The posterior component separation technique

M. Miserez, MD, FRCS (Glasg)
Department of Abdominal Surgery
University Hospitals Leuven, Belgium

BSAWS
Belgian Section of Abdominal Wall Surgery

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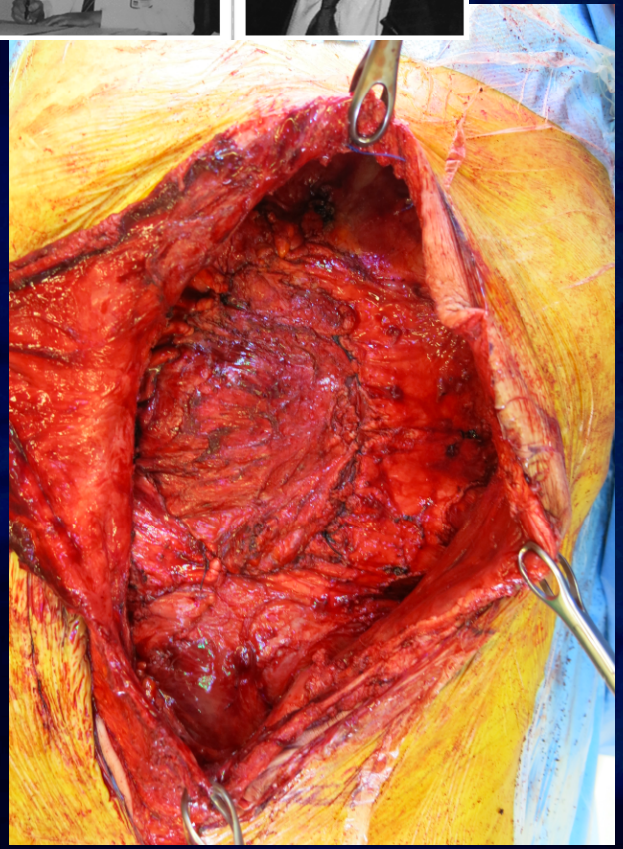
Determinants for choosing surgical strategy in incisional hernia repair

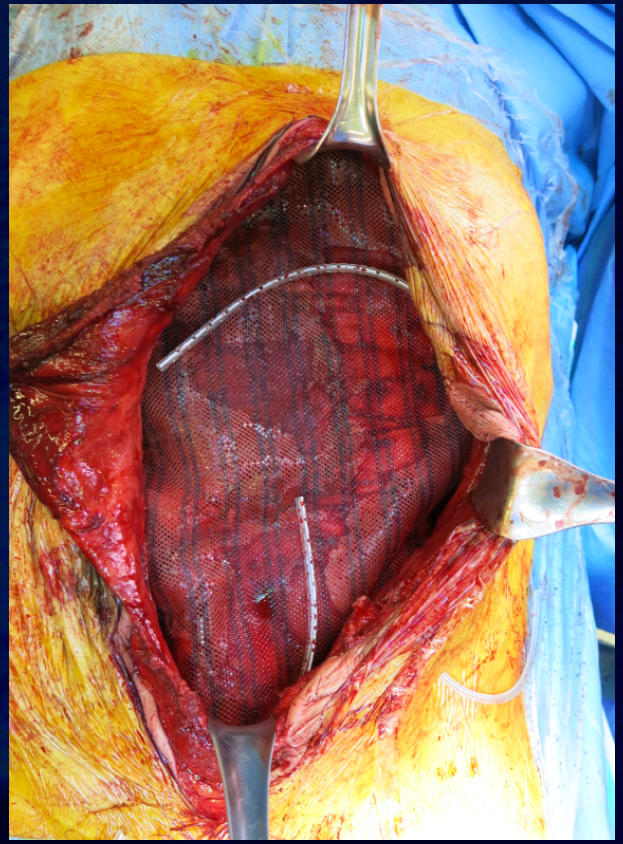
- **Patient factors:**
  - Skin status, BMI, smoking, diabetes, bleeding disorders…
- **Hernia location**
- **Hernia width**
- **Loss of domain**
- **Previous surgical repair techniques**

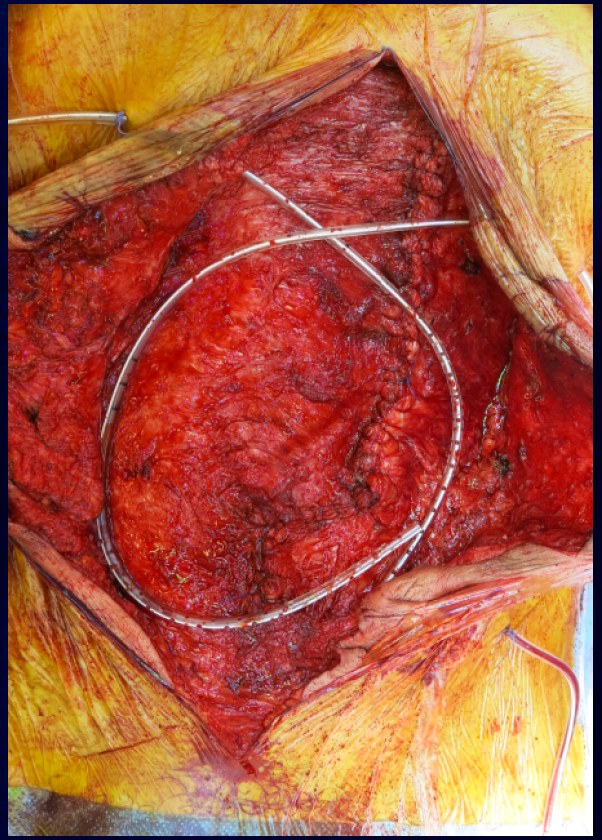
Incisional hernia repair is much more tailoring than inguinal hernia repair

- **Approach:**
  - open vs. laparoscopic vs hybrid vs. robotic?
- **Location of mesh:**
  - retromuscular vs. ipom vs. onlay
- **Every attempt should be made to obtain anterior fascial closure**
  - Peritoneal flap, anterior CST, post CST, TAR

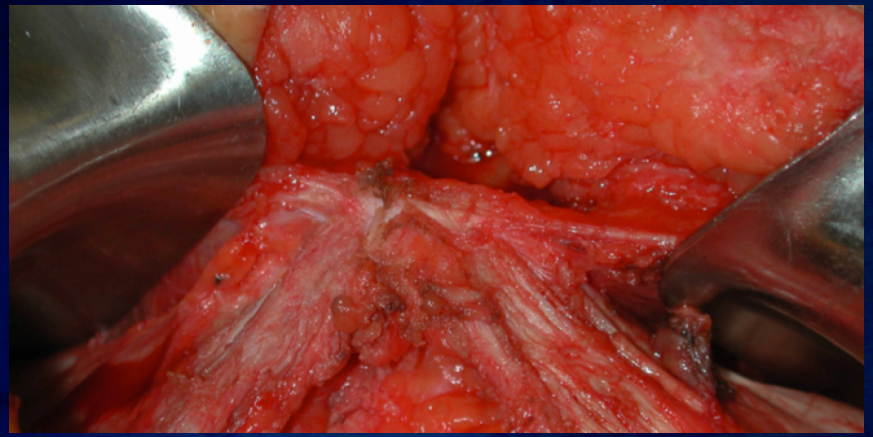
Rives-Stoppa: the gold standard

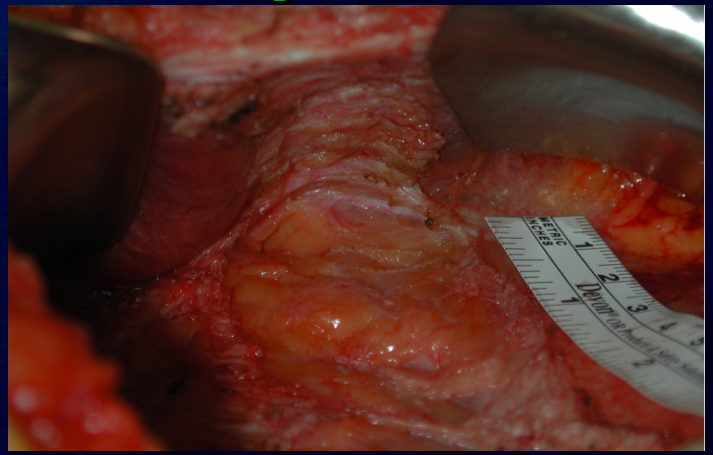


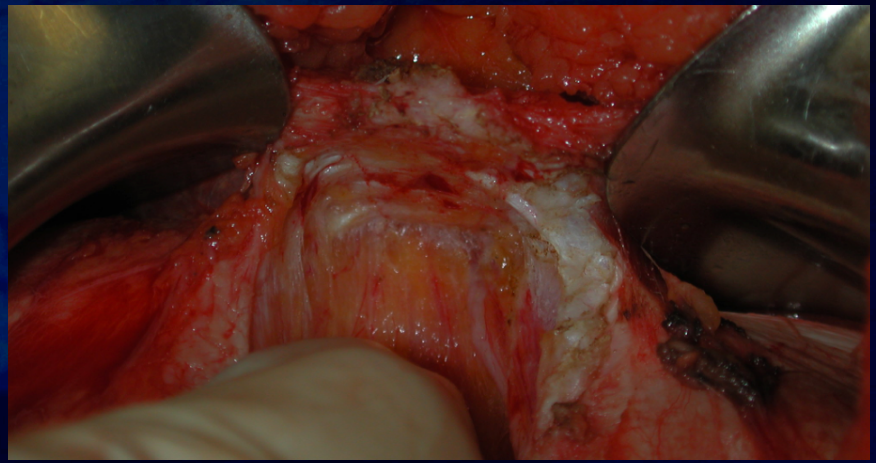




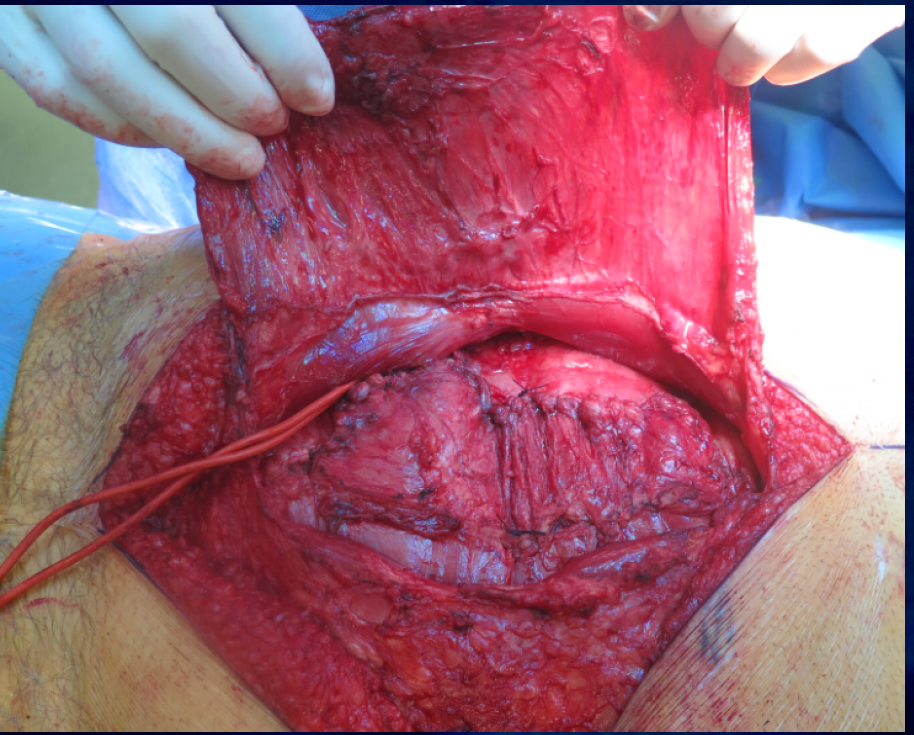
The fatty triangle cranially

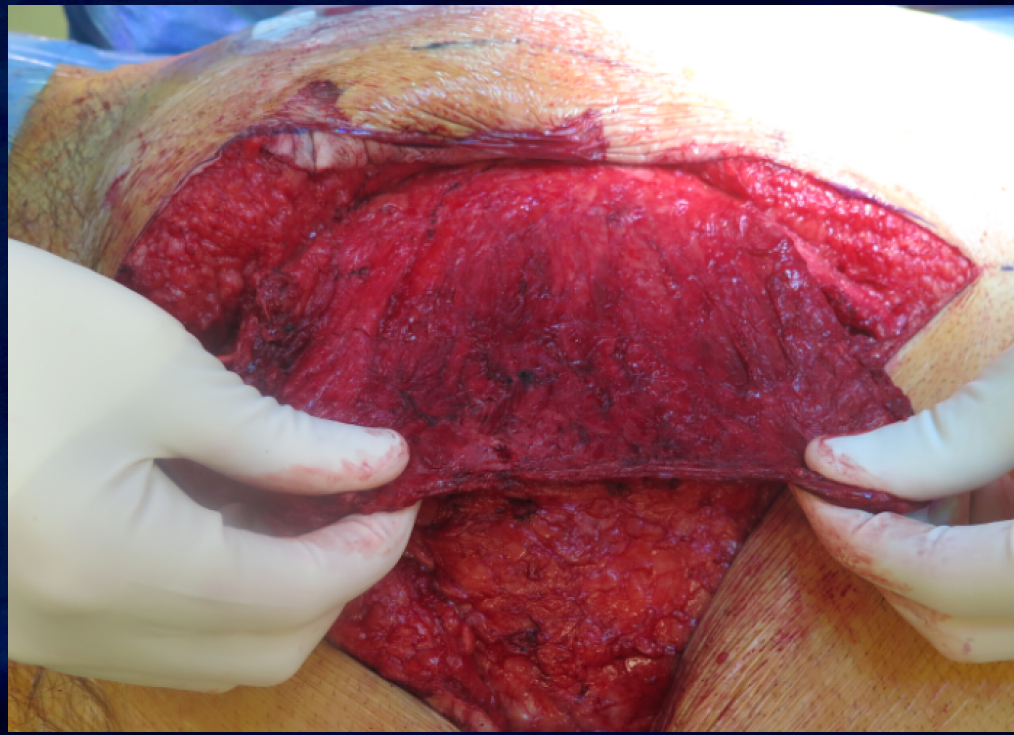




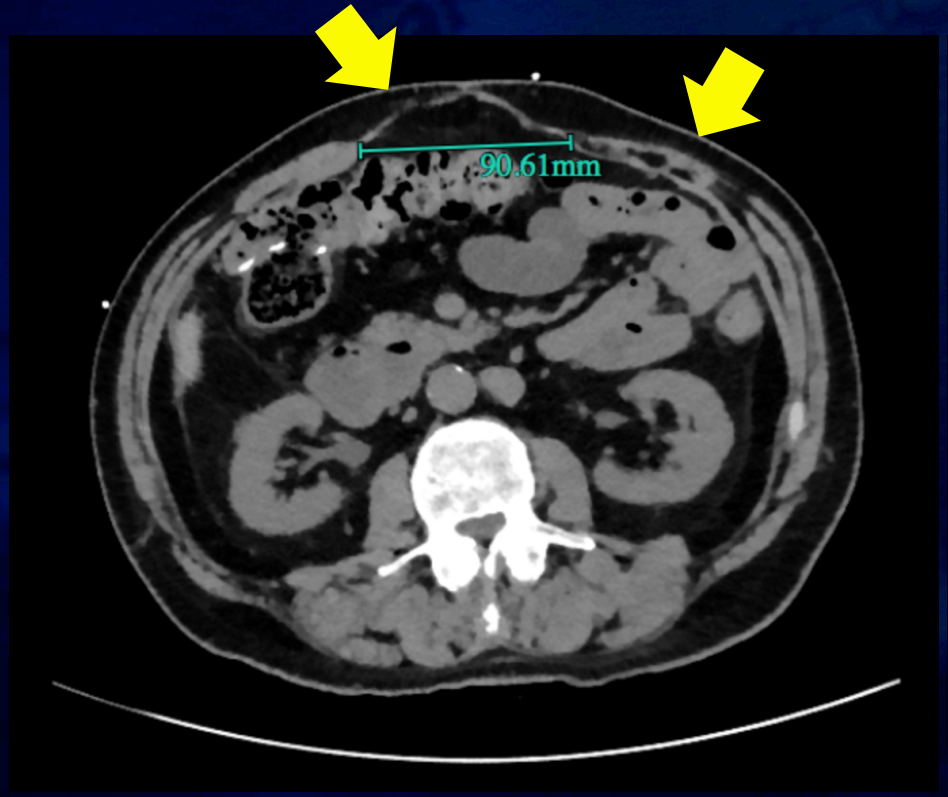


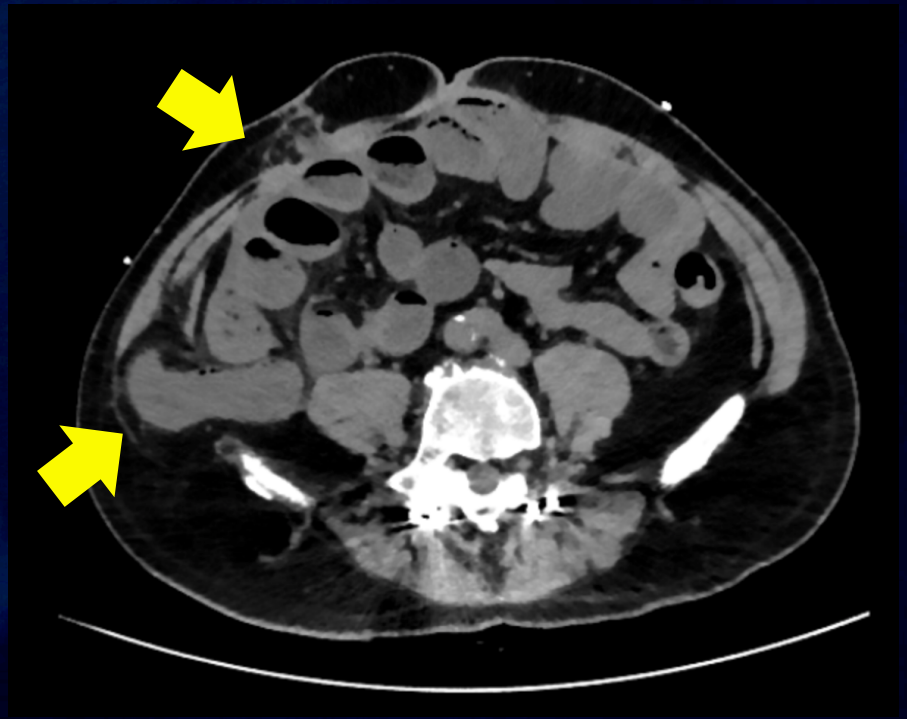
Always preserve the hernia sac





The patient





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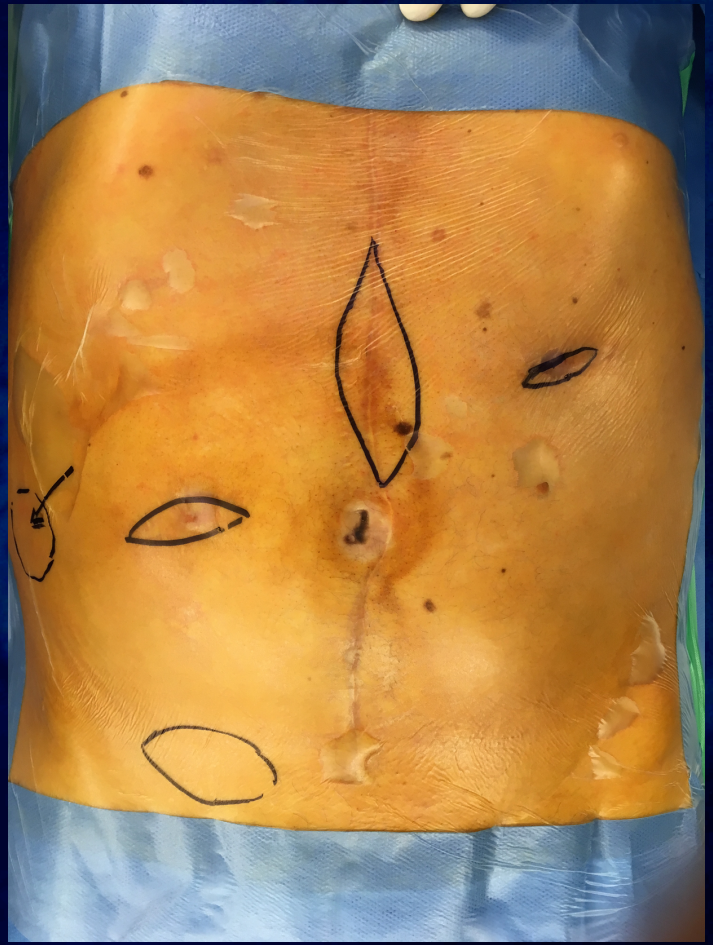
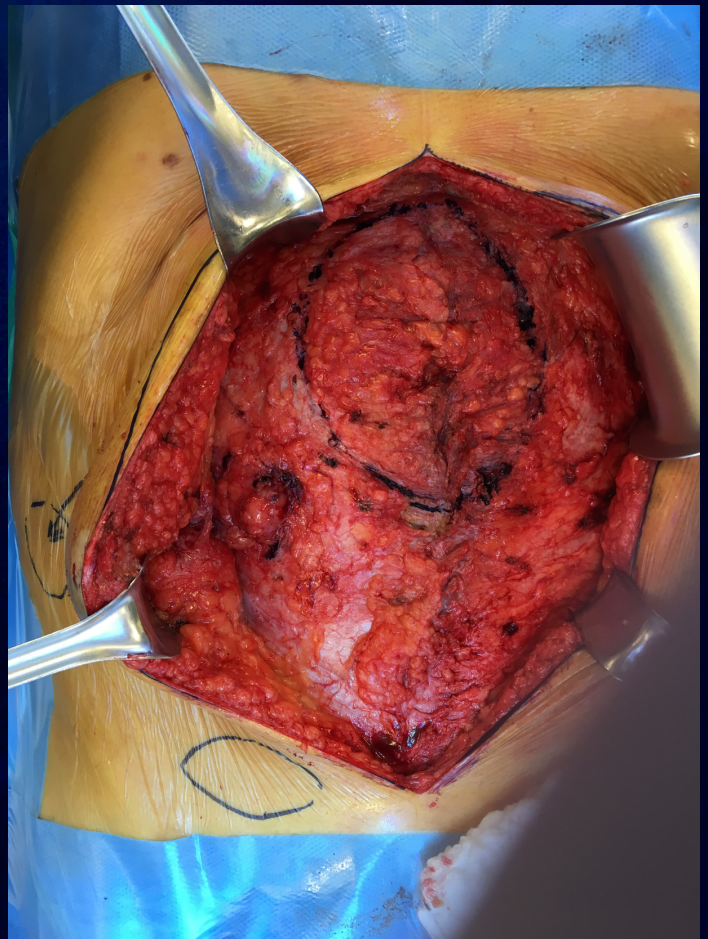
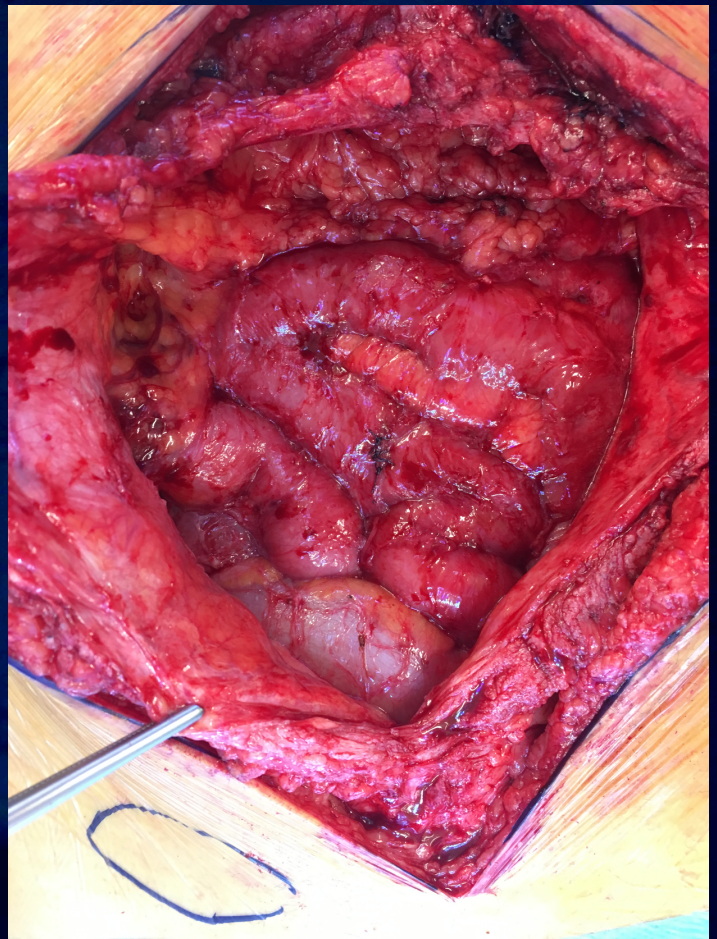
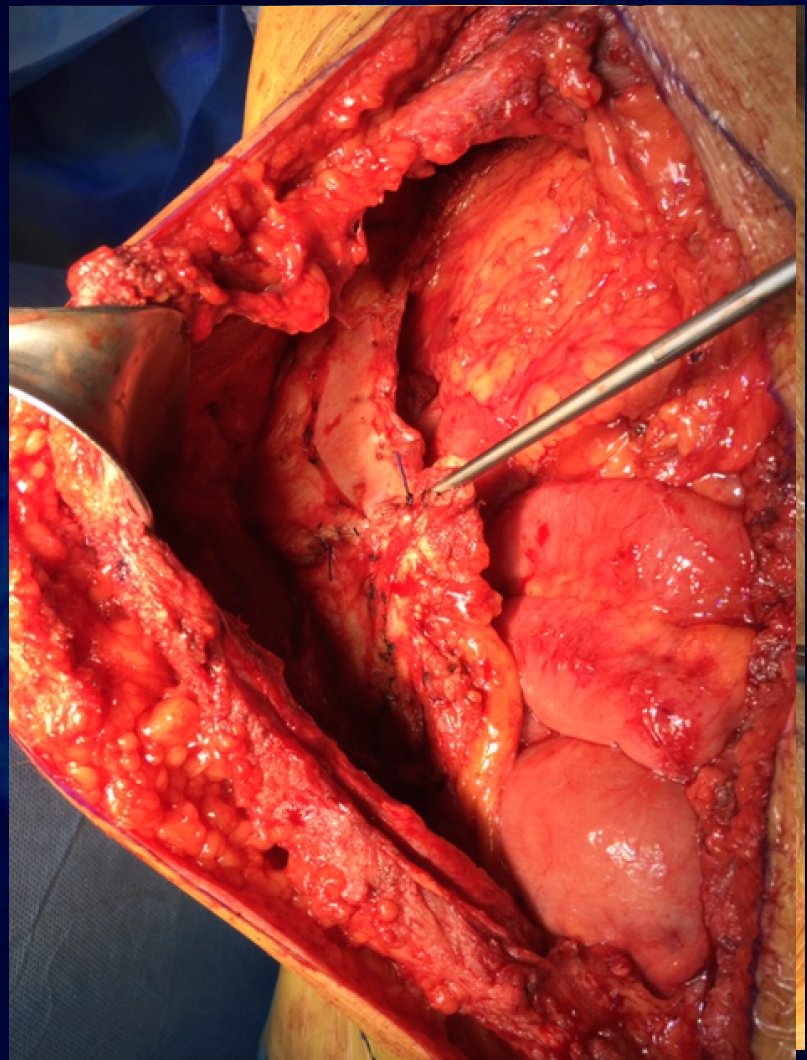
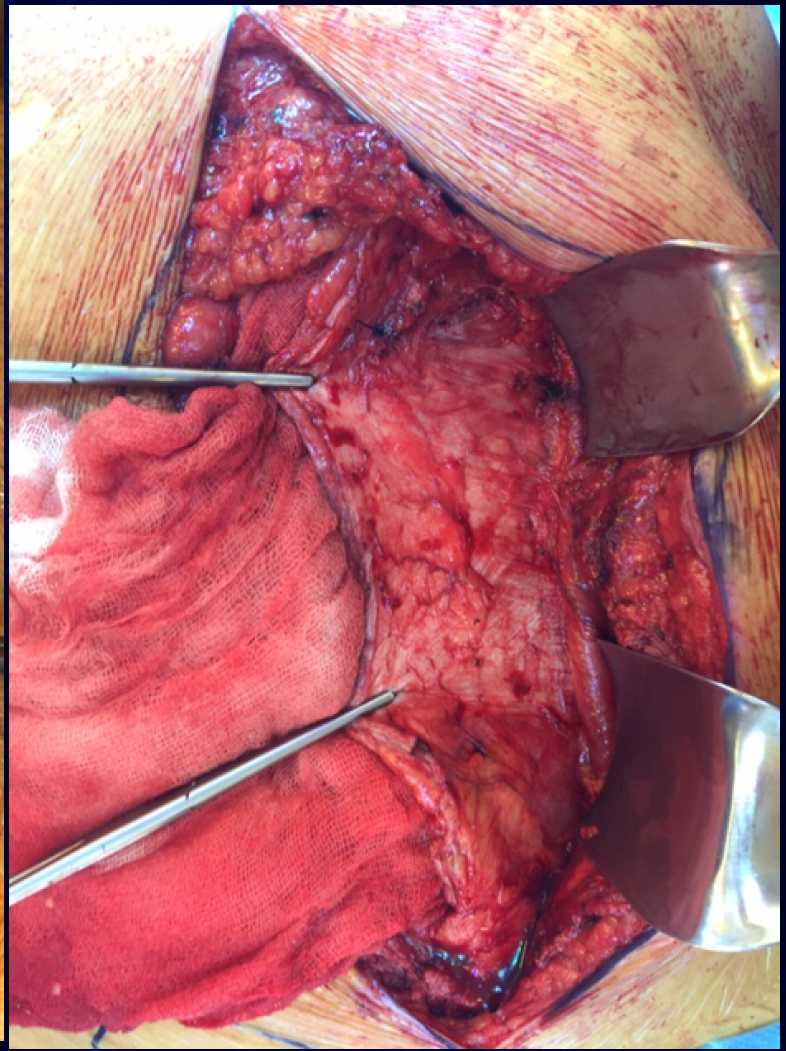




Anterior abdominal wall adhesiolysis

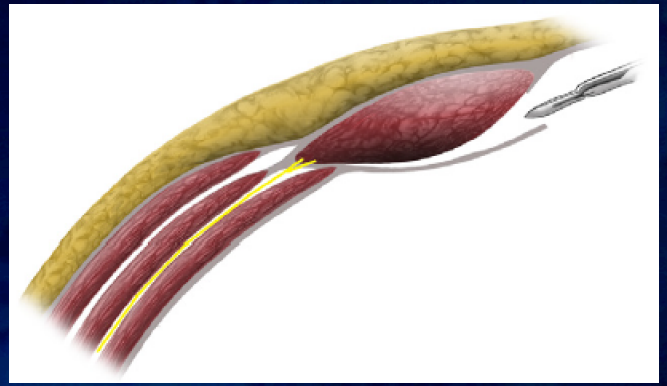


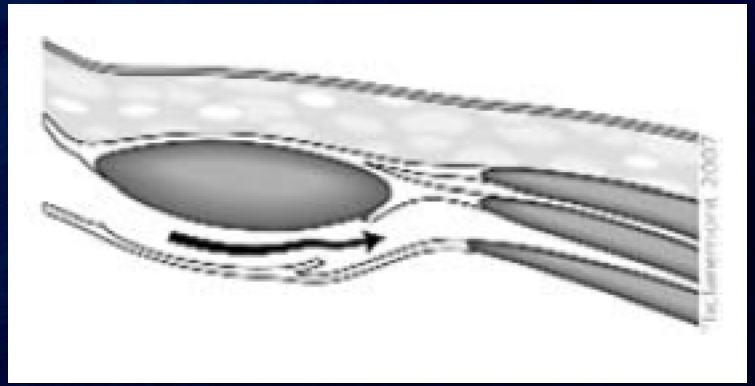


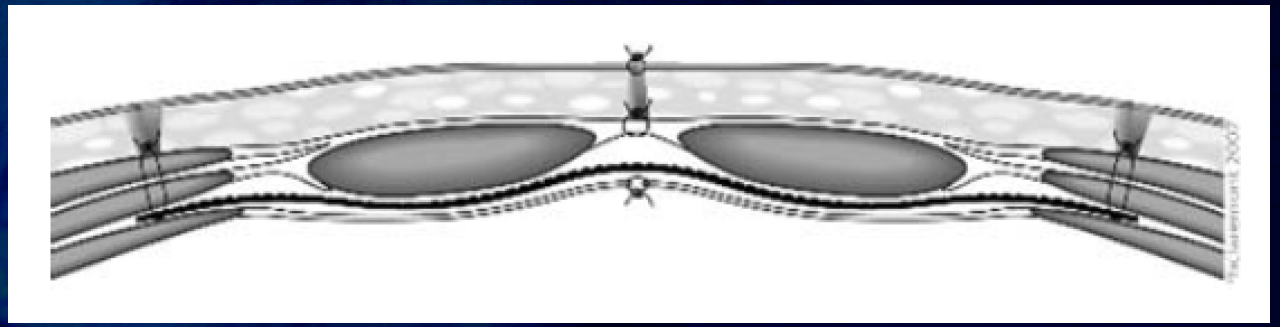


Posterior components separation

Cobb et al, Hernia 2008



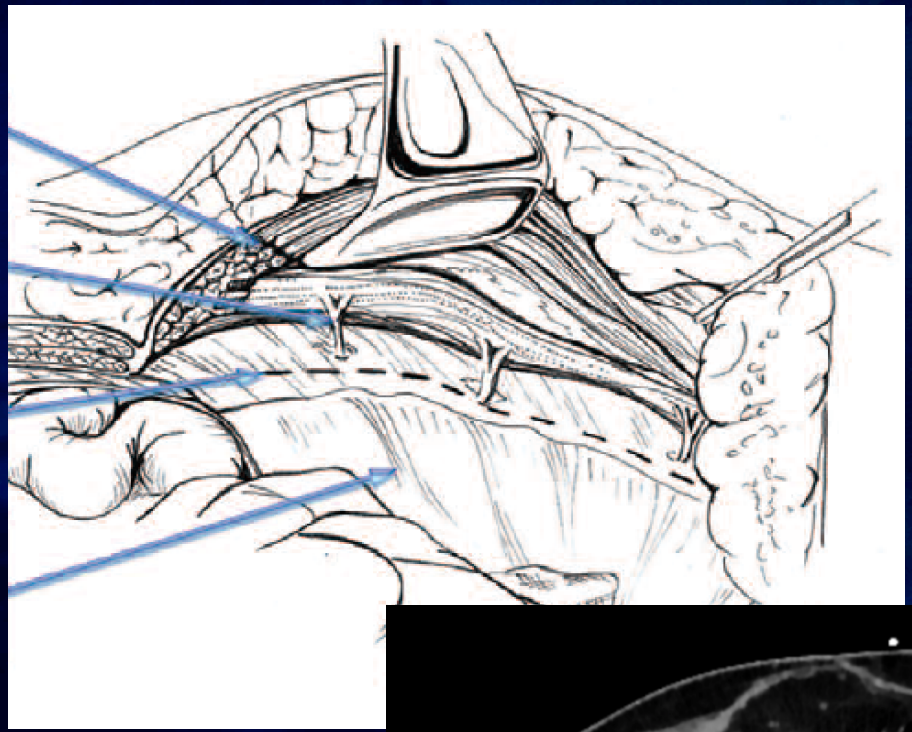


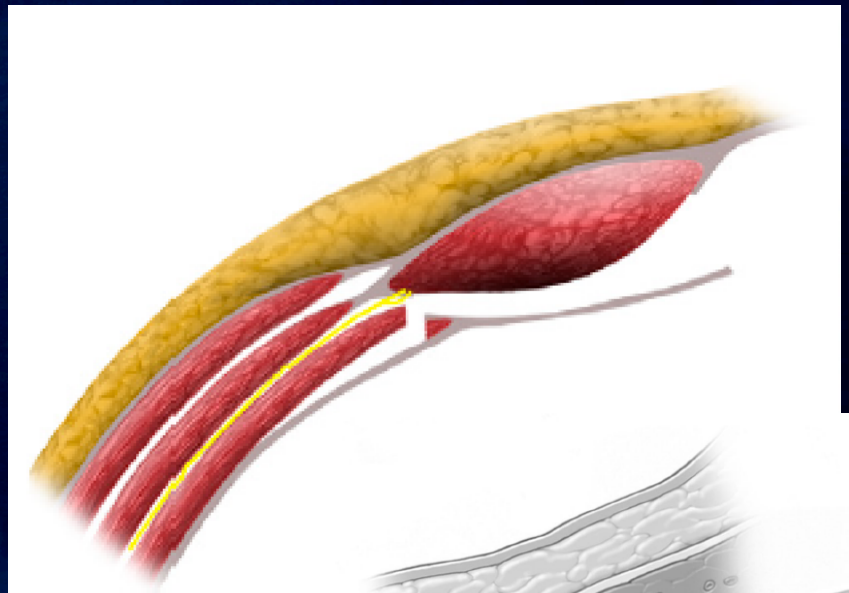


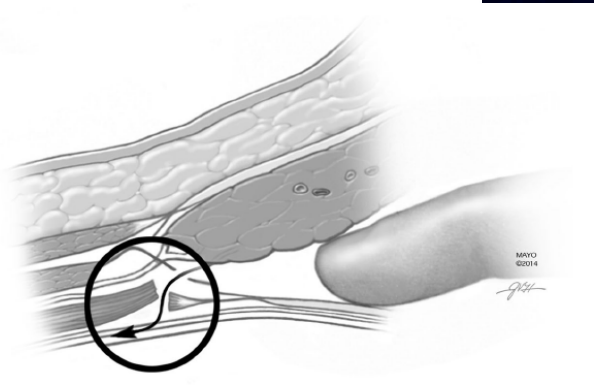
Cave damage neurovascular bundles of rectus abdominis muscle

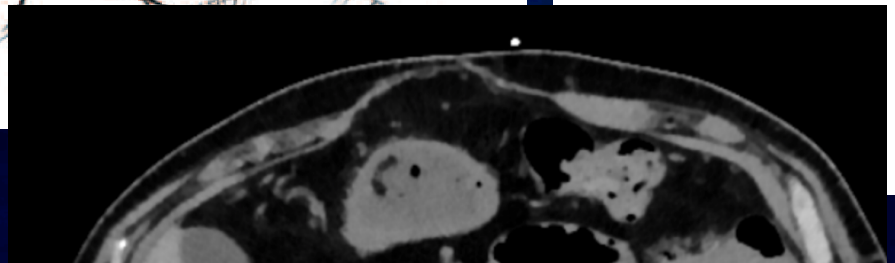
Transversus abdominis muscle release

Novitsky et al, Am J Surg 2012









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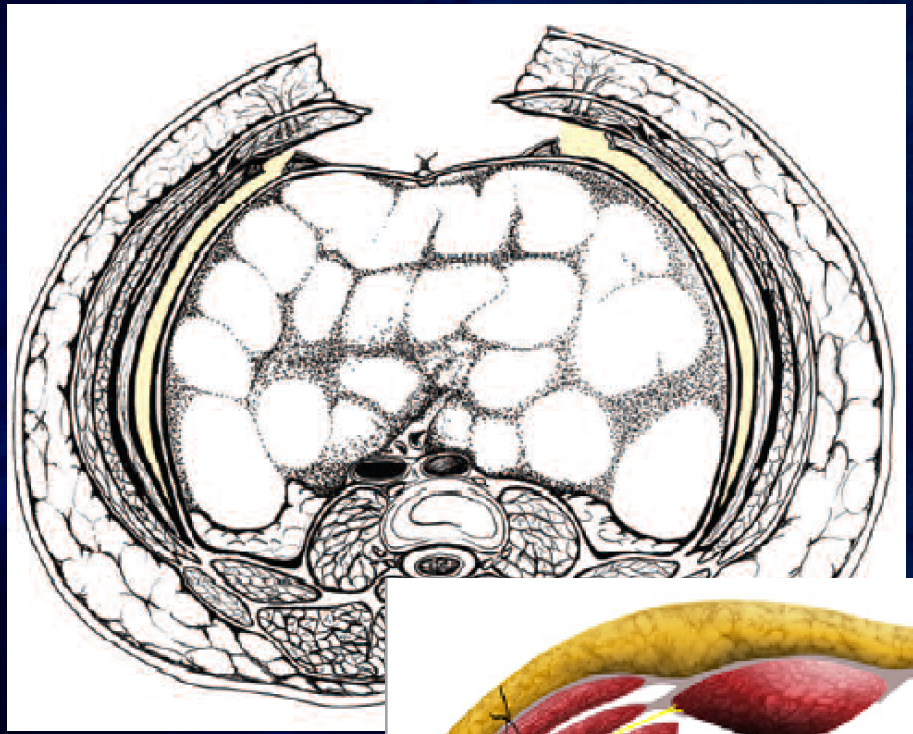
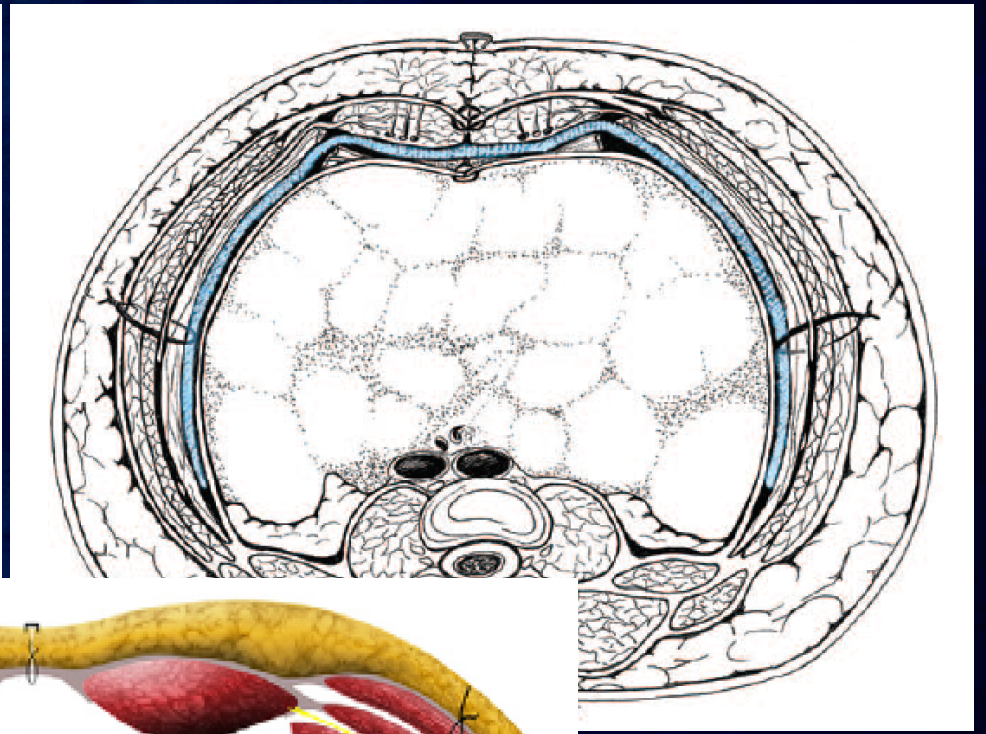
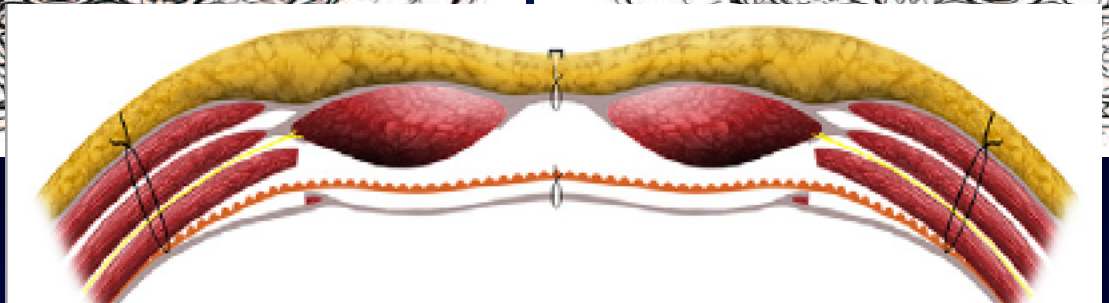
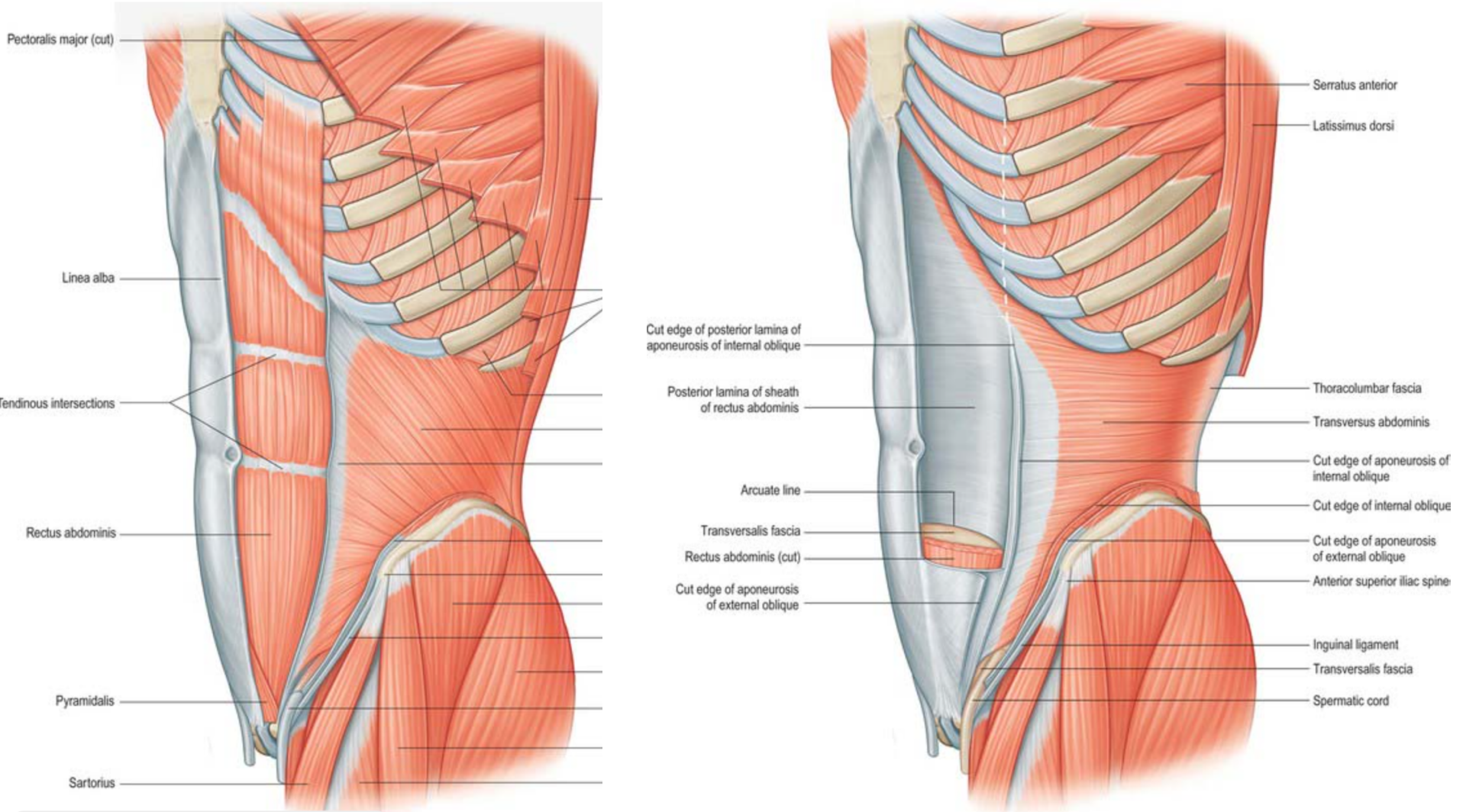
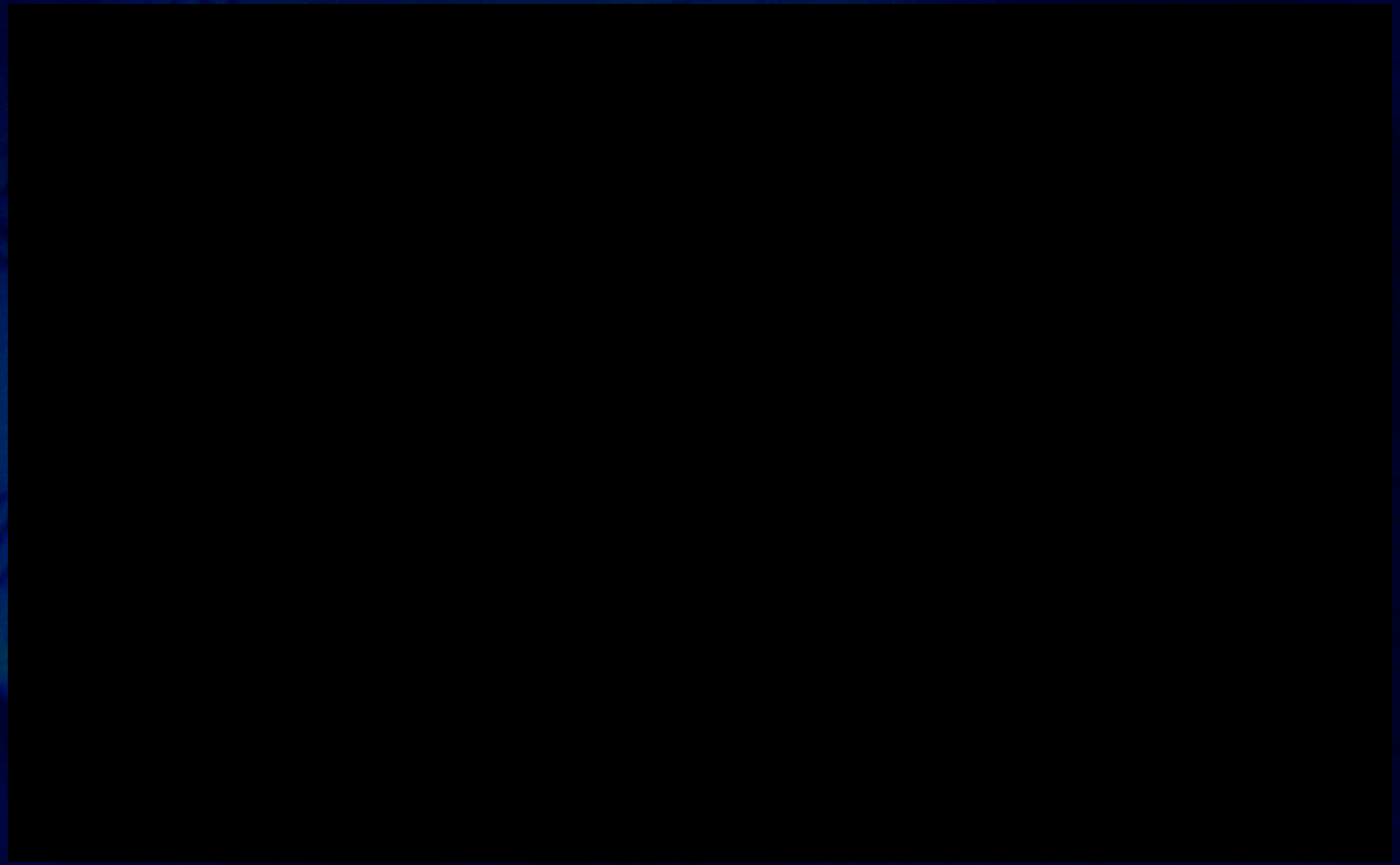




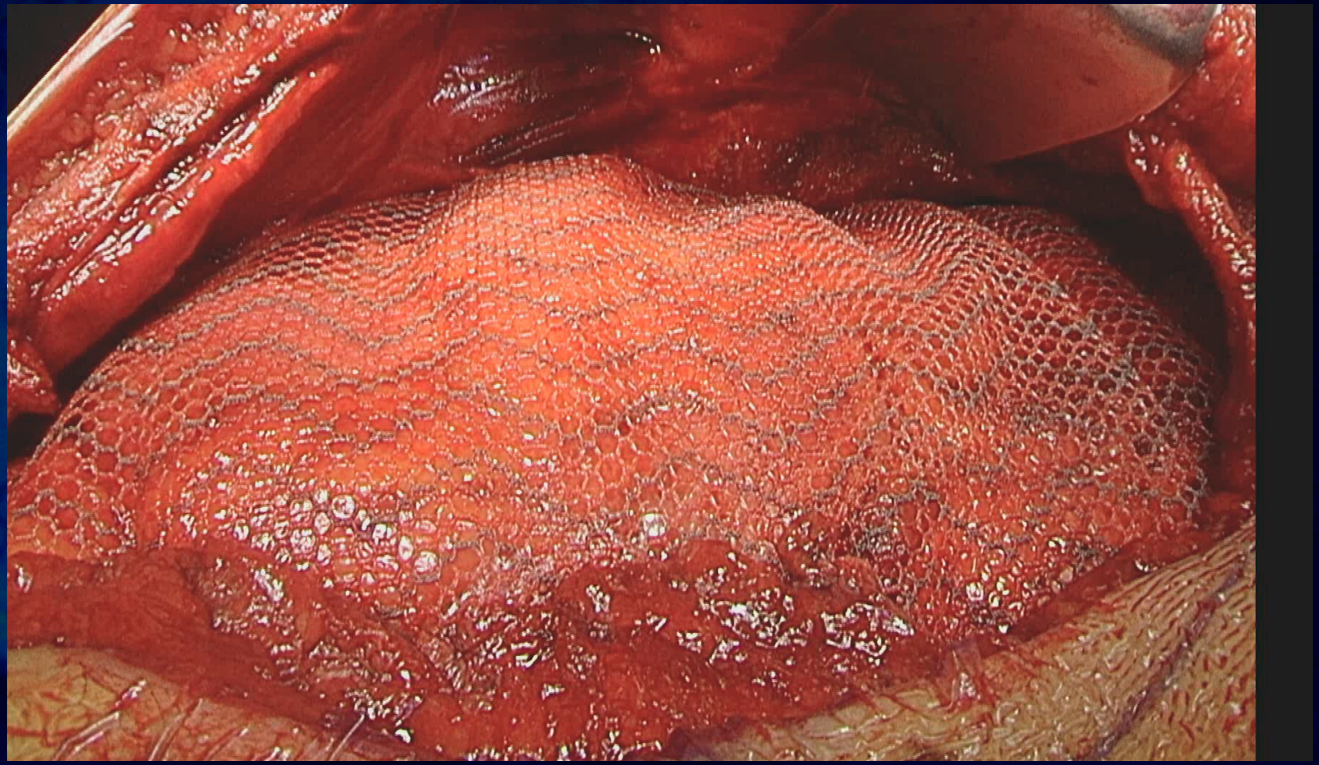



Pectoralis major (cut)
Linea alba
Tendinous intersections
Rectus abdominis
Pyramidalis
Sartorius
Serratus anterior
Latissimus dorsi
Cut edge of posterior lamina of aponeurosis of internal oblique
Posterior lamina of sheath of rectus abdominis
Arcuate line
Transversalis fascia
Rectus abdominis (cut)
Cut edge of aponeurosis of external oblique
Thoracolumbar fascia
Transversus abdominis
Cut edge of aponeurosis of internal oblique
Cut edge of internal oblique
Cut edge of aponeurosis of external oblique
Anterior superior iliac spine
Inguinal ligament
Transversalis fascia
Spermatic cord

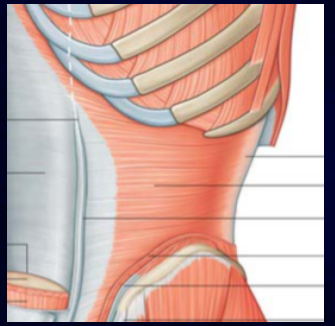
Video



Mesh placement



Transversus abdominis release (TAR)



- **Pro**
  - Wide myofascial release (8-12cm unilaterally)
  - Sublay positioning of a large mesh
  - No large skin flaps
  - Functional abdominal wall
  - Preservation of rectus abdominis muscle innervation
  - **Not only for midline hernias**
- **Con**
  - Anterior fascial closure < posterior fascial closure?
    - Combined ant CST + TAR?

Potential complications

- Insufficient mobilisation
- Peritoneal rupture
- Long-term bulging laterally??

The largest series of complex hernias

Novitsky et al, Ann Surg 2016

Total Patients	428
Sex	
Male	186 (44%)
Female	242 (56%)
Age, y	58 (22–88)
BMI, kg/m^2	34.4 (20–65)
Obesity (BMI ≥30)	291 (68%)
Comorbidities	
DM	90 (21%)
COPD	52 (12%)
Smoking within 3 mo of surgery	37 (7%)
Immunosuppression	13 (3%)
ASA score	2.8 (1–4)
Number of prior abdominal surgeries	3.9 (1–19)
Number of prior hernia repairs	1.9 (0–16)
Number with incarcerated hernias	256 (60%)
Hernia grade*	
Grade 1	47 (11%)
Grade 2	236 (55%)
Grade 3	145 (34%)
Wound classification†	
Class I/clean	283 (66%)
Class II/clean-contaminated	111 (26%)
Class III/contaminated	34 (8%)
Class IV/dirty	0
History of prior wound infection	107 (25%)

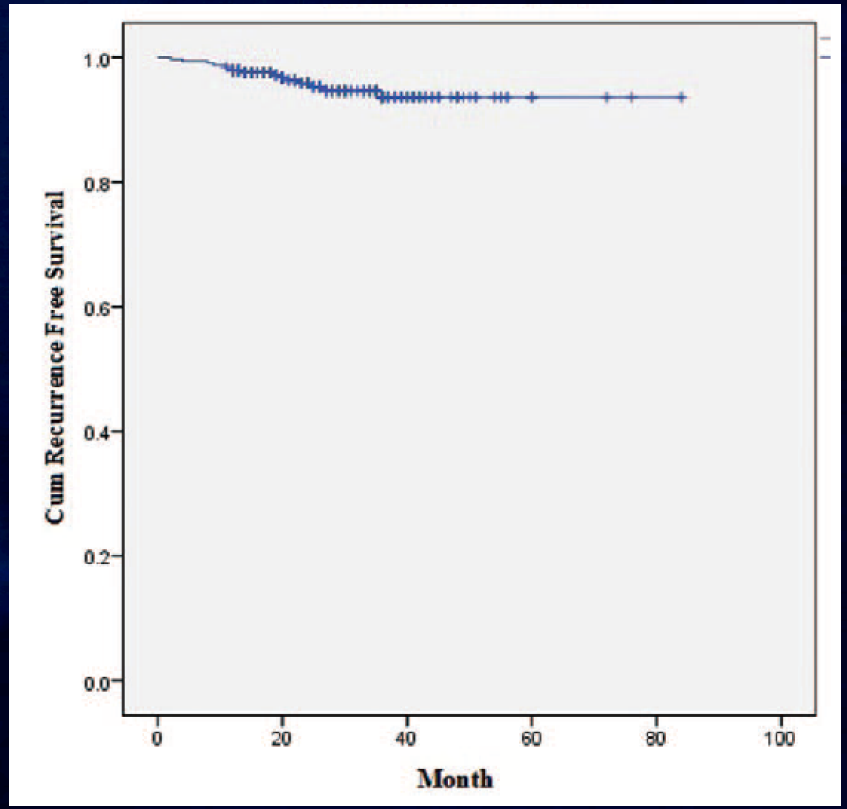
Size of fascial defect	
Width, cm	15.2 (9–36)
Area, cm^2	606 (180–1280)
Size of mesh used, cm^2	1220 (600–4500)
Type of synthetic mesh used	
Polypropylene	360 (84%)
Polyester	68 (16%)

The largest series of complex hernias

Novitsky et al, Ann Surg 2016

TABLE 5. Management of Postoperative SSEs

Antibiotics only	13 (3.0%)
Bedside I&D/packing	12 (2.8%)
IR drain	6 (1.4%)
Operative I&D	5 (1.2%)
Negative pressure dressing	5 (1.2%)
Partial mesh debridement	3 (0.7%)
Complete mesh explantations	0 (0%)



What Are the Barriers to Implementing This Innovation More Broadly?

There are few barriers to implementing TAR more broadly; however, the greatest barriers are education and experience. As with any new surgical technique, time will allow us to define a learning curve.

For those who perform Rives-Stoppa repair, the learning curve for TAR should be about 5 cases. For others, after careful review of the procedural steps and instructional videos, the learning curve should be about 10 to 15 cases. Live demonstrations and proctoring have proven to be of benefit.

Blatnik et al, JAMA Surg 2016

Conclusion

This technique is a must for every hernia surgeon!

Additional references

- Gibreel et al, Hernia 2016
- Jones et al, Plast Reconstr Surg 2016