

Minimally Invasive and Novel Therapeutics (M.I.N.T.)
September 13th -15th 2023

eTEP access ,concepts and pitfalls

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Drawbacks of Classical TEP

Incarcerated
sliding
hernias

Limited Surgical field
Restricted port set up
possible intolerance of
pneumo-peritoneum

Large inguino-
scrotal hernias

Previous
pelvic
surgery

Short
distance-
umbilicus to
pubic
tubercle

Obese or
post bariatric
patients



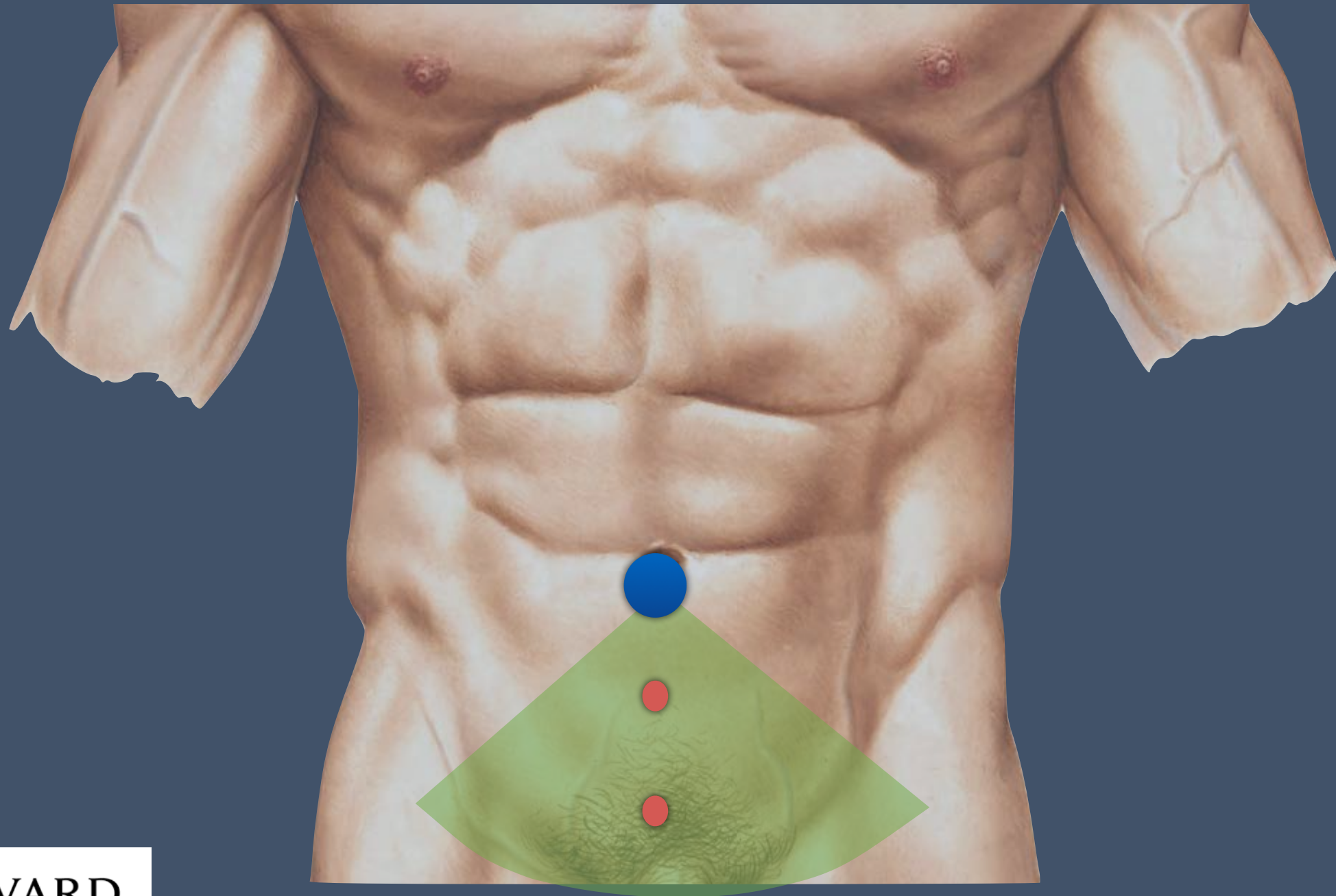
The **e-TEP** technique is based on the anatomical principle that the extra-peritoneal space can be reached from almost anywhere in the anterior abdominal wall .

“**e**” stands for **enhanced or extended** view

Jorge Daes
MD FACS

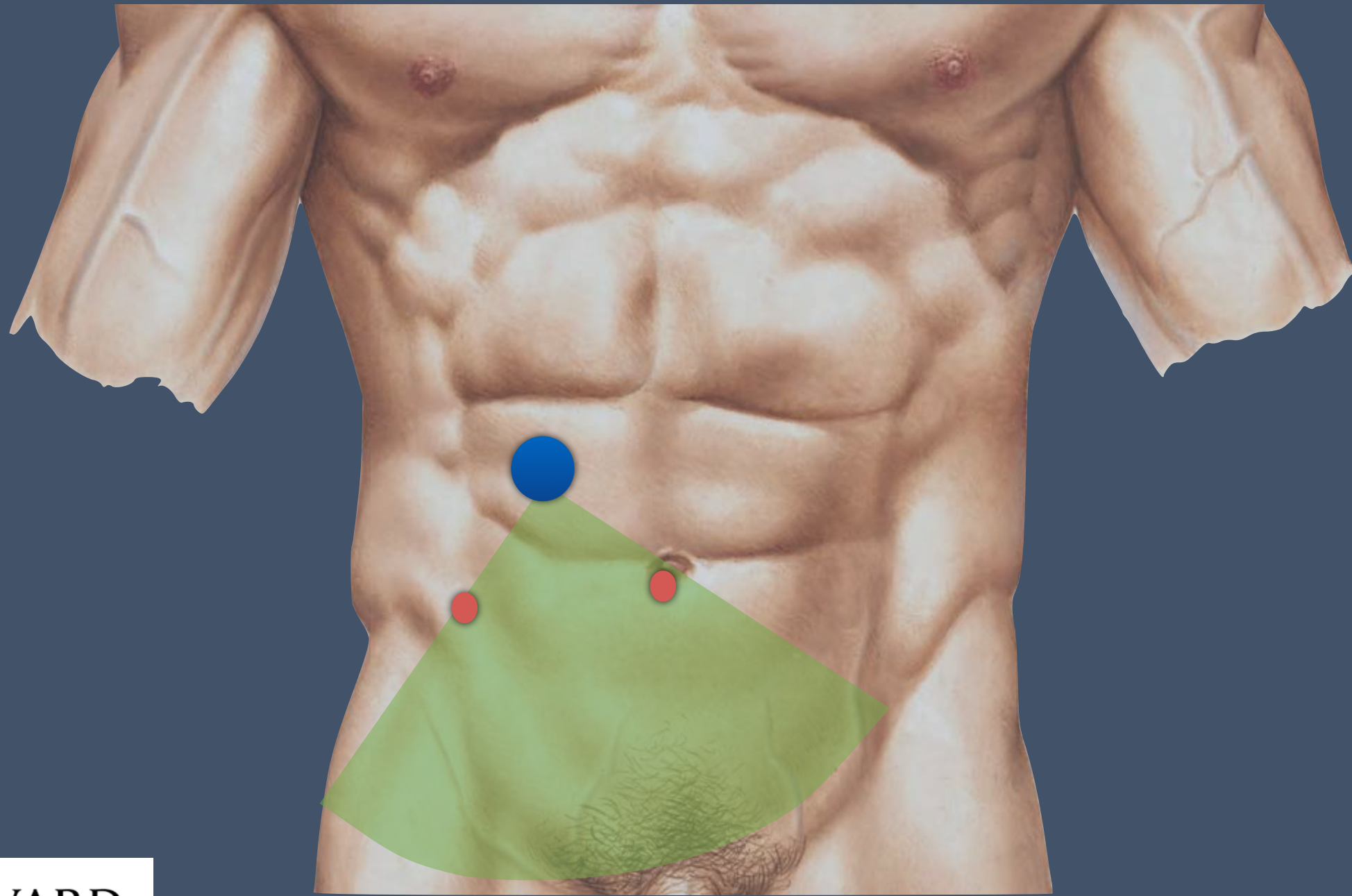
Clinica Portoazul
Colombia





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Fast & easy creation of extra-peritoneal space

Easier management of the distal sac in cases of Large Inguino-scrotal hernias

Creation of large surgical field

easy parietalization of the cord structures

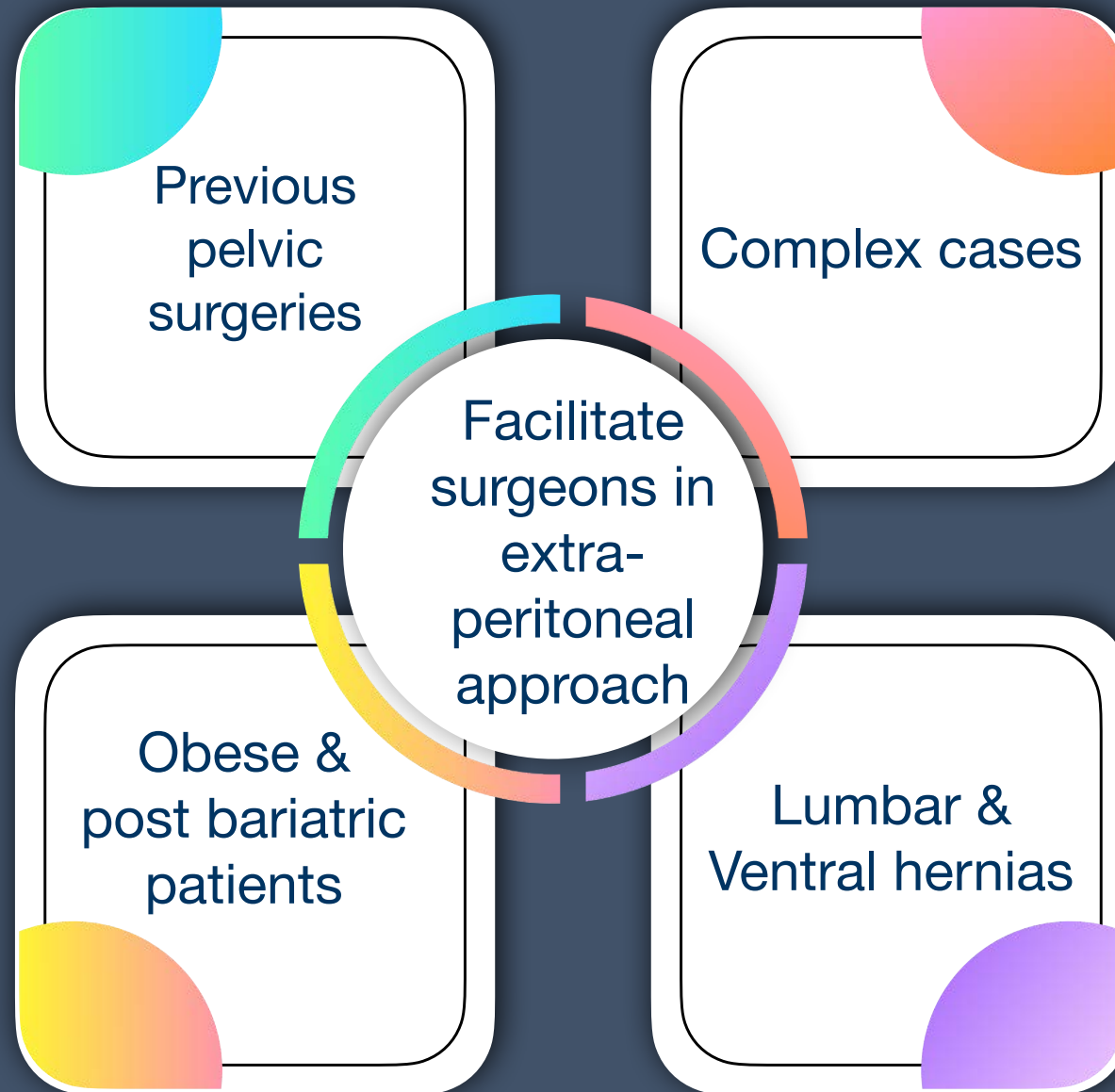
Flexible port set up (adoptable to any surgical senses)

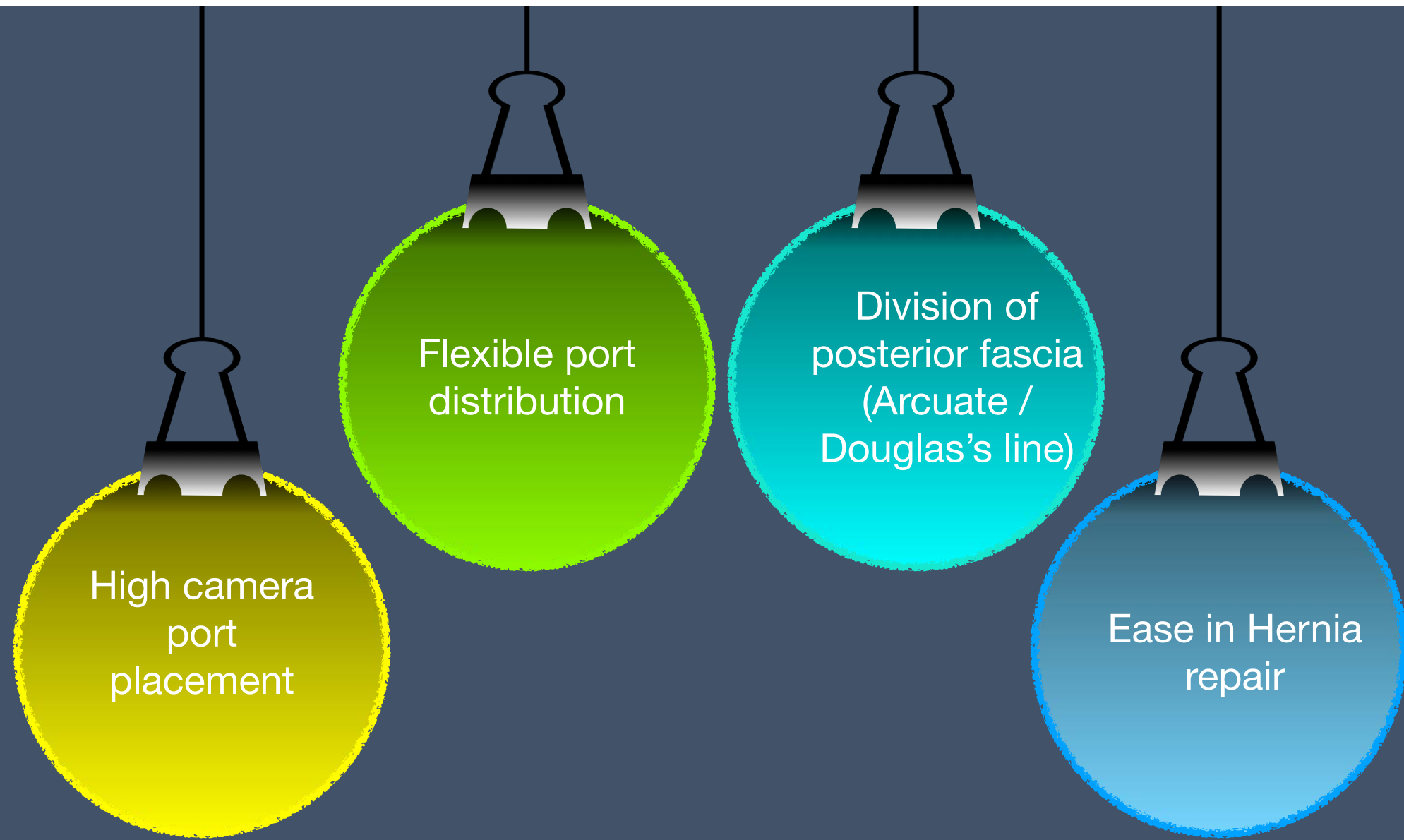


e-TEP
Salient
features

Tolerance to pneumo-peritoneum

eTEP - Surgical applications





Key Technical aspects of e- TEP

SURFACE MARKING FOR
E-TEP ACCESS -
INGUINAL HERNIA

DR. RAHUL MAHADAR



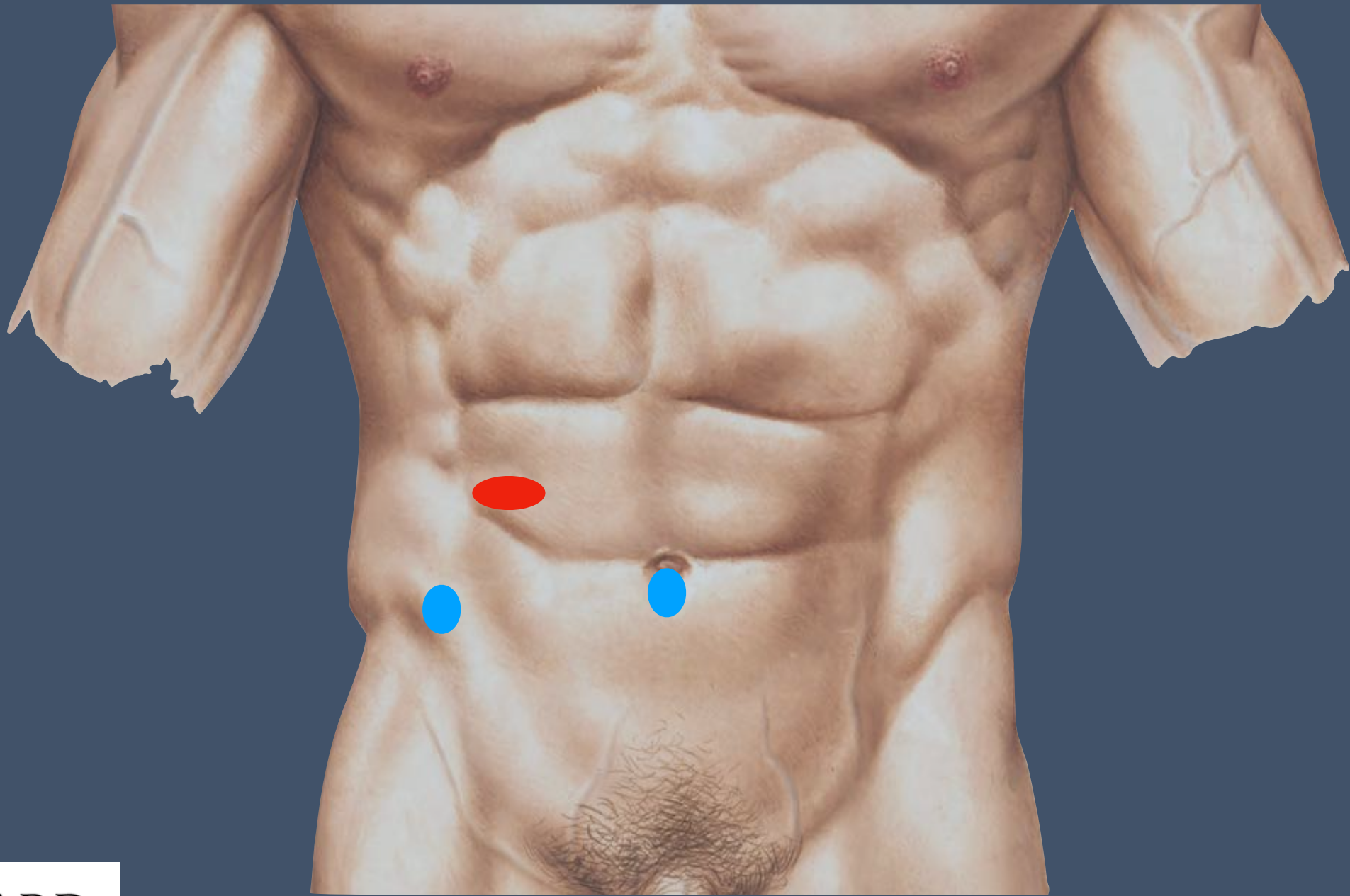
Igor Belyansky

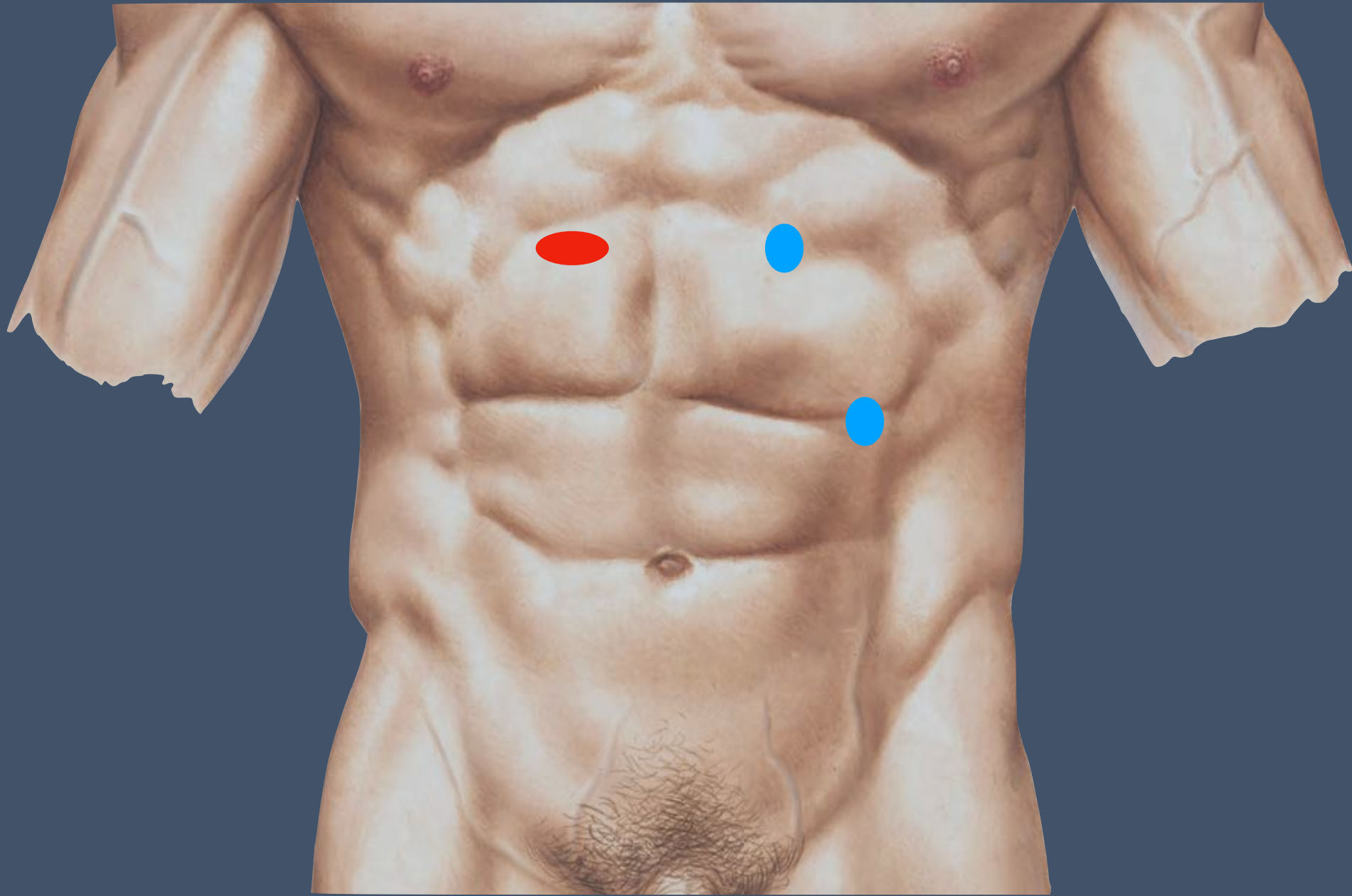
extended e-TEP approach to
Ventral Hernia Repair



Jorge Daes

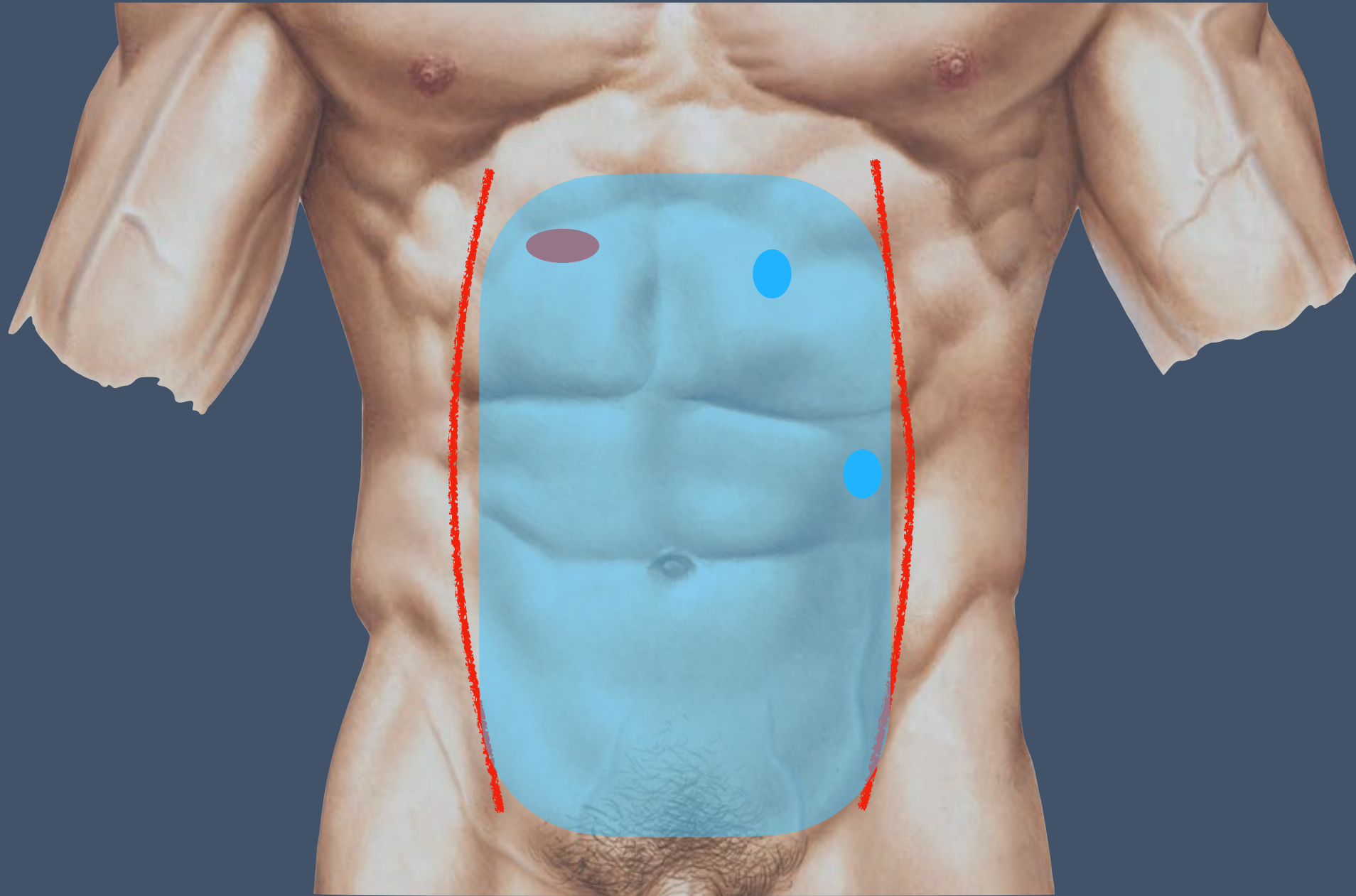
Invented the access





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e-TEP

for ventral hernia

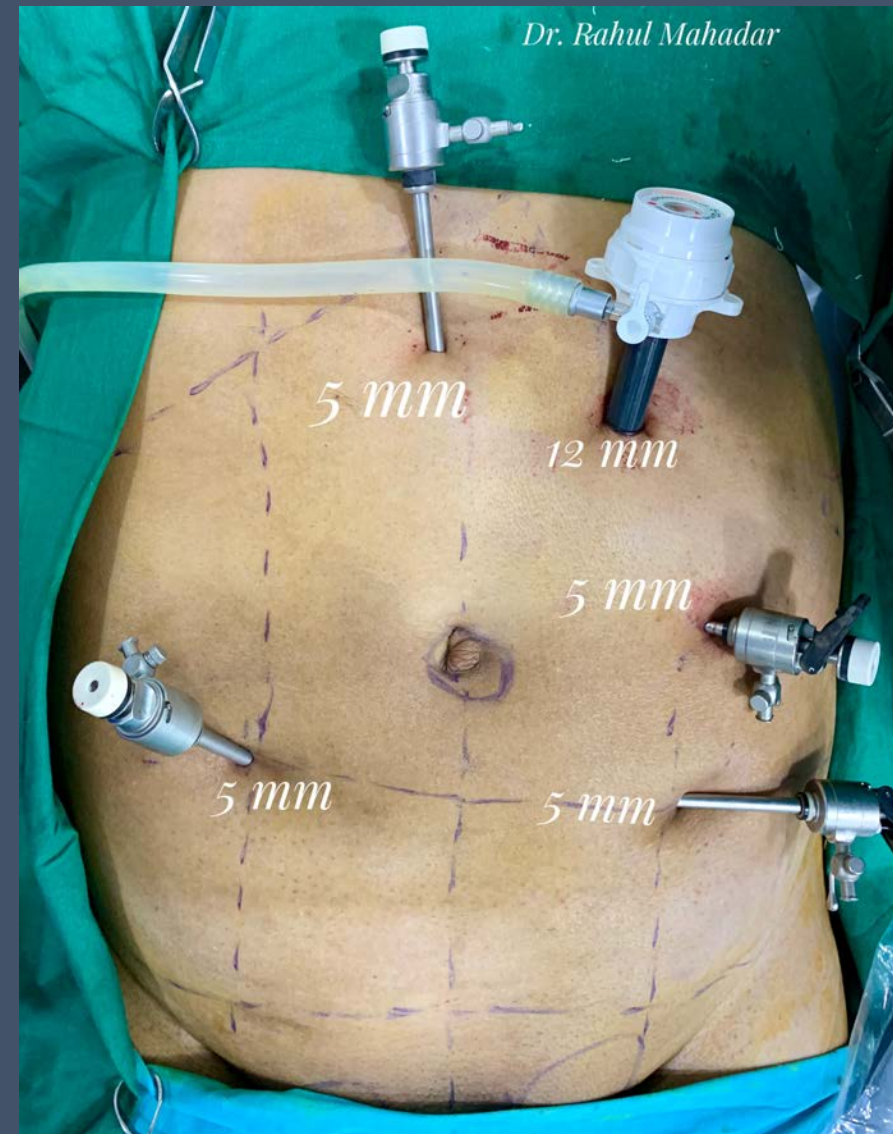
- extraperitoneal balloon dissection - in retromuscular or preperitoneal planes
- allows defect closure
- component separation if needed
- wide prosthetic reinforcement sublay position

e-Rives Stoppa Principles

- closure of the defects: restoration of linea alba
- mesh placement outside of abdominal cavity
- reduce mesh fixation without compromising the hernia repair

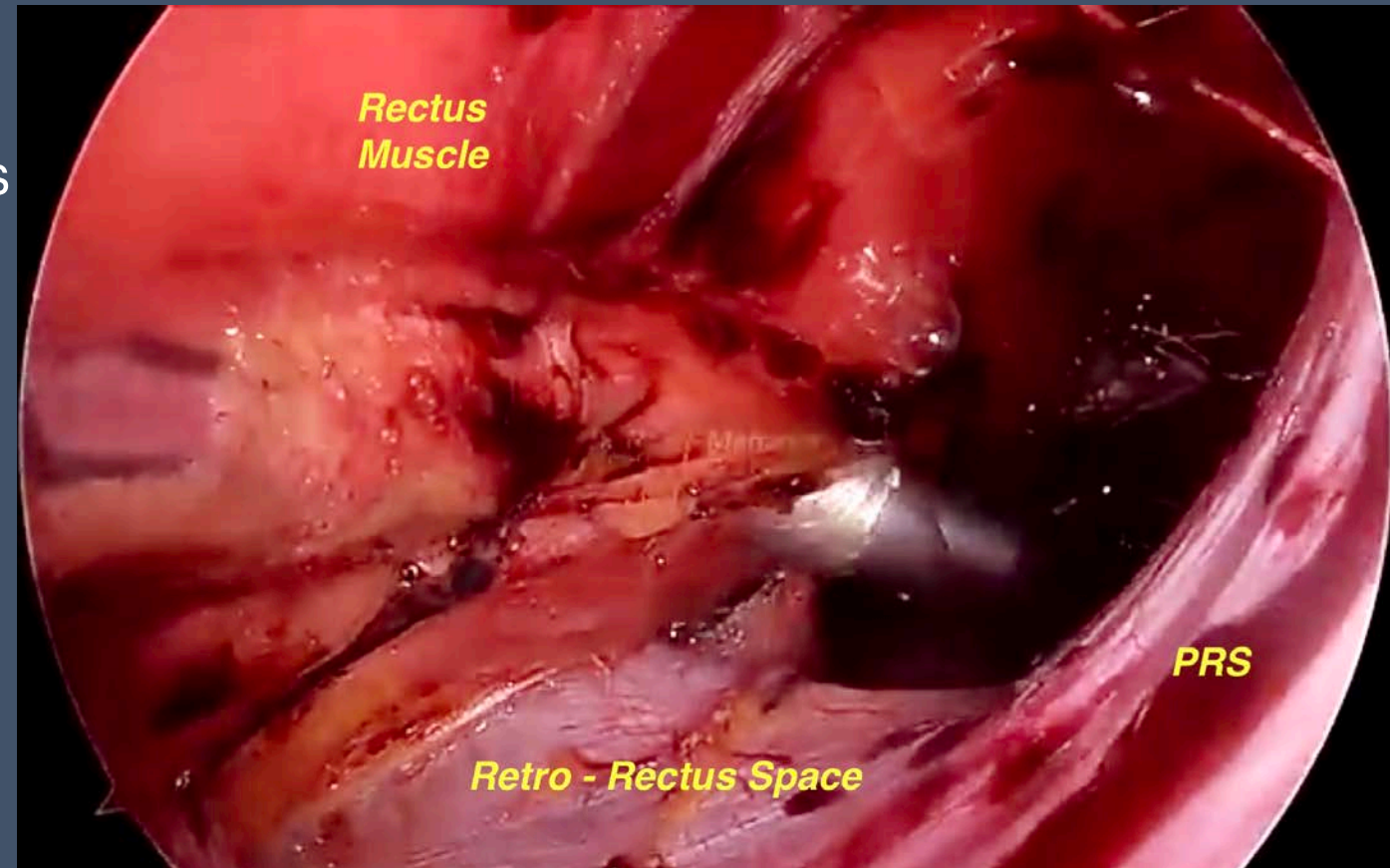
port placement - the attack strategy

- correct anatomical plane (start into the retrorectus space)
- respect the angulation principle
- allow the best approach to the defect



Port placement

- the landmark - linea semilunaris
- developing the appropriate retro-rectus space to place the ports
- allow the best approach to the defect



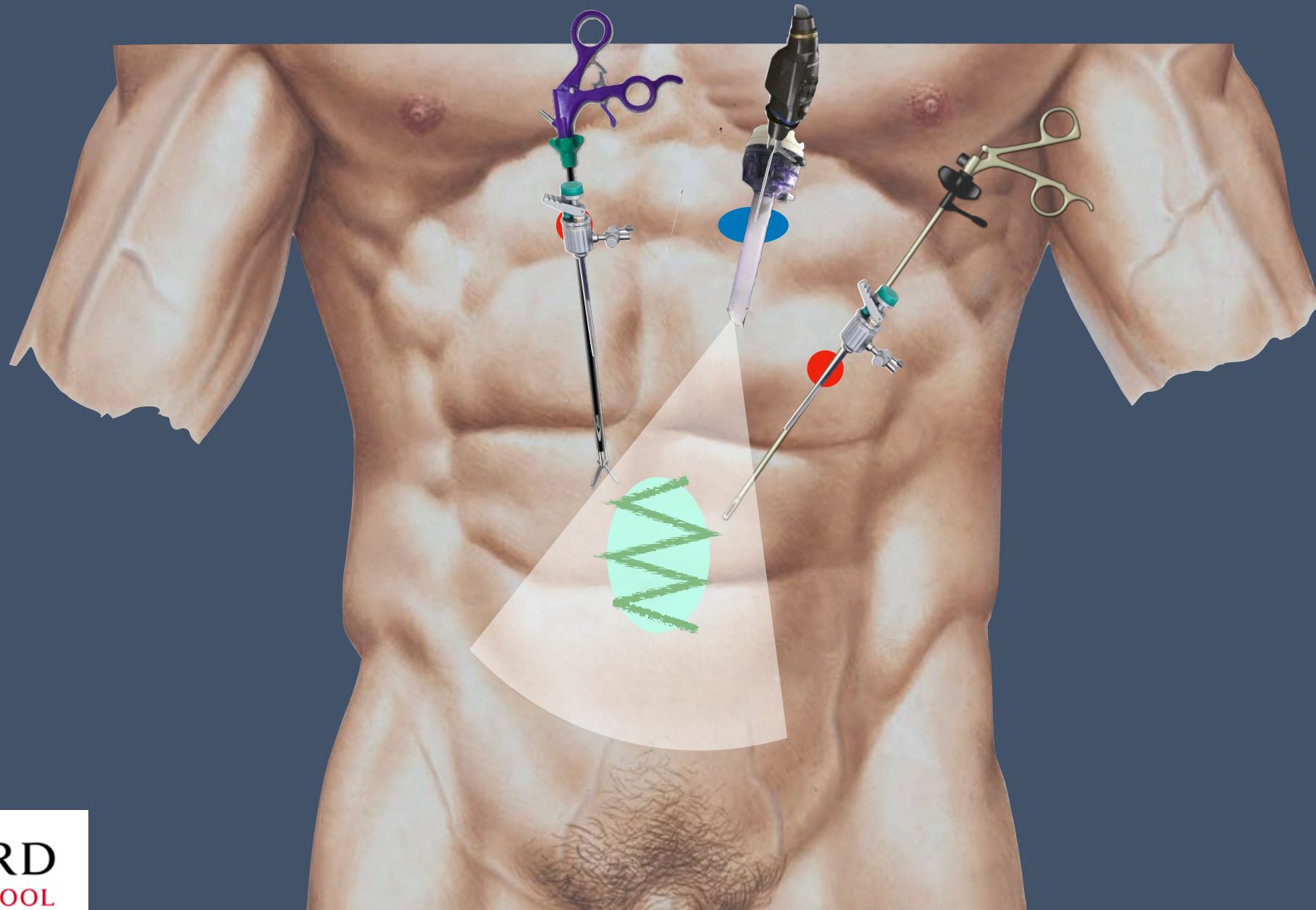
eTEP is ergonomic ?



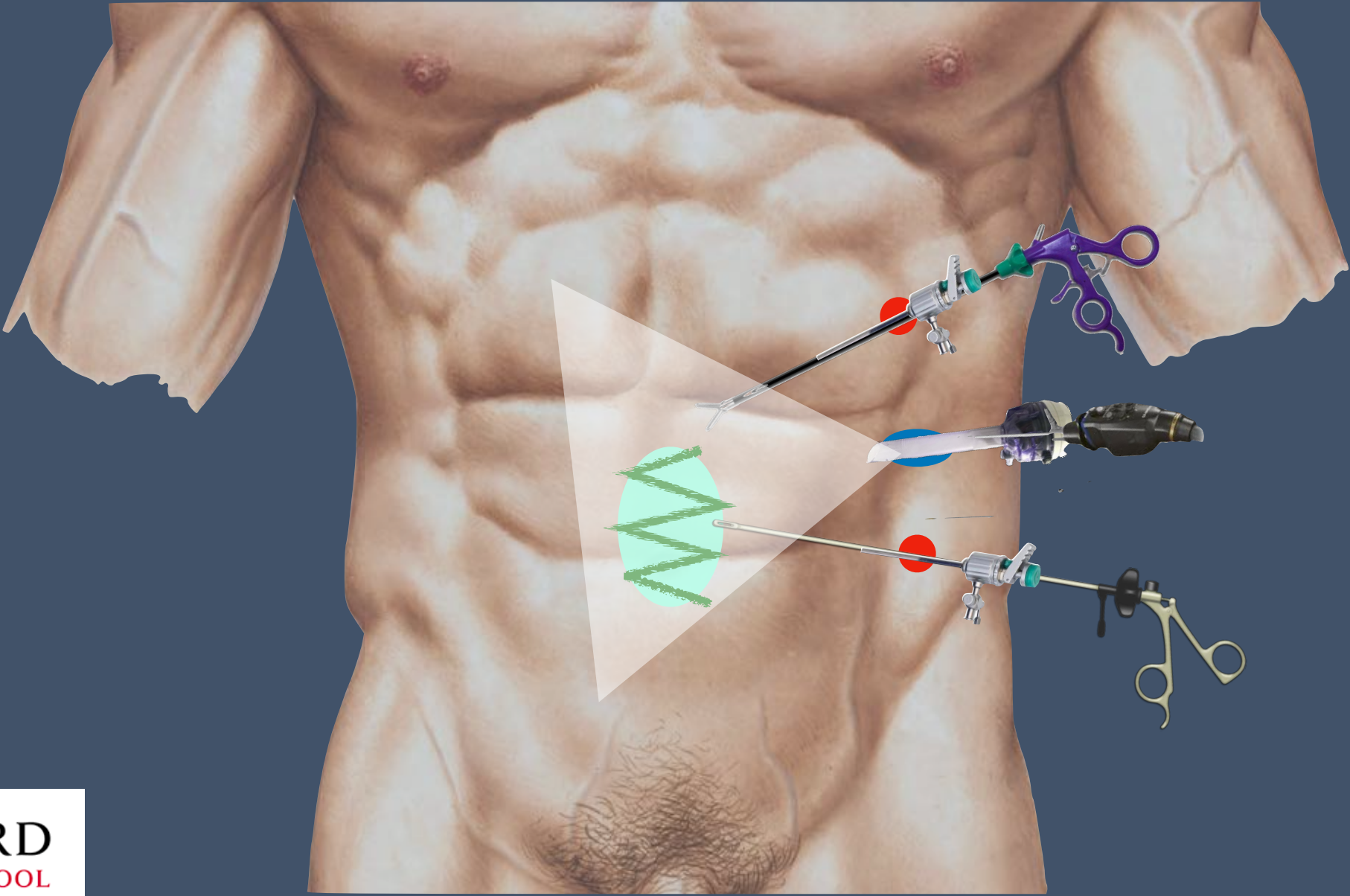
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e-TEP



IPOM / IPOM PLUS

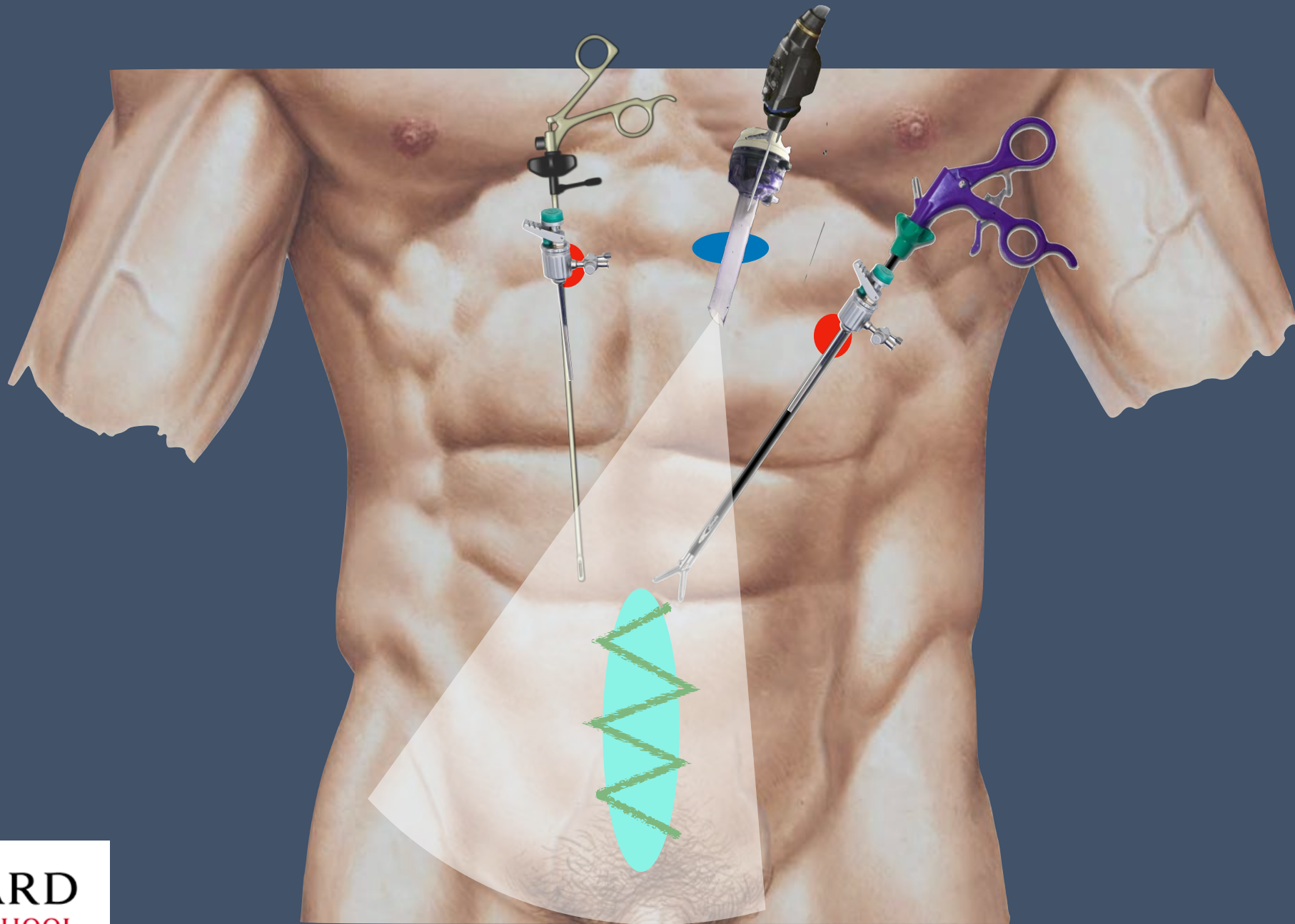


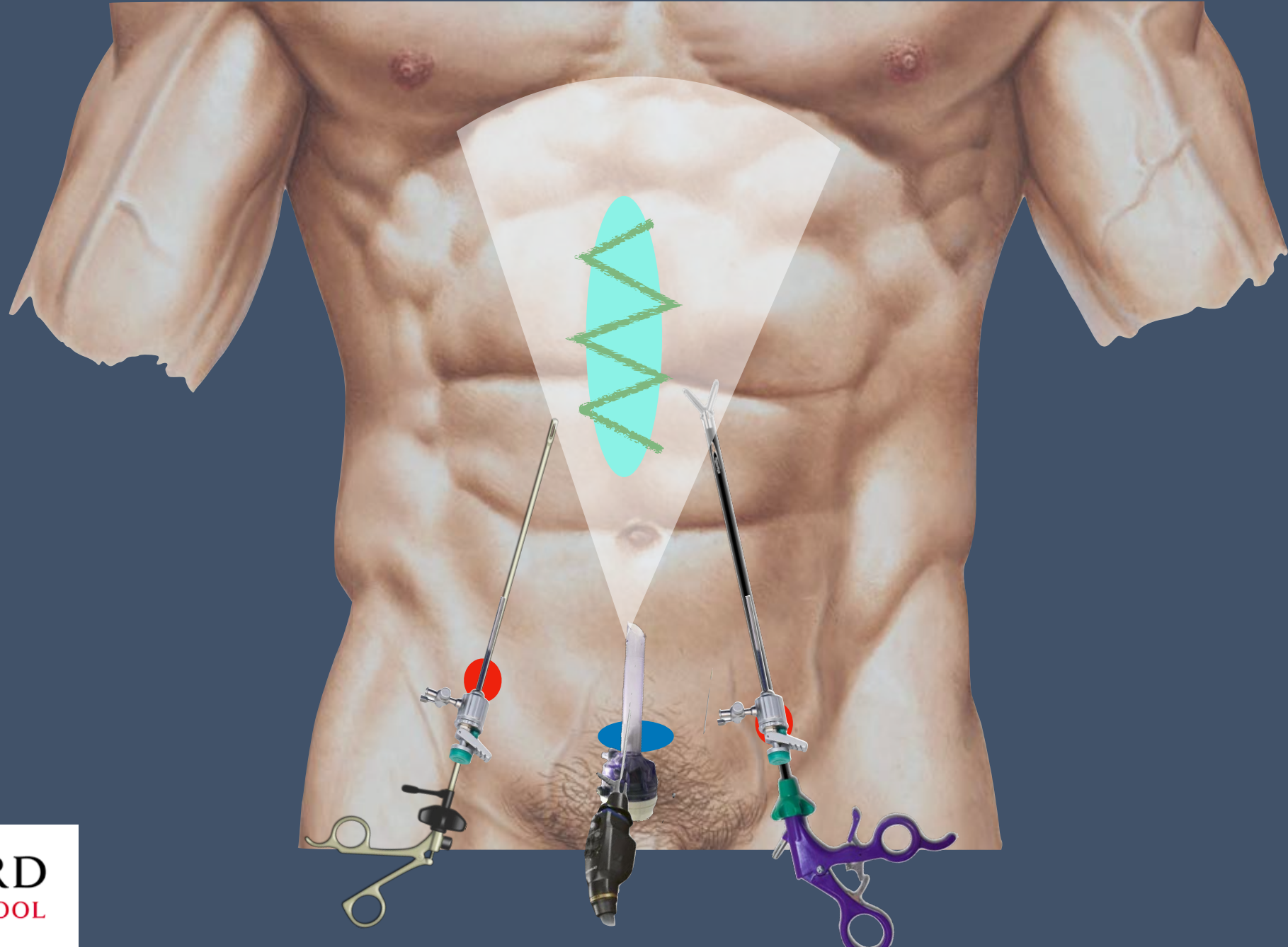
Adoptable port positions



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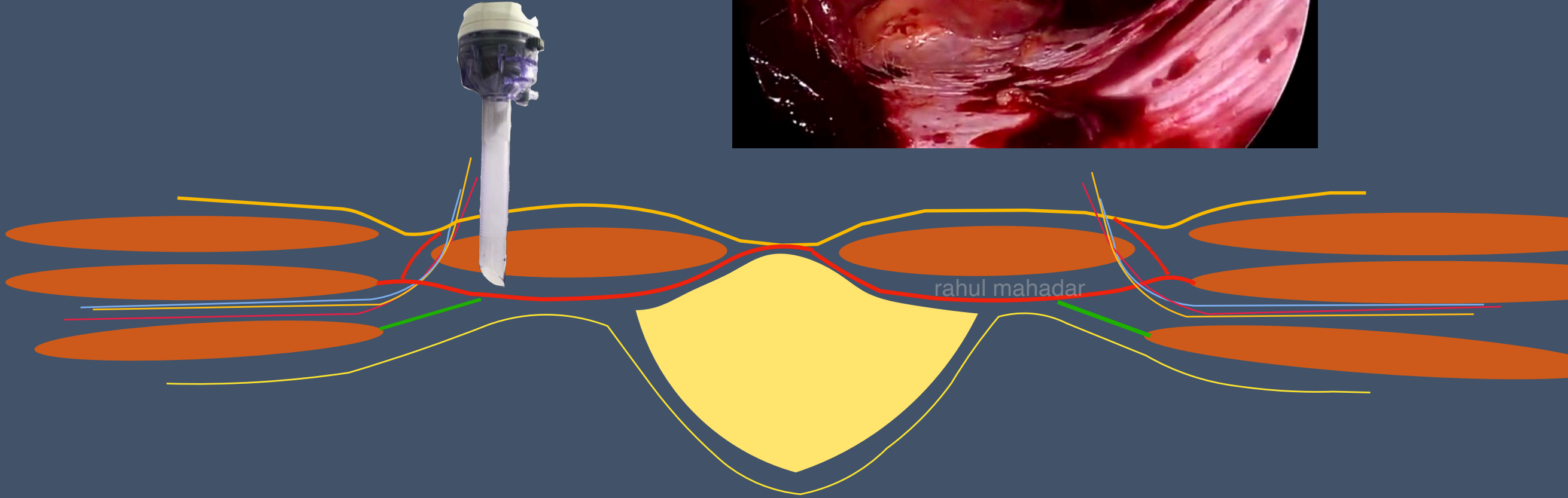
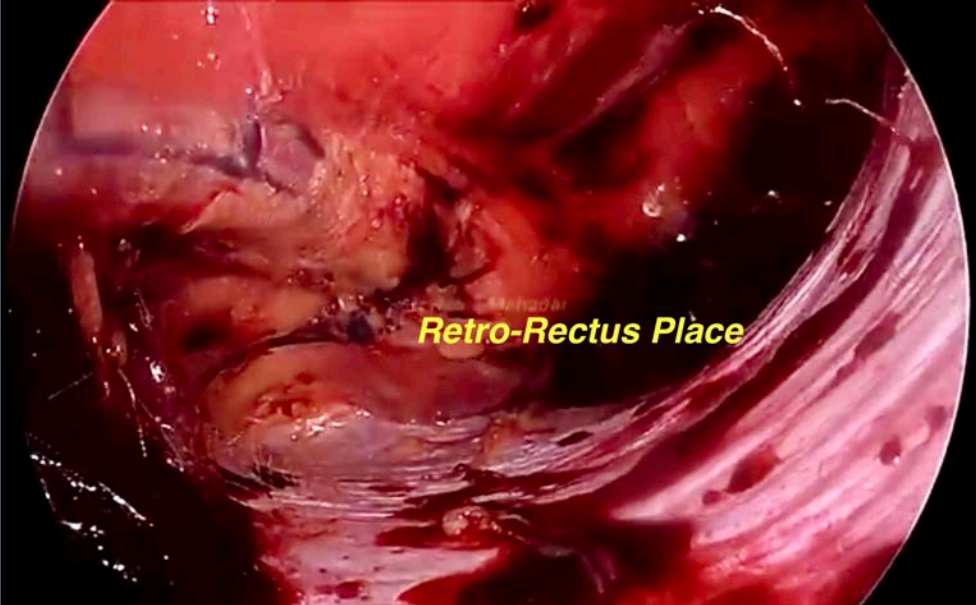
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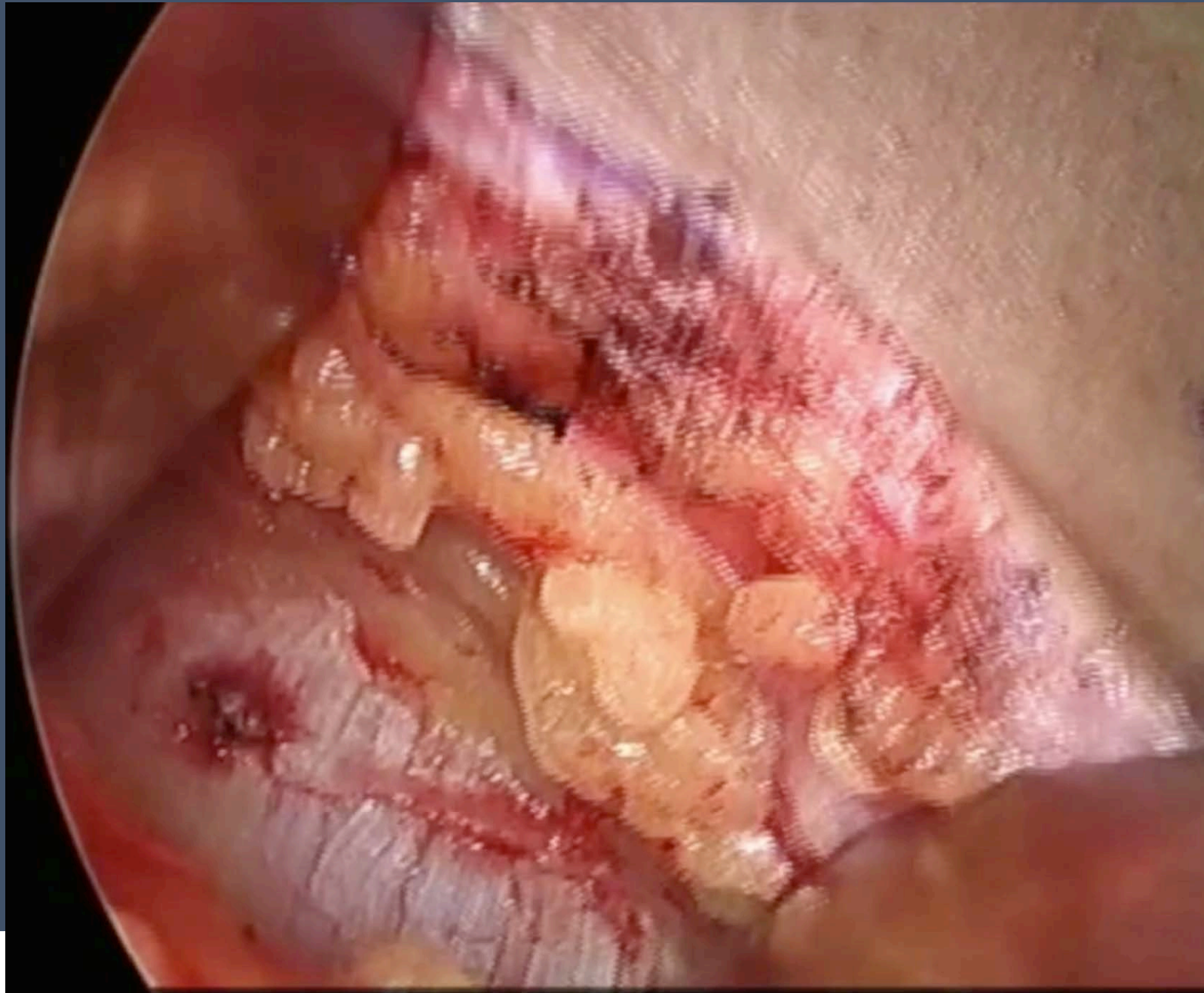


eTEP

challenges

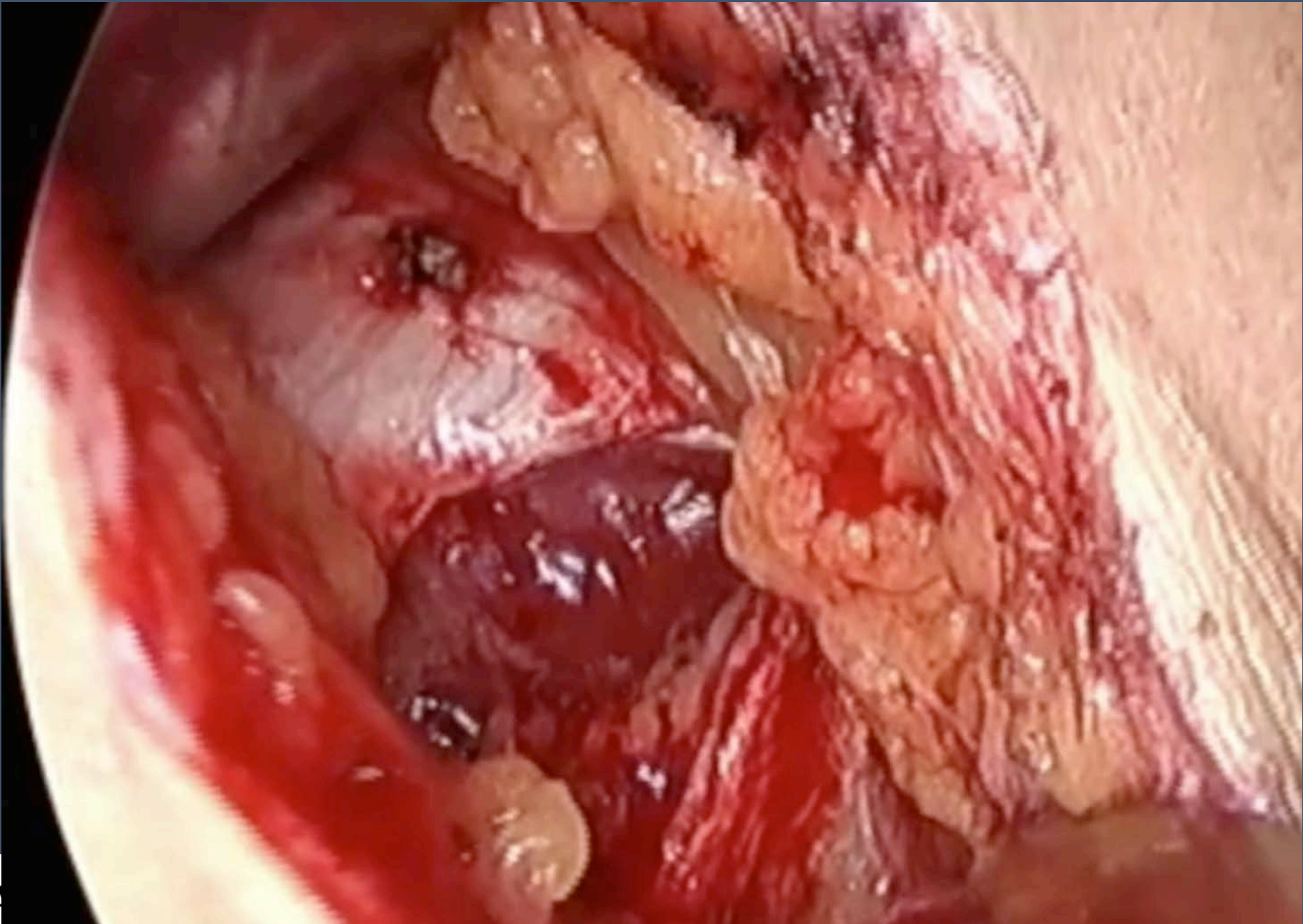
- optical entry to retro rectus space
- mid line cross over is crucial step & difficult step
- inadvertent injury to linea alba
- somewhat blind procedure
- leading to enterotomy or bowel injury
- suturing might be a challenge for some
- post operative chances of disruption of PRS - leading to **posterior sheath hernia**





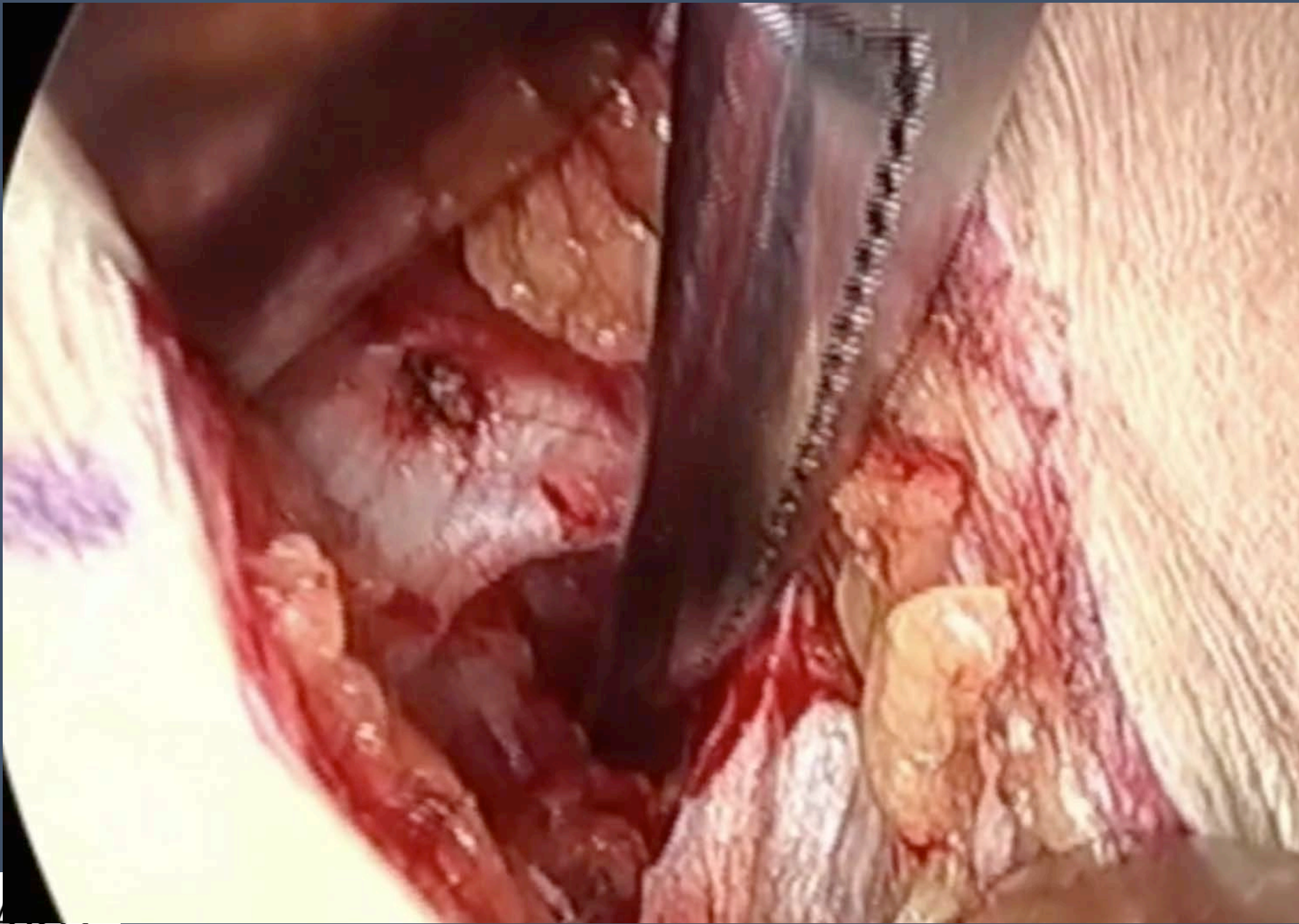
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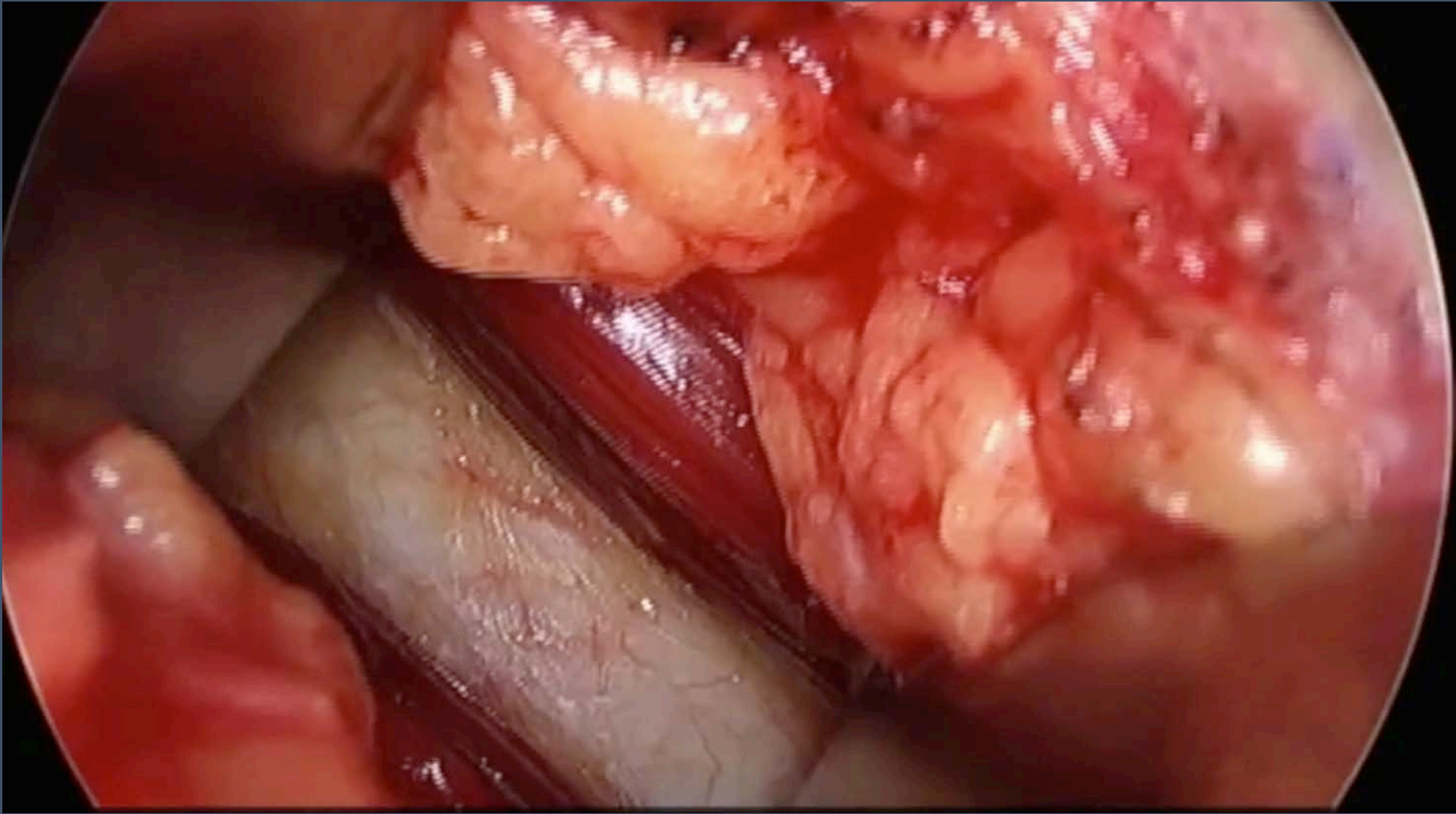
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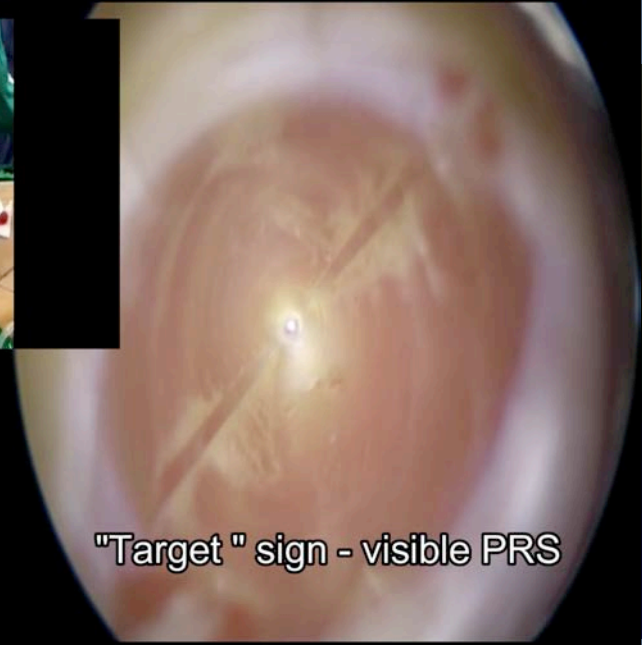
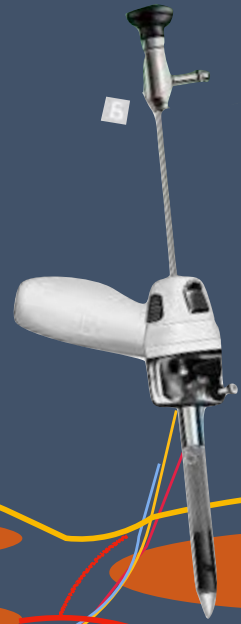
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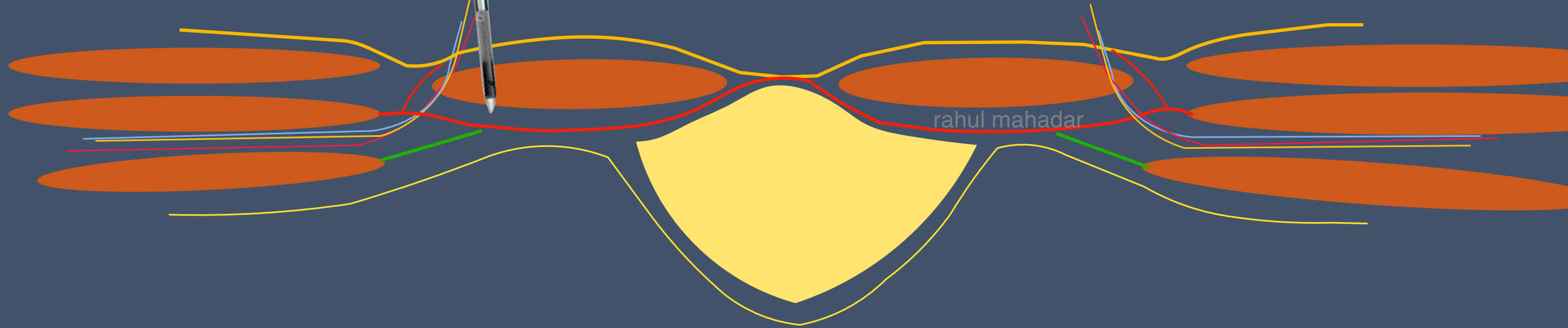


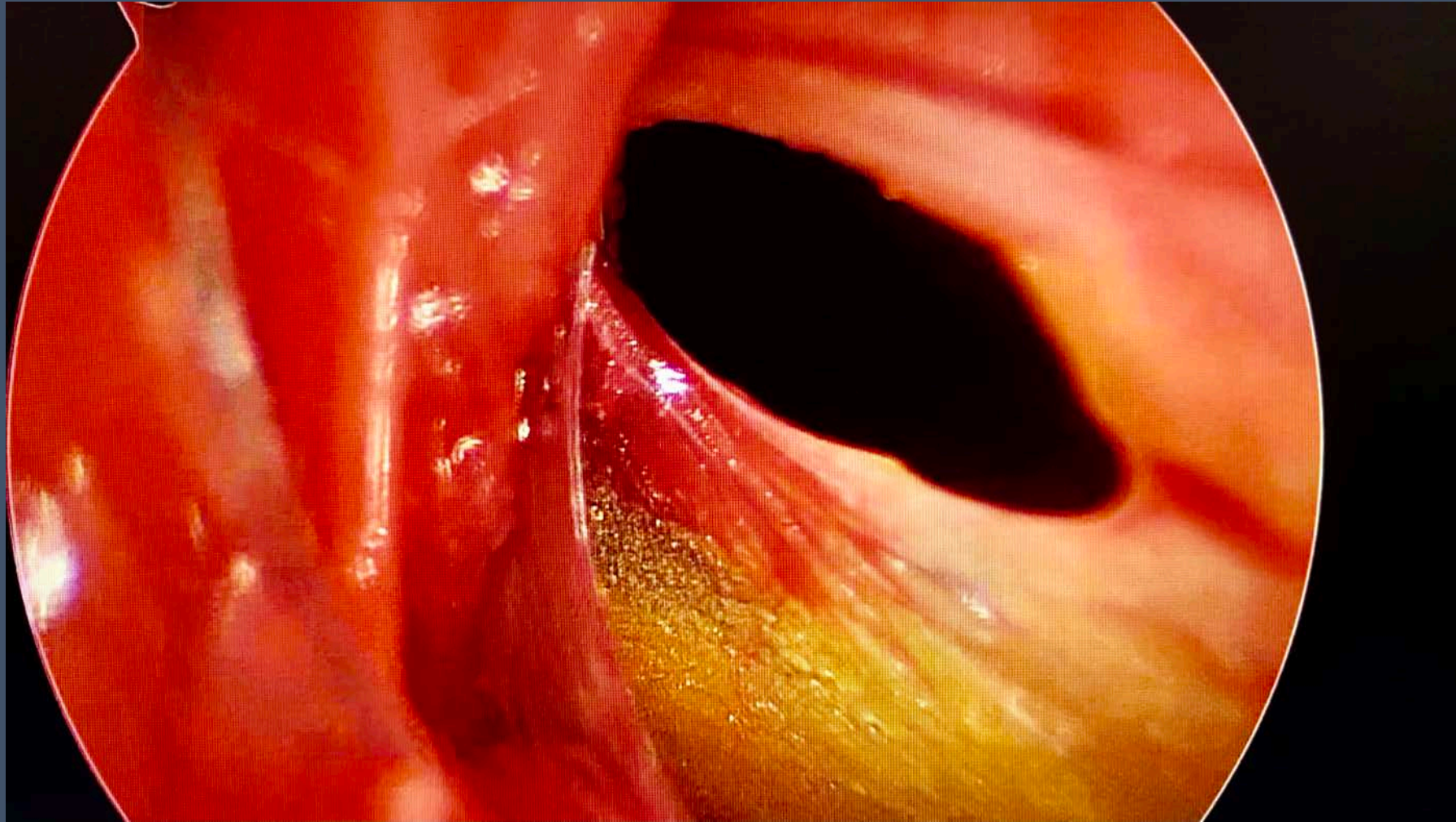
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"Target" sign - visible PRS





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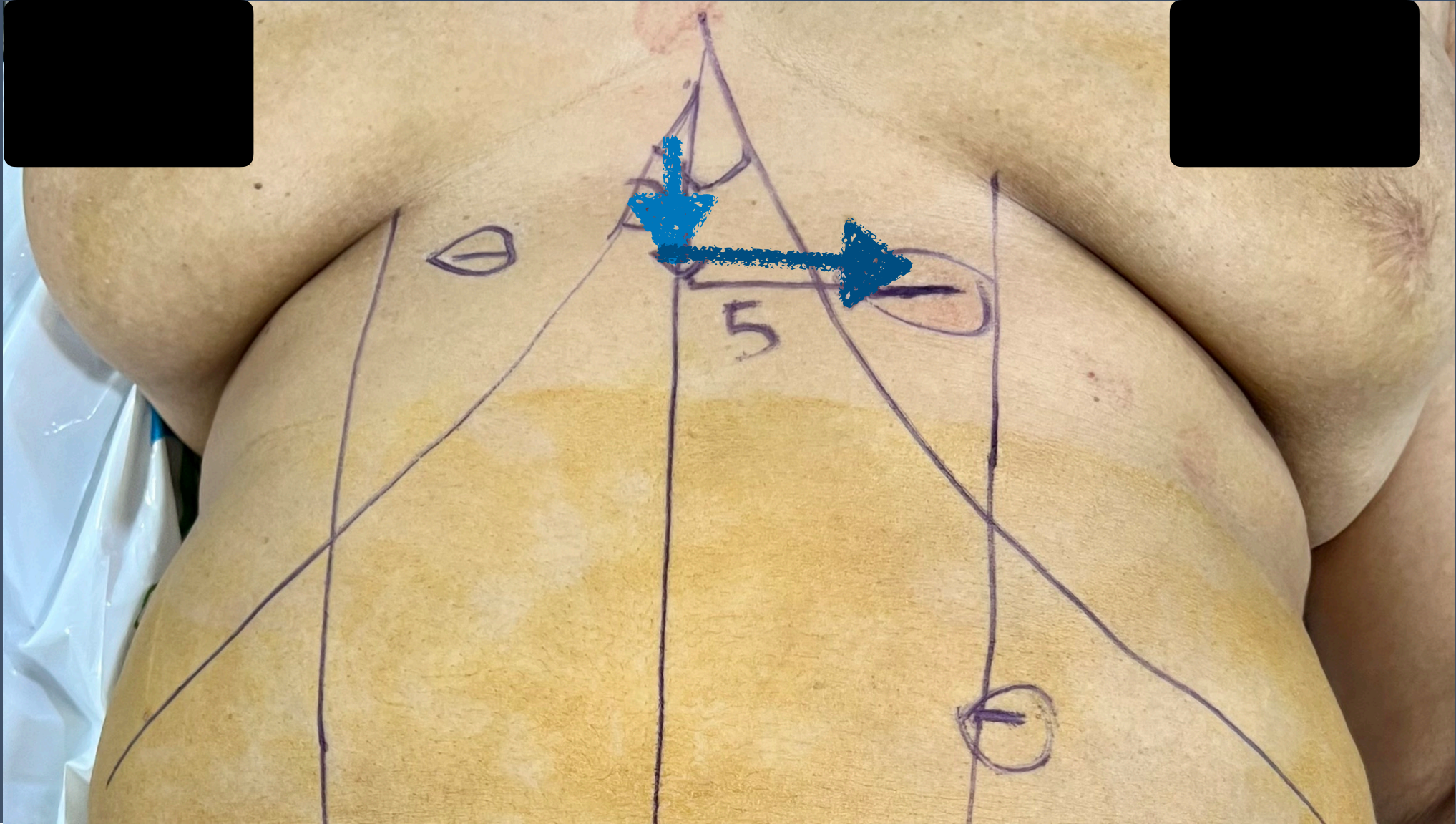


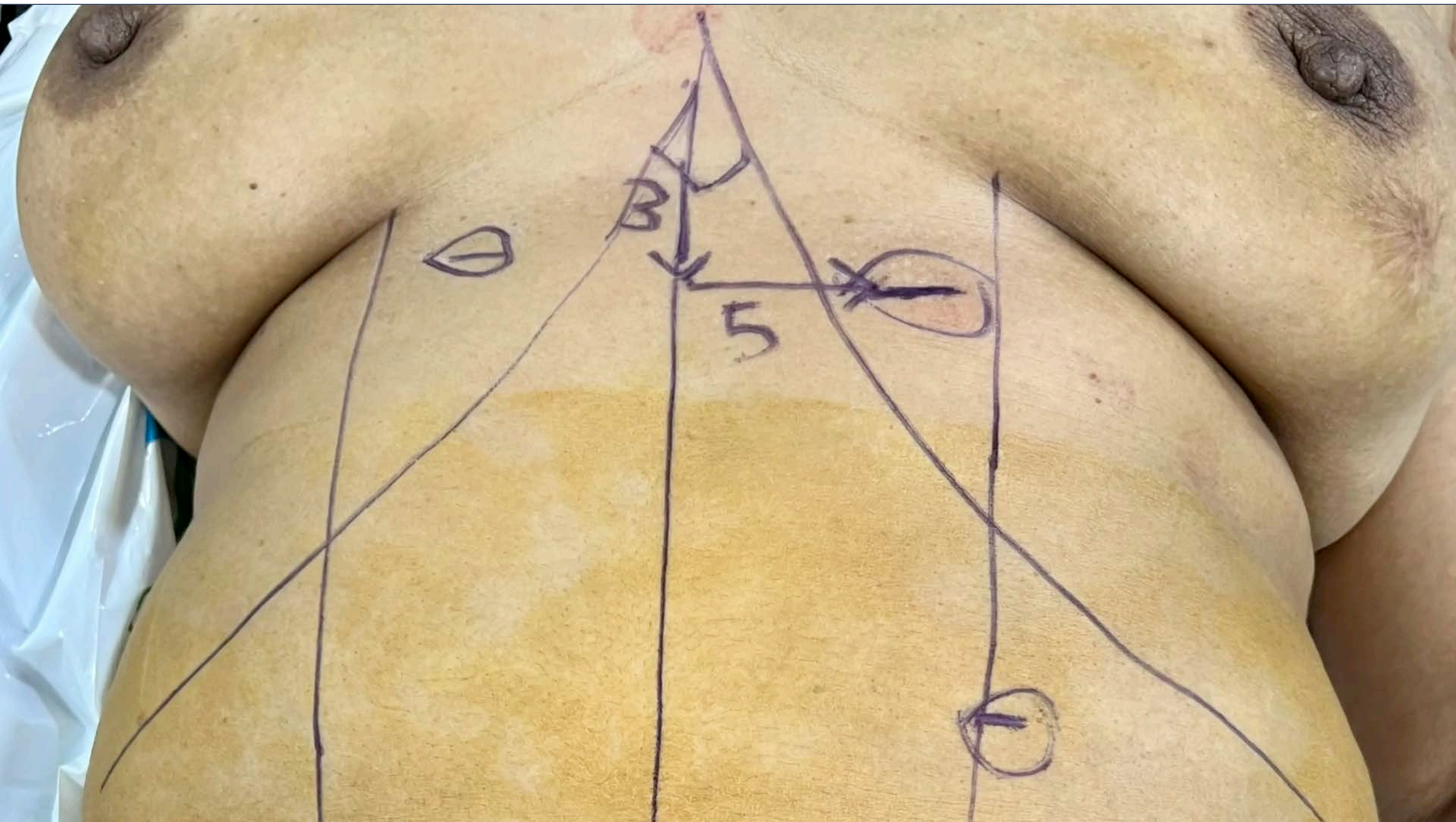
e-TEP different Access- comparison

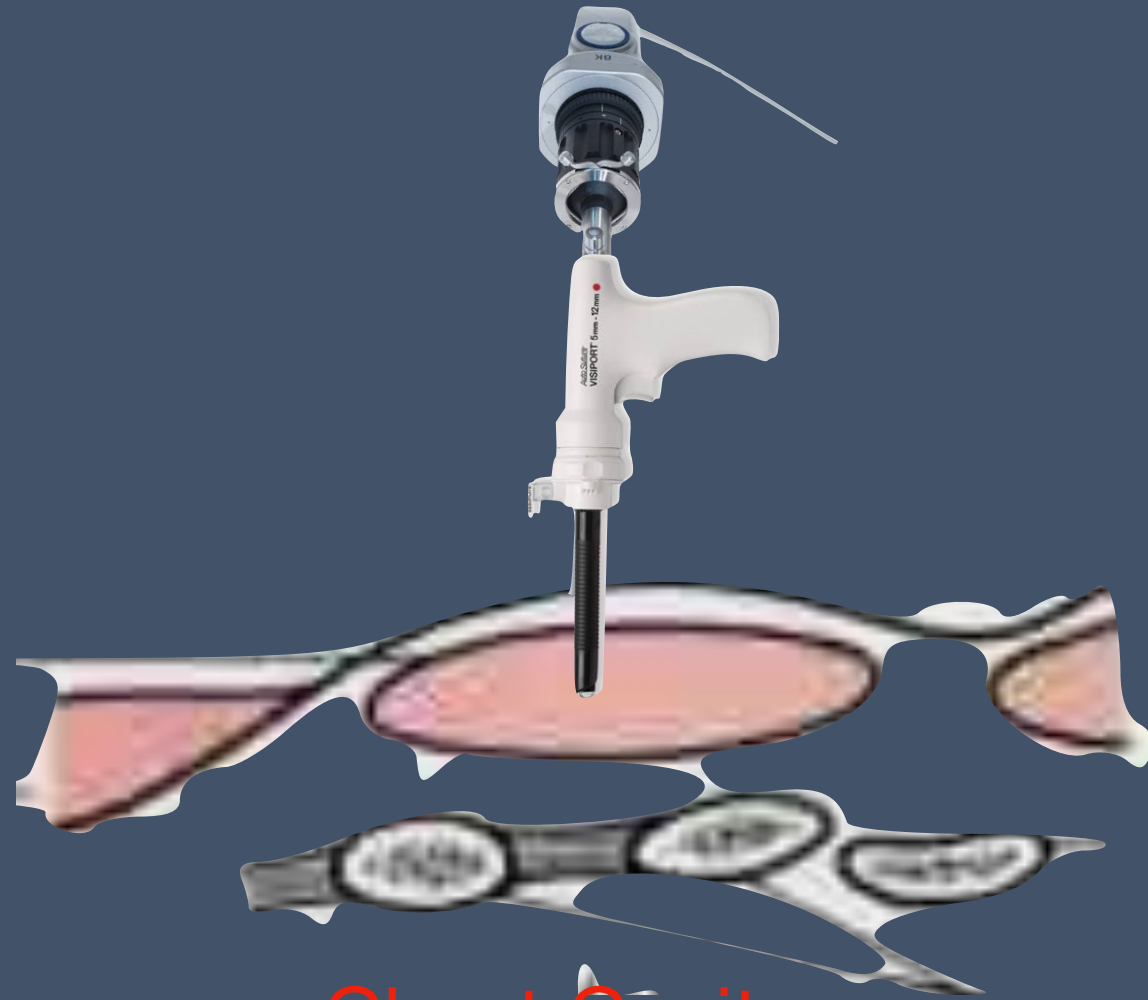


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Chest Cavity



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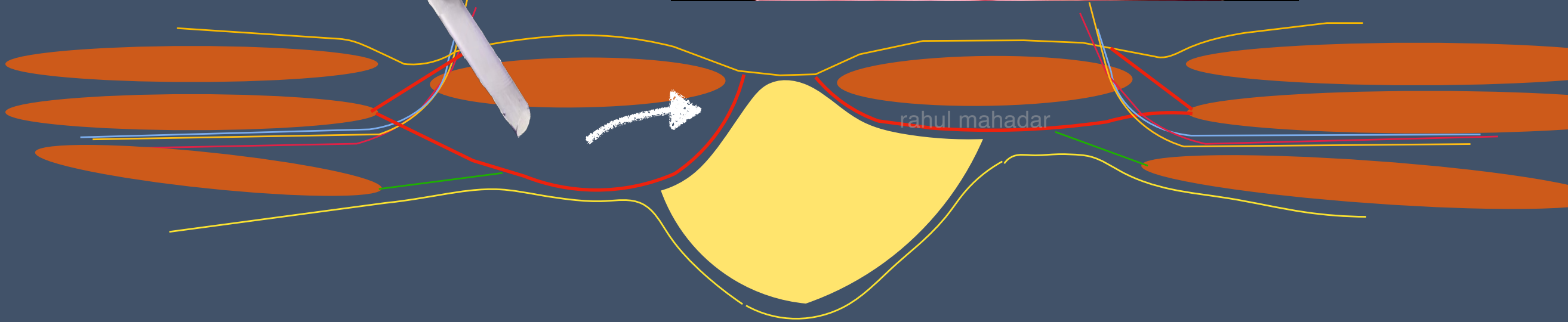
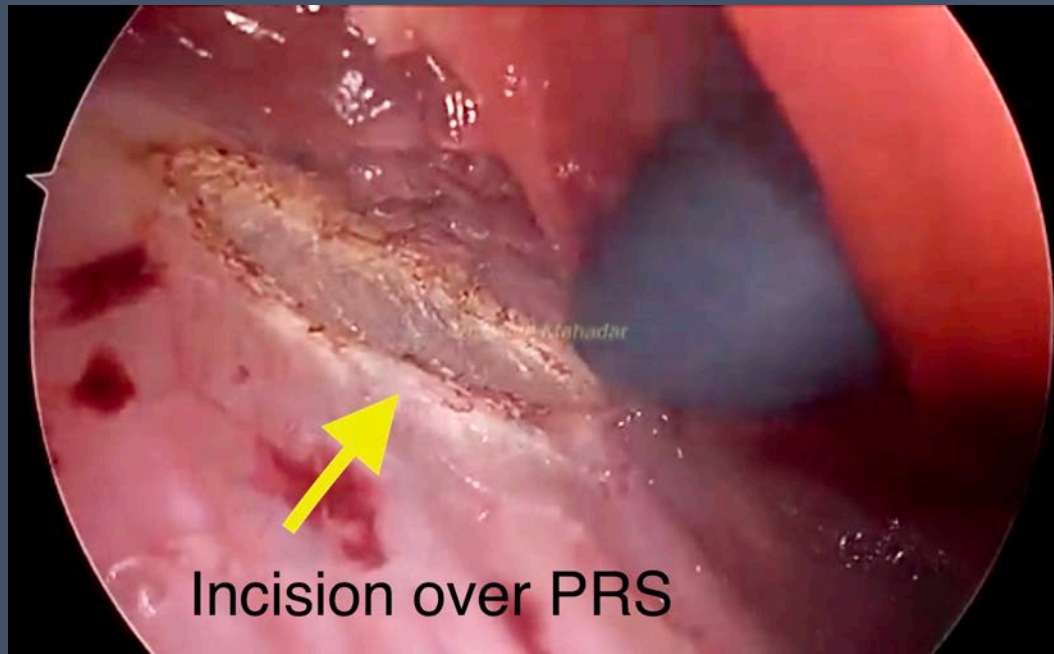
Advantages

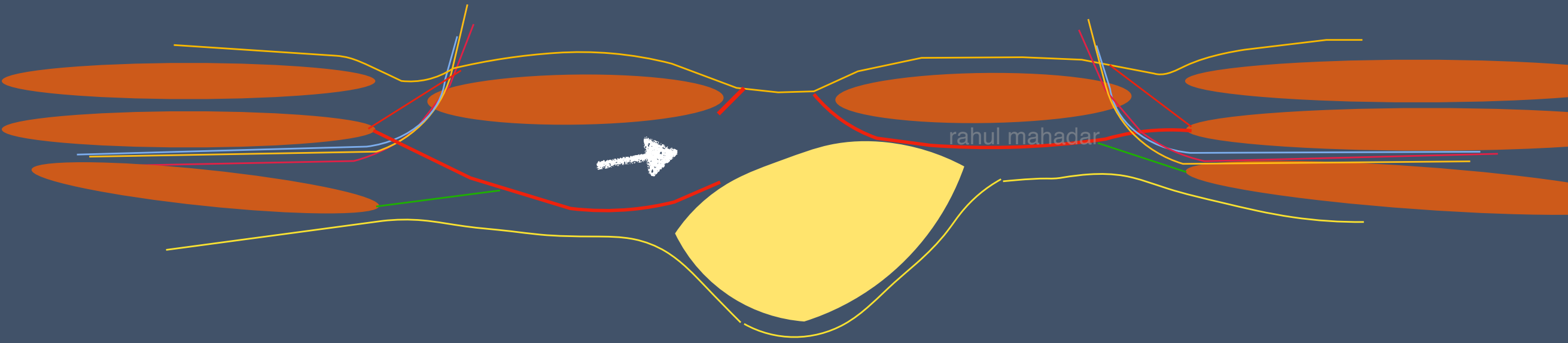
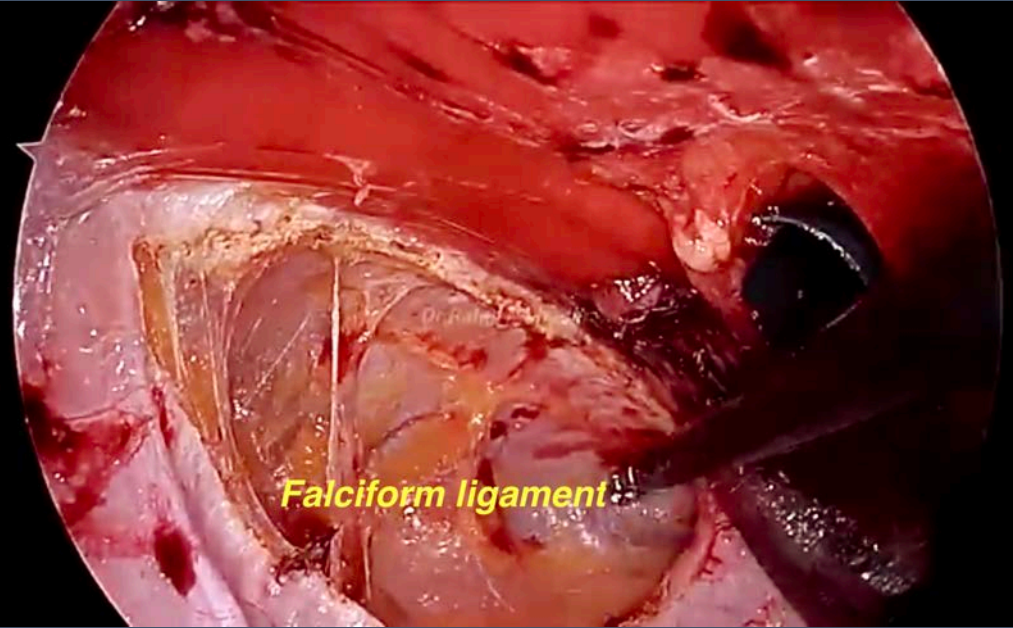
- make easy midline crossover in epigastrium
- less chance of missing plane
- even though small falciform ligament , one can still enter into pre peritoneal space at falciform ligament level easily without compromising extra-peritoneal space
- high crossover , leading to orientation & division of medial aspect of PRS further down quite comfortable
- pre costal port can also be used as an excellent suturing port for midline defects & diastasis recti
- all ports position is shifted upwards which facilitates suturing very well

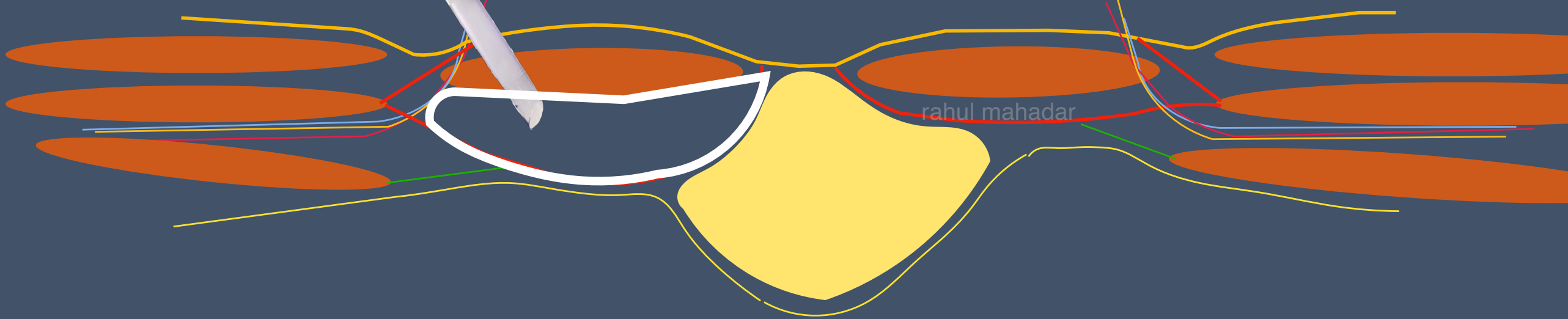
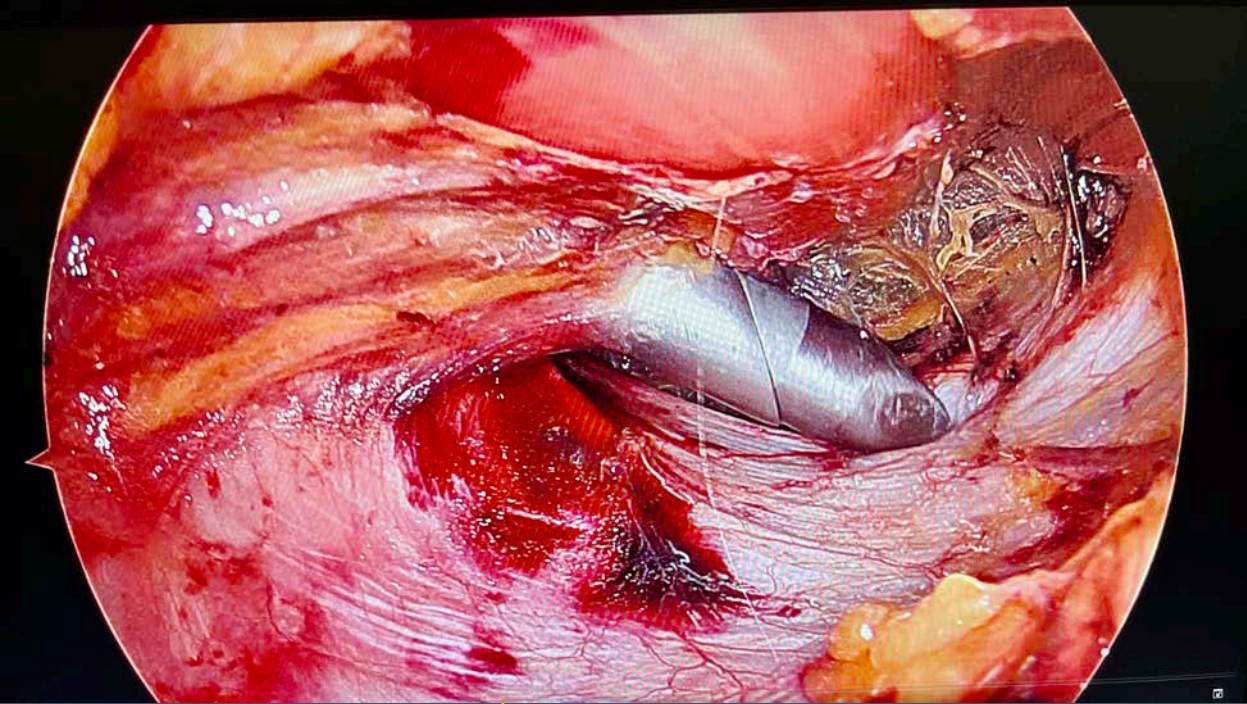
Disadvantages

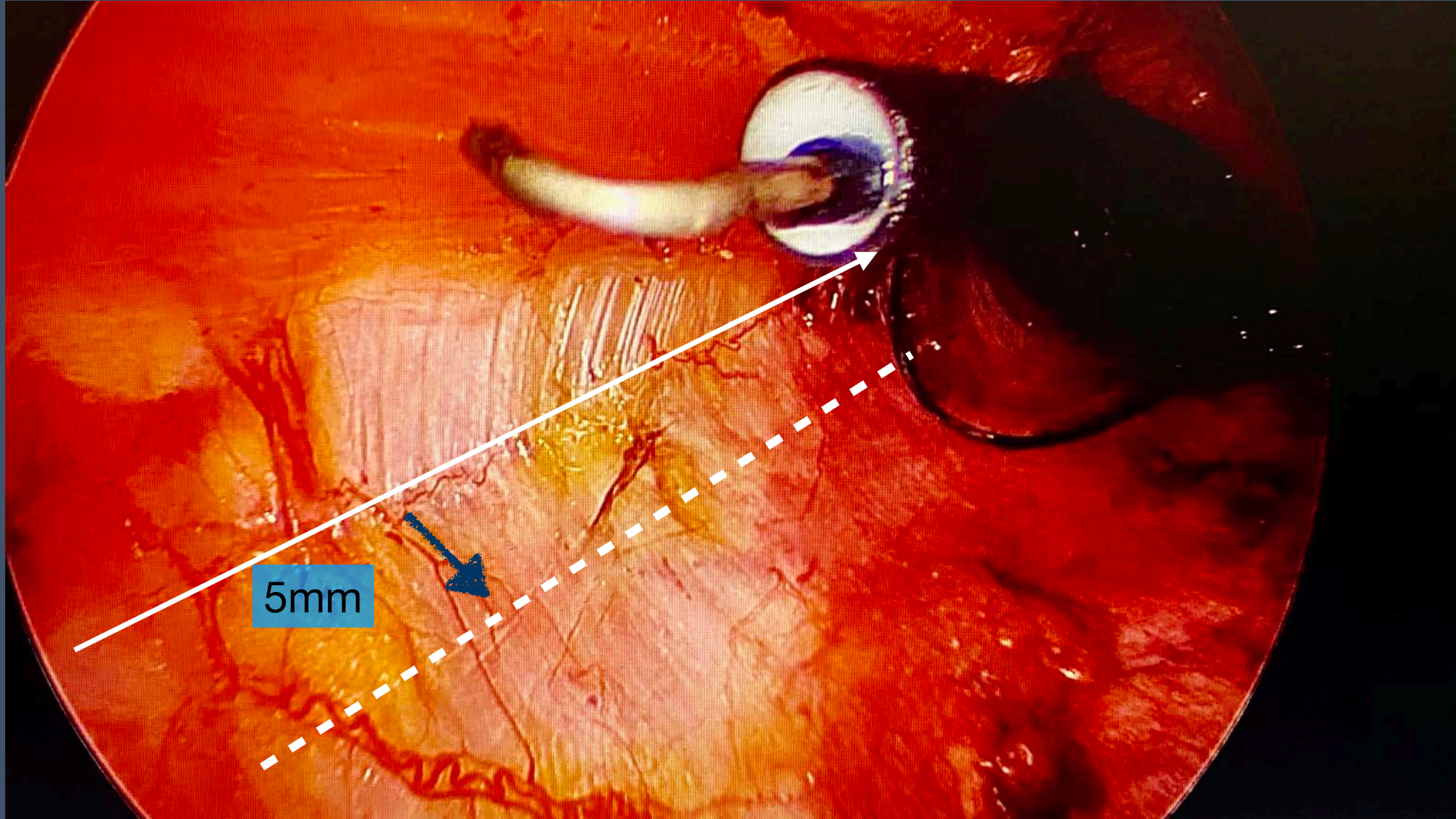
- Restricted movements due to large breasts in case of female patients & obese patients
- measures to avoid this - split table position

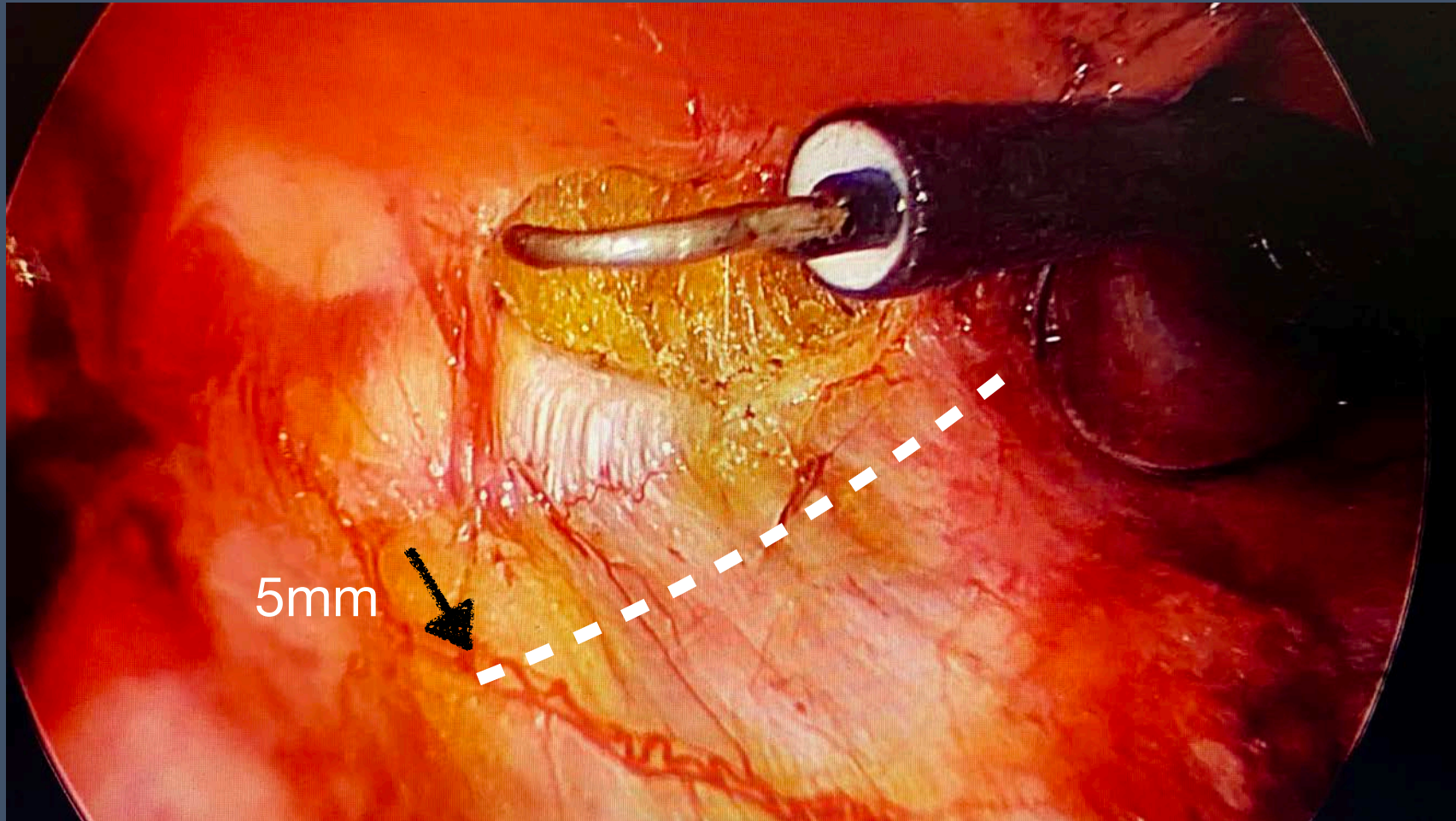


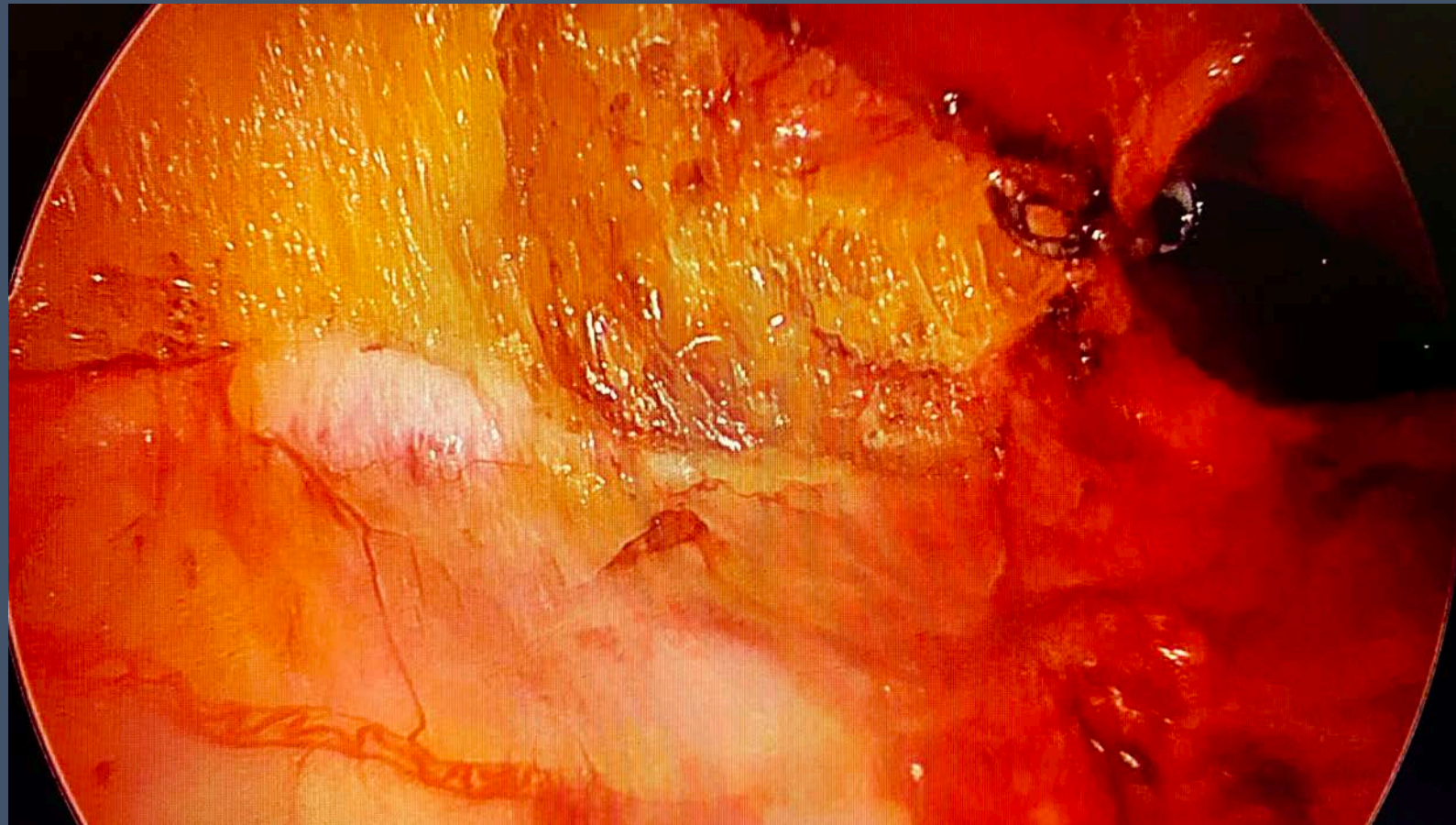






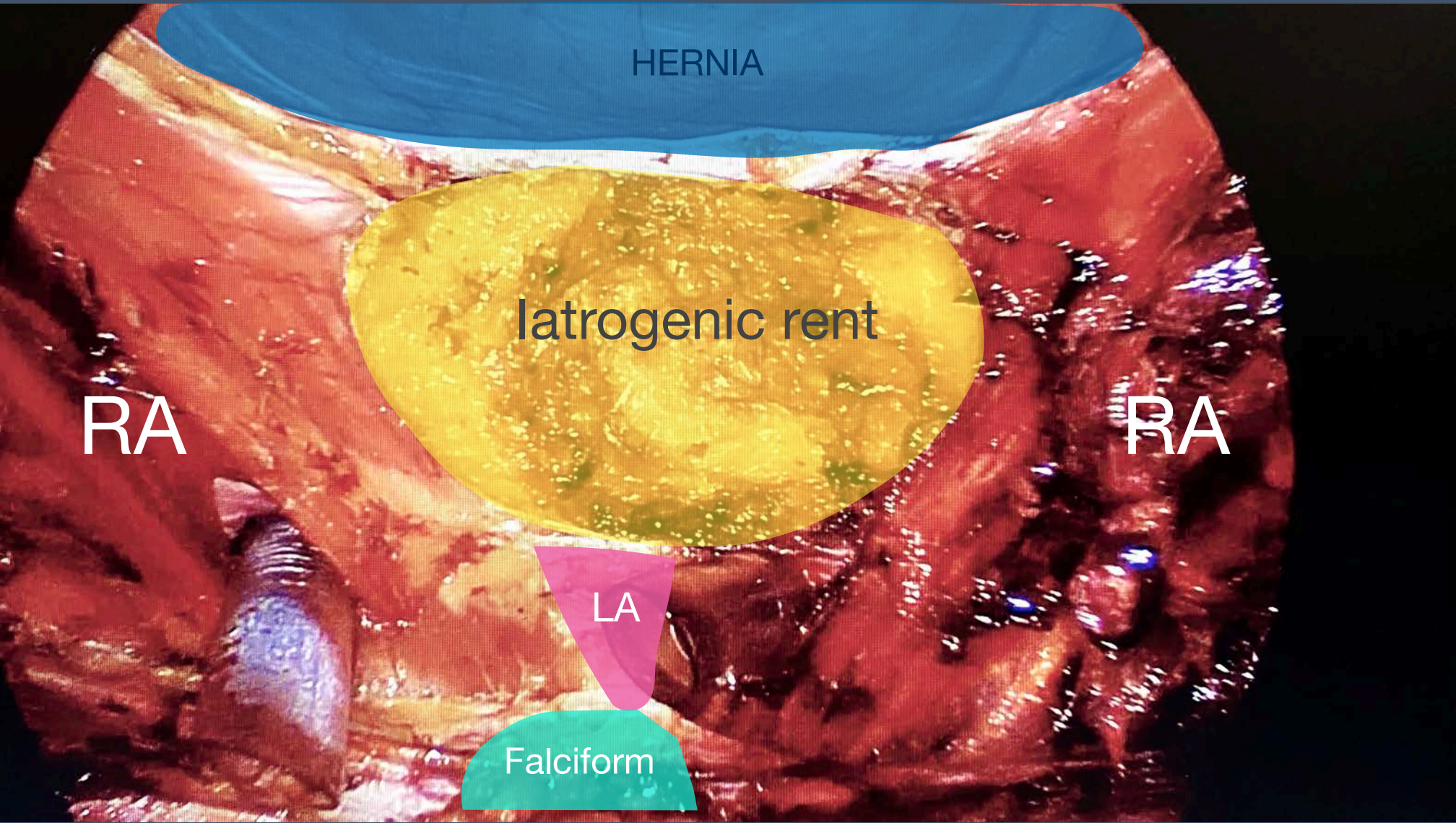


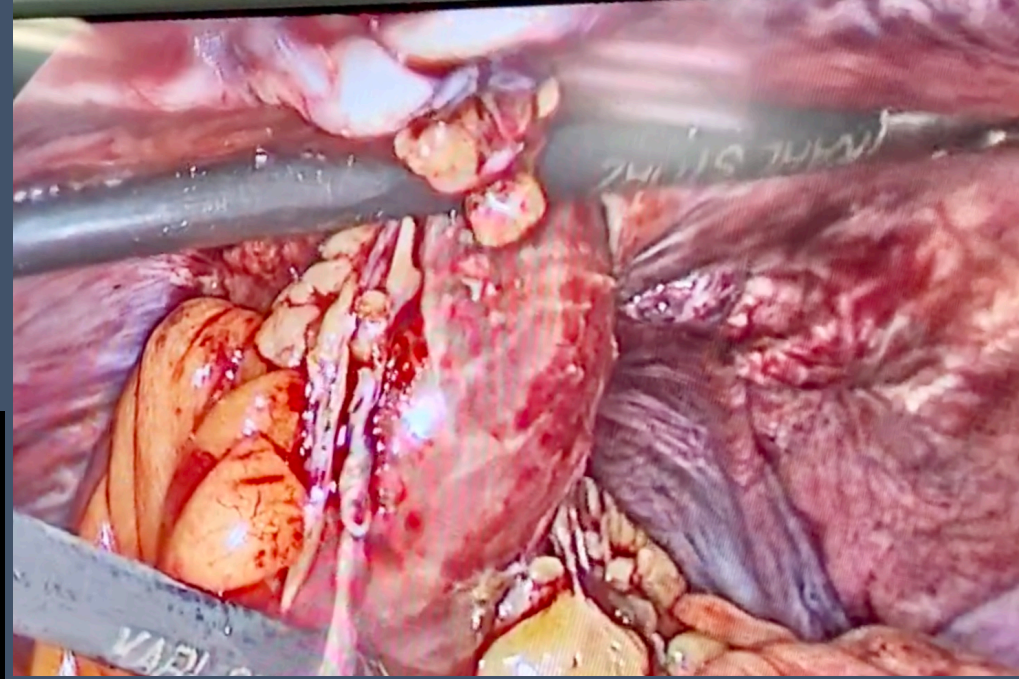
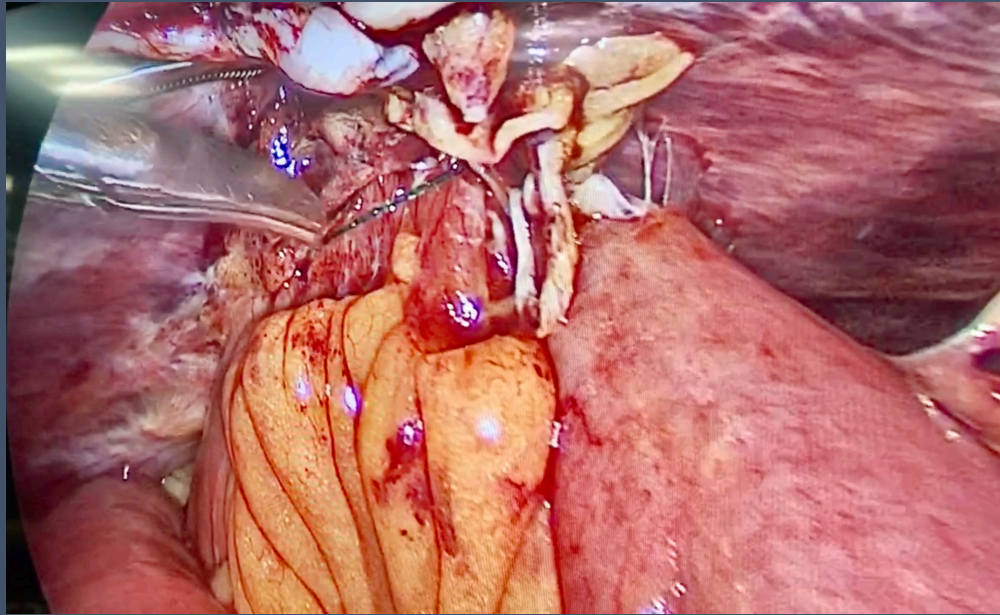




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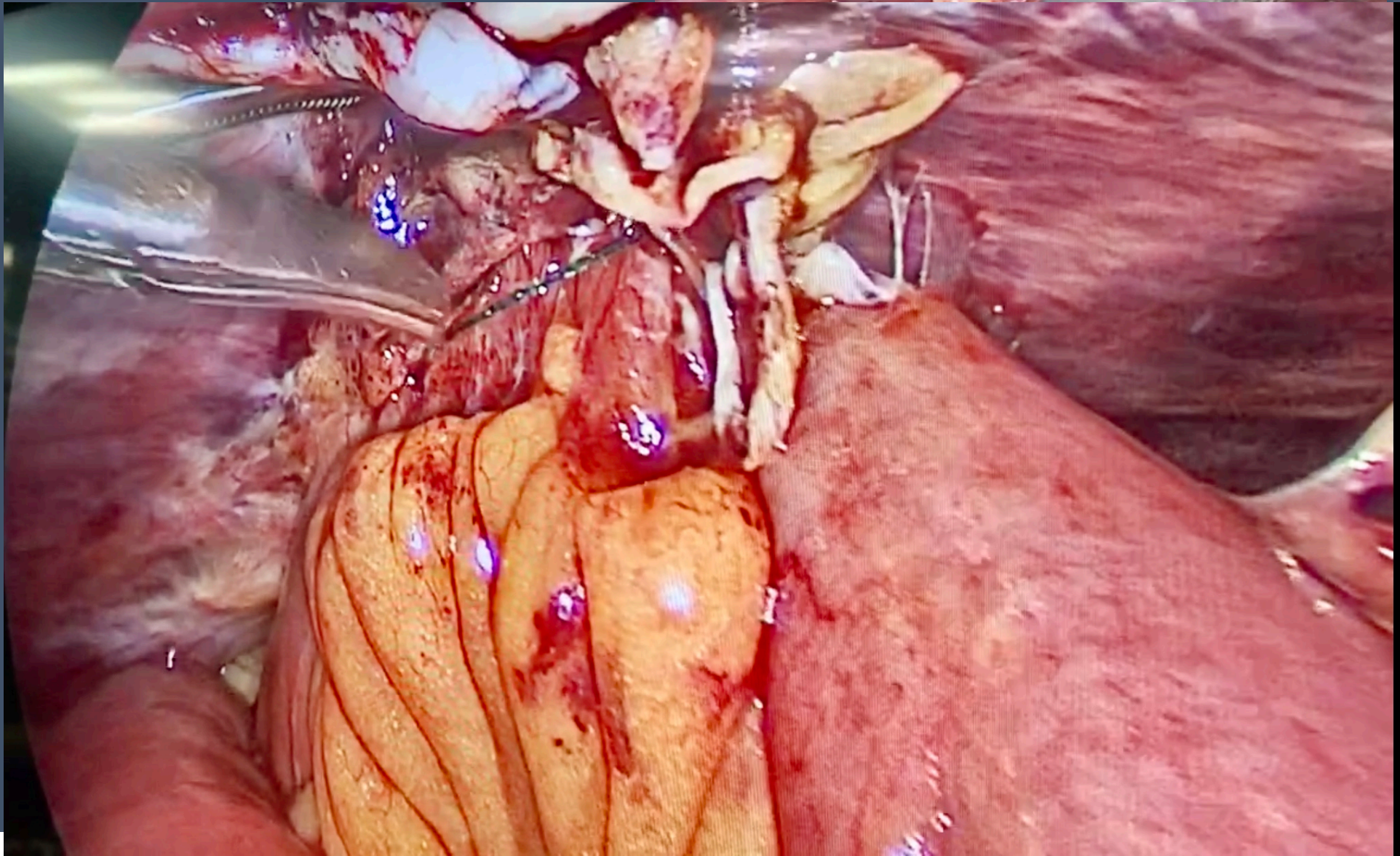






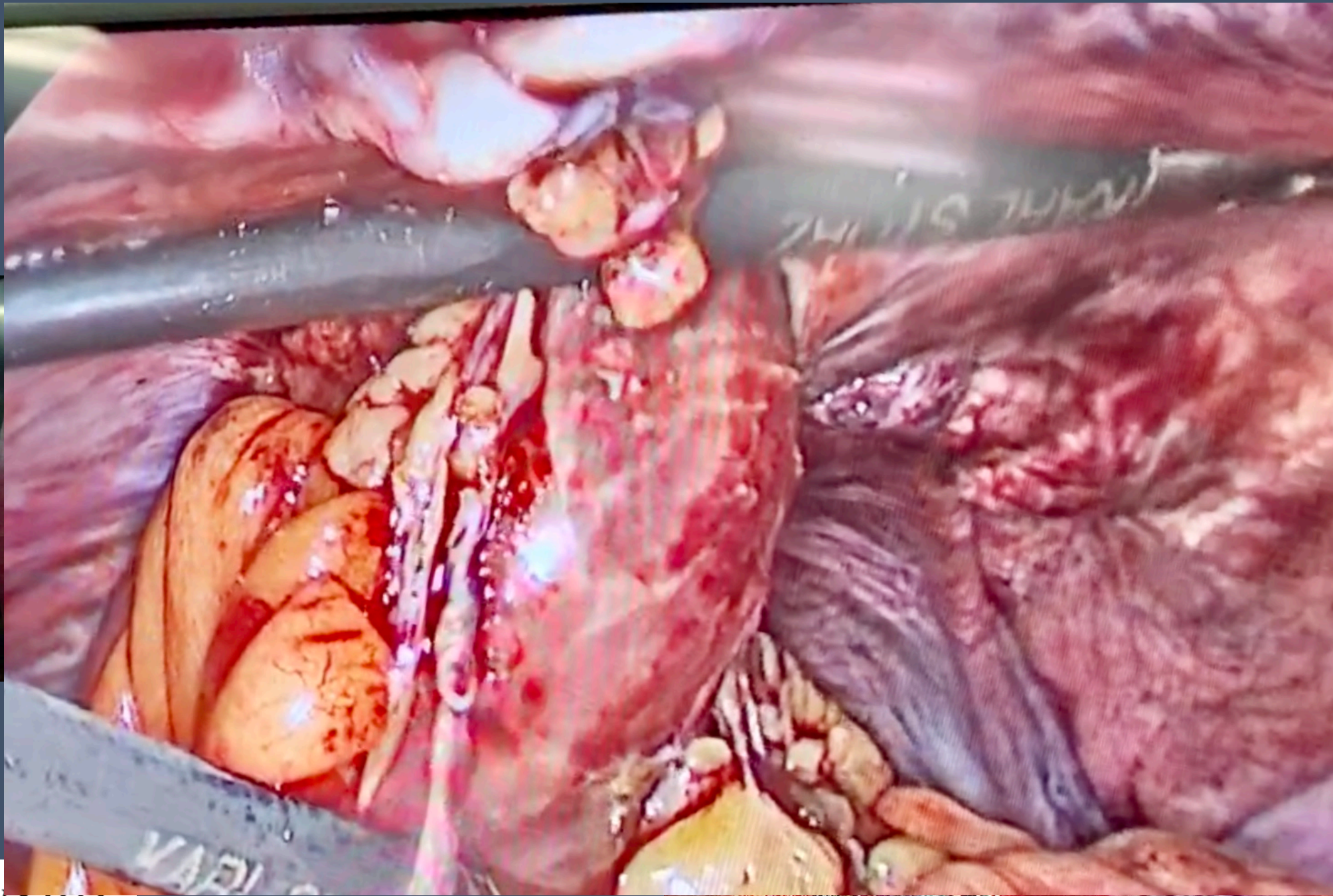
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e-TEP

Disadvantages

- stiff learning curve
- robust knowledge of anatomy
- comfortable working in tight space
- you have to be mindful that there is bowel beneath & aware of possible complications & to manage said complications effectively

**what we can expect
from eTEP repair?**



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eTEP

- cost effective
- large uncoated mesh
- mesh out of peritoneal cavity
- low SSIs
- Low SSOs
- Less pain
- short hospital stay
- Long lasting

e-TEP

how to overcome these problems

- Revisit knowledge of anatomy of Abdominal wall
- guided mentorships
- hands on courses on cadaver models
- careful selection of initial cases
- preoperative marking of semilunar line & relevant anatomy
- **spend developing proper tricks to accomplish this endeavour.**

eTEP

future prospects

- Retro-muscular space — dynamic space
- more scope for evolution
- in future, we can expect more evolutions & different techniques to do this procedure
- standardise the steps ,so that any Surgeon can reproduce the procedure well

e-TEP repair

conclusion

- it has place in LVHR
- for Defect size between 4cm to 8 cm - most ideal approach
- and for small midline hernias with diastasis of recti
- all principles of rive stoppa repair are followed

port placement - the attack strategy

- correct anatomical plane (start into the retrorectus space)
- respect the angulation principle
- allows the best approach to the defect

CONCLUSIONS

Port placement

- the landmark - linea semilunaris
- developing the appropriate retro-rectus space to place the ports
- allow the best approach to the defect

Conclusions

The e-TEP technique-

- has a place in inguinal hernia repair & perhaps in Lumbar & Ventral / Incisional hernias
- can extend the traditional indications for the extra-peritoneal approach to more complex cases
- makes it easier for Novice Surgeon to perform & master the extra-peritoneal approach for the repair of Inguinal Hernias

eTEP

“e”- Stands here not only for -
enhanced view or extended view

BUT for-

- ease of dissection
- ease of manoeuvre of instruments
- ease of putting large mesh with ease of it's deployment
- ease of opening up of planes for dissection
- extra-ordinary outcome

Thank You!

