

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

# Robotic Transversus Abdominus Release: Complex Solution for Complex Hernias

Pete Santoro, MD, FACS

Director, Robotic Surgery

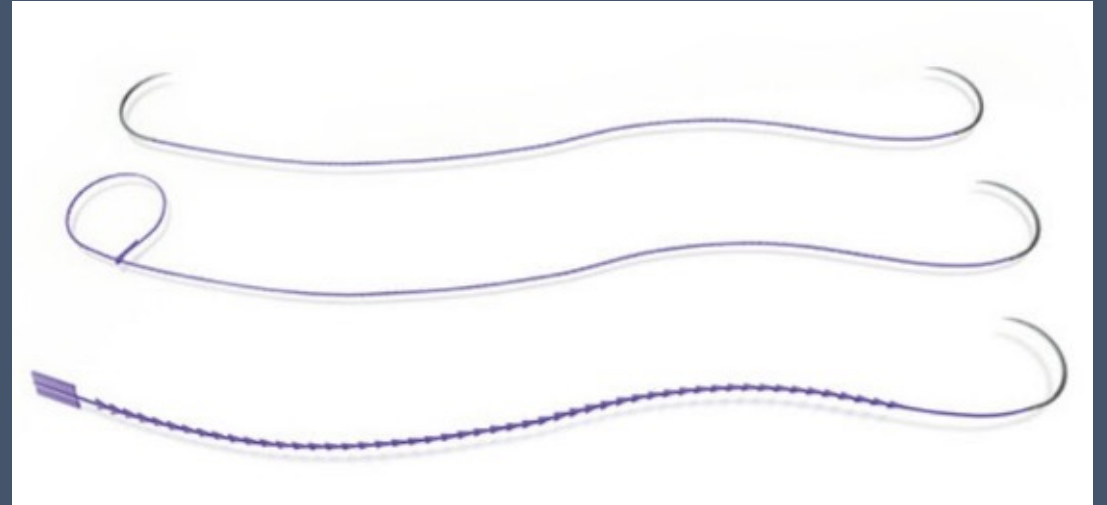
Medical Director, The Hernia Center at ChristianaCare

ChristianaCare



# Disclosures

- Intuitive-Speaking/teaching
- J&J/Ethicon-Teaching/consultant





The American Journal of Surgery (2012) 204, 709–716

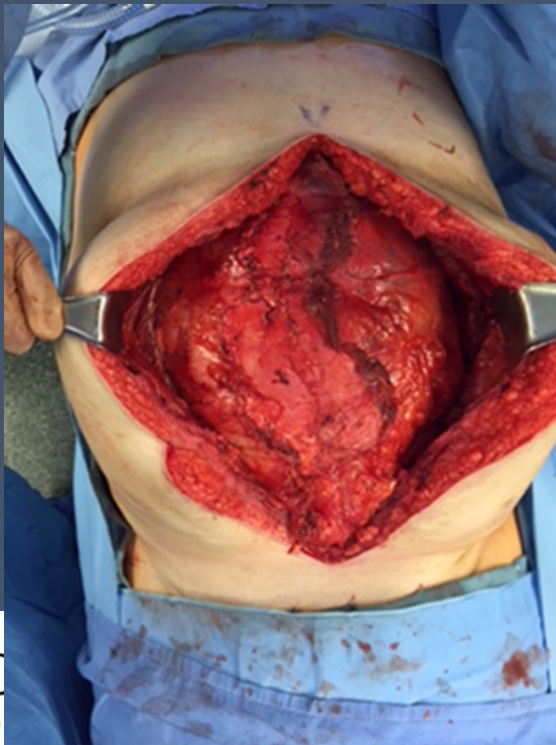
The American Journal of Surgery®

Clinical Science

## Transversus abdominis muscle release: a novel approach to posterior component separation during complex abdominal wall reconstruction

Yuri W. Novitsky, M.D.<sup>a,b,\*</sup>, Heidi L. Elliott, M.D.<sup>a,b</sup>, Sean B. Orenstein, M.D.<sup>a</sup>, Michael J. Rosen, M.D.<sup>b</sup>

<sup>a</sup>Department of Surgery, University of Connecticut Health Center, Farmington, CT, USA; <sup>b</sup>Case Comprehensive Hernia Center, University Hospitals Case Medical Center, Case Western Reserve University, 11100 Euclid Ave., Cleveland, OH 44106, USA





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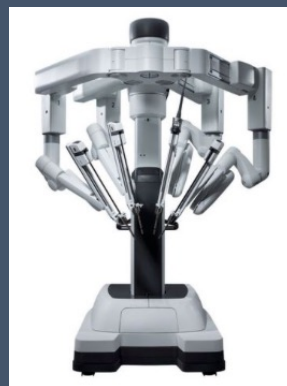
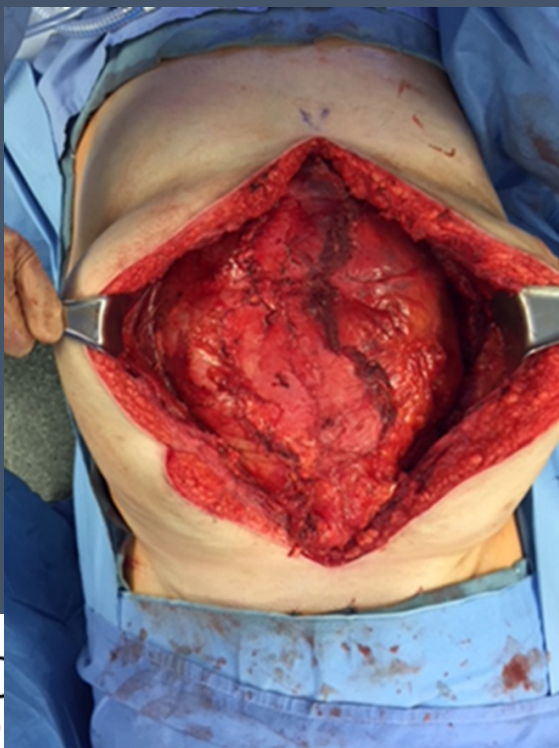
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# Patient Selection

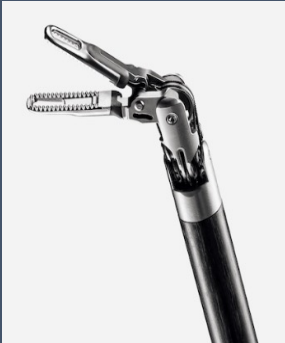
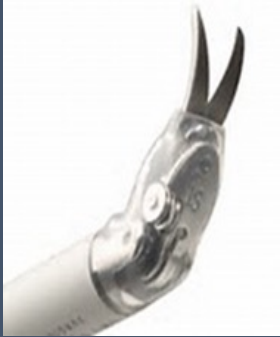
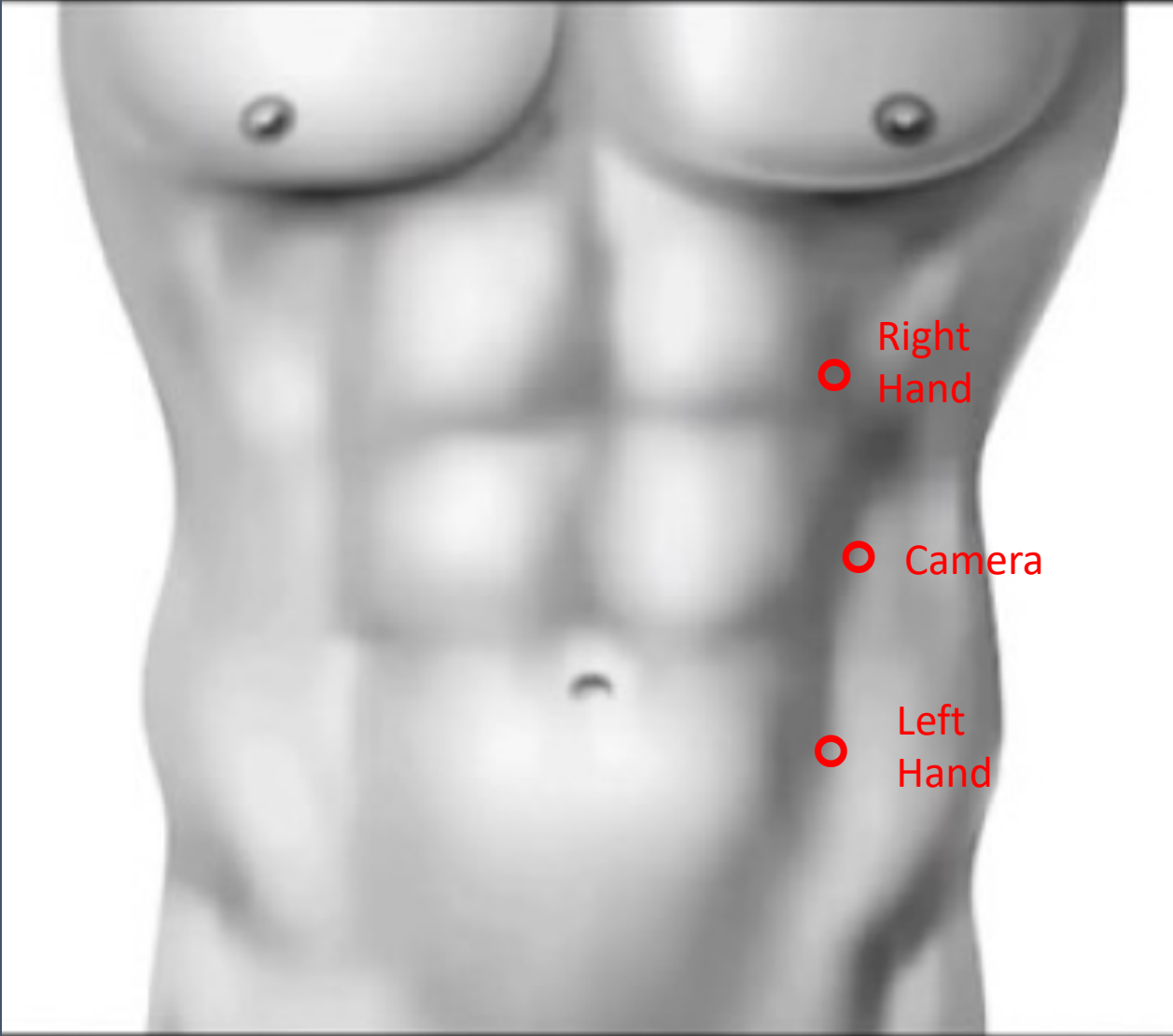
- Large Defects (>7-8cm)
- Recurrent Hernias
- Extremes of Ab Wall
- Surgical History??
- Surgeon's experience



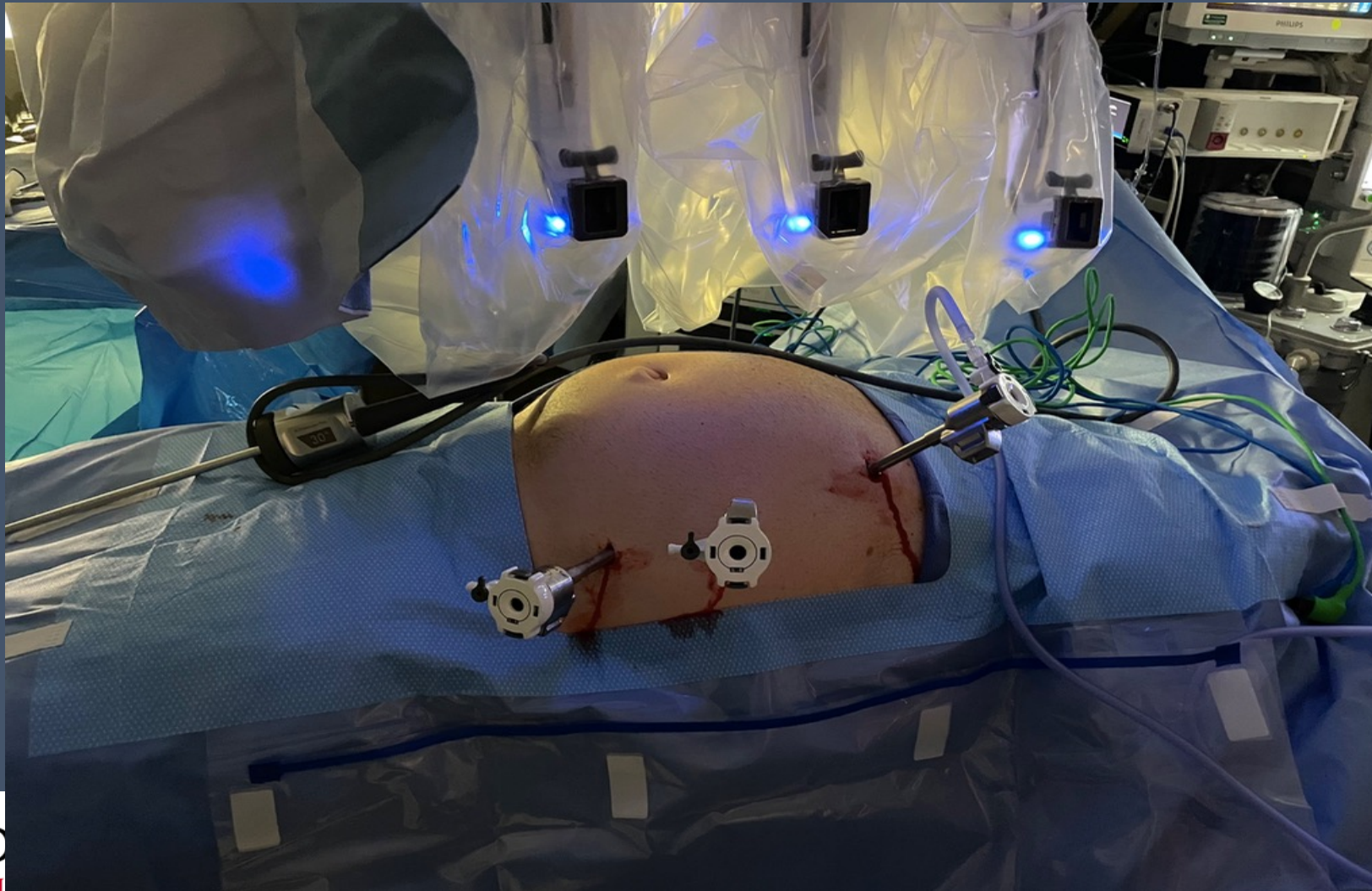
# Initial Port Placement



# Initial Port Placement



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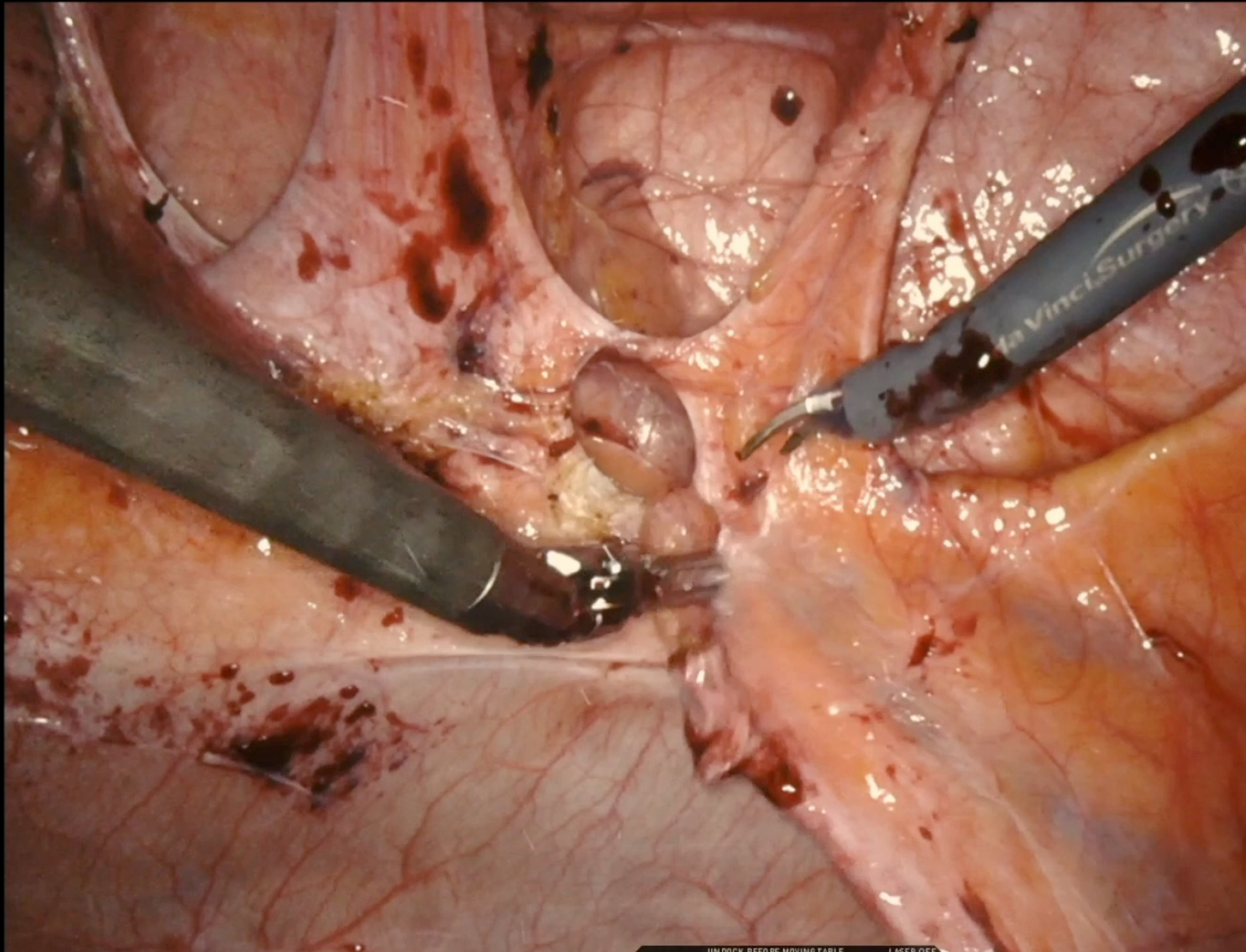


# Initial Port Placement



# Initial Port Placement





1

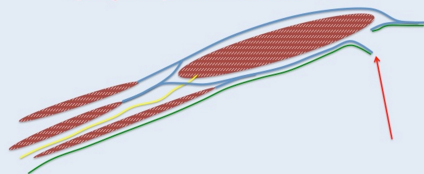
2 PROGRASP FORCEPS

3 UNDOCK BEFORE MOVING TABLE LASER OFF 1x 30°

4 MONO POLAR CURVED SCISSORS R CUT R COAG

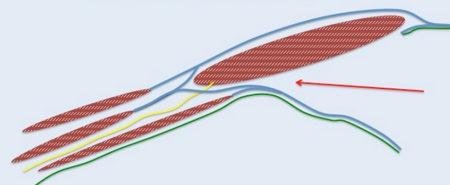
**Anatomy of TAR**

opening of the posterior rectus fascia



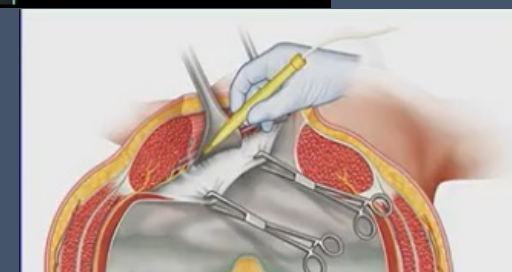
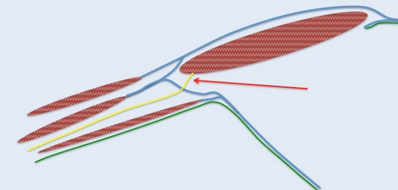
**Anatomy of TAR**

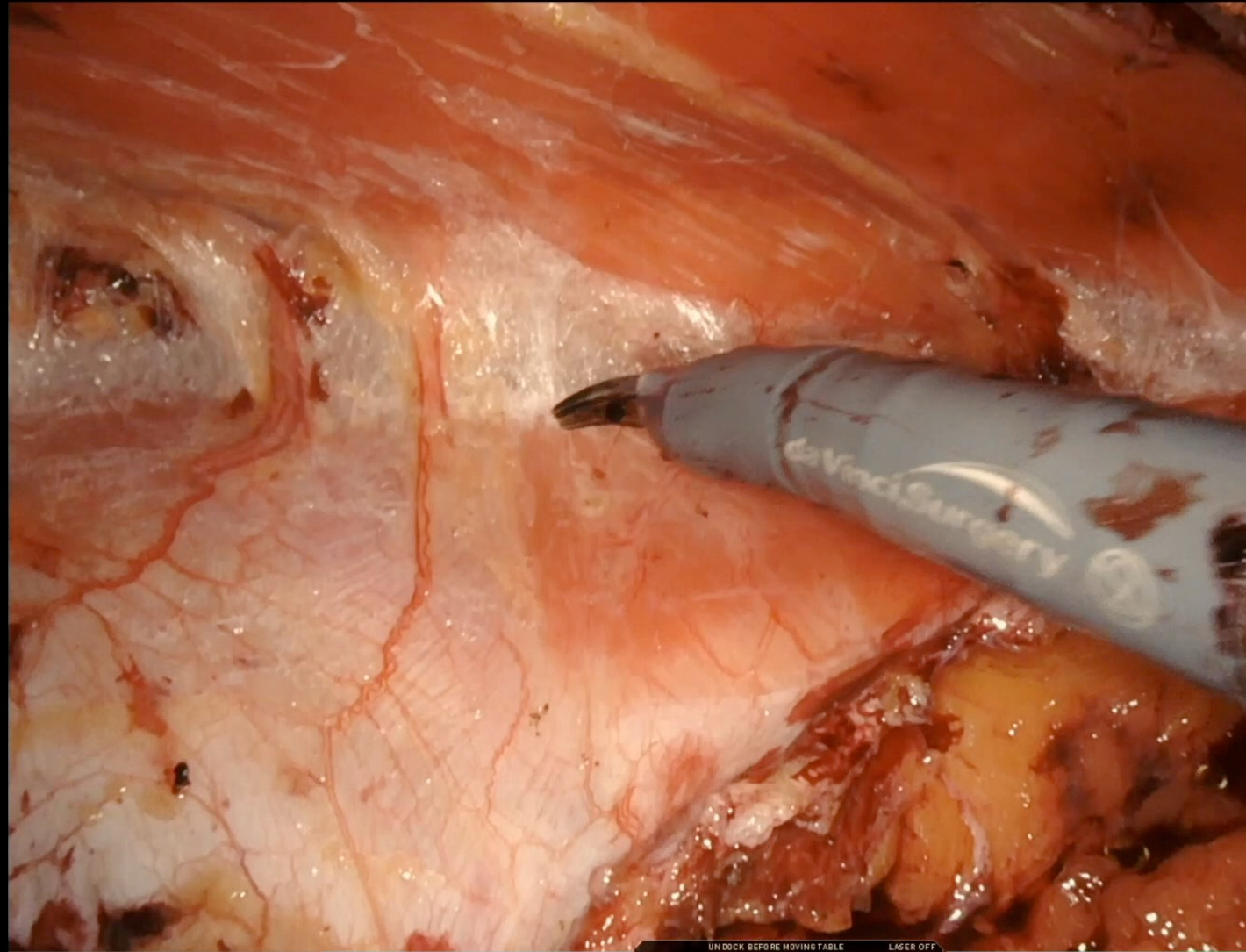
lateral retro-muscular dissection



**Anatomy of TAR**

identification of the neuro-vascular bundles





1

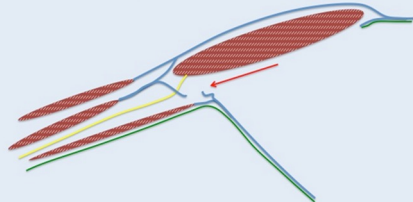
2 PROGRASP FORCEPS

3 UNDOCK BEFORE MOVING TABLE LASER OFF 1x 30°

4 MONOPOLAR CURVED SCISSORS R CUT R COAG

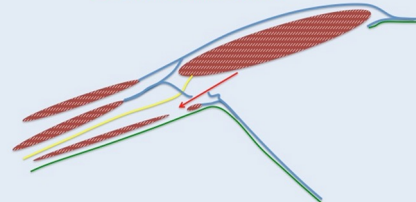
**Anatomy of TAR**

transection of the lamina posterior of the internal oblique muscle



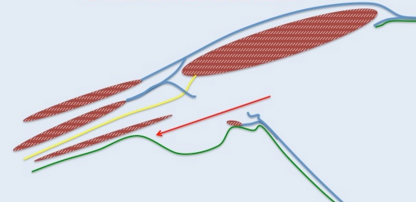
**Anatomy of TAR**

transversus abdominus release



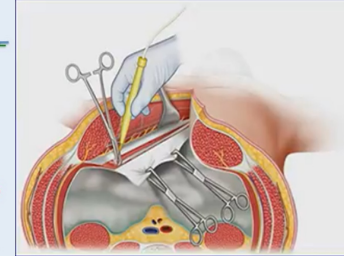
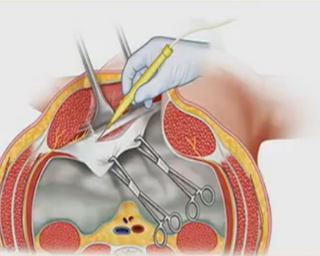
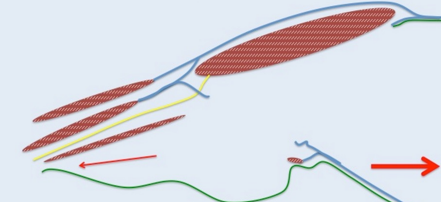
**Anatomy of TAR**

lateral dissection between the fascia transversalis/ peritoneum and the transversus abdominus muscle

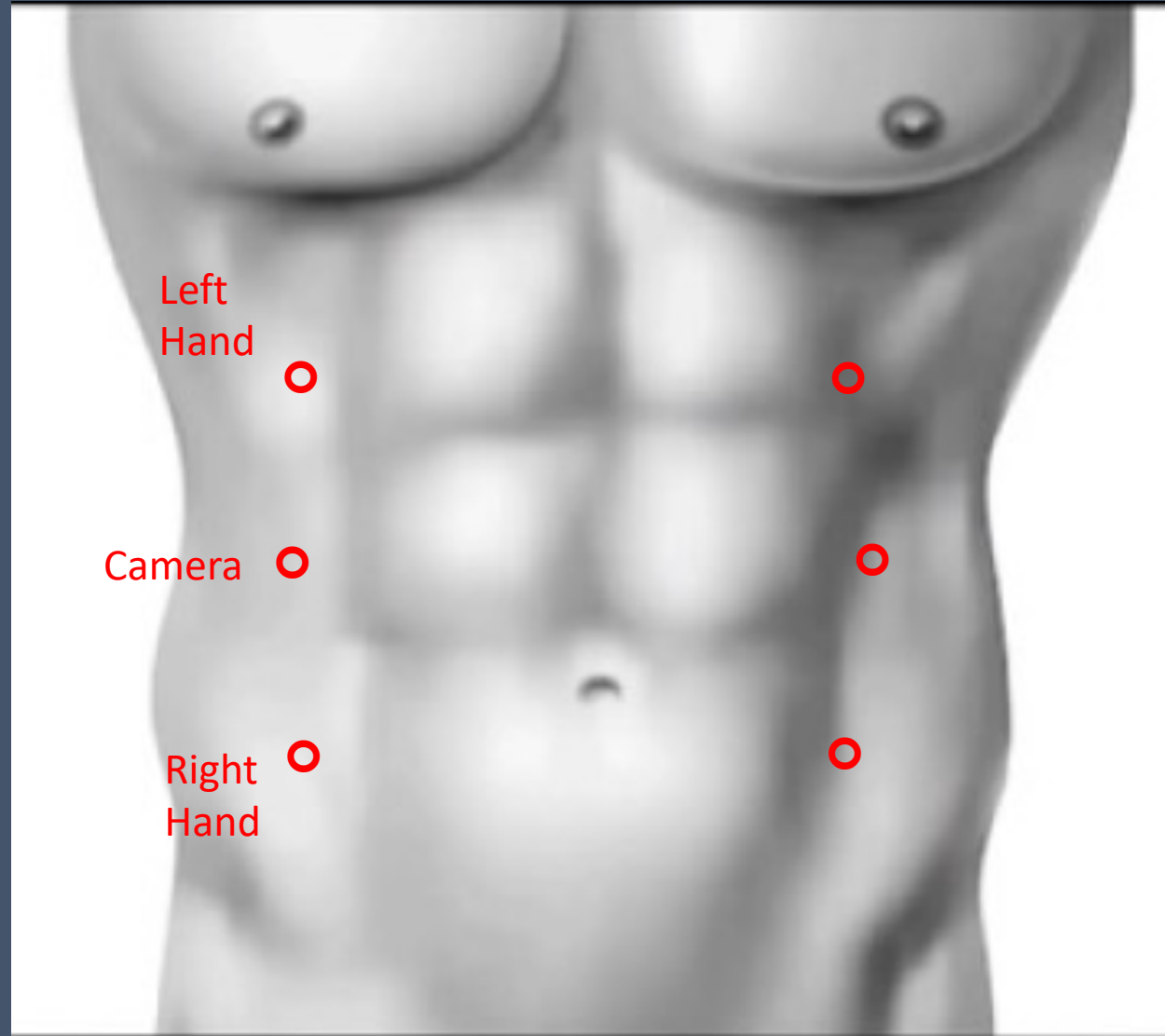


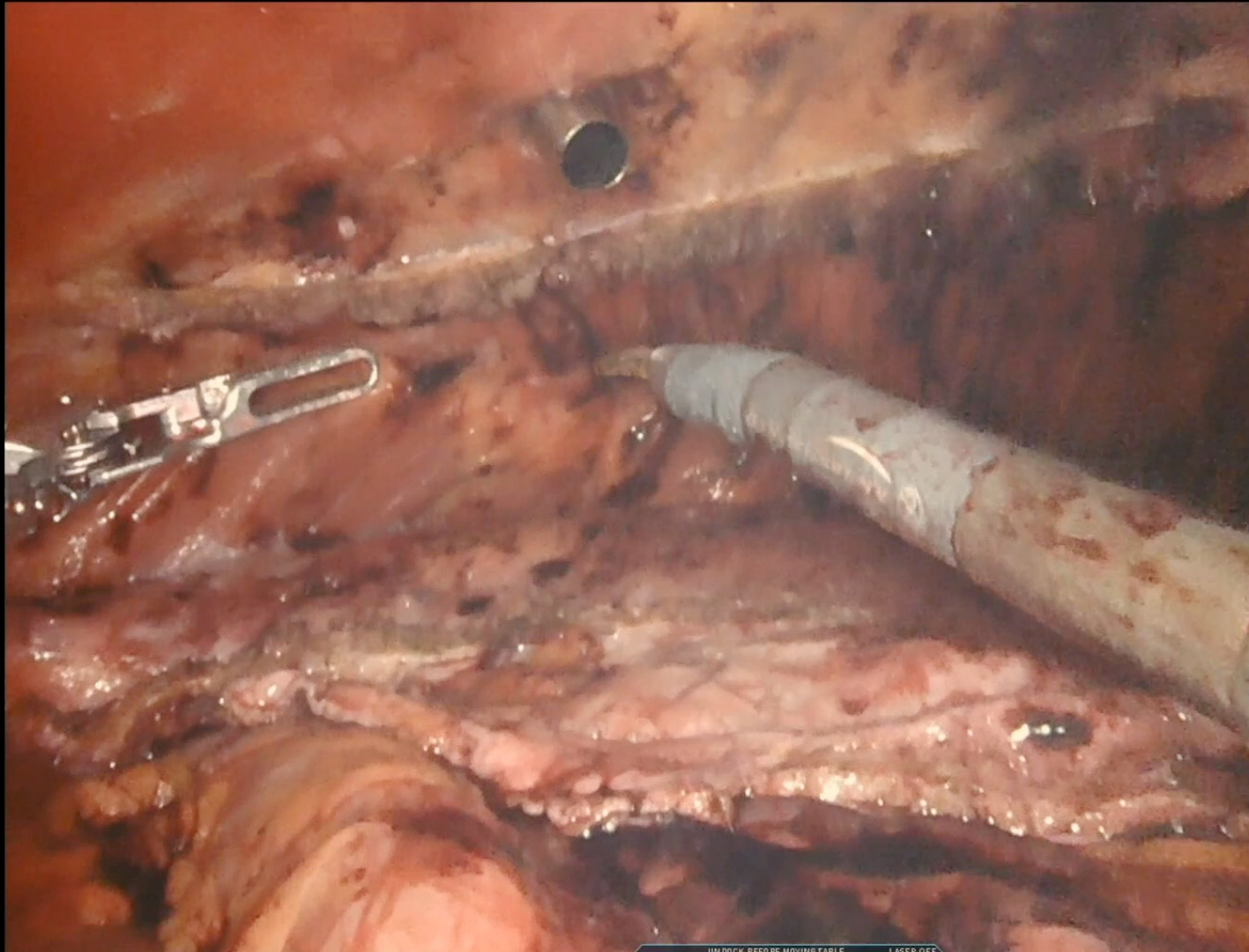
**Anatomy of TAR**

medialization of the posterior rectus fascia



# Second Side Port Placement



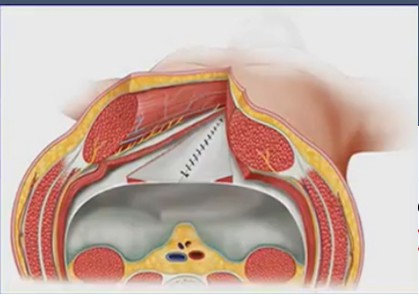


1

2" PROGRASP FORCEPS

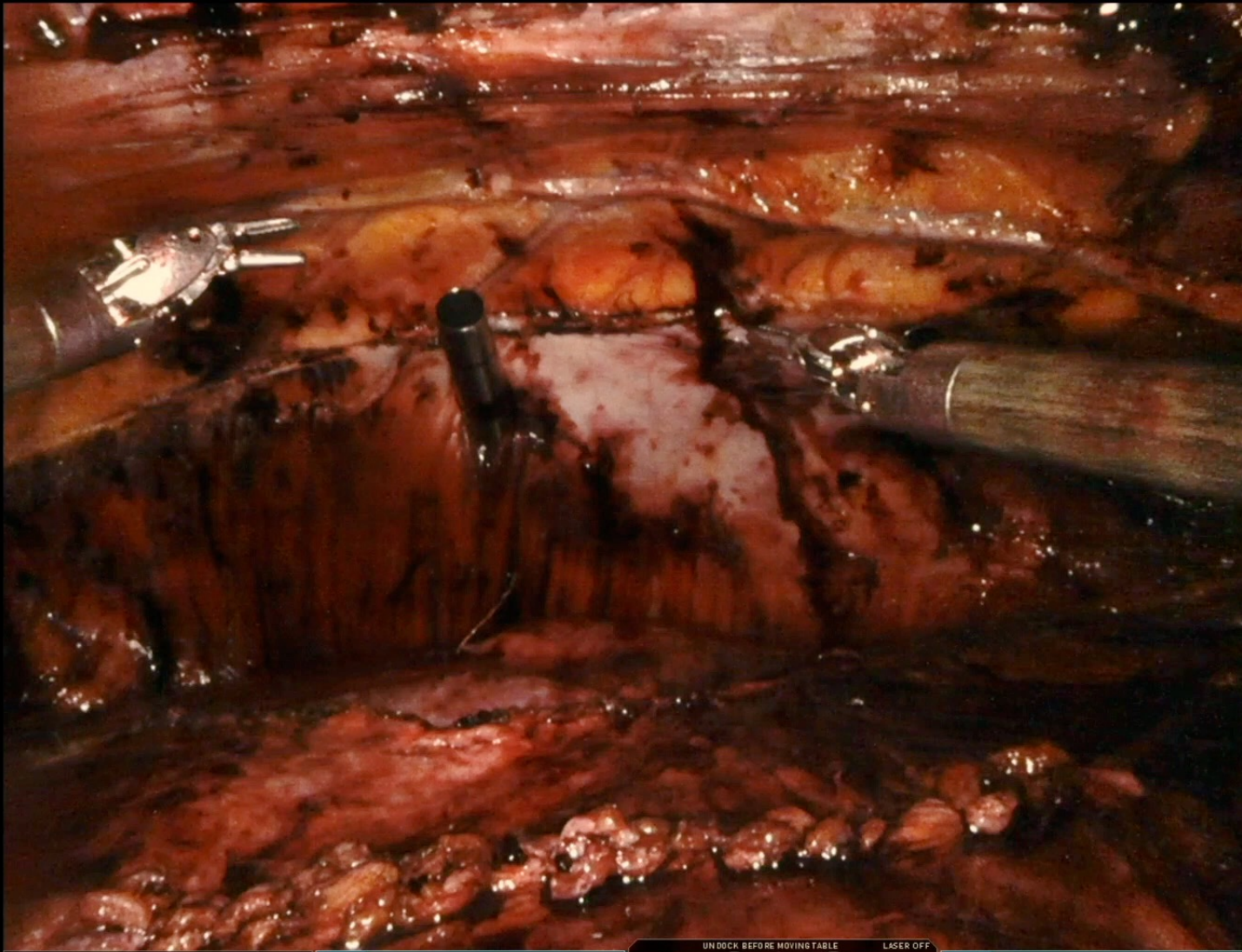
3 UNDOCK BEFORE MOVING TABLE LASER OFF 1x 30°

4" MONOPOLAR CURVED SCISSORS R CUT R COAG



D  
COL



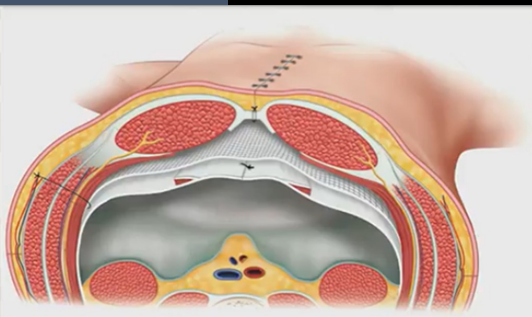


1

2 L<sup>R</sup> LARGE NEEDLE DRIVER

3 UN DOCK BEFORE MOVING TABLE LASER OFF 1x 30°

4 R<sup>L</sup> LARGE NEEDLE DRIVER

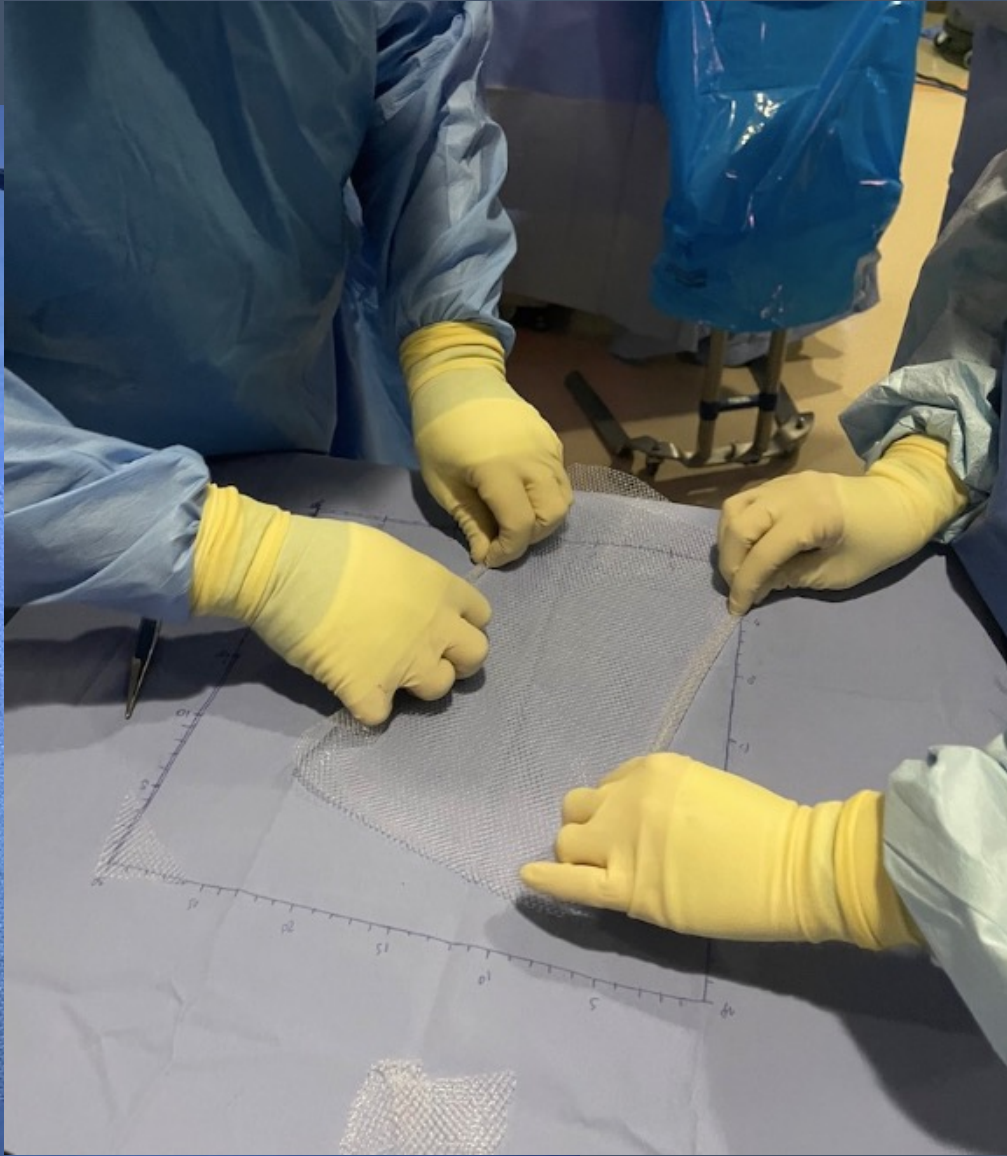


# Mesh





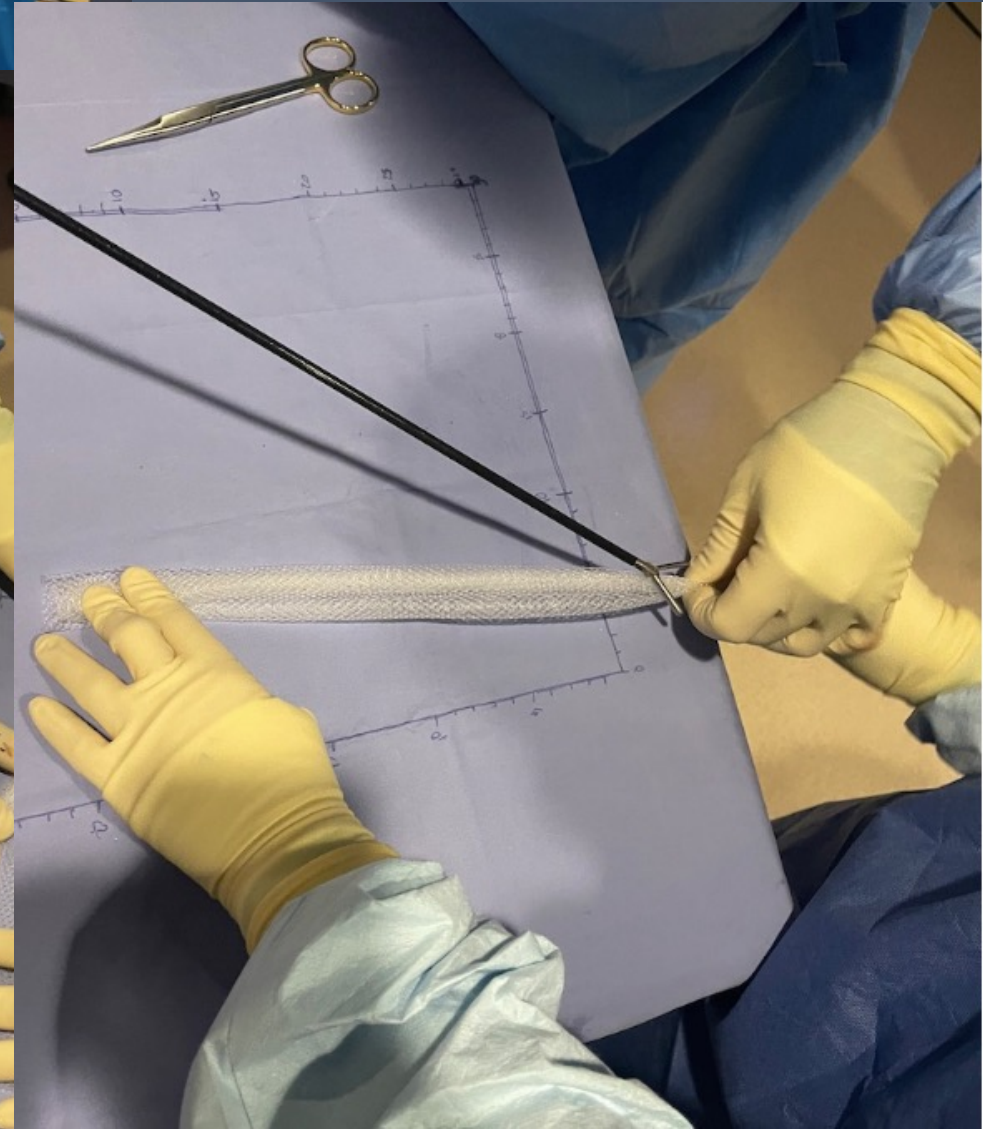
# Mesh

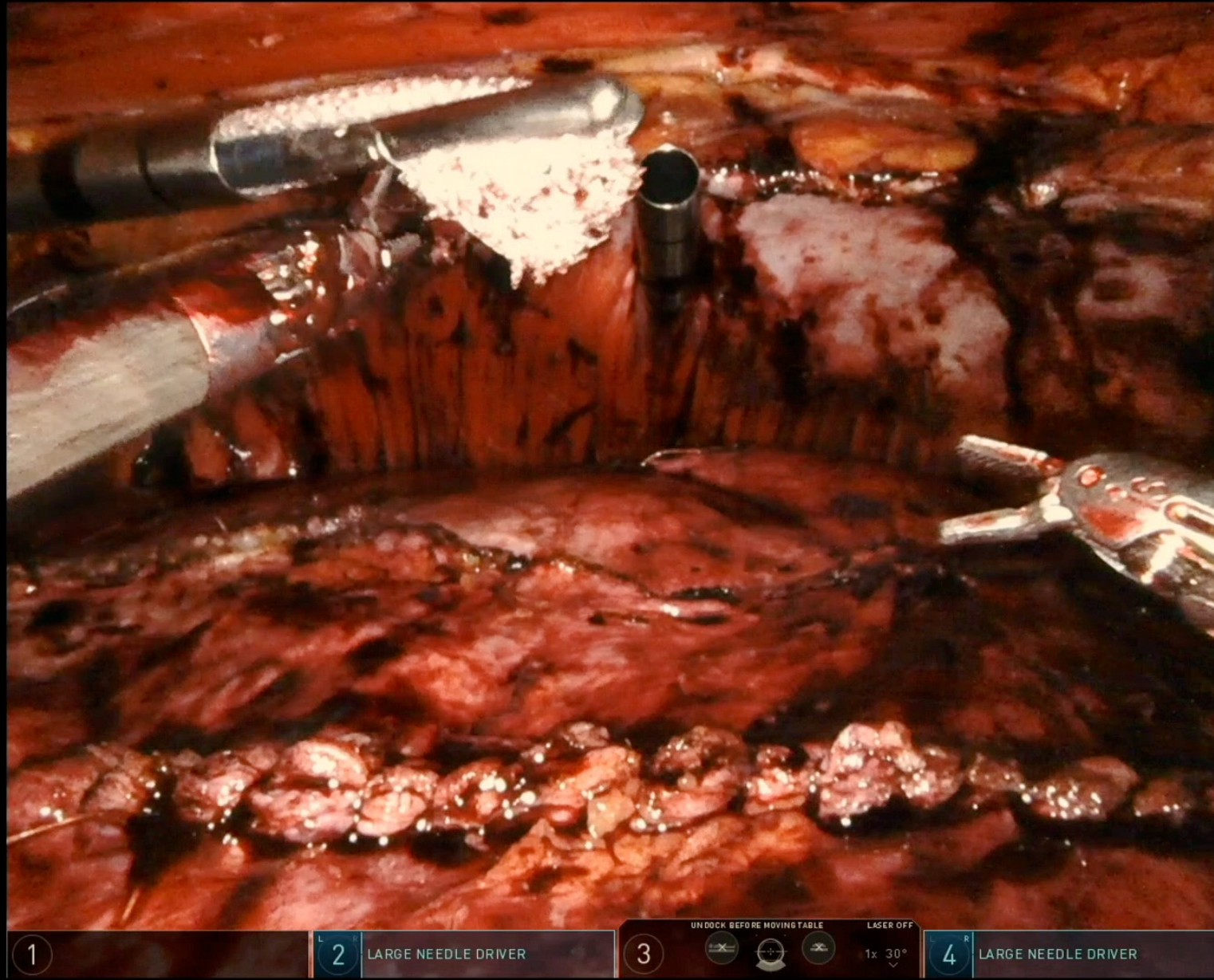


# Mesh



# Mesh





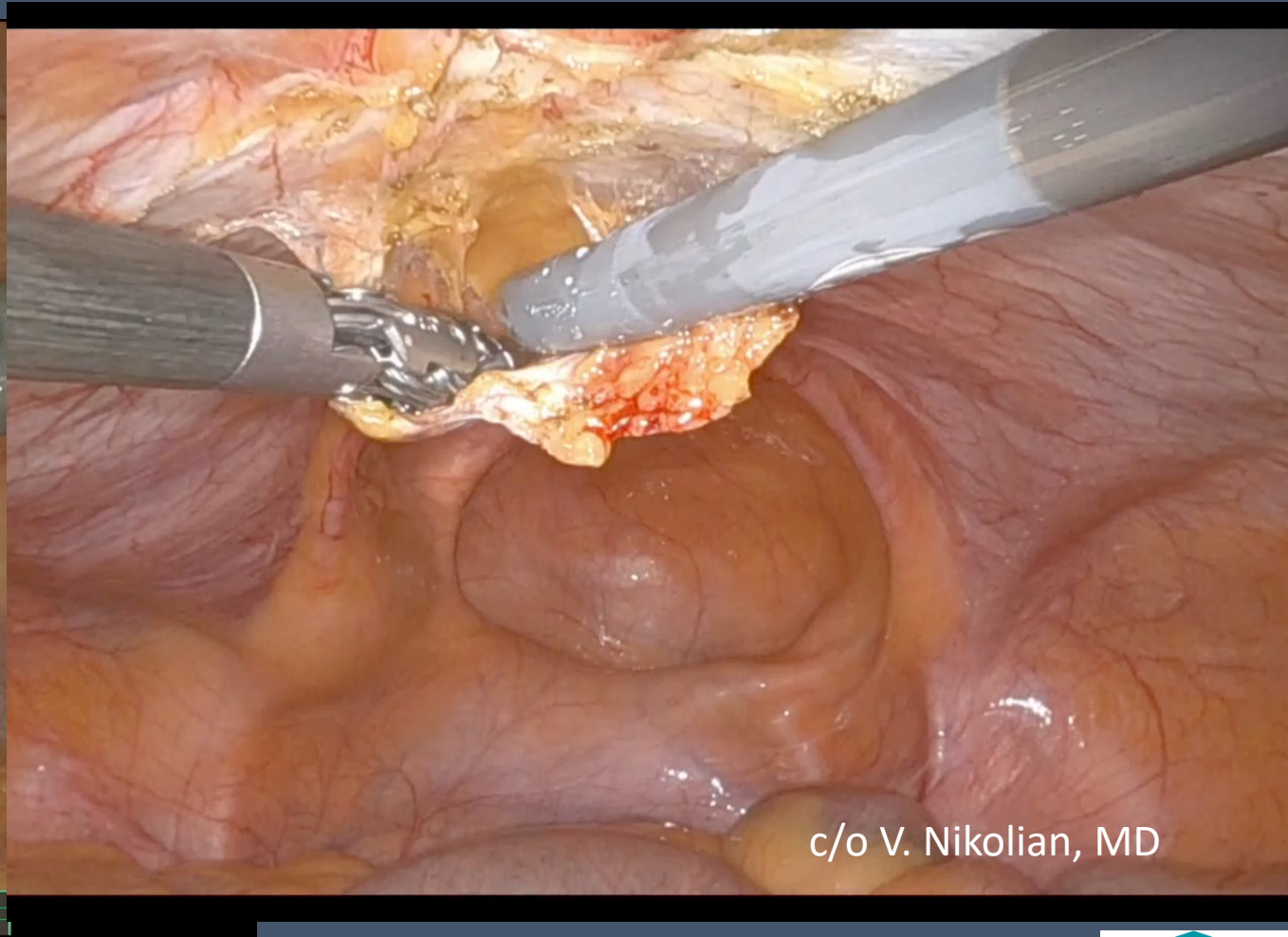
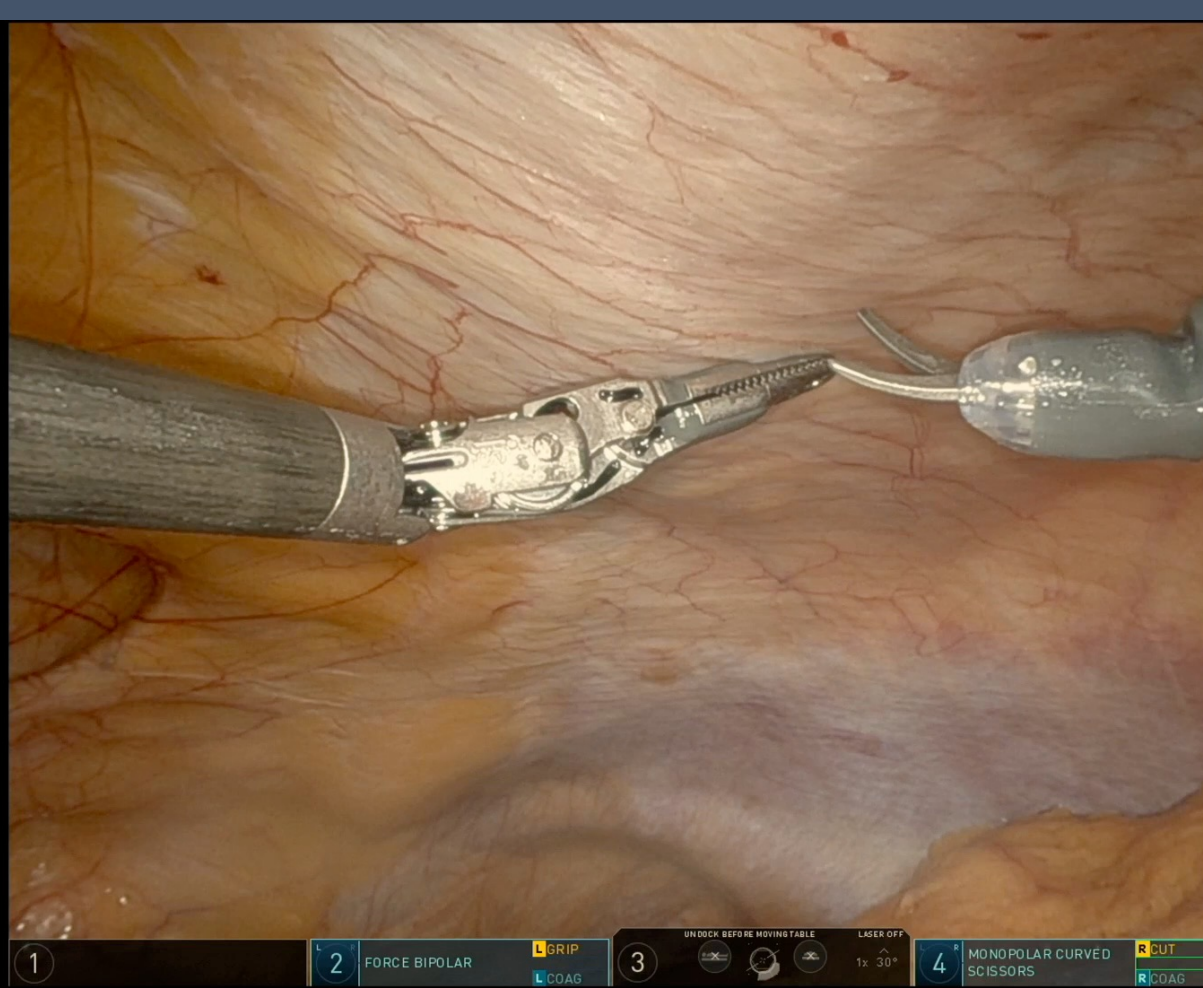
- Measure space and cut mesh to fill it
- 2/3-1/3 Mesh Rollup
- No penetrating fixation (Tisseal)
- Drain x1week



**HARVARD**  
MEDICAL SCHOOL



# Extremes of Ab Wall/Alternate Approaches



# Summary

- Excellent technique for MIS repair of complex ventral hernias
- Tenets and basic steps same as open
- Deep understanding of abdominal wall anatomy
- Huge impact on patient satisfaction
- Significant reduction in postoperative pain and hospital LOS
  - 1.4 vs. 6 days



- Thank you!
- Questions???
- [pete.santoro@gmail.com](mailto:pete.santoro@gmail.com)

