Left upper quadrant (LUQ, Palmer's) laparoscopic entry should be considered in patients with suspected or known periumbilical adhesions or history or presence of umbilical hernia, or after three failed insufflation attempts at the mbilicus. (II-2 A) Other sites of insertion, such as transuterine Veress CO2 insufflation, may be considered if the umbilical and LUQ insertions have failed or have been considered and are not an option. (I-A)

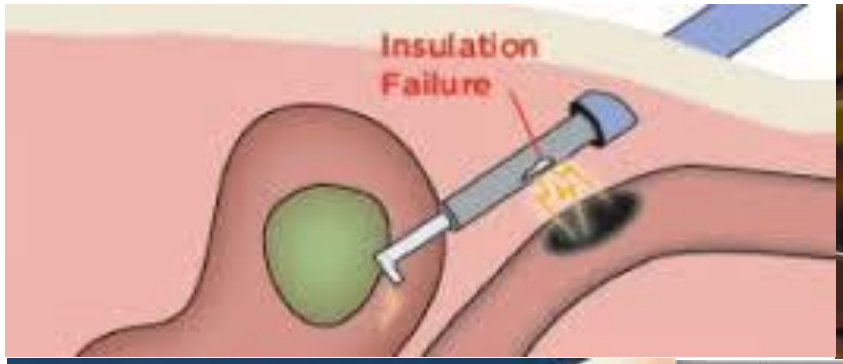
Communication
Gynecological Surgery
May 2011, Volume 8, Issue 2, pp 227-230

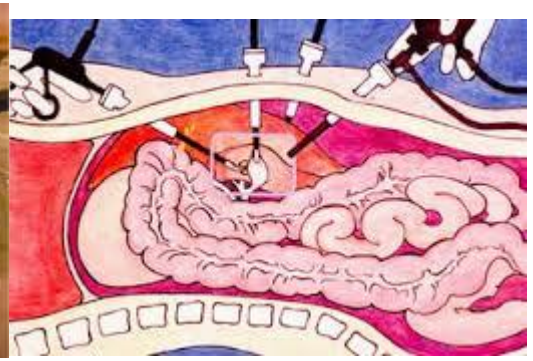
First online: 22 January 2009

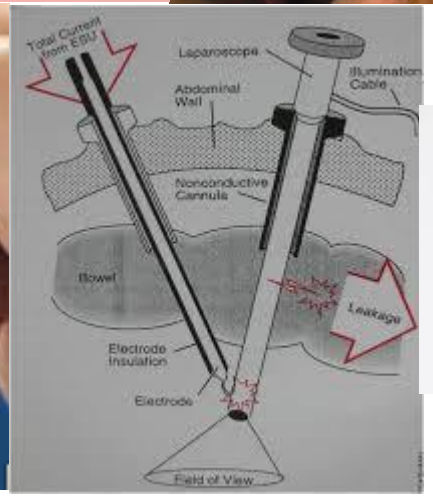
A case report of incisional hernia through a 5-mm lateral port site following laparoscopic right ovarian cystectomy

A. Sayasneh ✉ , H. Nosib, H. Abdel-Rahman

Laparoscopic Electrosurgery







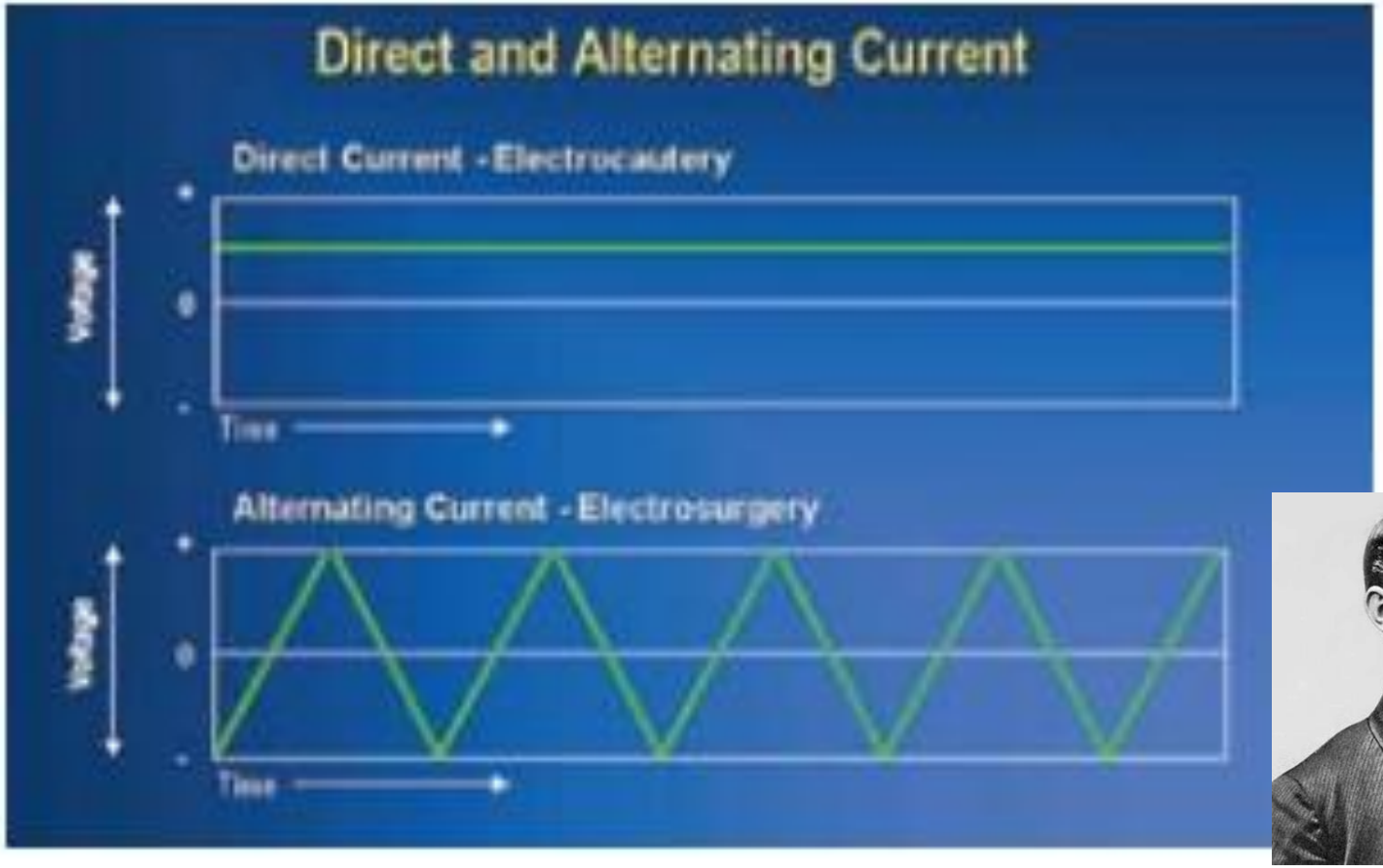
Power Equation

- **Power = Voltage x Current**

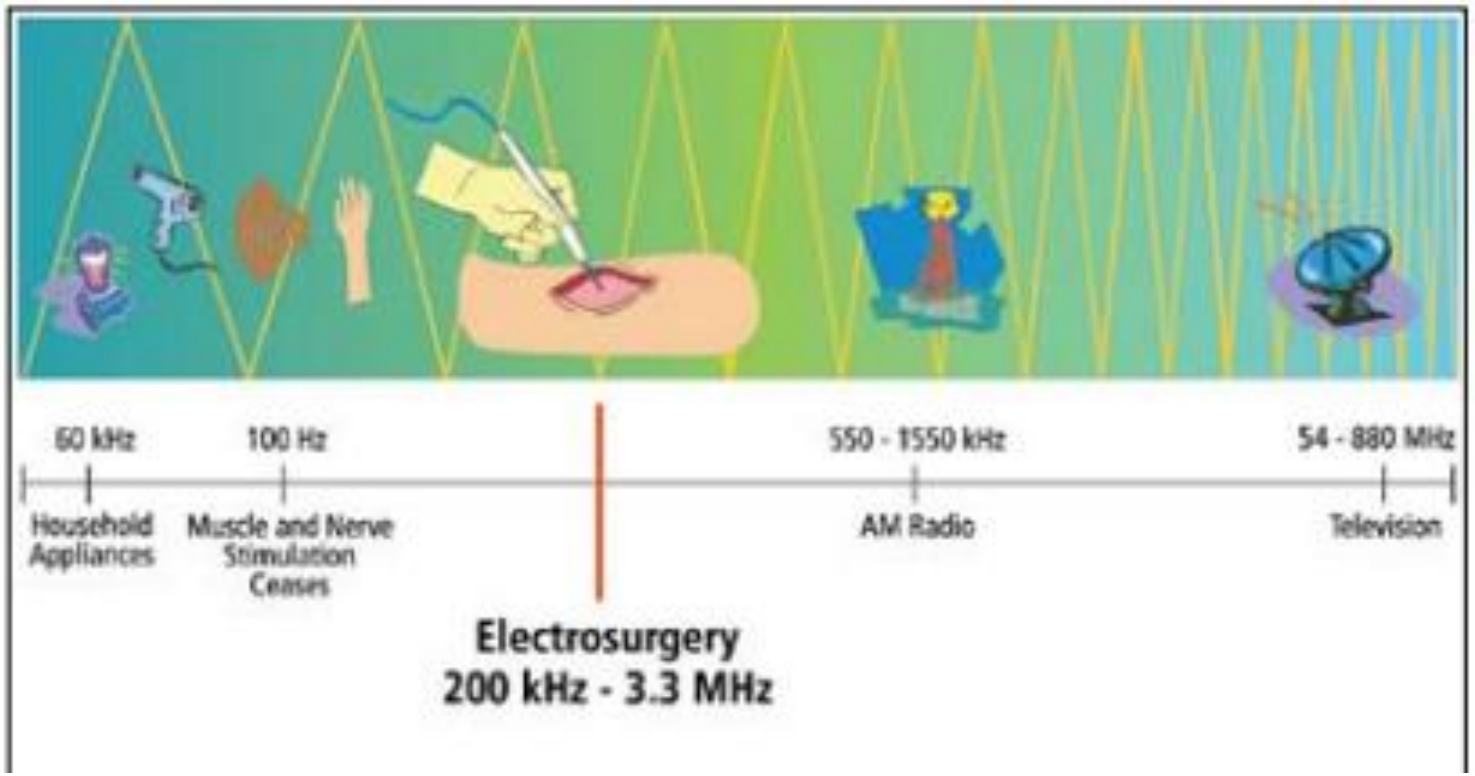
- Watt= V X Amp
- From Ohm's low:
- Watt= Amp x Ohm x Amp
- Watt = Amp2 x Ohm $\longrightarrow$ Amp2 = Watt/Ohm
- Therefore: Current flow=$\sqrt{}$ Power/Resistance
- Quantity of heat Q (calorie) = Power(Watt) x Time (Second)
- Cal= Watt x Second = Amp x Volt x Second= Amp^2 X Ohm x S
- One cal is the amount of heat required to heat one cubic cm of water 1 celsius degree.

DC/ AC and Frequency

- Alternating current reverses direction a number of cycles in the second
-



Frequency


60 kHz
100 Hz
550 - 1550 kHz
54 - 880 MHz
Household Appliances
Muscle and Nerve Stimulation Ceases
AM Radio
Television
Electrosurgery
200 kHz - 3.3 MHz

Effect of different AC frequencies on biological tissue

- 60 Hz: The household elect5rical shock
- Faradic effects. Up to 200-300 KHz
- Above 300 KHz: No Faradic effect
- Rectification of AC frequency can happen in electrosurgery and lower the frequency to cause a Faradic effect.
- **Heat effect**

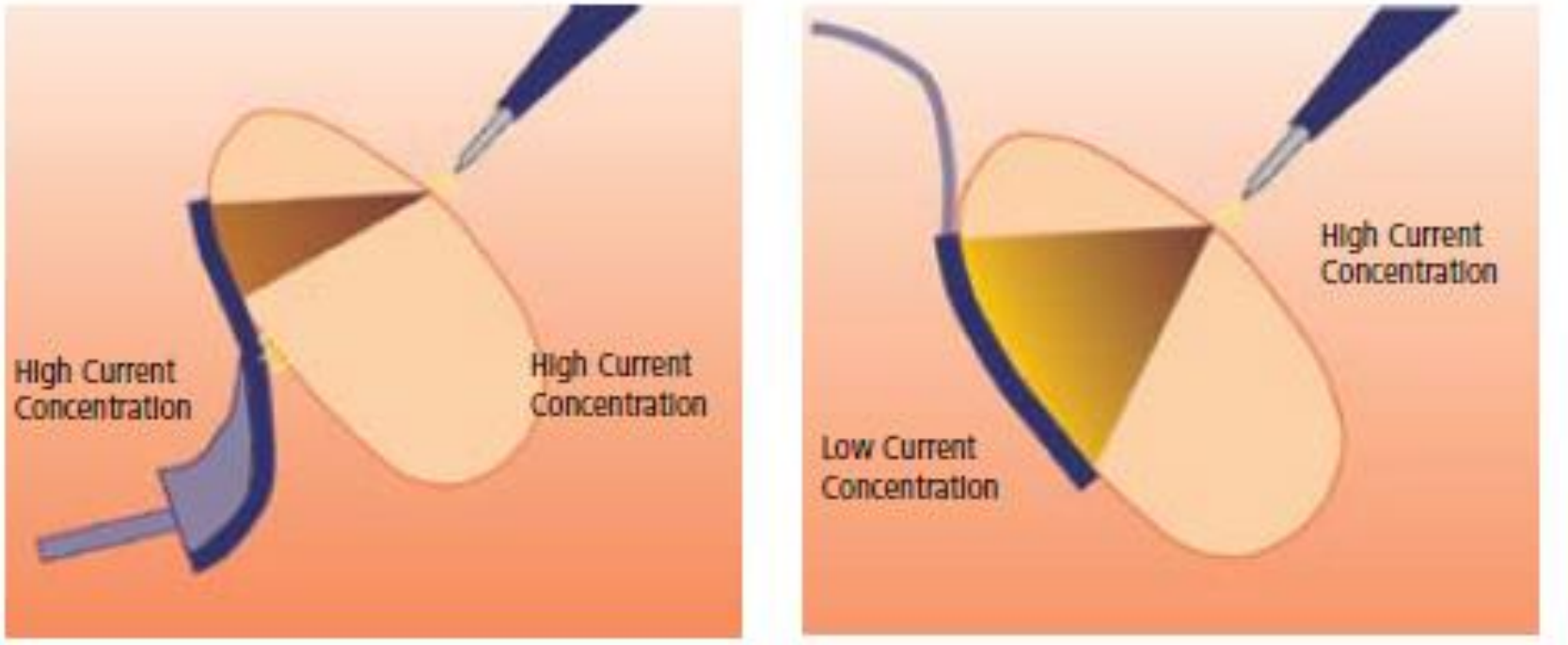
Example

- If current flow is 0.5 Amp
- Resistance is 100 Ohms
- The current will produce heat of 6 calories, which means an increase in temperature of 6 c degrees for 1 cm cube of tissues.
- If the same energy is concentrated to 0.1 cm cube, then he rise will be 60 degrees c.

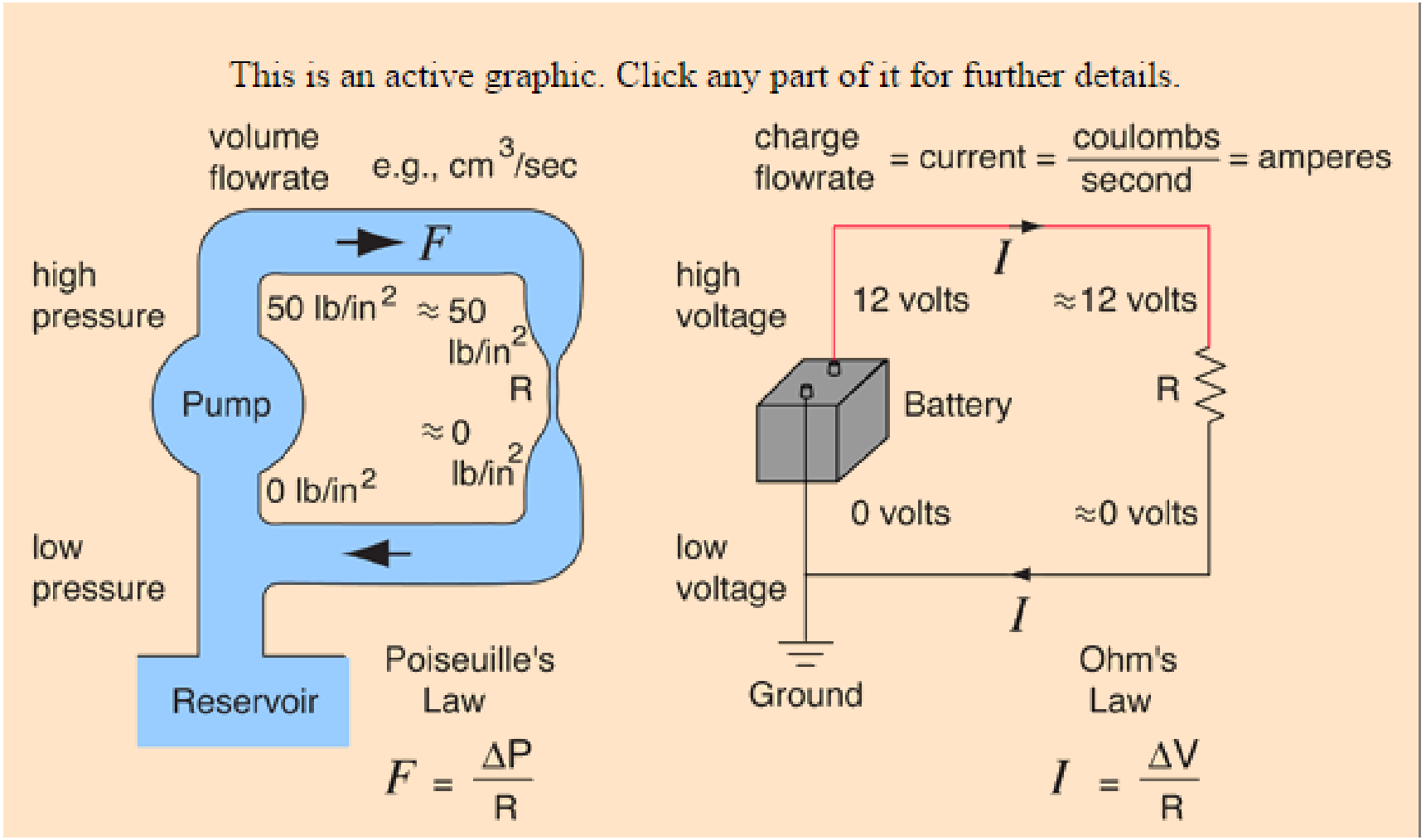
Power density

- The only cofactor in electrosurgery to control power density is the electrode size.

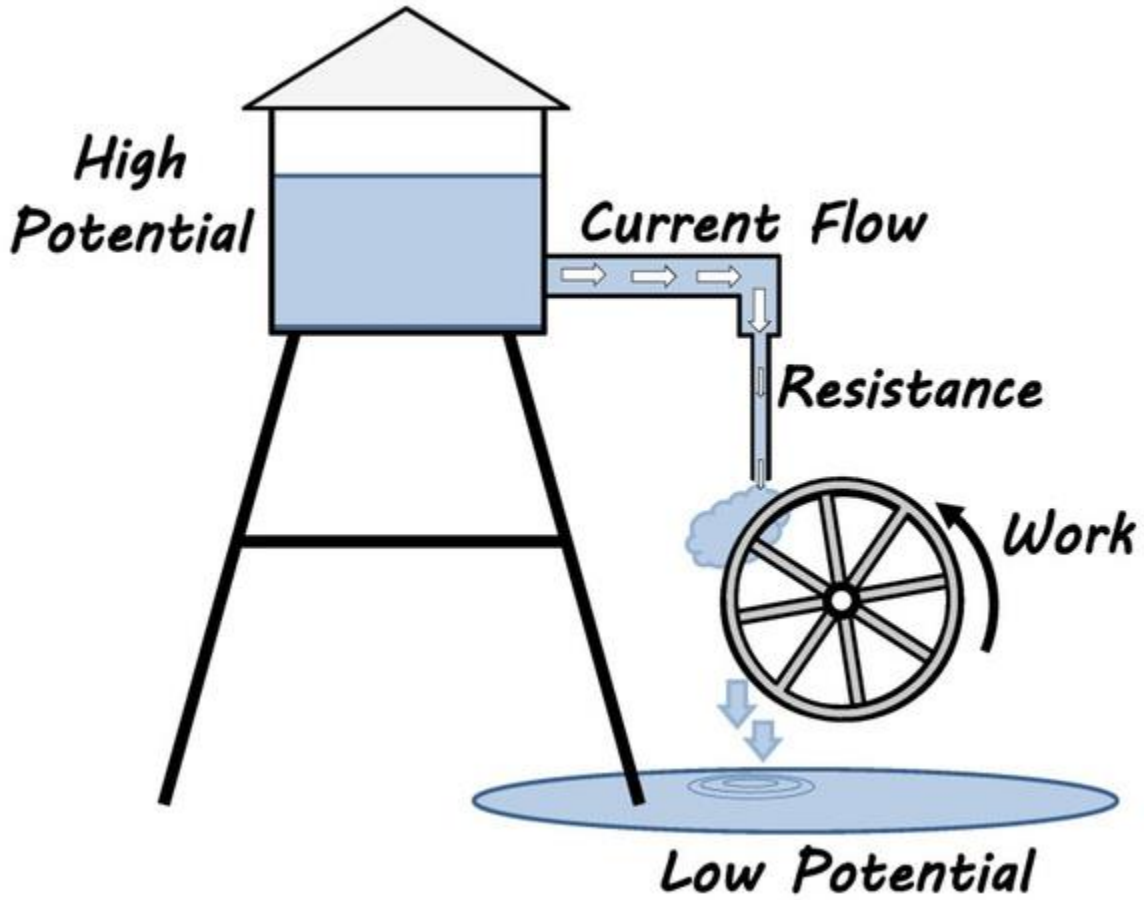
The more concentrated the energy the greater the thermodynamic effect.



The Water flow analogy to electrical circuit



Water = electricity



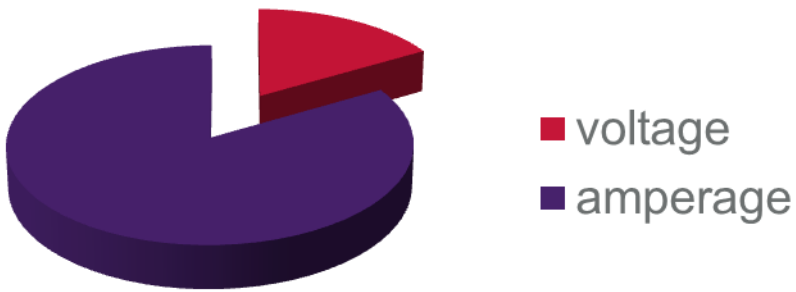
Coag vs. Cutting

- Coag does not refer to haemostasis
- Cutting does not refer to settings for incision.

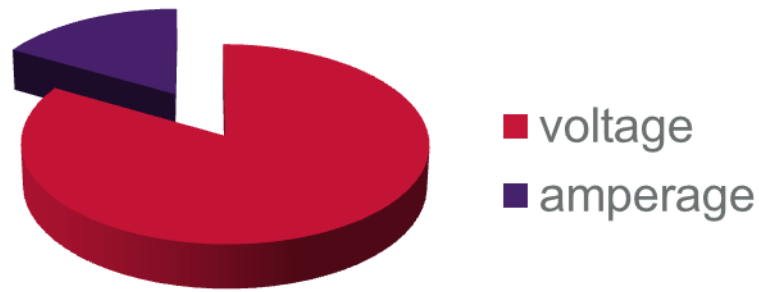
- If power is fixed: Power= Voltage x Amperage
- Coag: Settings with high voltage and lower Amperage (flow)

- Cutting: Settings with highest flow with low voltage

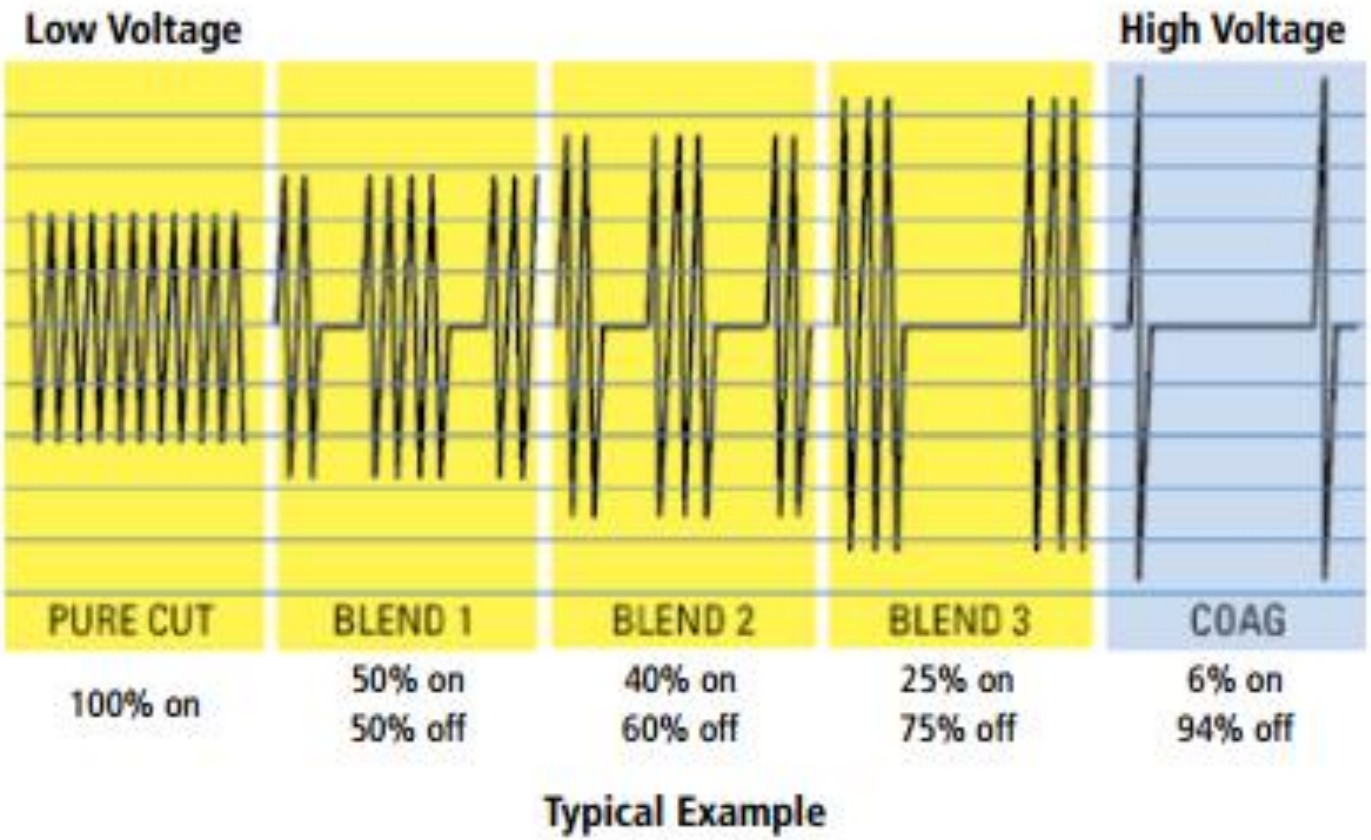
cutting



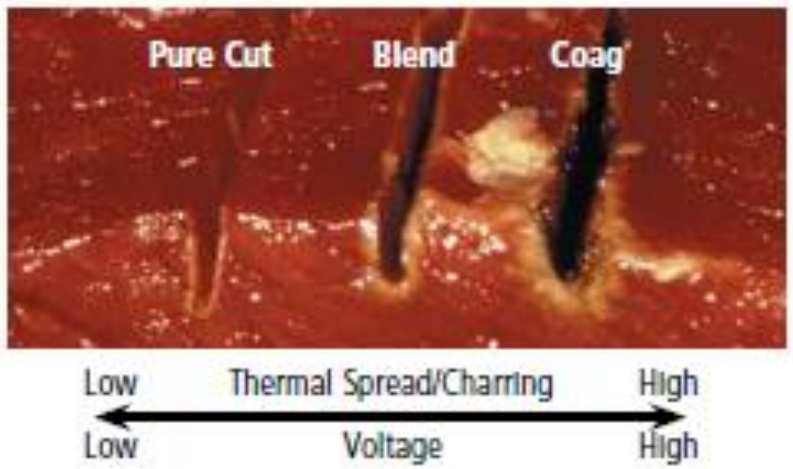
coag

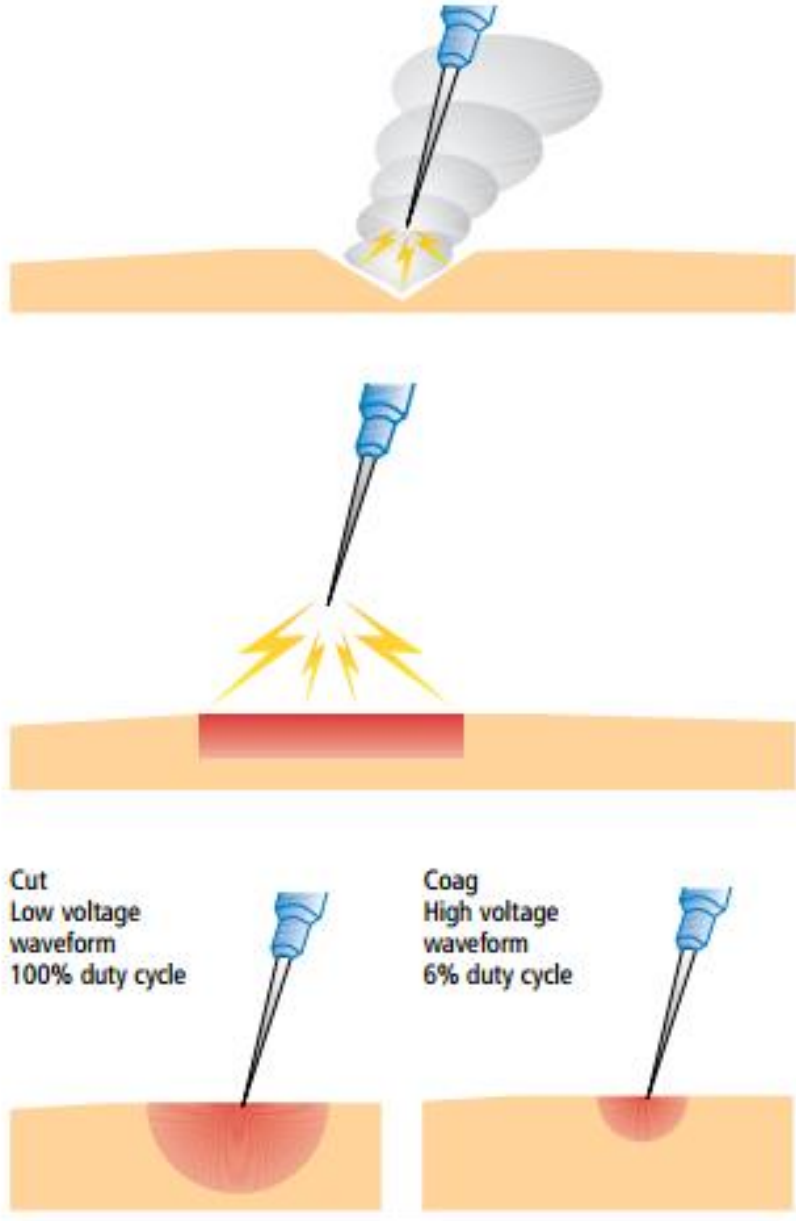


Coag vs. cutting and frequancy

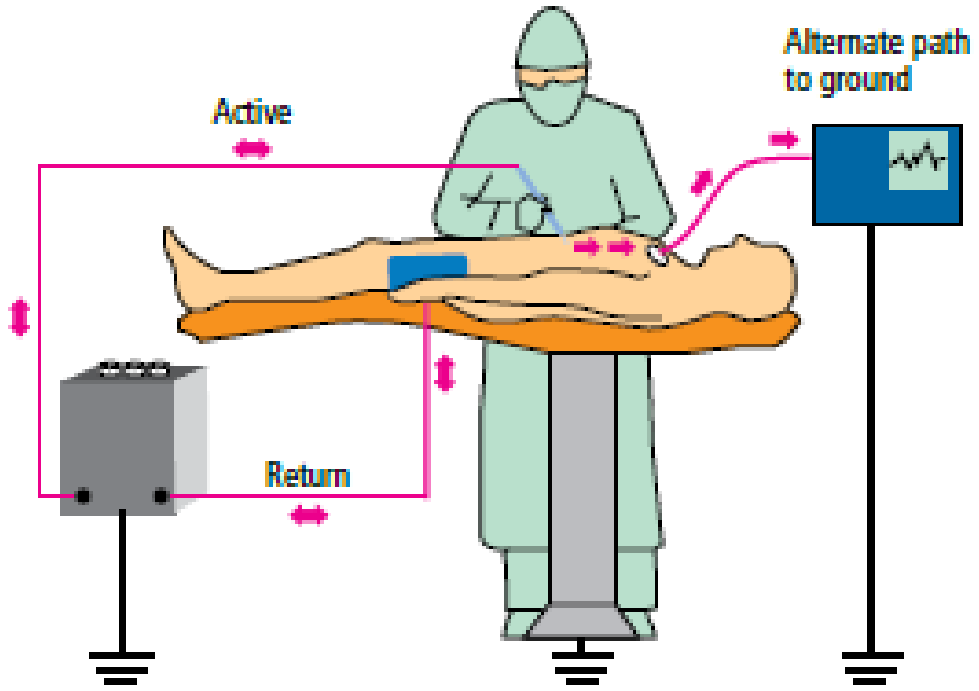


- Cutting can be better for deep tissue haemostasis
- Coag settings is better for superficial haemostasis
- Role of tissue mechanical tention
- Size of instrument
- Shape of instrument

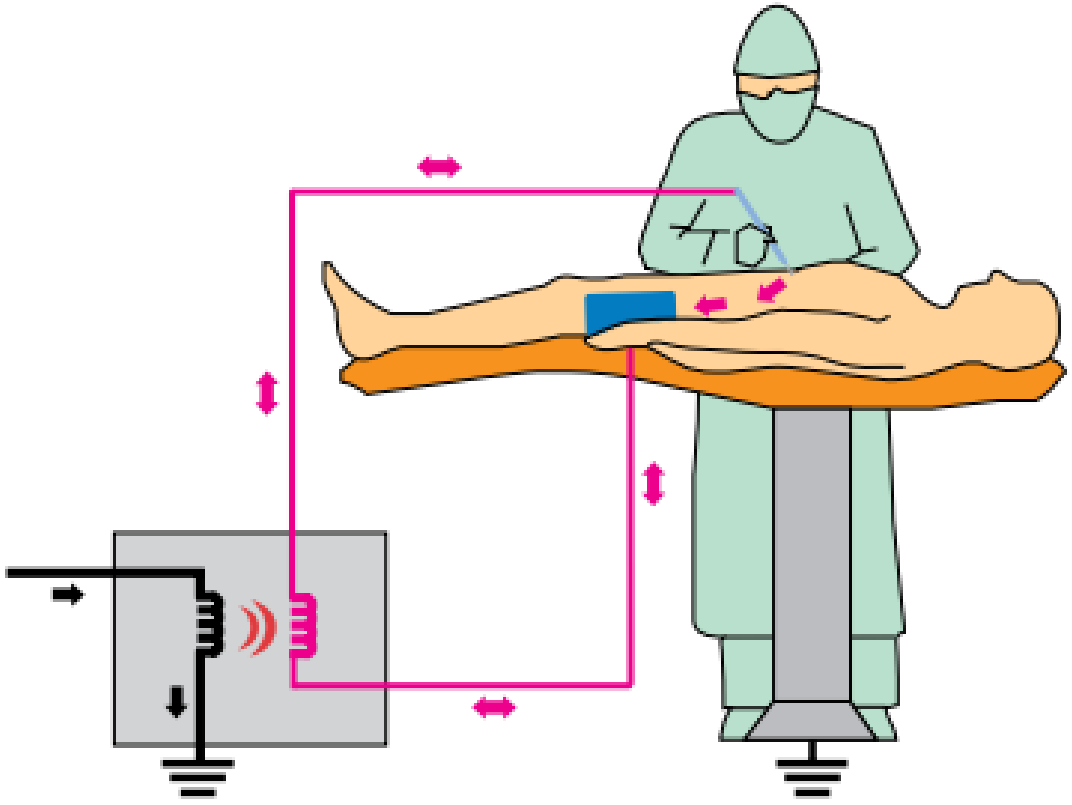

Pure Cut
Blend
Coag
Low
Thermal Spread/Charring
High
Low
Voltage
High


Cut
Low voltage
waveform
100% duty cycle
Coag
High voltage
waveform
6% duty cycle

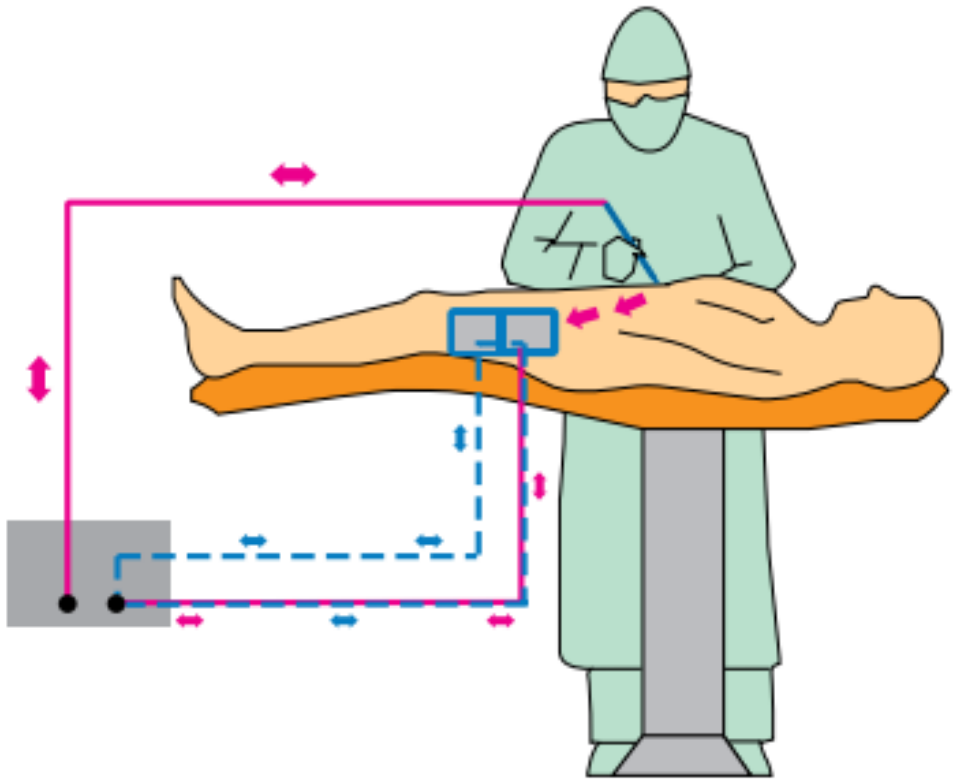
Grounded electrosurgical system



Isolated electrosurgical system



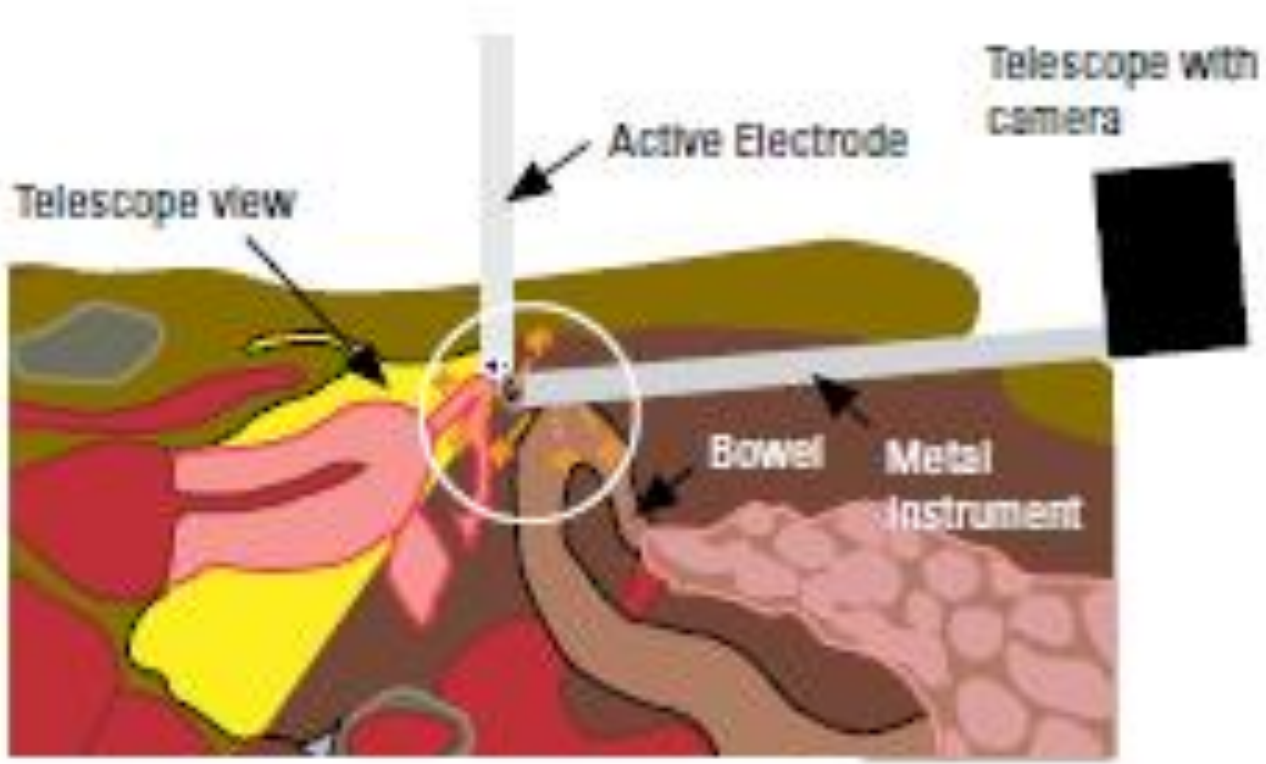
Return electrode monitoring



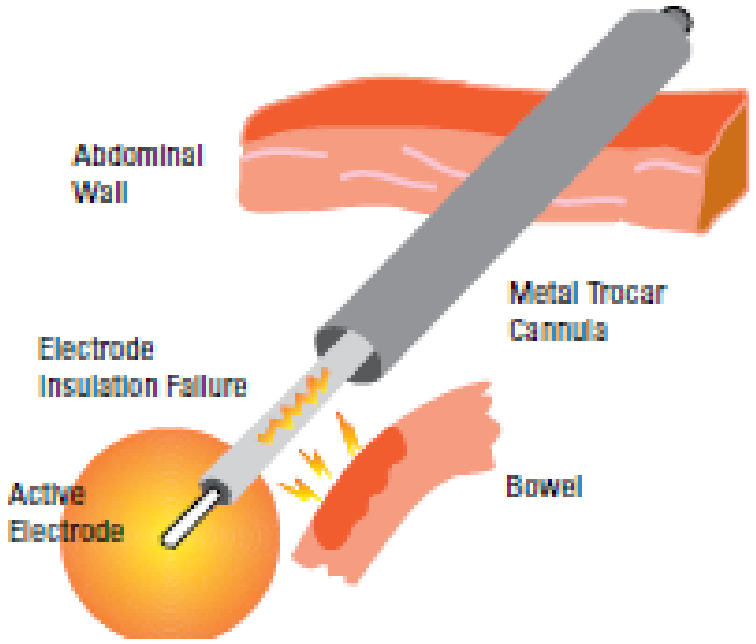
Electrosurgery safety consideration

- Direct Coupling
- Insulation failure
- Capacitive coupling

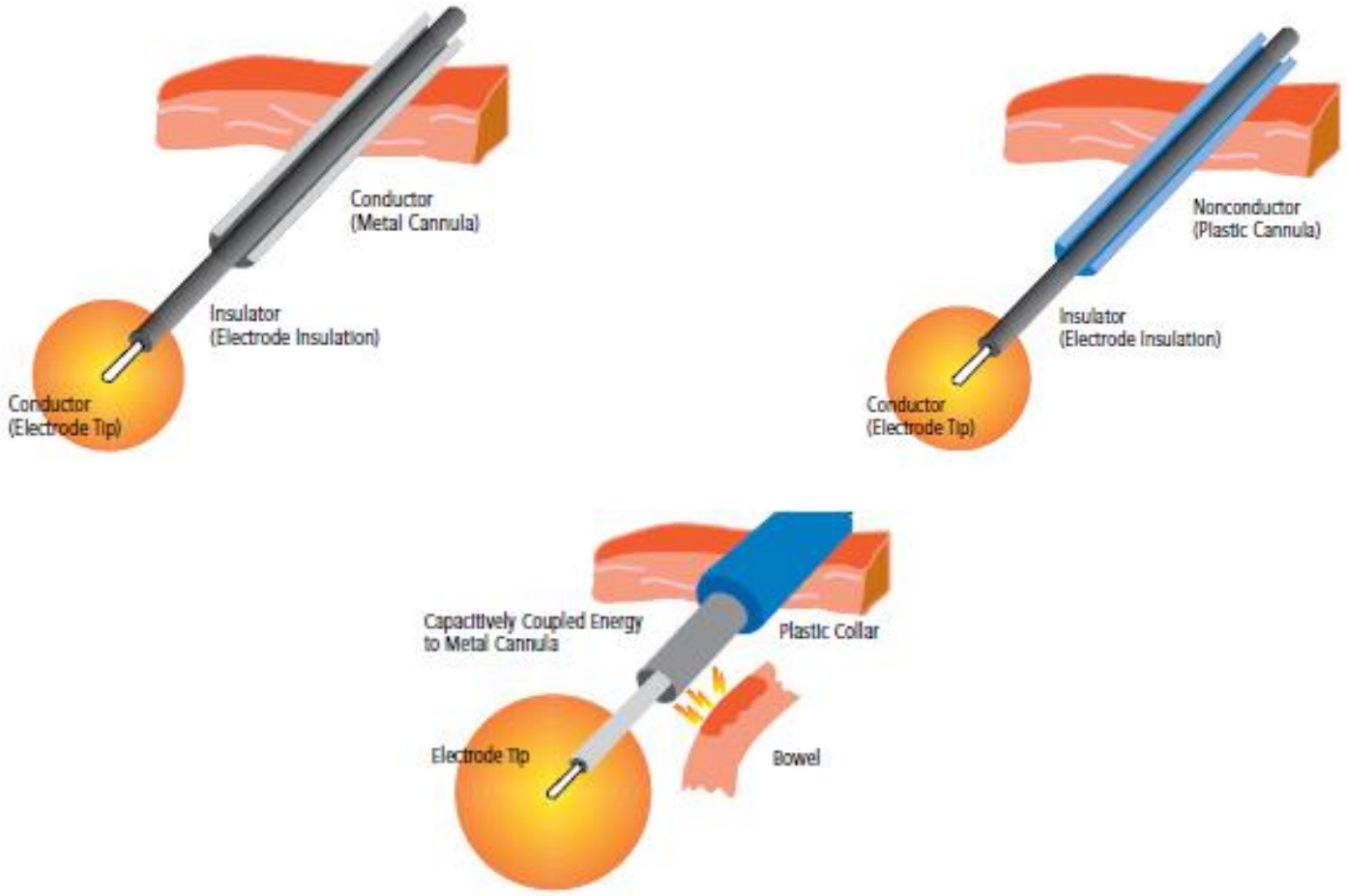
Direct coupling



Insulation Failure



Capacitive coupling



Recommendation for safe electrosurgery

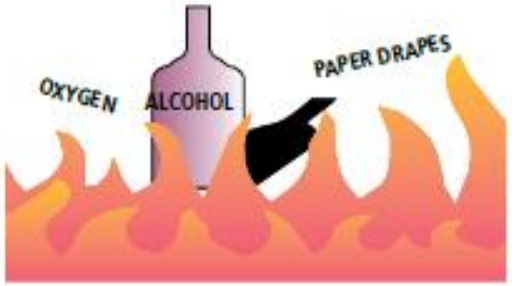
- Inspect insulation carefully
- Use lowest possible power setting
- Use a low voltage waveform (cut)
- Use brief intermittent activation vs. prolonged activation
- Do not activate in open circuit
- Do not activate in close proximity or direct contact with another instrument

- Use bipolar electrosurgery when appropriate
- Select an all metal cannula system as the safest choice. Do not use hybrid cannula systems that mix metal with plastic.
- Utilize available technology, such as a tissue response generator to reduce capacitive coupling or an active electrode monitoring system, to eliminate concerns about insulation failure and capacitive coupling.

"The smoke plume generated from electrosurgery contains chemical byproducts. The Occupational Safety and Health Administration recommends that smoke evacuation systems be used to reduce potential acute and chronic health risks to patients and personnel."

AORN Recommended Practices for Electrosurgery 2003

O.R. SAFETY PRECAUTIONS



- "The ESU should not be used in the presence of flammable agents (i.e., alcohol and/or tincture-based agents)"

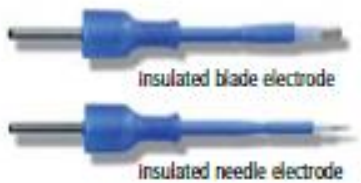
  AORN Recommended Practices for Electrosurgery 2003

- Avoid oxygen-enriched environments

- Use of a nonconductive holster is recommended by:
  - ECRI, Los Angeles Fire Marshall, AORN
  - Cutting Your Legal Risks of Electrosurgery in OBG Management

"The active electrode(s) should be placed in a clean, dry, well-insulated safety holster when not in use."

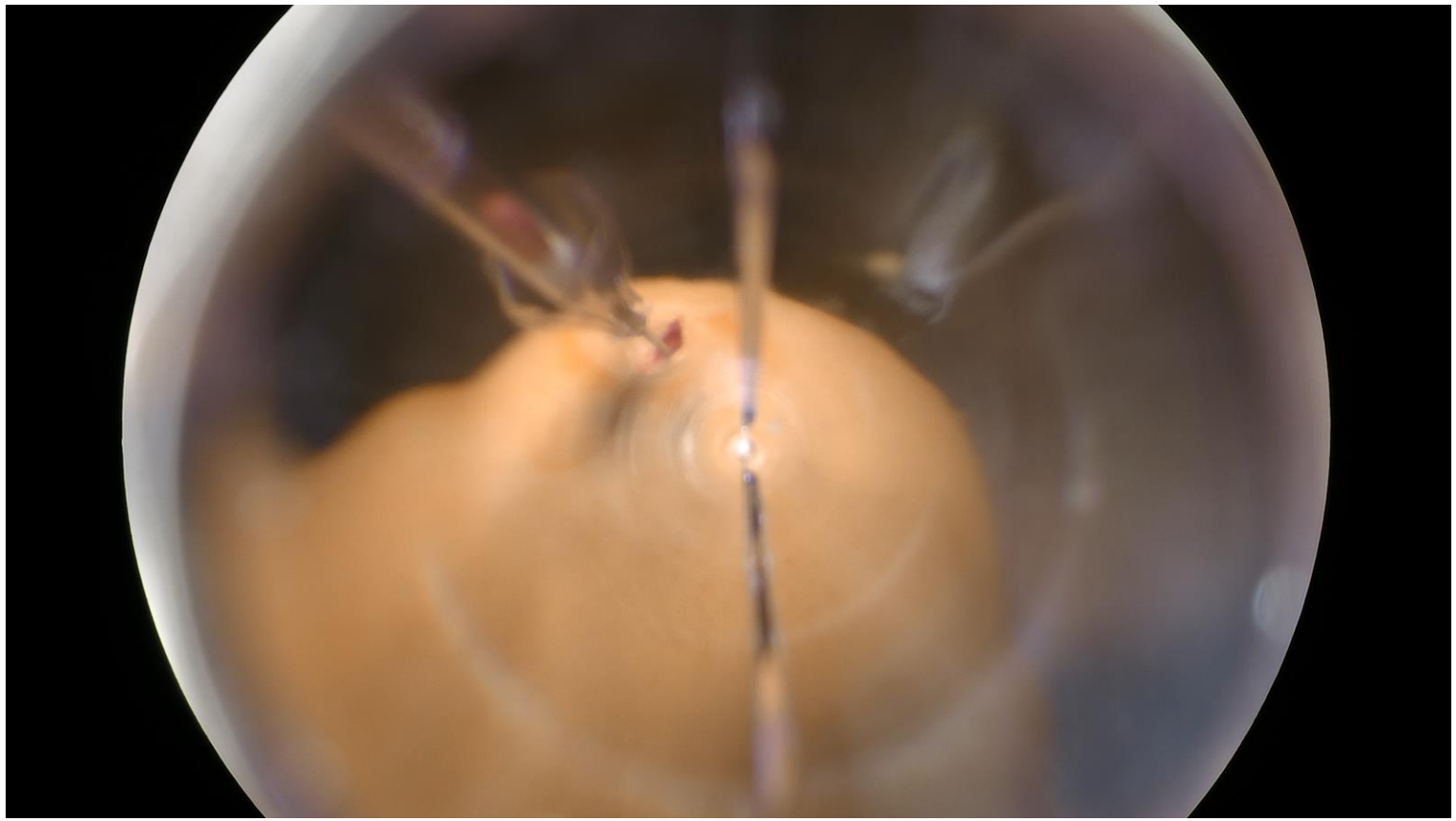
AORN Recommended Practices for Electrosurgery 2003



- Do not use red rubber catheters or other materials as a sheath on active electrodes
  - Red rubber and other plastic materials may ignite with high power settings and in the presence of an oxygen-enriched environment
  - Use manufacturer-approved insulated tips

Radiofrequency is not always confined by insulation.
Current leakage does occur.

- It is recommended that:
  - Cords not be wrapped around metal instruments
  - Cords not be bundled together

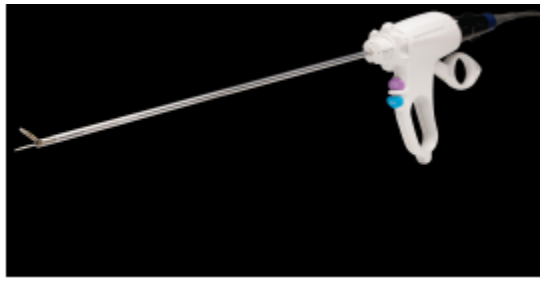


Indications for MIS in GO

- Endometrial Cancer
- Cervical Cancer
- Ovarian BOT/Low grade tumours
- Vulval

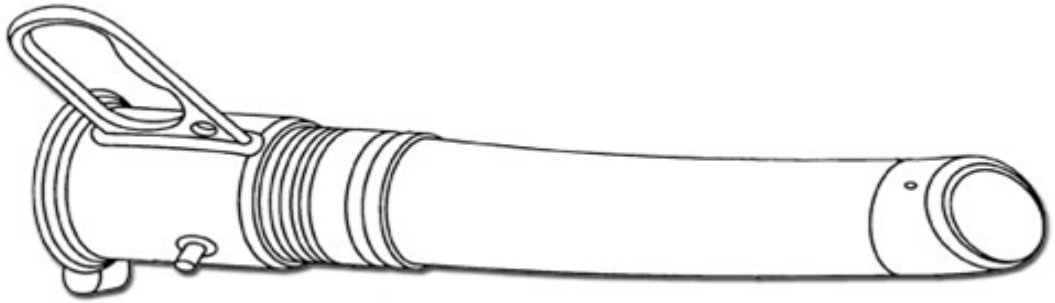
Equipment

Equipment – Energy Sources



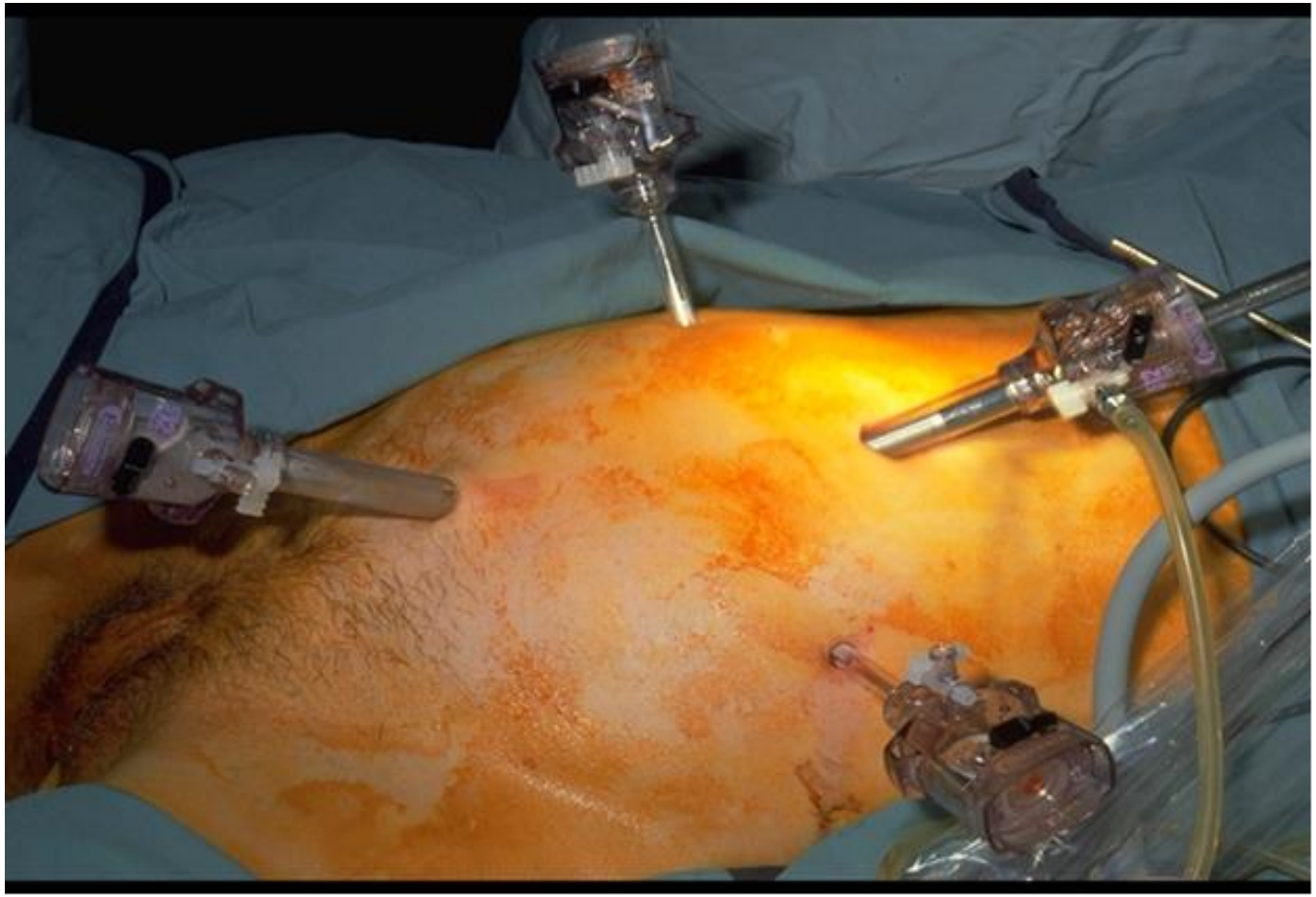
Equipment - Instruments

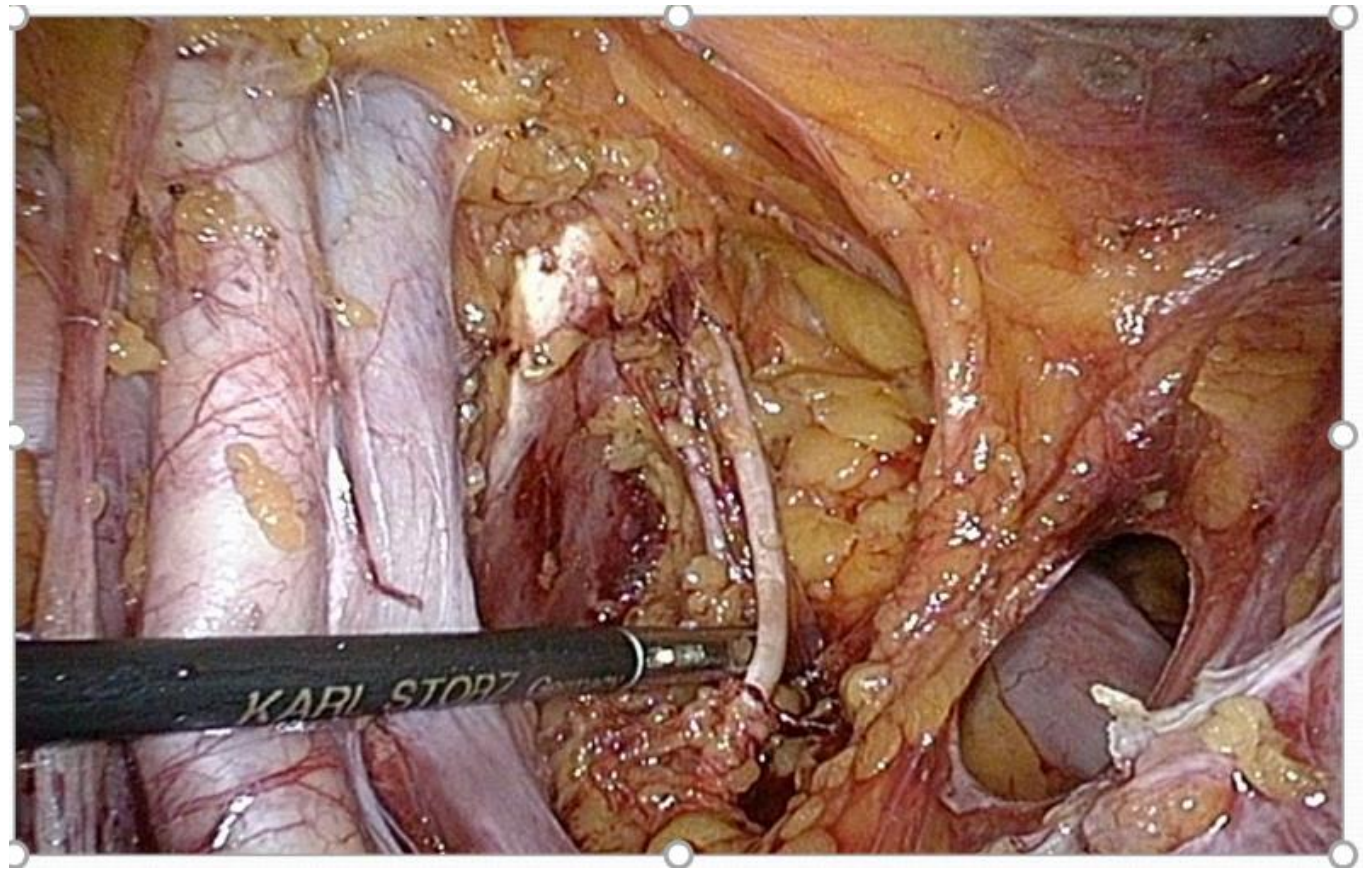
Equipment - Manipulators



Positioning of the Patient

Position of the Trocars




KARL STORZ

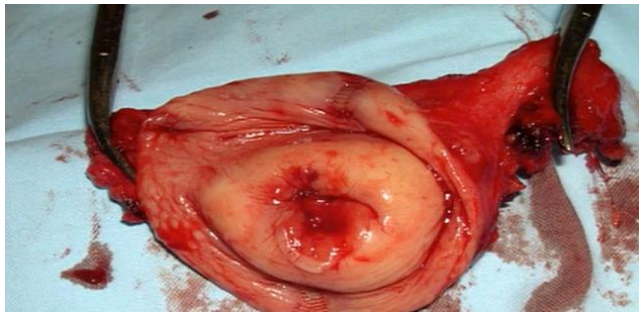
Radical Vaginal Trachelectomy

Endocervical canal margin >=8 mm

For adenoca, complete removal of endocervical canal

Upper cervical or isthmic cerclage

Isthmic-vaginal anastomosis



Criteria

- RVT has to be abandoned if LN is positive 11-12%
- RVT has to abandoned if enough margins cannot be obtained

Eligibility criteria for RVT

Size <2 cm or <3 cm if exophytic
1A-1B
Histologically proven
Age <40
Strong desire to preserve fertility
No clinical evidence of subfertility
No upper endocervical involvement
No LN mets

ORIGINAL ARTICLE

Minimally Invasive versus Abdominal Radical Hysterectomy for Cervical Cancer

Pedro T. Ramirez, M.D., Michael Frumovitz, M.D., Rene Pareja, M.D., Aldo Lopez, M.D., Marcelo Vieira, M.D., Reitan Ribeiro, M.D., Alessandro Buda, M.D., Xiaojian Yan, M.D., Yao Shuzhong, M.D., Naven Chetty, M.D., David Isla, M.D., Mariano Tamura, M.D., et al.

319 patients were assigned to minimally invasive surgery and 312 to open

The rate of disease-free survival at 4.5 years was 86.0% with minimally invasive surgery and 96.5% with open surgery, a difference of −10.6 percentage points (95% confidence interval [CI], −16.4 to −4.7).

Minimally invasive surgery was also associated with a lower rate of overall survival (3-year rate, 93.8% vs. 99.0%; hazard ratio for death from any cause, 6.00; 95% CI, 1.77 to 20.30).

Laparoscopic Radical Trachelectomy (LRT)

- Procedure based on:
  - Laparoscopic radical hysterectomy
  - Radical hysterectomy (Piver type III)
- Laparoscopic paraortic (1) and pelvic (2) lymphadenectomy
- Frozen sc of all (?) lymph nodes
- Laparoscopic creation of spaces and procedure
- Uterine arteries preservation (50%)

Kim JH, BJOG 2009.
Siedhoff MT, J Minim Invas Gynecol 2011.
Martin A, J Minim Invas Gynecol 2010.

RADICAL TRACHELECTOMY FOR CERVICAL CANCER
OBSTETRICAL OUTCOME

- 43% tried to conceive
- 70% of those tried had a successful pregnancy
- 49% term – pregnancies
- 8% second trimester losses
- 16% first trimester losses
- 20% premature deliveries (< 36 weeks)

Schneider A, Int J Gynecol Cancer 2012.
Boss EA, Gynecol Oncol 2005.
Plante M, Gynecol Oncol 2005.
Abu-Rustum NR, Gynecol Oncol 2006.

RADICAL TRACHELECTOMY FOR CERVICAL CANCER
SAFETY & EFFICACY

- Isthmic stenosis (DUB, subfertility, difficult follow-up)

- **Recurrence rate similar to that of Radical Hysterectomy (3-4%)**
  - **Careful selection of patients**
  - **Tumors < 2 cm**

- Recurrences usually among tumors > 3 cm

Del Priore G, Gunecol Oncol 2004.
Bader AA, Gynecol Oncol 2005.
Einstein MH, Gynecol Oncol 2002.
Schneider A, Int J Gynecol Cancer 2012.

THE JOURNAL OF
Obstetrics and Gynaecology Research

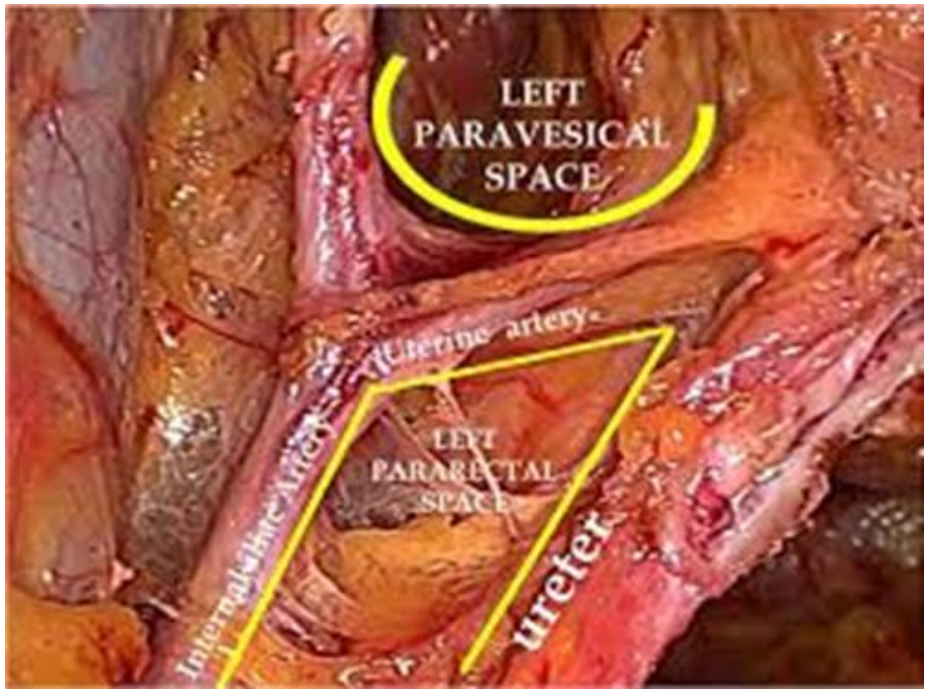
Case Report

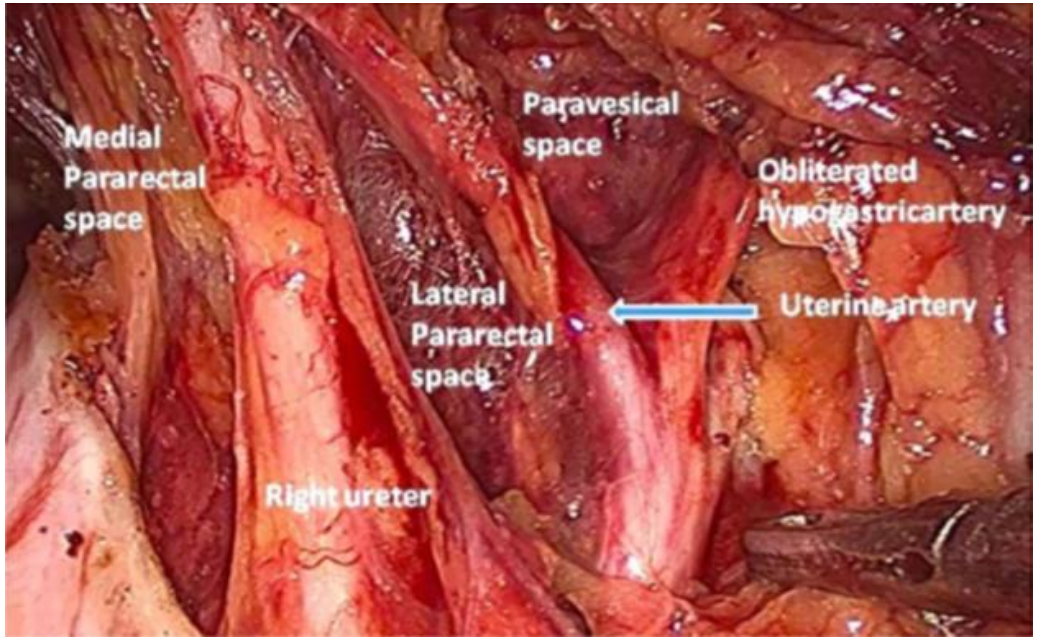
Trachelectomy during pregnancy: What has experience taught us?

Srdjan Saso, Renata Sawyer, Nicole M. O'Neill, Menelaos Tzafetas, Ahmed Sayasneh, Ali Hassan Hamed, Freya Elliott, Meen-Yau Thum, Sadaf Ghaem-Maghami ... See all authors

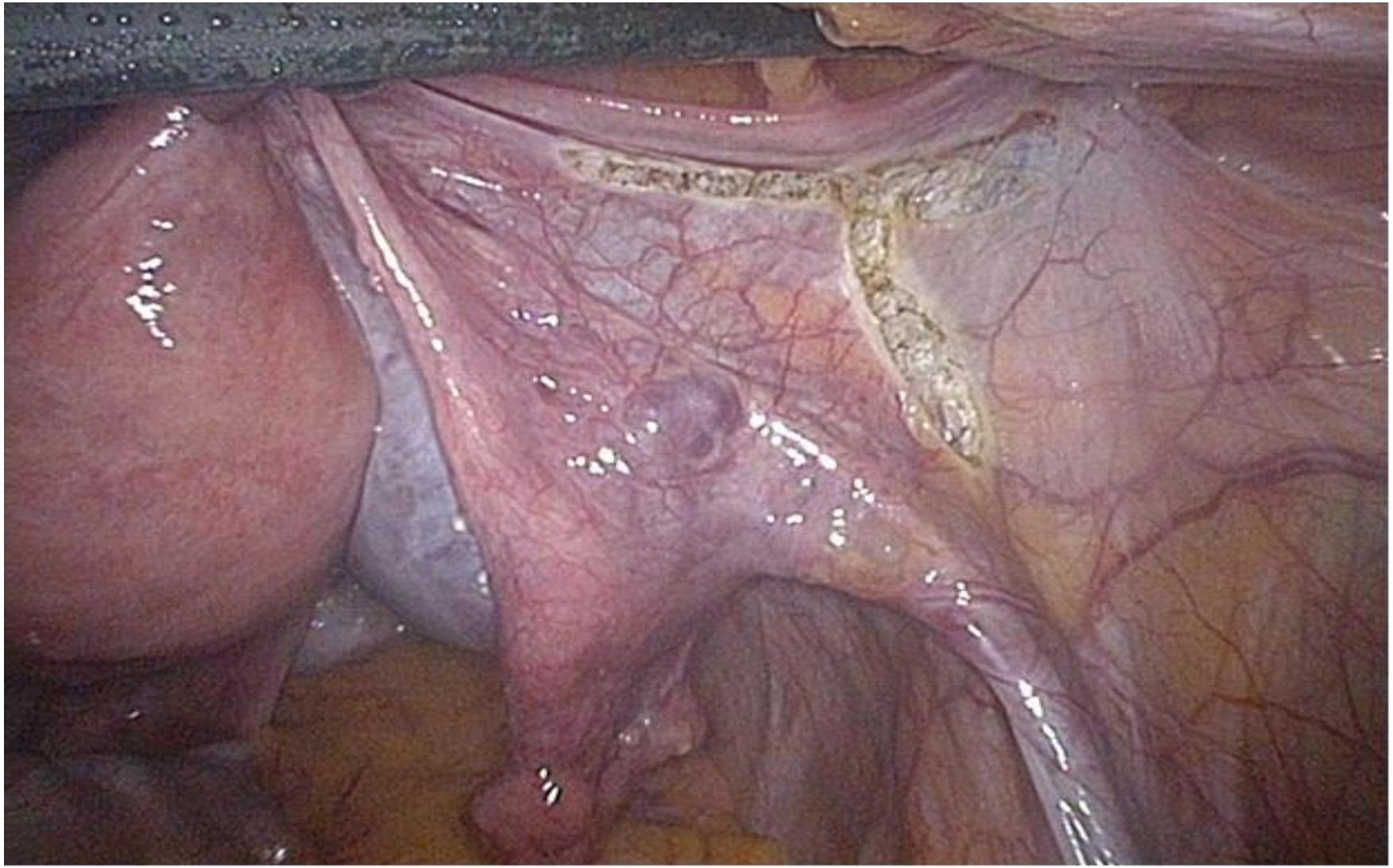
First published: 25 November 2014 | https://doi.org/10.1111/jog.12594 | Cited by: 1

Developing the lateral spaces

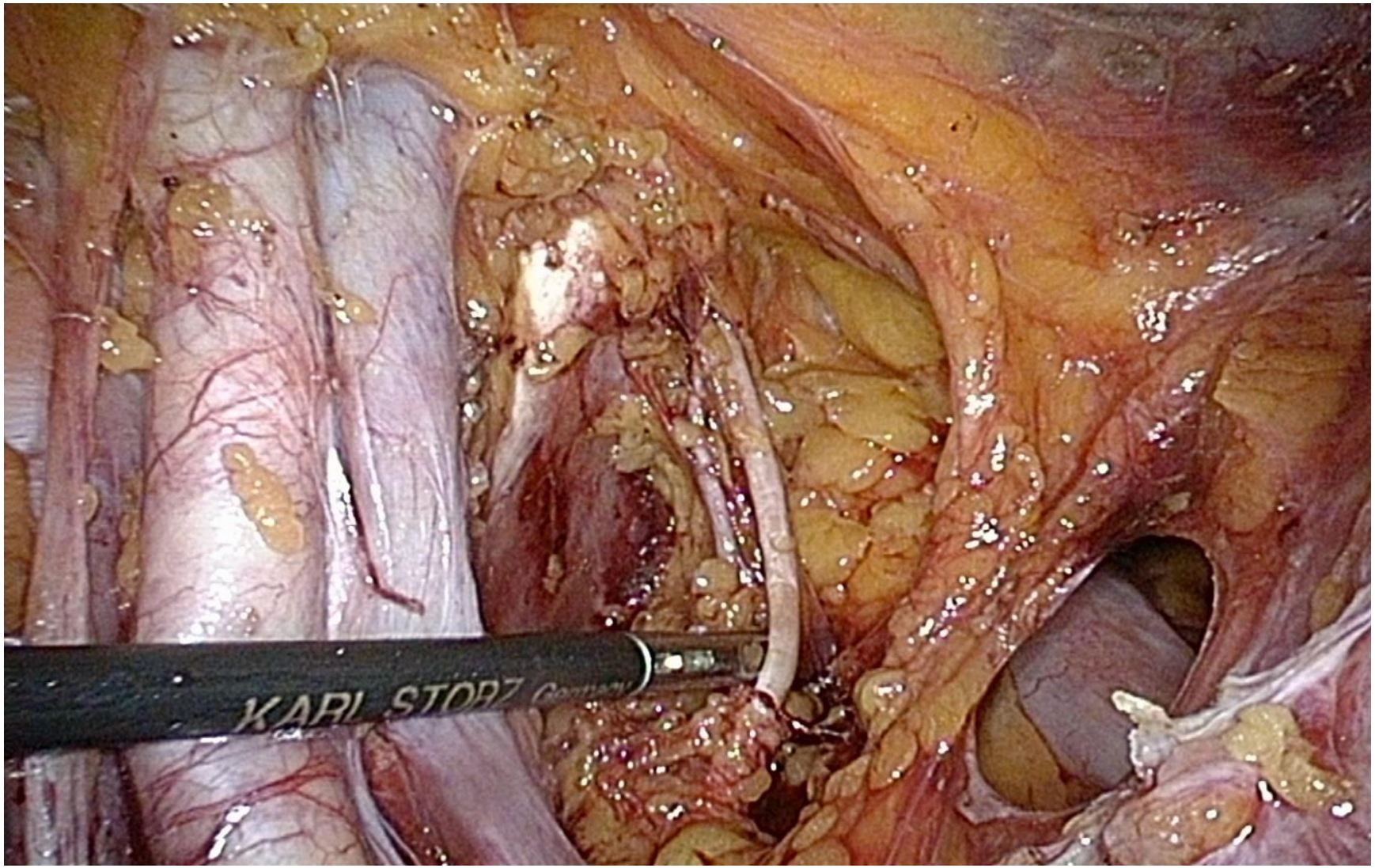


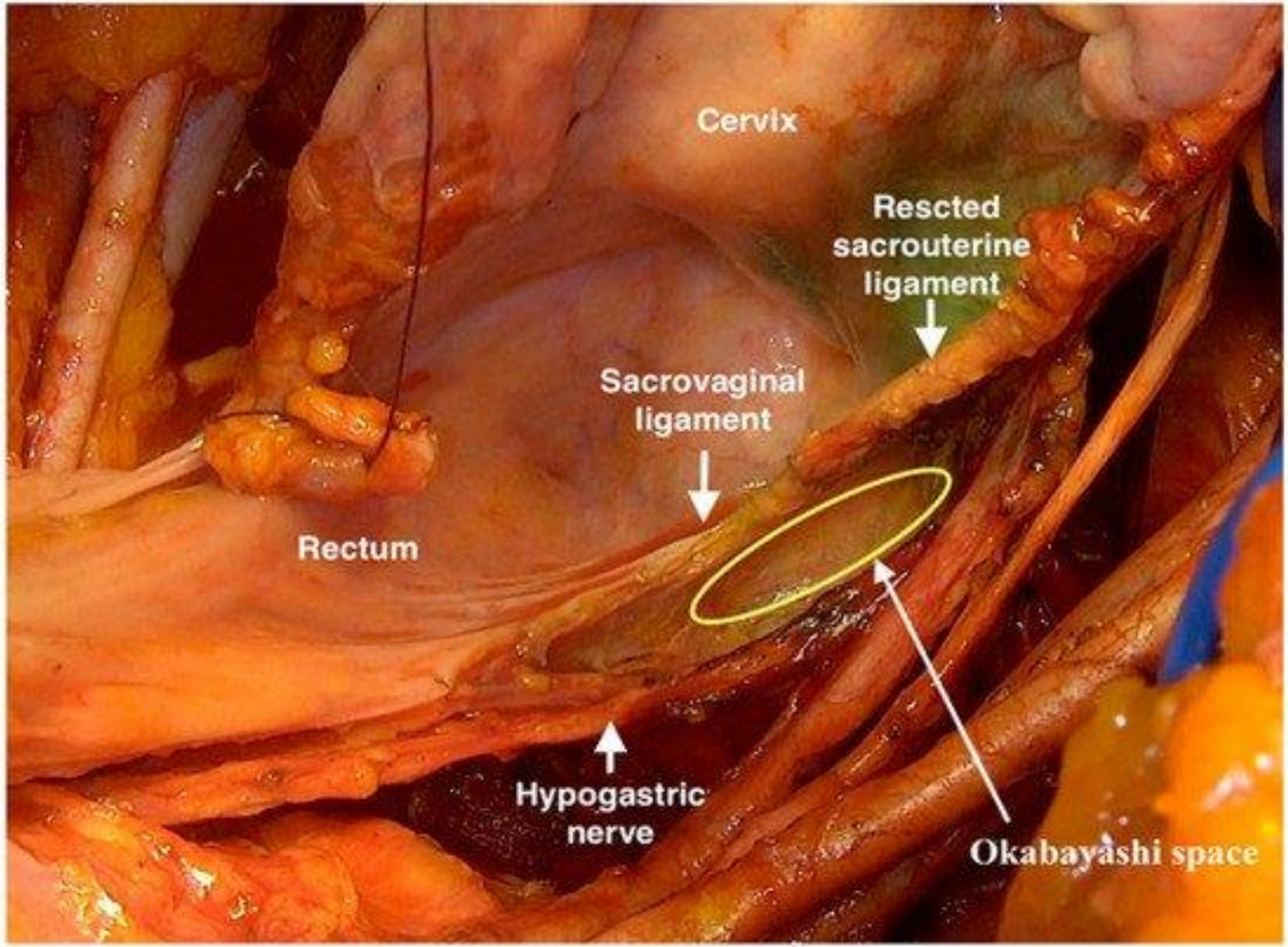


Opening of the Retro-peritoneum

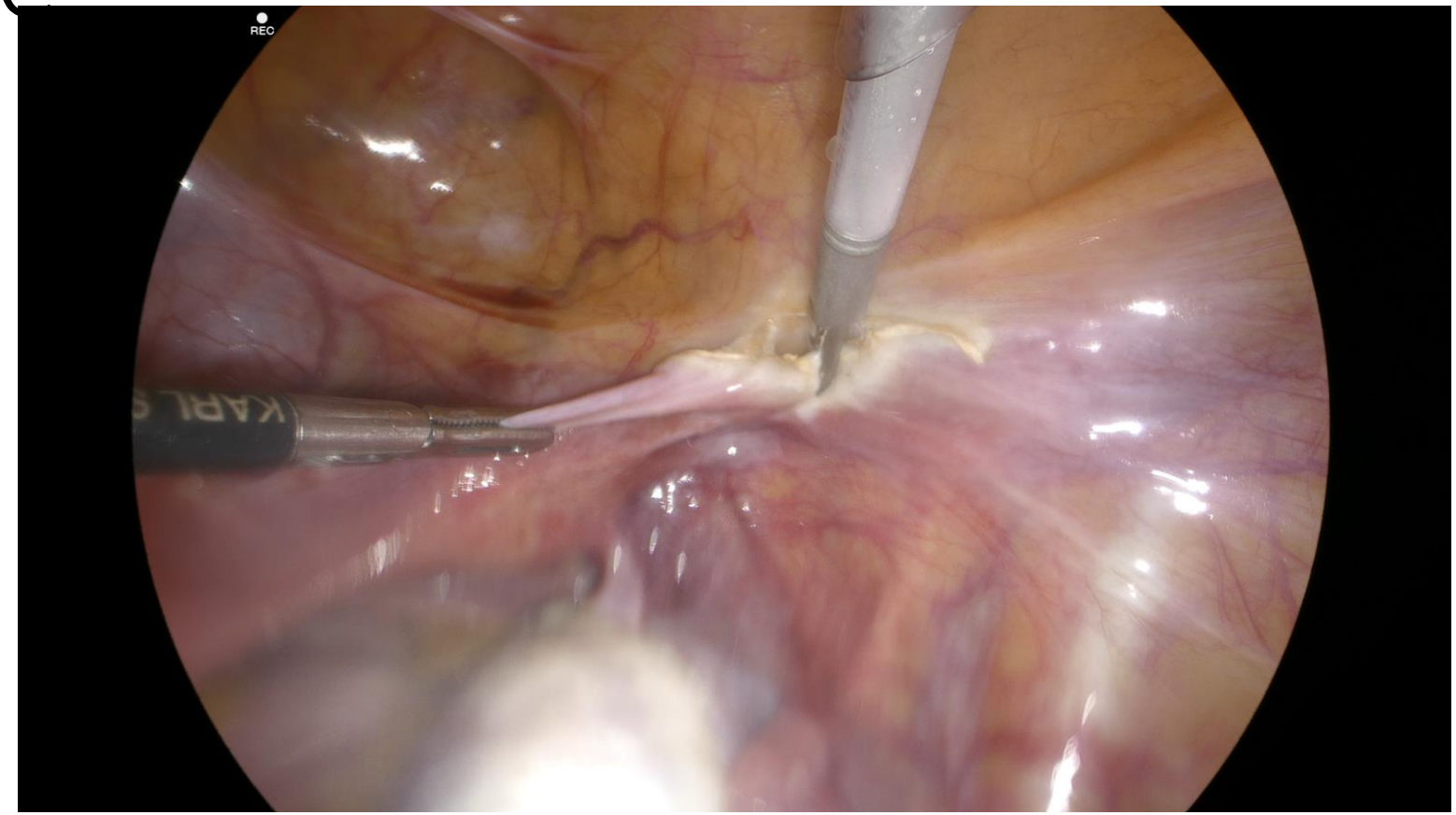


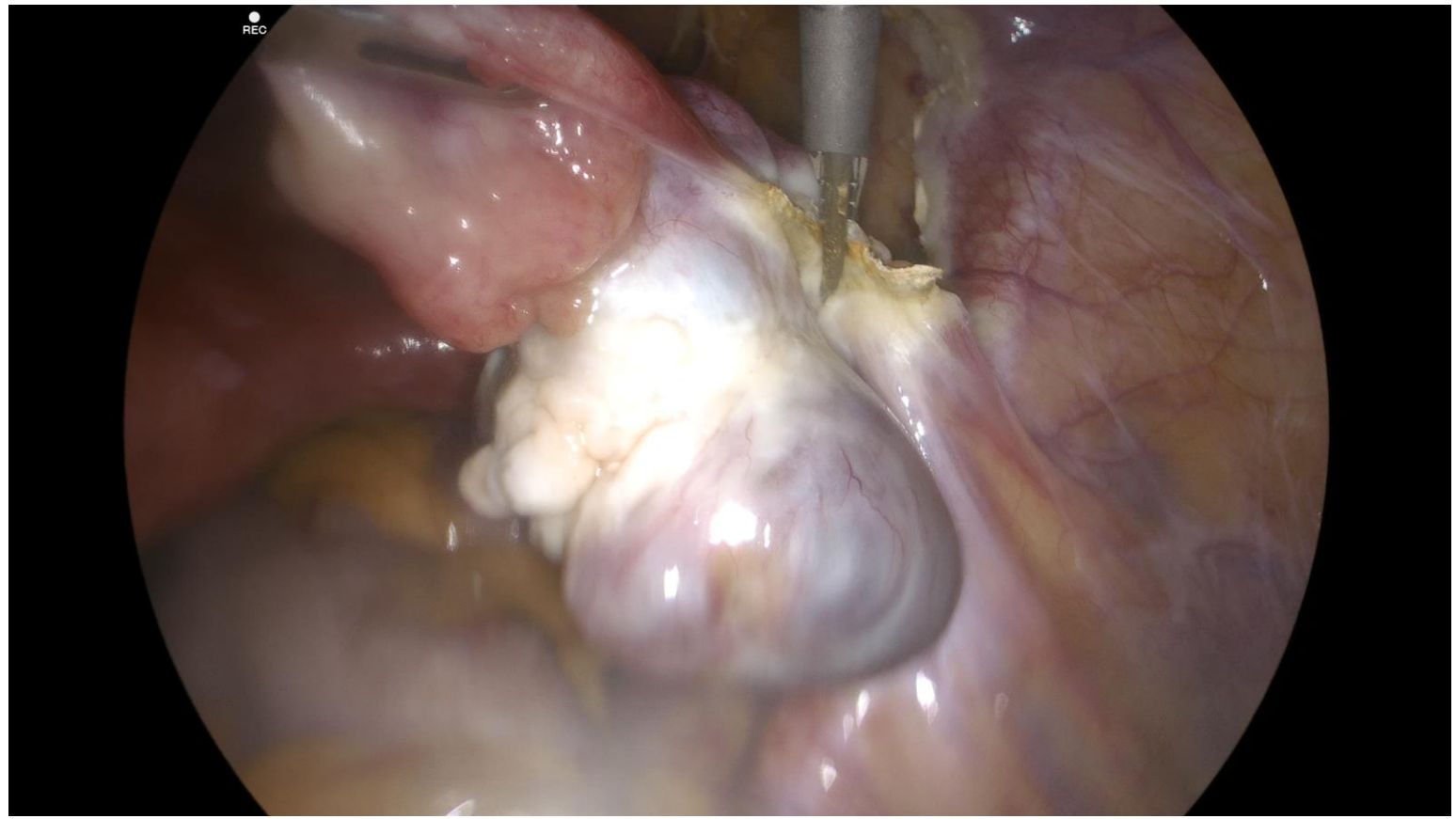
Pelvic Lymphadenectomy




Cervix
Rescted sacrouterine ligament
Sacrovaginal ligament
Rectum
Hypogastric nerve
Okabayashi space

G1 EEC

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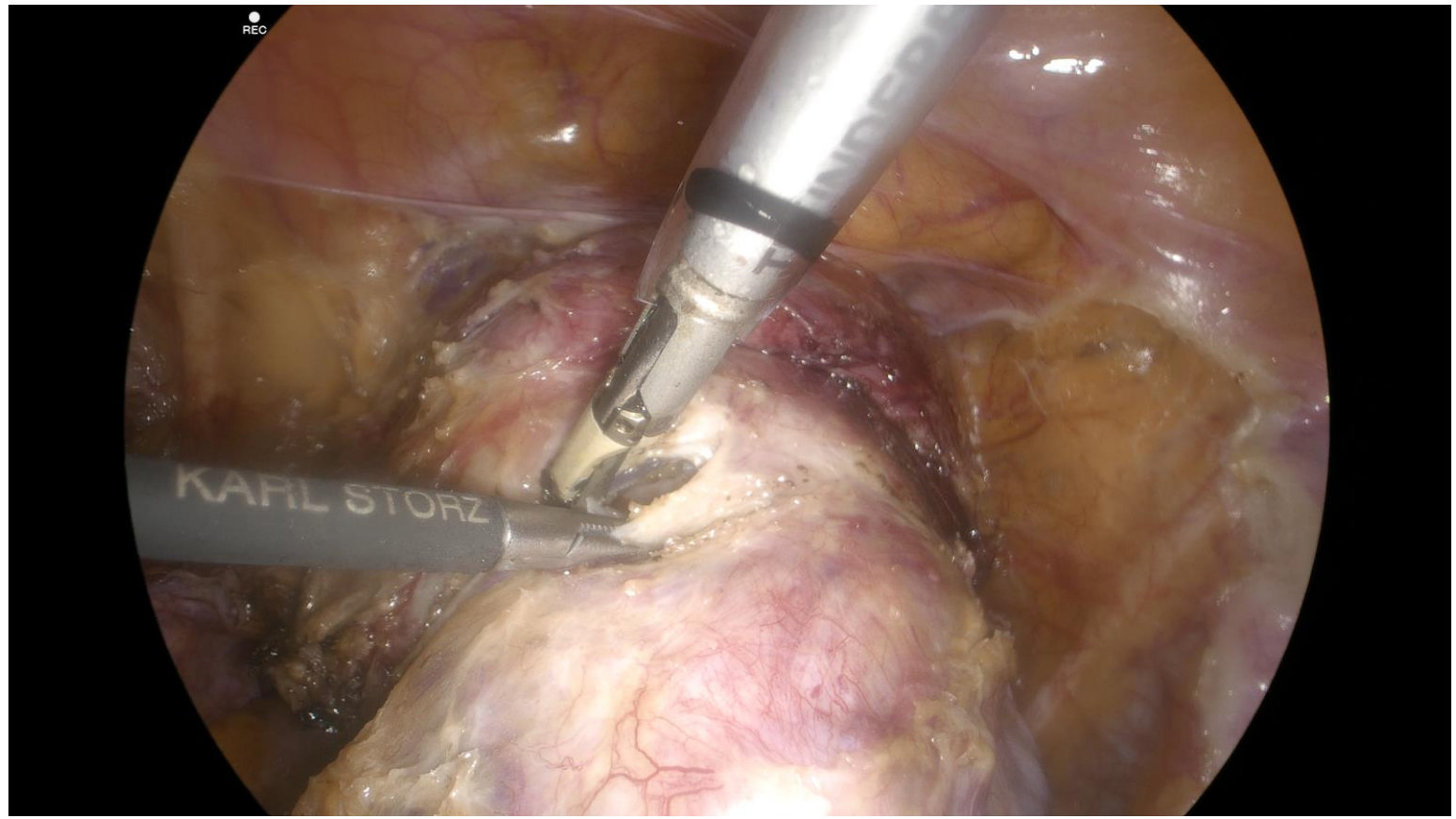
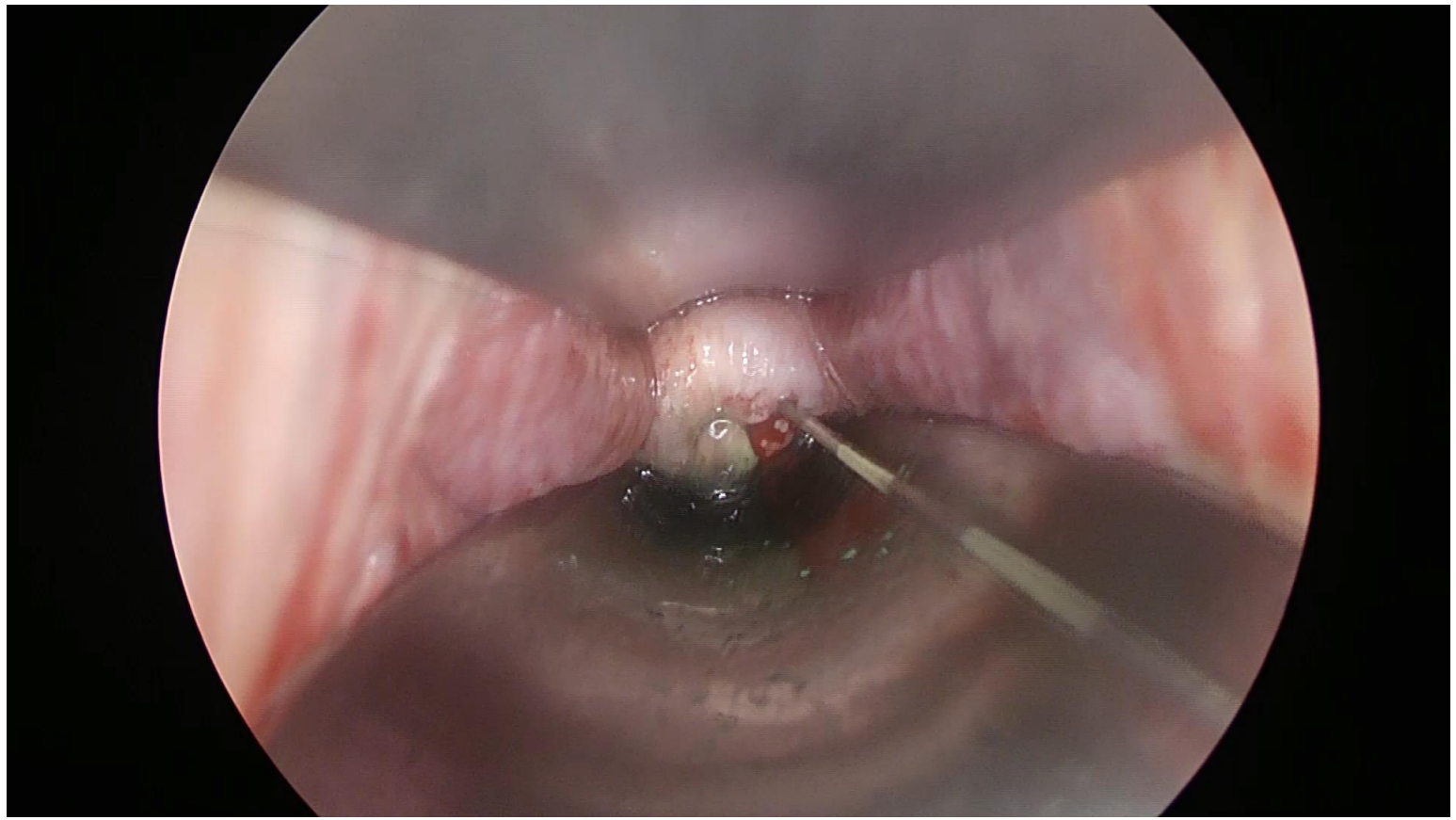

REC
KARL STORZ



Conclusions

- Anatomy is key
- Use visual landmarks
- Avascular spaces
- Isolate structures