

Minimally Invasive and Novel Therapeutics (M.I.N.T.)  
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# eTEP: use and abuse

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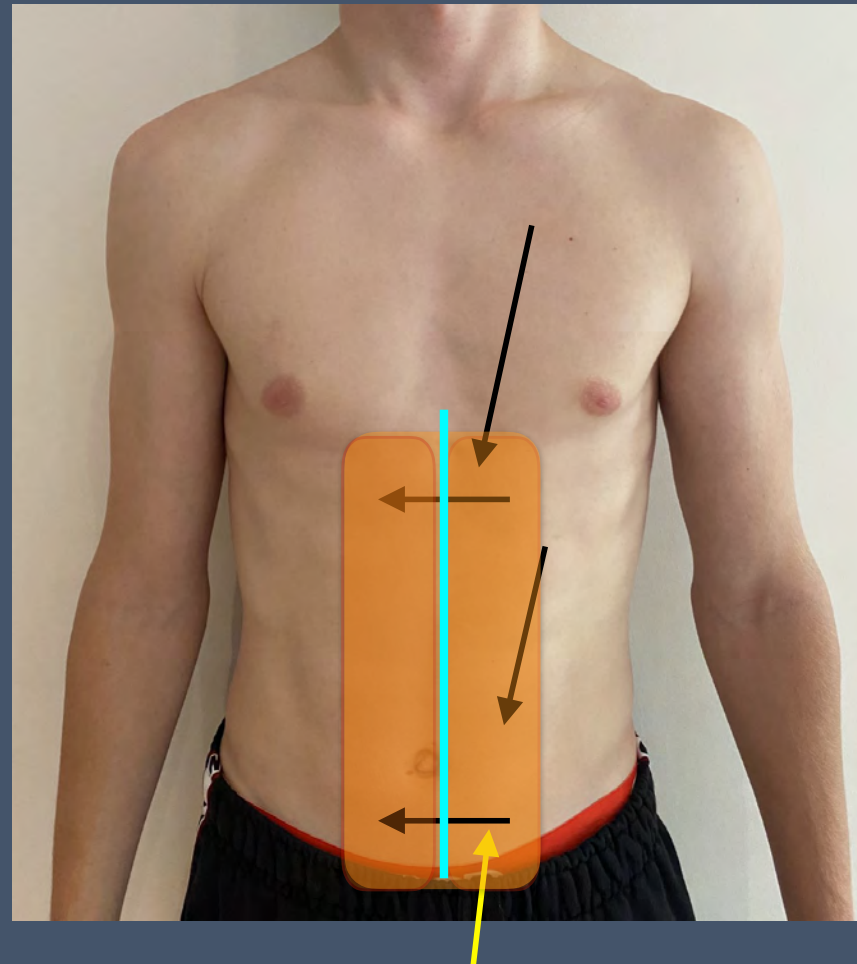


# use of e-TEP in hernia repair and AWR: the basic premise

- The Retro Rectus space can be accessed from anywhere in its extent
- The extraperitoneal space of lower abdomen can be accessed and expanded in its entirety

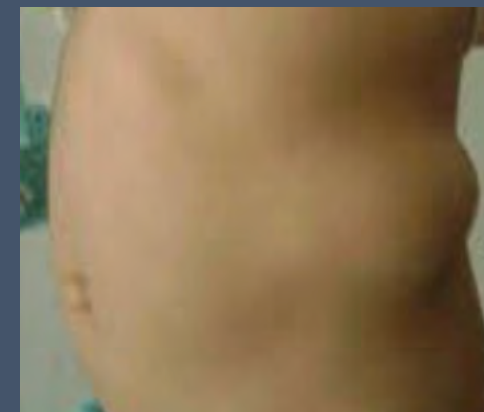
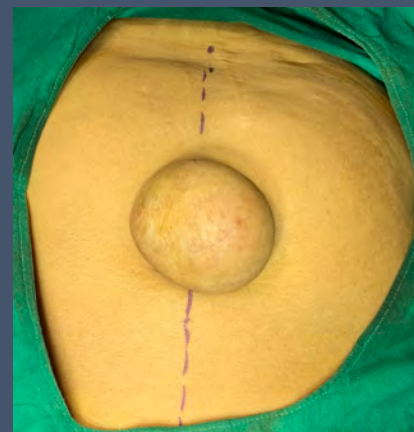
Midline crossover from  
one Retro rectus space  
to  
another,  
can lay open entire  
retro-rectus space for  
use in hernia surgery

Daes J. The enhanced view-totally extraperitoneal technique for repair of inguinal hernia. Surg Endosc. 2012 Apr;26(4):1187-9. doi: 10.1007/s00464-011-1993-6. Epub 2011 Oct 25.



# eTEP : Use in Ventral hernias

- eTEP Rives Stoppa
- Midline hernias of medium size
- Midline hernias with recti divarication
- Midline hernias with wide defects with TAR
- Lateral hernias where eTEP is used as access for lateral retro muscular space
- Combined hernias
- Lateral eTEP for Lumbar (L4) hernias

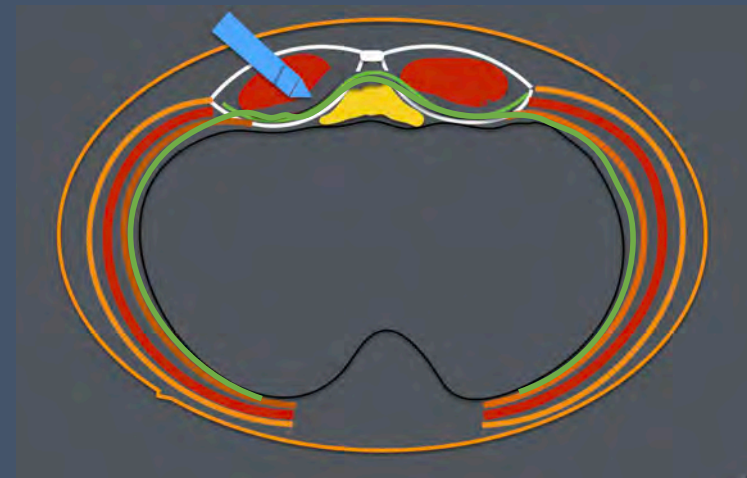
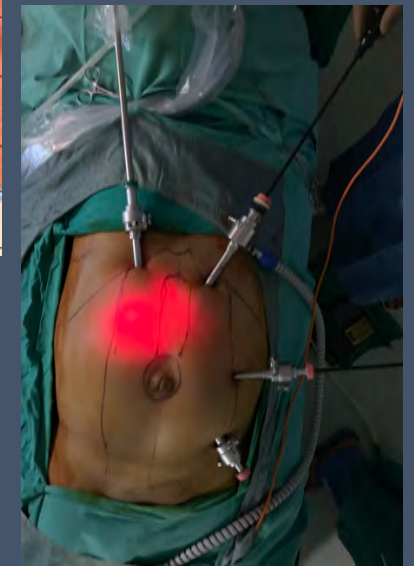
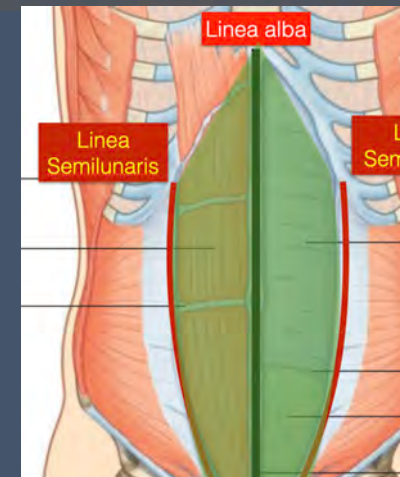
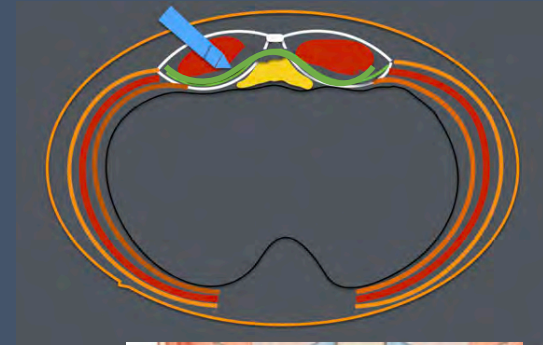


1. Belyansky I et al. A novel approach using the enhanced-view totally extraperitoneal (eTEP) technique for laparoscopic retromuscular hernia repair. *Surgical Endoscopy*. Sep, 2017;32:1531-1532

2. Daes J. The enhanced view-totally extraperitoneal technique for repair of inguinal hernia. *Surgical Endoscopy*. Apr. 2012;26(4):1187-1189

# Why eTEP and its advantages

- Allows us to access and place mesh in a retro-rectus plane: the best plane for mesh
- Entire midline from Xiphisternum to Pubis can be reconstructed eg in associated Divarication
- Ergonomically better
- Versatile: acts as an entry portal for performing a TAR and repair lateral hernias
- Less pain



# eTEP RS for primary Umbilical hernia: use or abuse?



## eTEP RS

For Primary Umbilical hernia M3 W1

Dr Pramod Shinde

MS FALS FIBC FACS

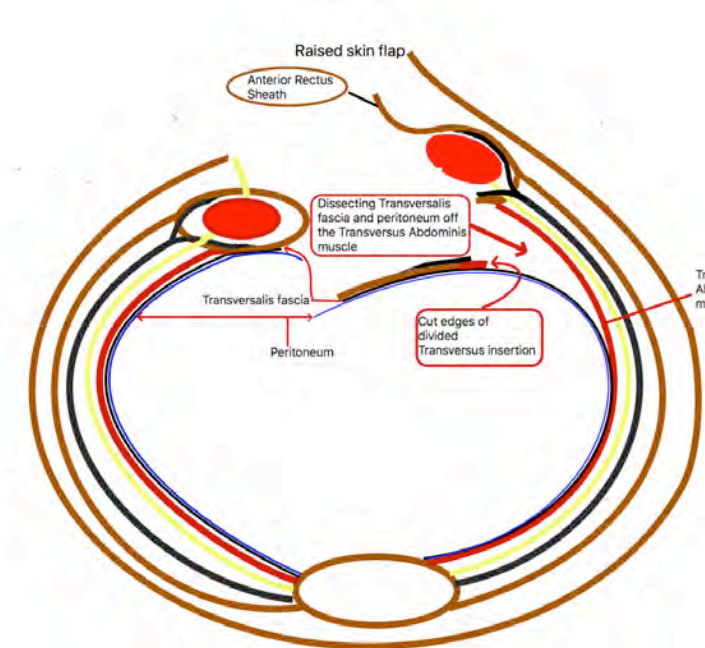
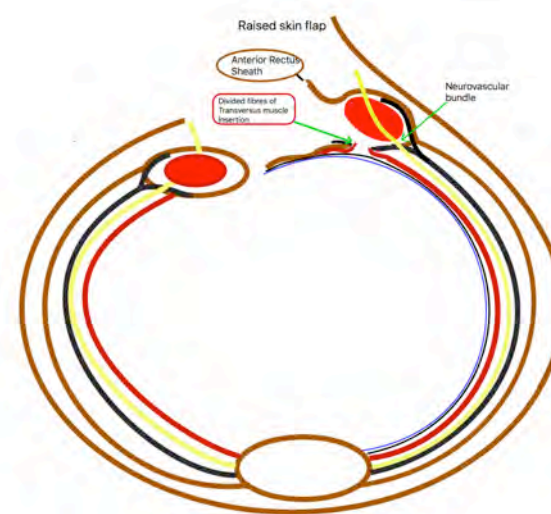
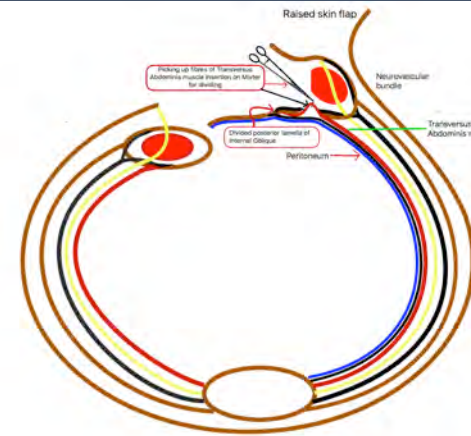
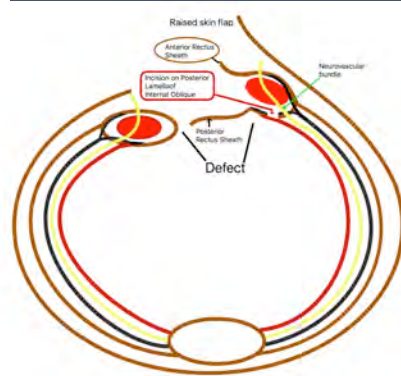
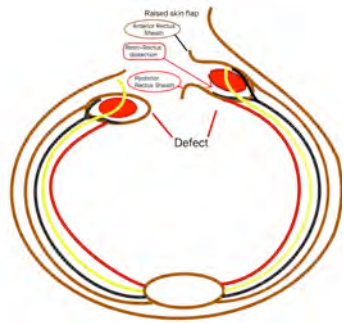
Kaushalya Hospital & research Centre  
Nashik

[www.herniasurgerycentre.com](http://www.herniasurgerycentre.com)

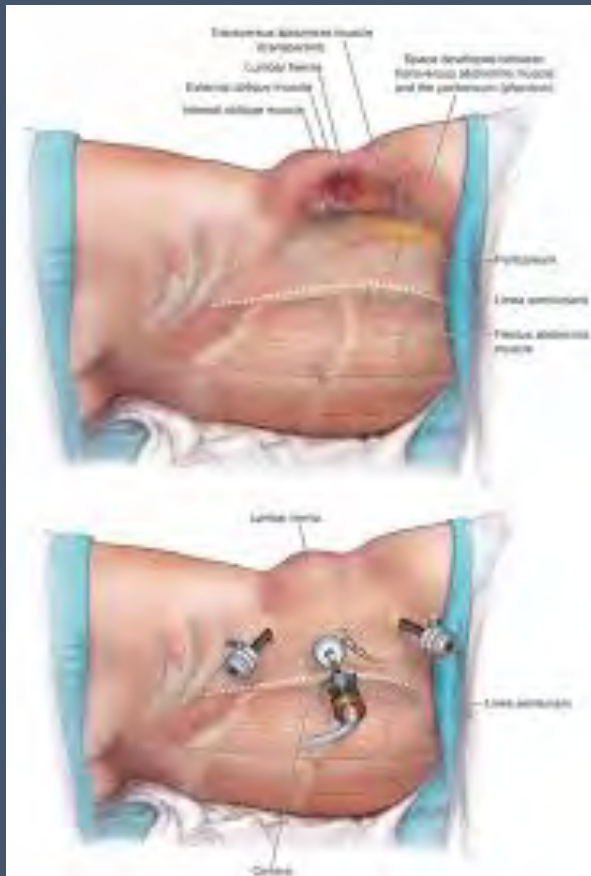


# eTEP use for Lateral hernias

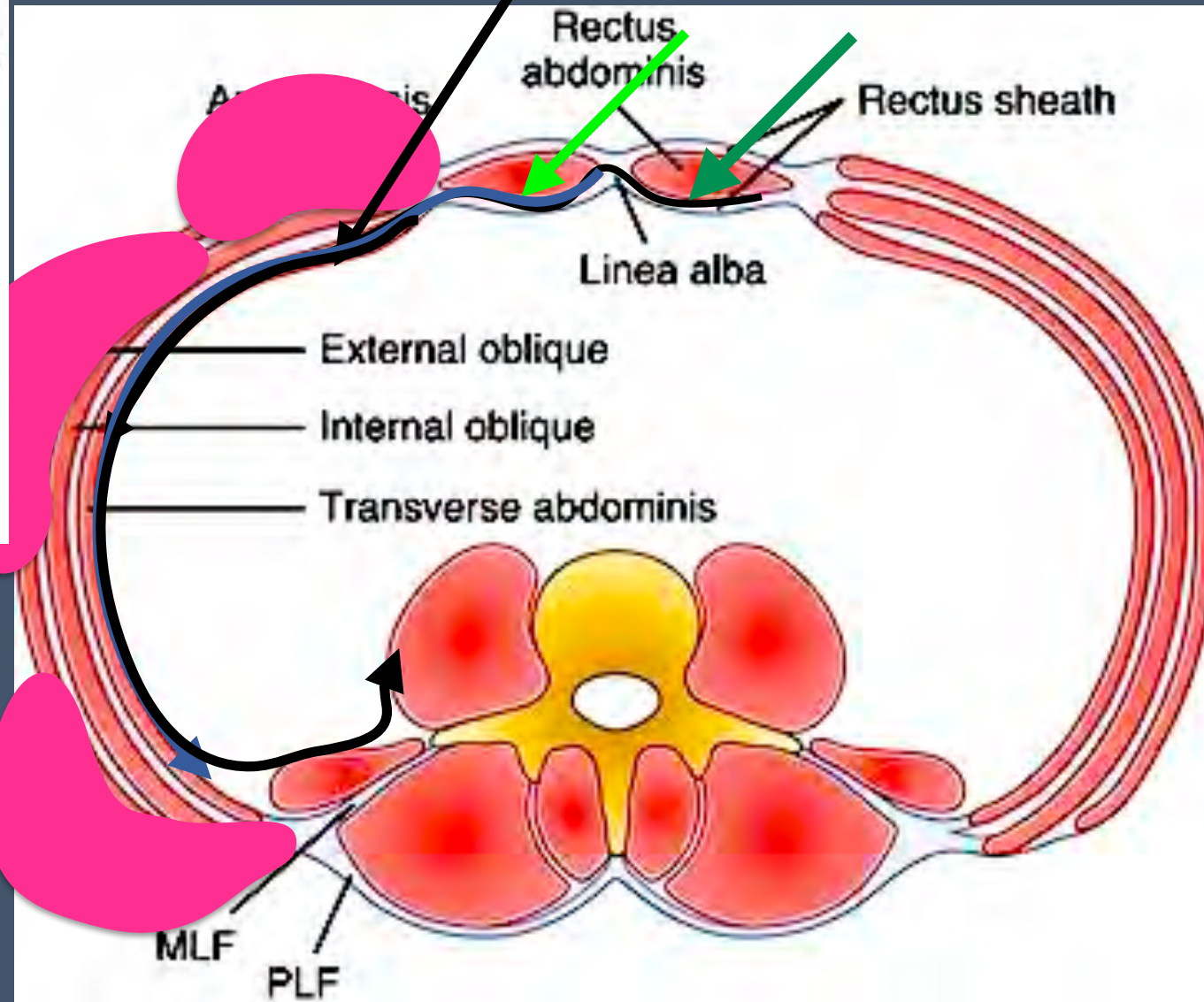
- eTEP approach used as an access
- TAR becomes the door to lateral compartment



# eTEP use for Lateral hernias



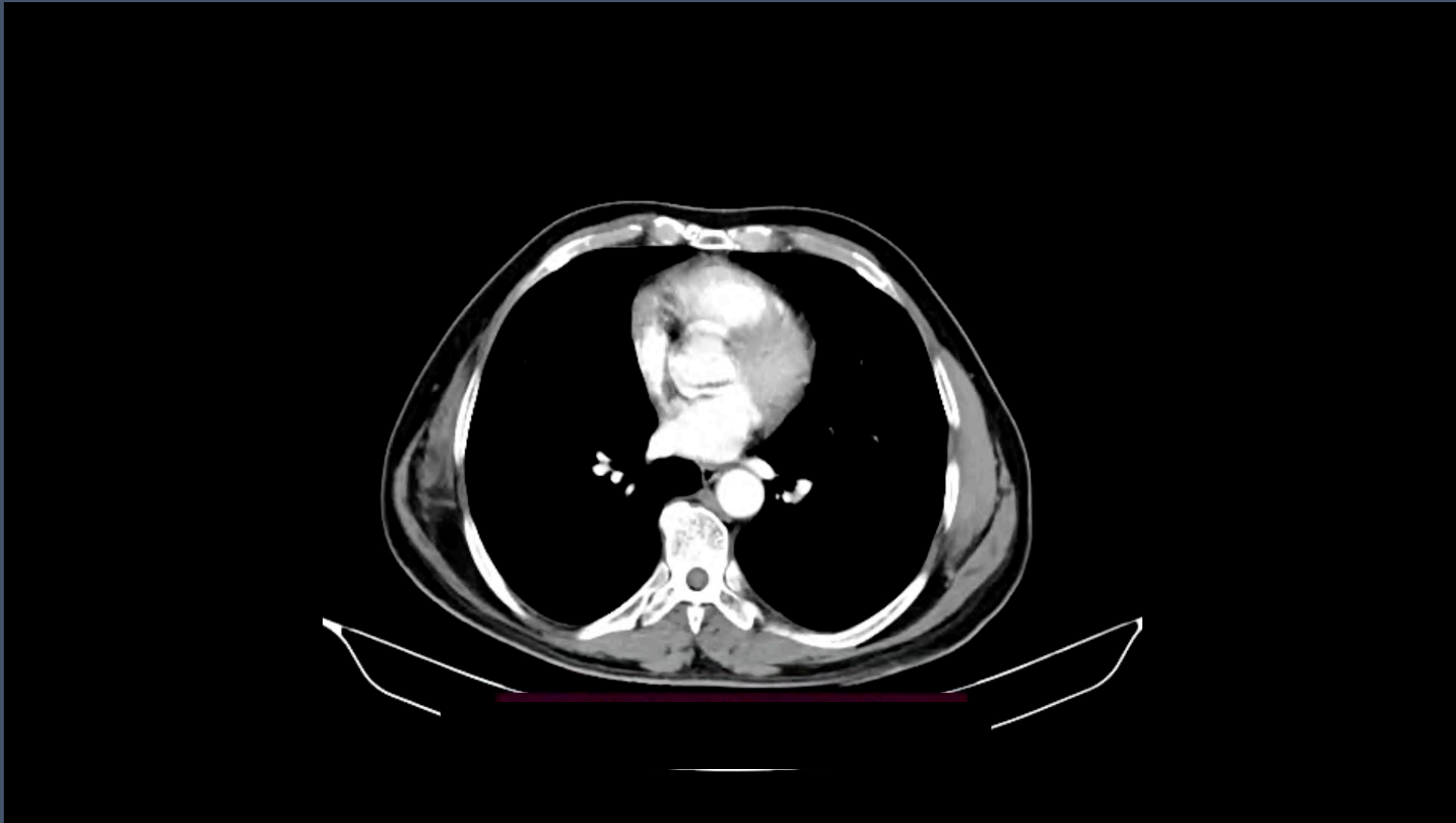
## Lateral eTEP



Victor G. Radu  
Techniques and Innovation  
in Hernia Surgery  
Edited by Angelo  
Guttadauro

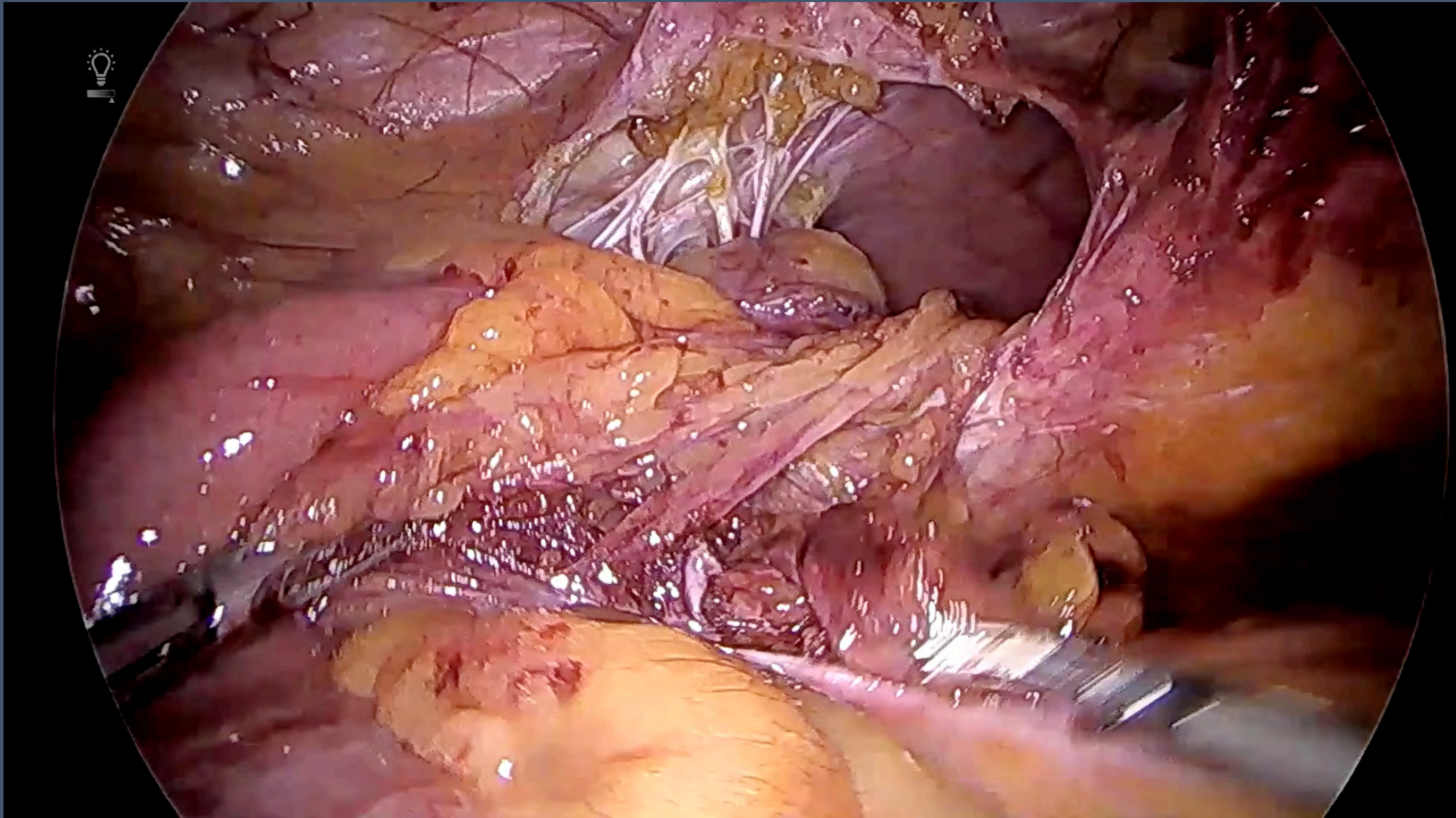
Published: May 27th, 2020  
DOI: 10.5772/  
intechopen.89677

# eTEP use: RIF L3 W2 Incisional hernia





# eTEP use: RIF L3 W2 Incisional hernia



# Use and abuse...



Abuse is the incorrect, wrongful or *overuse* of a thing, technology or....



# Abuse of eTEP RS

- Midline hernias with small size of less than 3 cms.
- Small Umbilical with Inguinal hernia??
- TAR done for 4 to 6 cms size midline hernias to help close the PRS
- Injury to Linea Alba
- Injury to Linea semilunaris
- Post complications like PRS rupture
  
- Do we have any evidence for these statements?

# eTEP RS for small hernias...

## Evidence???

11:16

International Hernia Collaboration

12 min R eTEP for umbo + diastasis.  
1 hour case in full on 4x/speed.



Like Comment Send

Brijesh Dube and 89 others

Top comments

**Brian Jacob**  
Admin

I watched the video. I still have trouble , personally, accepting that specific operation choice for a chief complaint of a 1cm umbo hernia. To me, the potential risks truly begin to outweigh the benefits.

10 h Like Reply 28

View 1 previous reply...

Comment as Pramod Shinde GIF

11:17

International Hernia Collaboration

Author

**Brian Jacob** I understand your concerns. This operation is not done for 1 cm umbo. As I said before, it is indicated for diastasis plication and a 2 cm associated umbo repair. For a true 1 cm umbo, open suture repair usually is my choice.

7 h Like Reply 3

**Paul Szotek**

**Brian Jacob** I actually was thinking the same. I just cannot violate that space and cause more destruction than I had to start with.

4 h Like Reply

**Edward Kim**

**Brian Jacob** I agree.

4 h Like Reply

Write a reply...


**Giovanni Quartararo**

nice! can you share your indication for patient selection for this kind of technique?

12 h Like Reply 1

Rules

Comment as Pramod Shinde GIF



# TAR for PRS closure



Analysis of 'enhanced-view totally extra-peritoneal' (eTEP) approach for ventral hernia: Early results  
150 cases

If the peritoneal-**PRS layer closure** is at the risk of being under tension,  
*posterior component separation in the form of TAR can be done*  
*to accommodate for a tension-free repair.*



Mishra A, Jabbal HS, Nar AS, Mangla R. Analysis of 'enhanced-view totally extra-peritoneal' (eTEP) approach for ventral hernia: Early results. J Minim Access Surg. 2023 Jul-Sep;19(3):361-370. doi: 10.4103/jmas.jmas\_129\_22. PMID: 37470630; PMCID: PMC10449037



# eTEP: systematic review and meta-analysis: Hernia. 2022

Short-term outcomes of minimally invasive retromuscular ventral hernia repair using an enhanced view totally extraperitoneal (eTEP) approach: systematic review and meta-analysis

- 13 studies
- 918 patients
- Mean defect size: Hernia size (width) was reported in **eight studies** [[11](#), [18–21](#), [24](#), [25](#), [28](#)]
- and resulted in a **mean size of 6.38 cm**

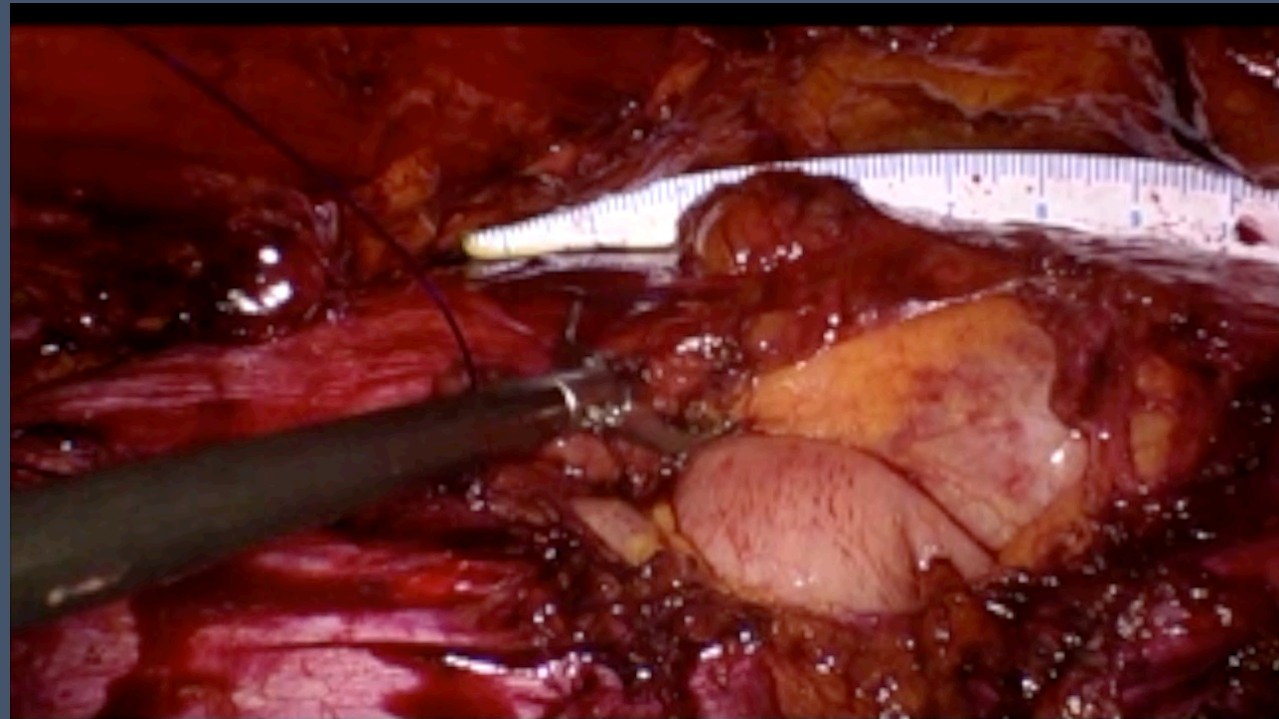
Within this review, **in 117 cases (12.7%)**  
**transversus abdominis release (TAR) was performed**  
in association with RS  
**mainly due to**

**large defects or *excessive tension on the posterior layer.***

1 out of 10  
patients had  
TAR

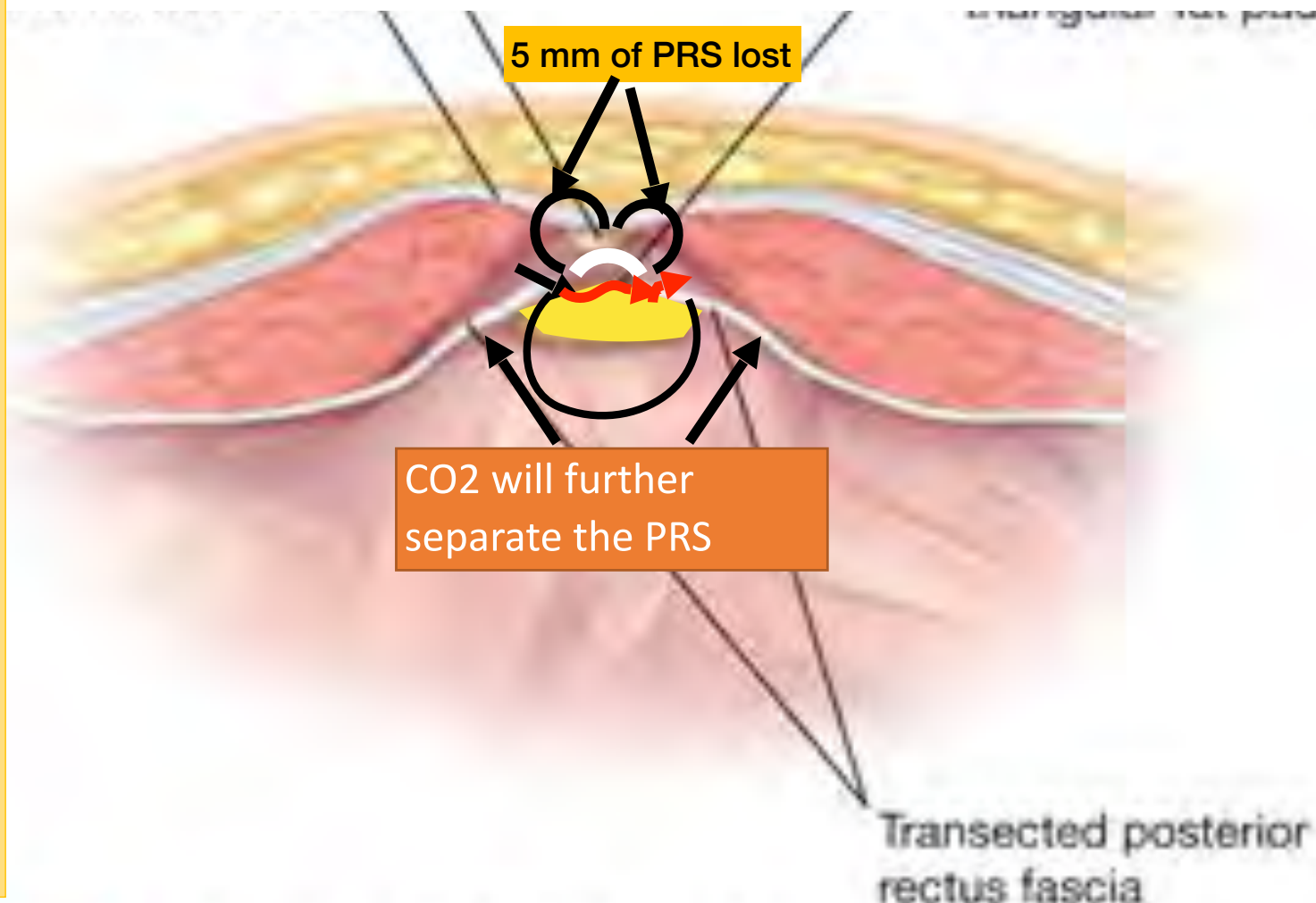
# Abuse: *possible causes* for TAR for medium sized hernias

- Inefficiency/inability to preserve sac or peritoneum
- Unwillingness to use other substitutes like *Omentum* or *absorbable mesh*
- Inherent flaw or characteristic of eTEP RS technique *which results in deficiency of PRS width required for closure*
- *other....*



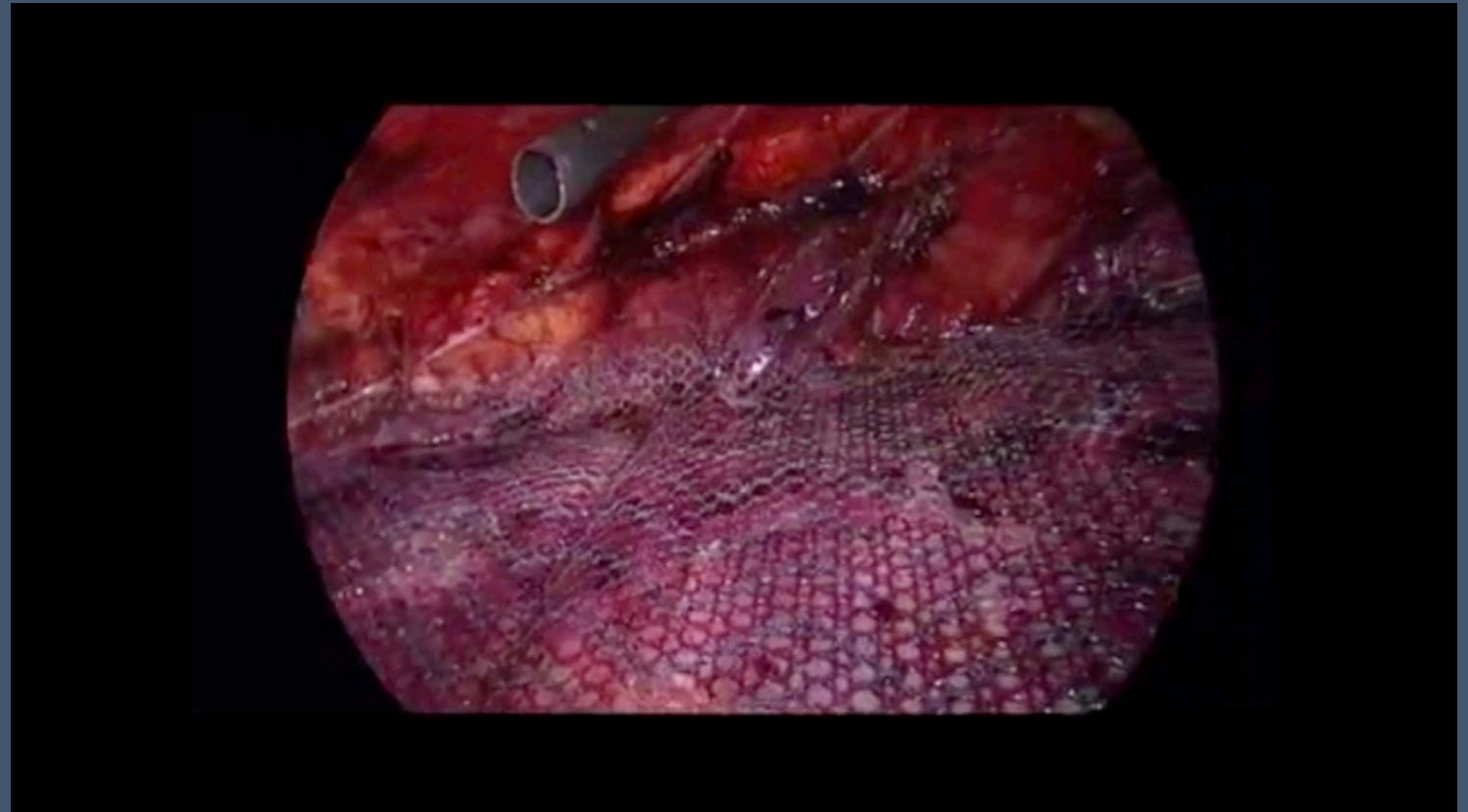
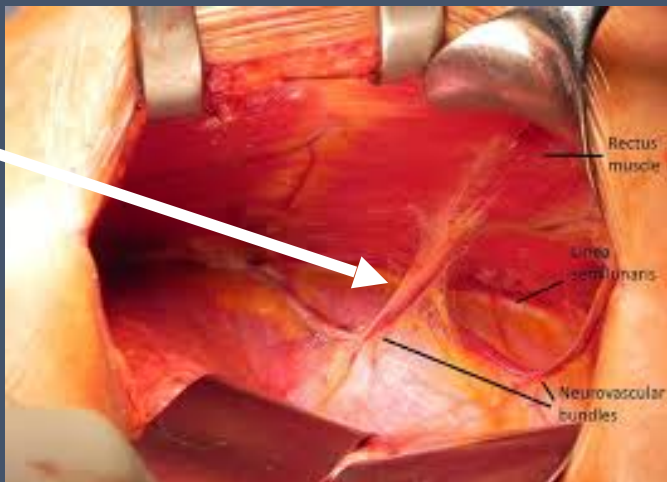
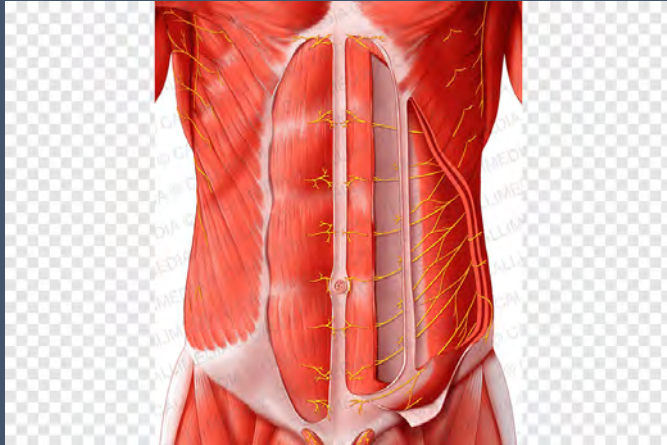
## Why does deficiency of PRS width occur in TEP RS technique?

- The technique involves division of both PRS keeping 5-6 mm of itself attached to the linea alba
- *The linea alba itself measures form 1 to 2 cms*
- Pneumoperitoneum further separates it

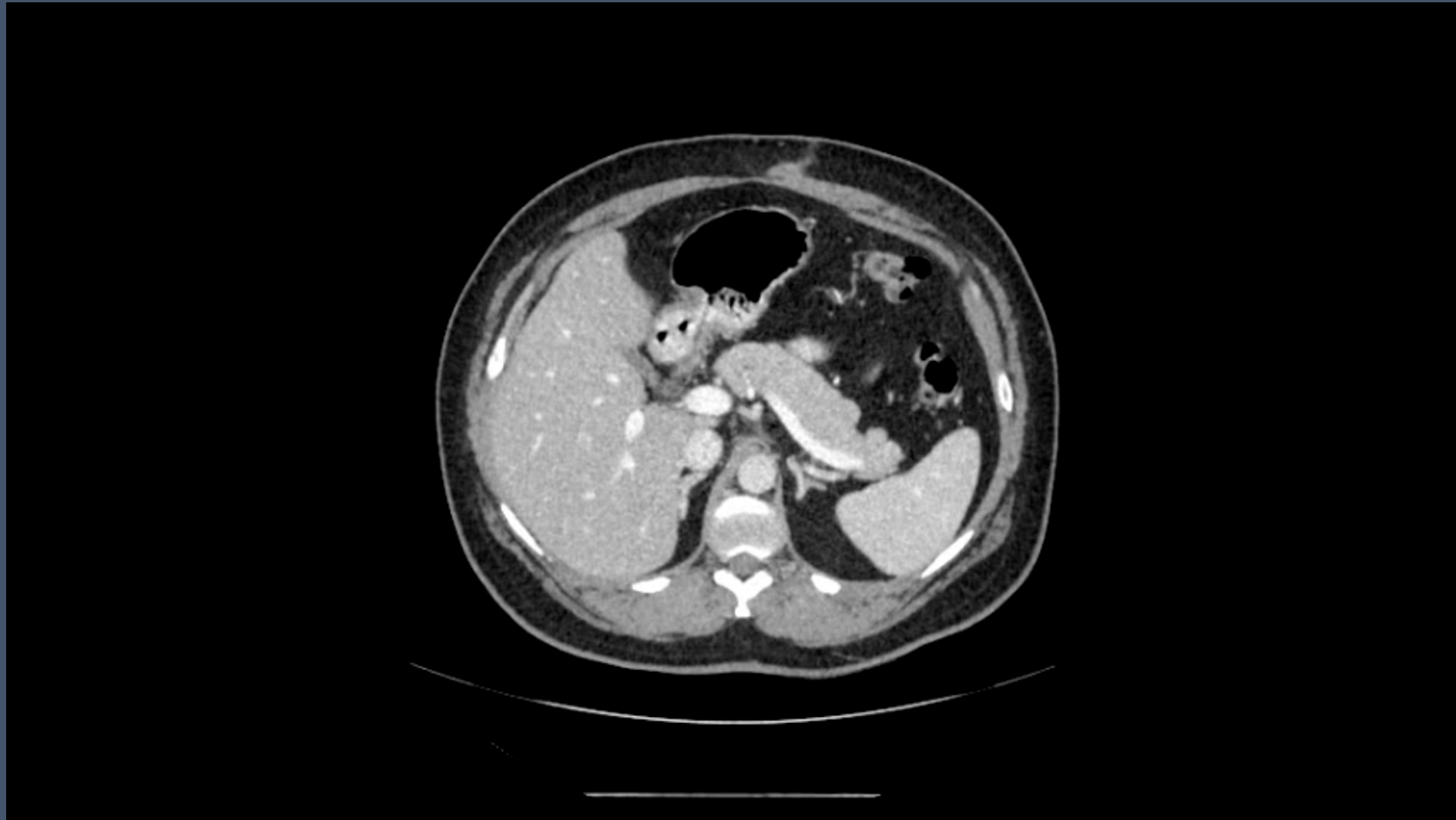




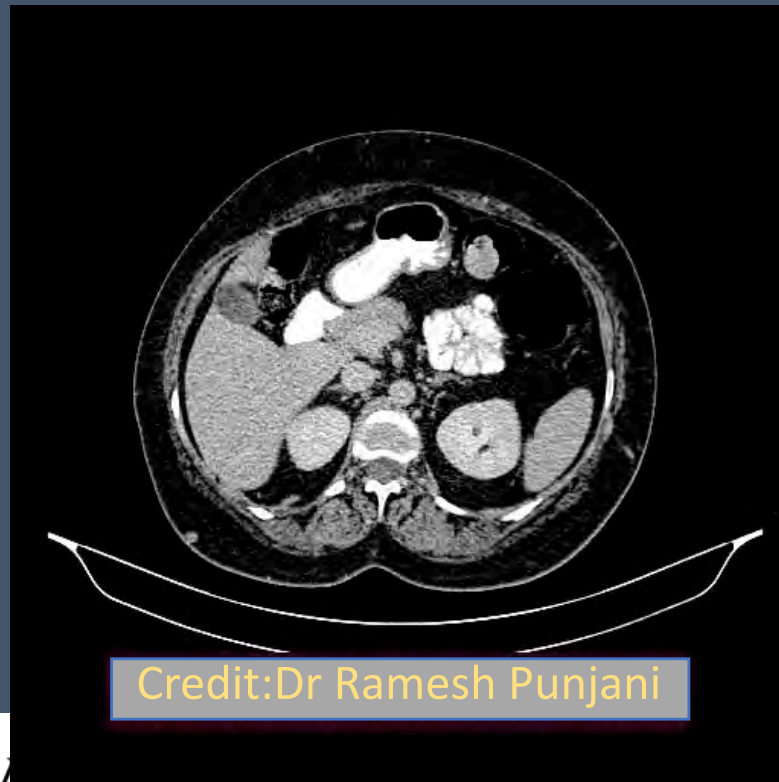
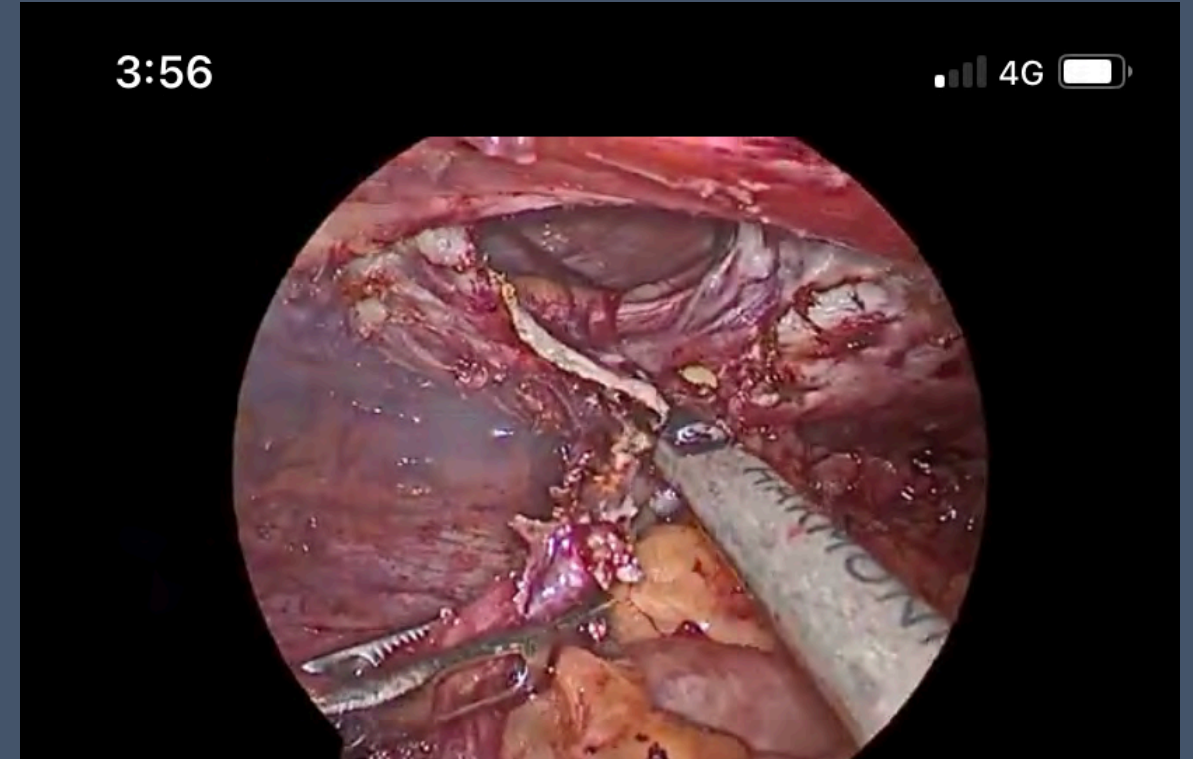
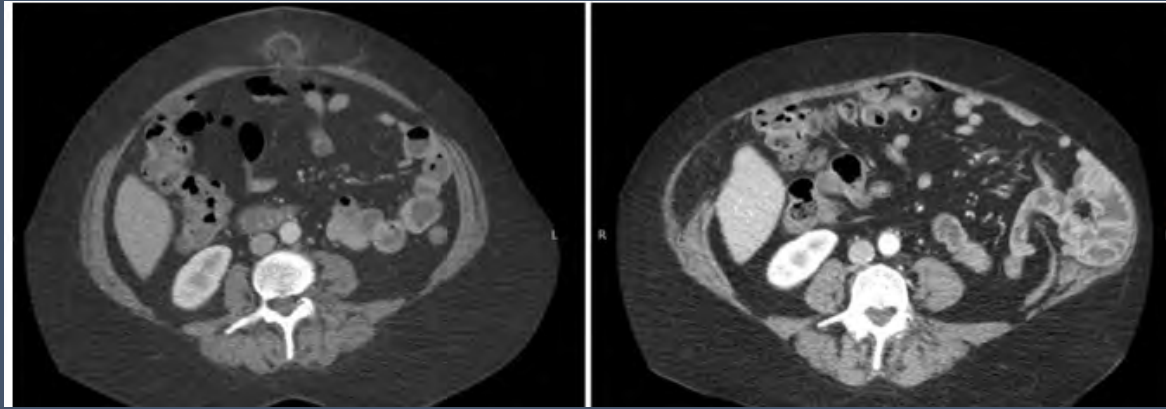
# Abuse: injury to Neuromuscular bundles



# Abuse: Injury to linea alba



# Abuse: injury to linea semilunaris



Credit:Dr Ramesh Punjani

Transversus abdominis release (TAR): what are the real indications  
And where is the limit?

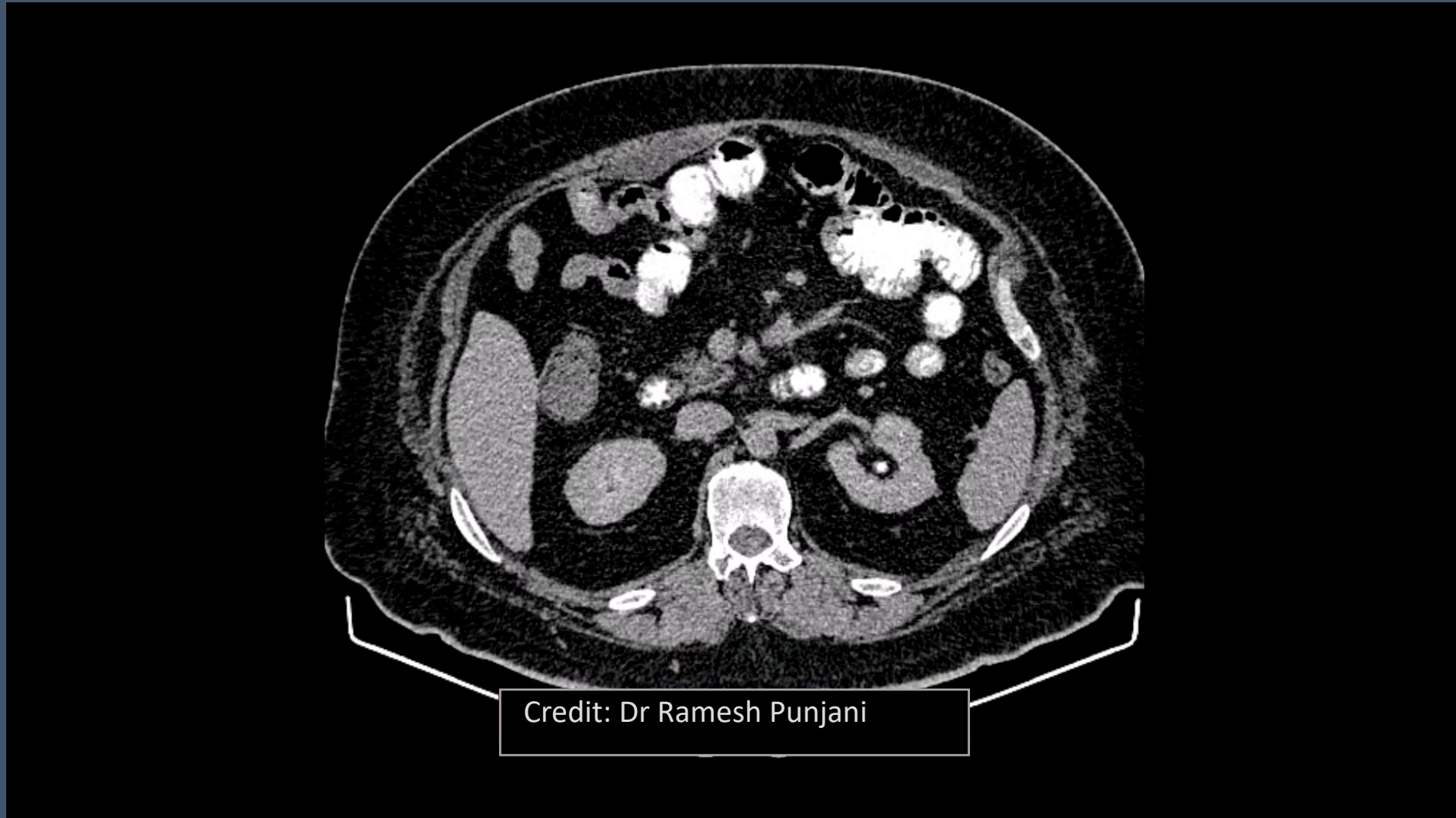
S.JZolin A.Fafaj D.M.Krpata1 Hernia (2020) 24:333–340

<https://doi.org/10.1007/s10029-020-02150-5>

# eTEP: Post complications:

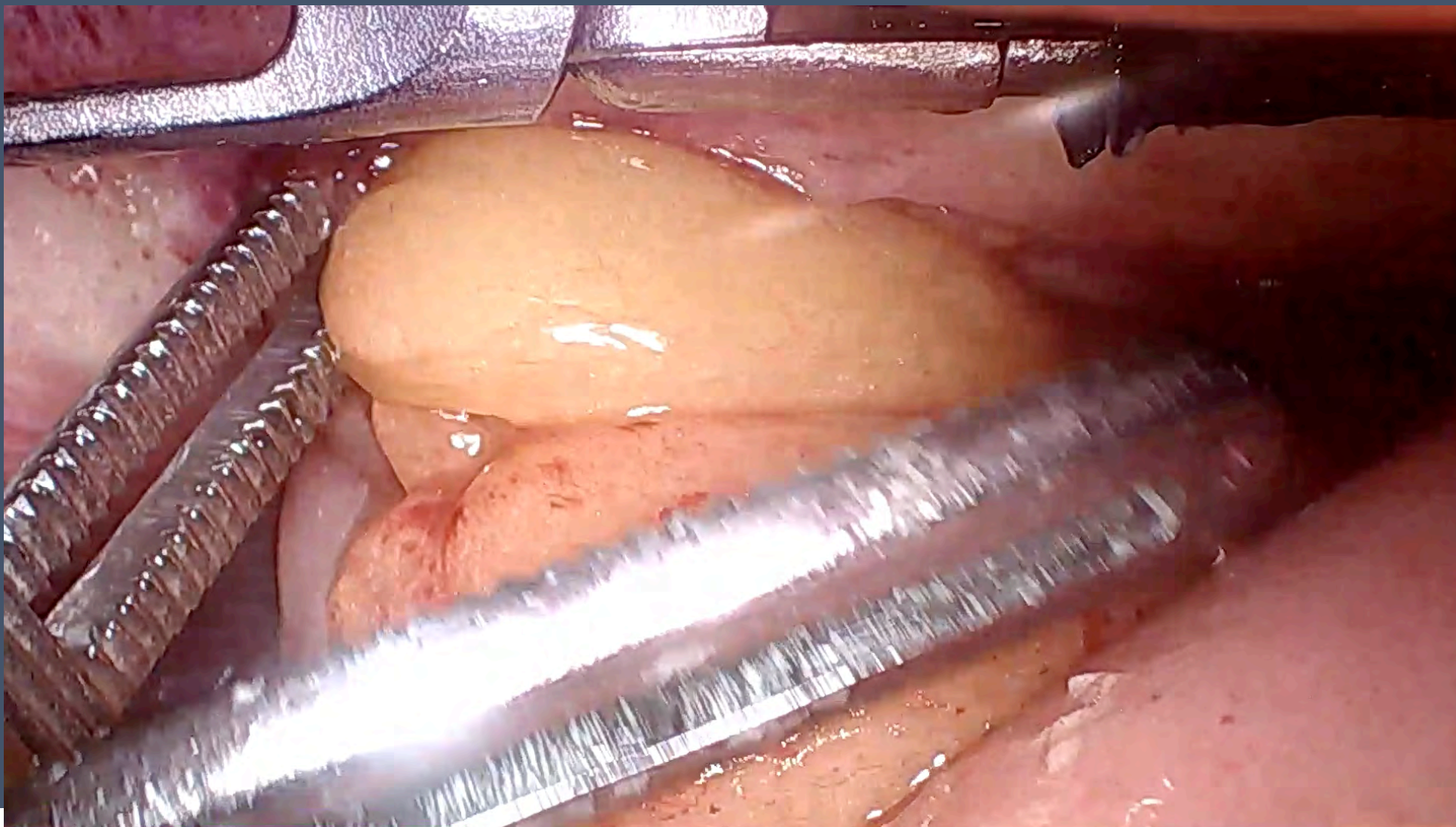
- SSO
- Haematoma
- Seroma
- PRS rupture
- ? More severe complications?

# Post eTEP chronic serum



Credit: Dr Ramesh Punjani

# PRS rupture following eTEP RS



# eTEP: use and abuse

eTEP is a powerful  
technique:

*Access*

Inguinal surgery

*Midline hernias*

Divarication

*Subxiphoid hernias*

Lateral hernias

It is also a powerful tool  
with

Potential to cause complications

*and sometimes,*

*devastating injuries*

Thanks