

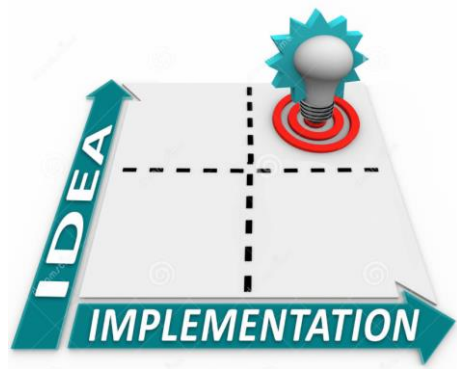
# TaTME : how to avoid complications

+

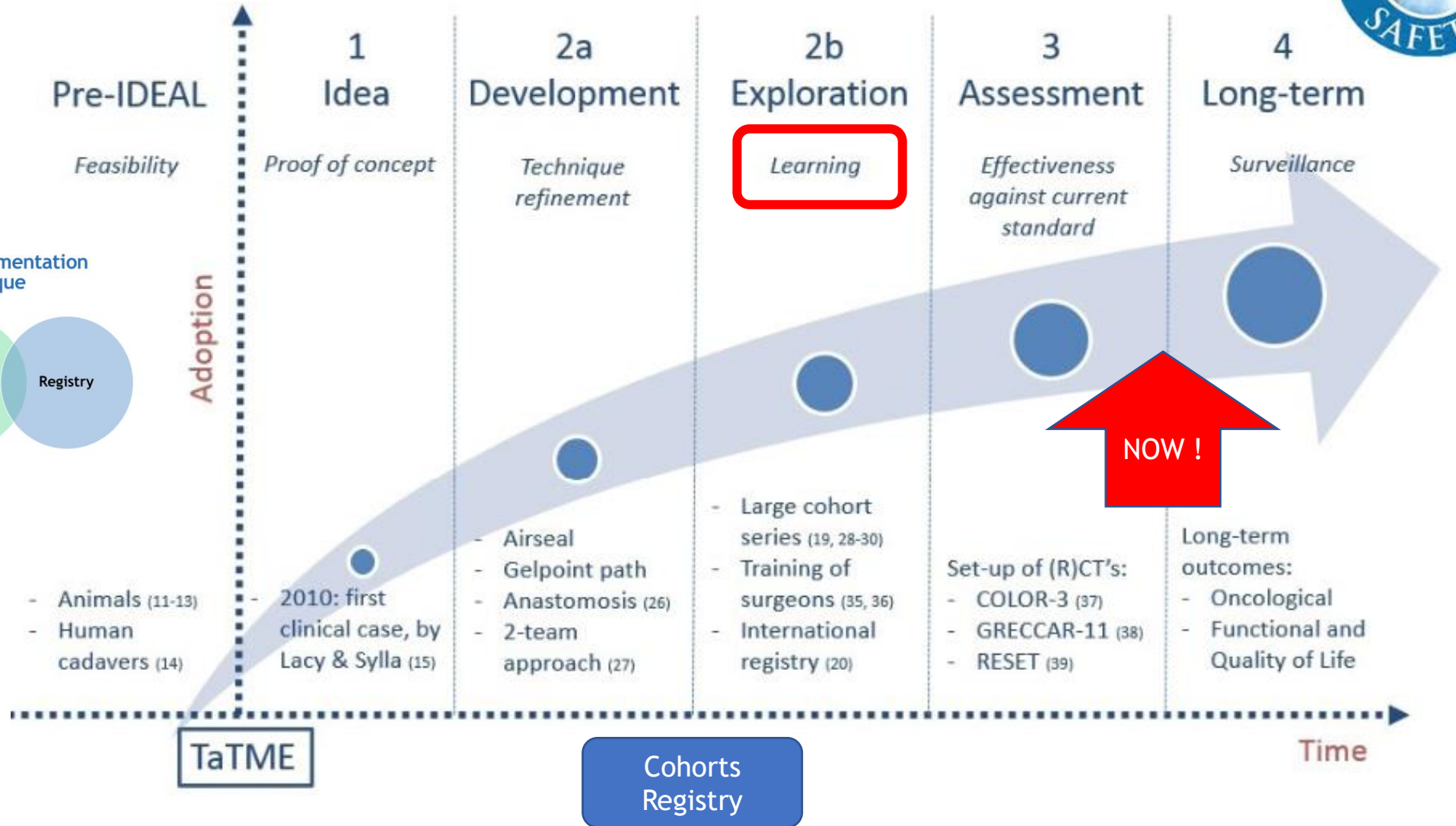
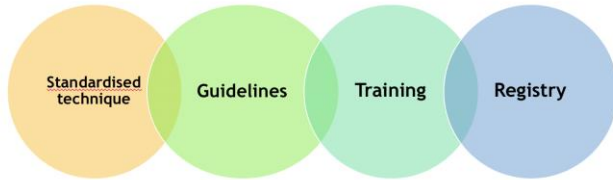
Roel Hompes MD, PhD, FASCRS(hon)

Colorectal Cancer Masterclass – Cairo, Egypt | 30th August 2022



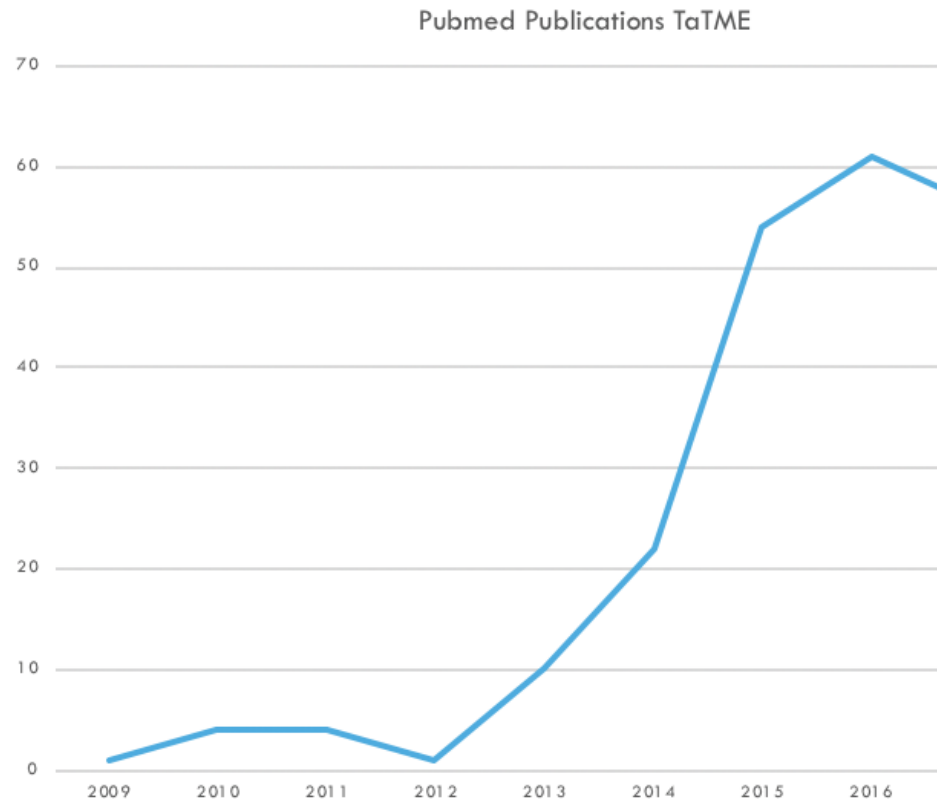


Key components for Safe Implementation of a new surgical technique



An old slide from 2016...

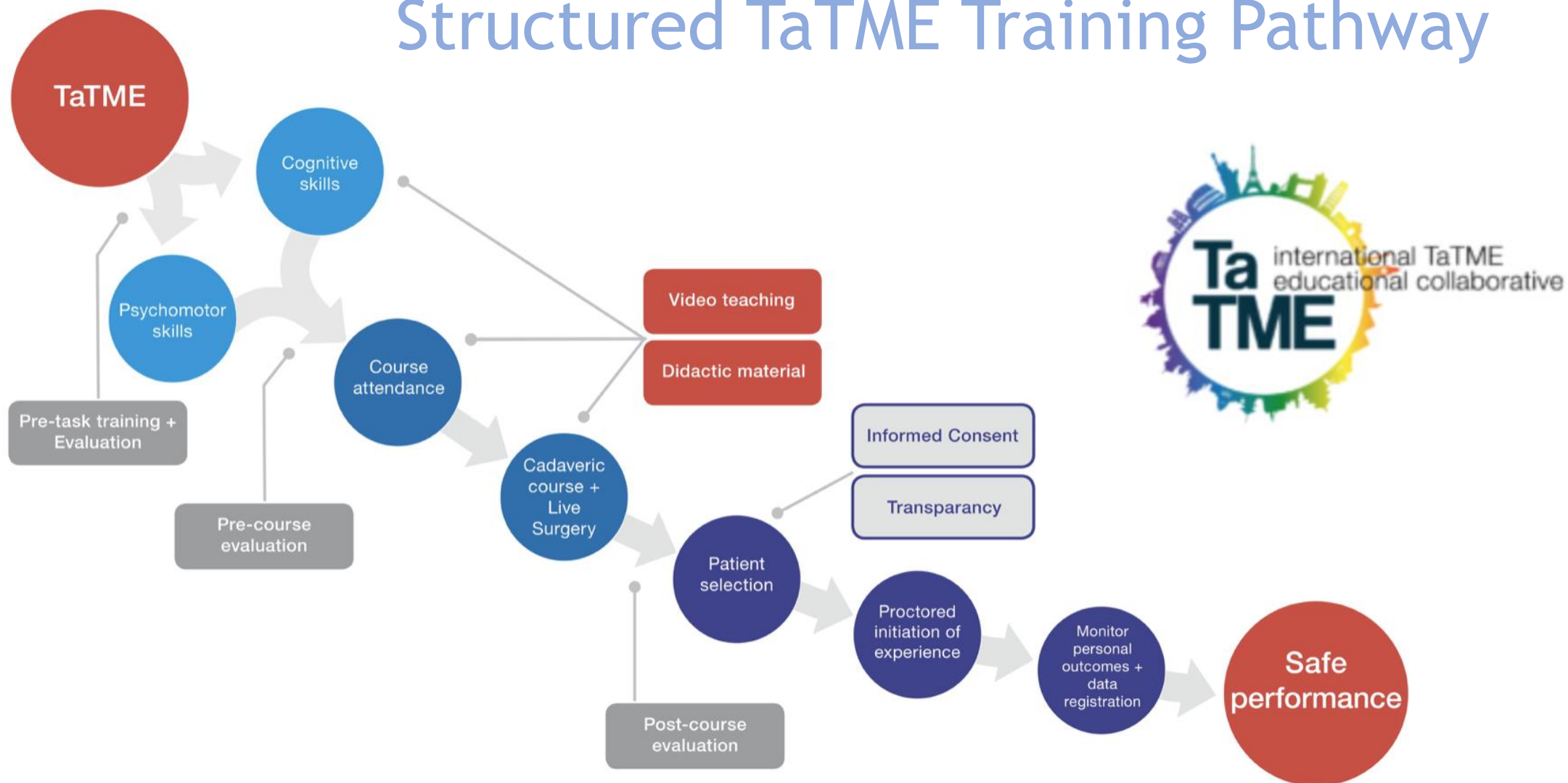
## Concerns about rapid introduction...



- Different anatomic approach
- Inefficient technical platforms
- COMPLEX Procedure
- Skill Set
- Limited safety data published
- Inadequate clinical experience to judge
- No longterm outcomes – no RCT
- **Guidelines / Patient selection**
- **Training pathway**



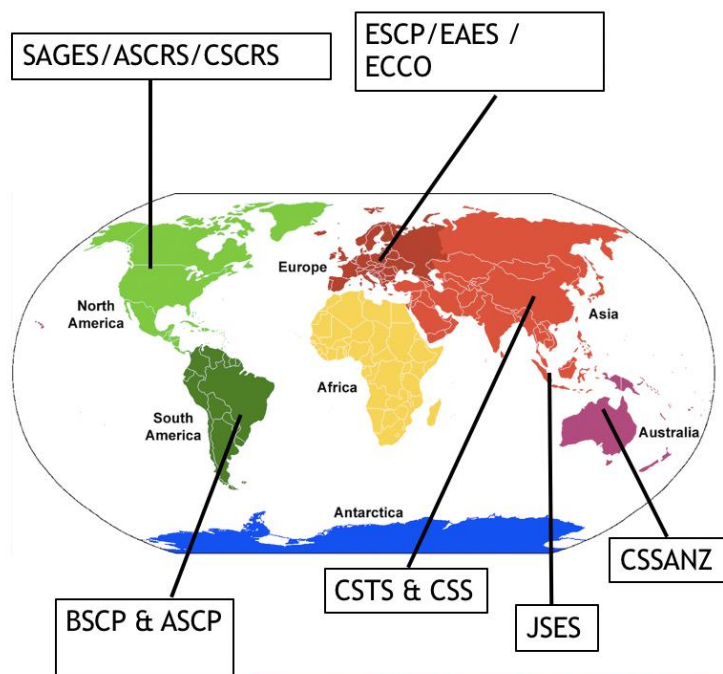
# Structured TaTME Training Pathway



Picture courtesy J. Knol



## International expert consensus guidance on indications, implementation and quality measures for transanal total mesorectal excision



Meeting ESCP 2017/2018 - ECC 2017 - ASCRS 2018

DYNAMIC  
GUIDANCE

Training &  
Implementation

A formal **structured training pathway** should be completed to safely implement TaTME into clinical practice

The recommended requirements before undertaking a structured training pathway in TaTME must include established experience in minimal invasive TME and an **annual institutional volume of more than 30 rectal resections**

**Proctorship training should continue until safe independent performance is achieved**

Regular **review and evaluation of clinico-pathological data with proctor feedback** during the implementation phase must be available. Data should be collected in an established **TaTME registry**

Surgical Endoscopy (2020) 34:3748–3753  
<https://doi.org/10.1007/s00464-020-07680-8>



### CONSENSUS STATEMENT



### Canadian taTME expert collaboration (CaTaCO) position statement

Antonio Caycedo-Marulanda<sup>1,2</sup> · Carl J. Brown<sup>3,4</sup> · Sami A. Chadi<sup>5,6</sup> · Shady Ashamalla<sup>7</sup> · Lawrence Lee<sup>8</sup> · Peter Stotland<sup>6,11</sup> · Usmaan Hameed<sup>6,11</sup> · George Melich<sup>4,12</sup> · Grace Ma<sup>9,10</sup> · Francois Letarte<sup>13,14</sup> · Ahmer Karimuddin<sup>3,4</sup> · Fayez Quereshy<sup>5,6</sup> · Terry Phang<sup>3,4</sup> · Manoj Raval<sup>3,4</sup> · Elena Vikis<sup>4,12</sup> · A. Sender Liberman<sup>8</sup> · Alexandre Bouchard<sup>13,14</sup> · Phillipe Bouchard<sup>13,14</sup> · Sebastien Drolet<sup>13,14</sup>



## Defining the learning curve for transanal total mesorectal excision for rectal adenocarcinoma

Authors

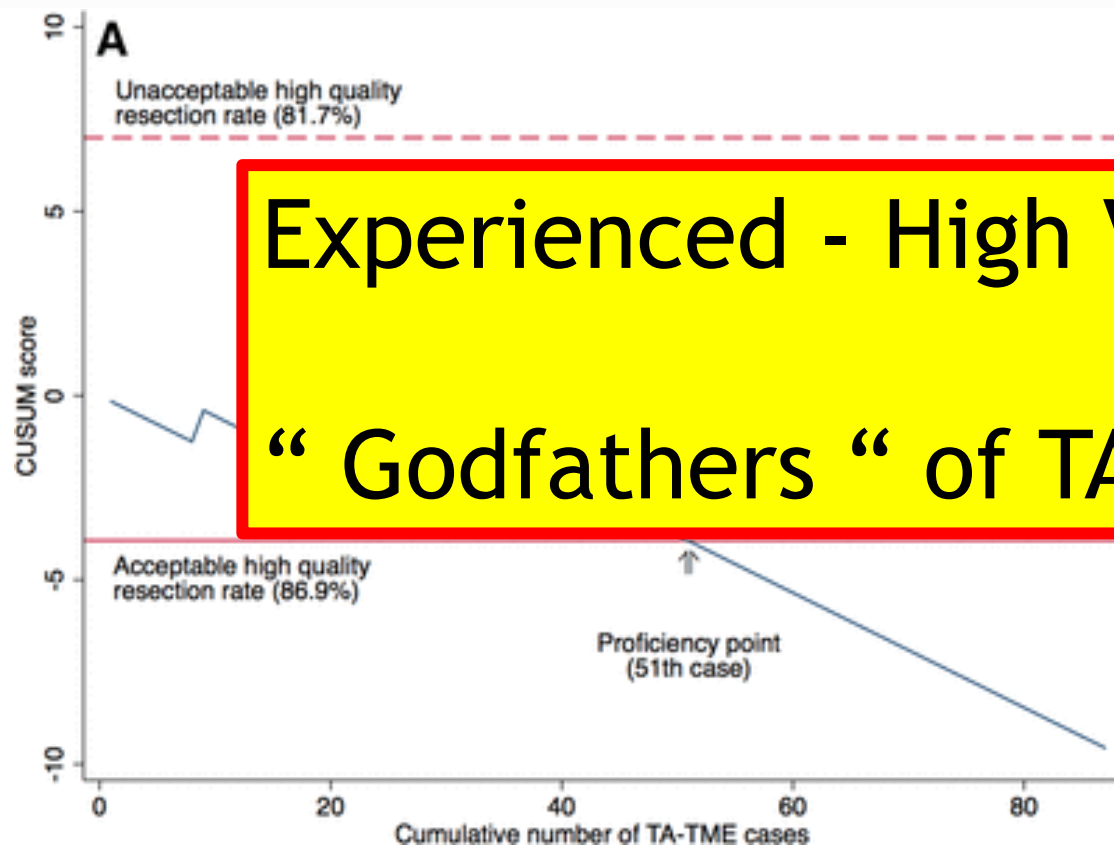
Authors and affiliations

Lawrence Lee ✉, Justin Kelly, George J. Nassif, Teresa C. deBeche-Adams, Matthew R. Albert, John R. T. Monson

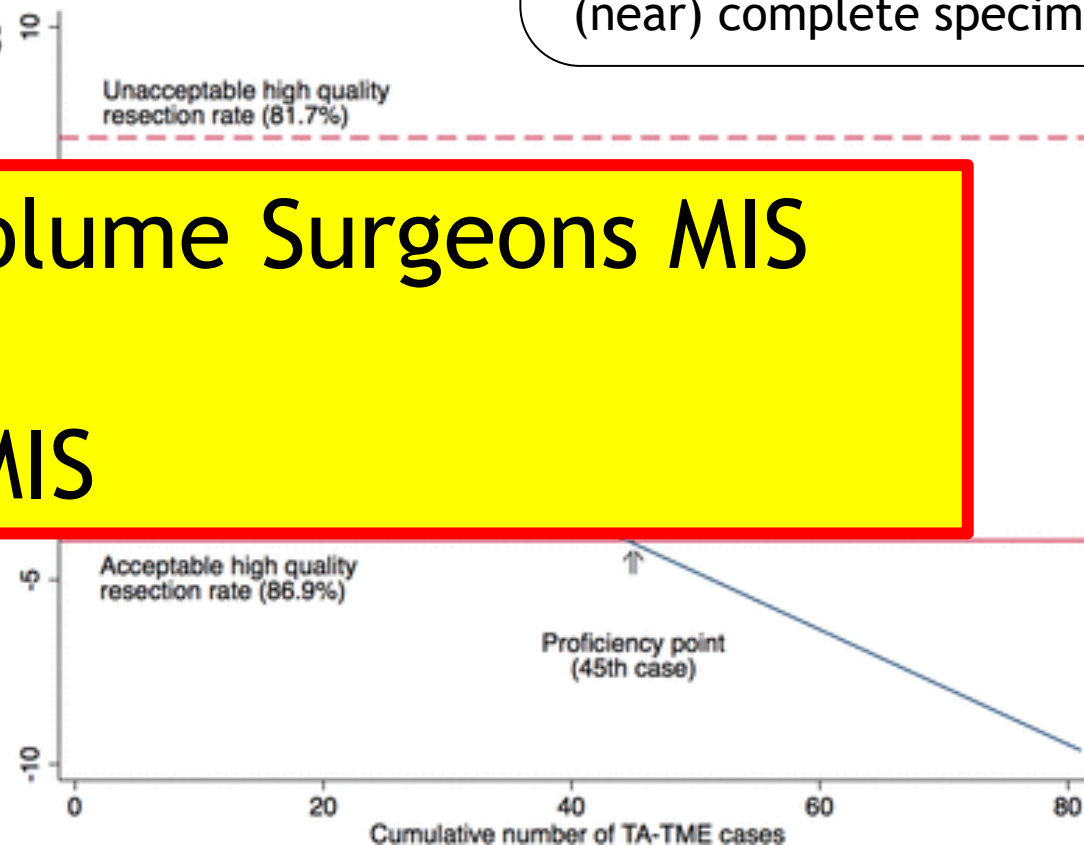


Composite endpoint  
“high quality TME”

No CRM <1, no DRM+, &  
(near) complete specimen



**TaTME LAR & APE**



**Only TaTME LAR**

Experienced - High Volume Surgeons MIS  
“ Godfathers “ of TAMIS



## TaTME Case Selection

- TME
- Women > Man
- 6-10cm AV
- Posterior > Anterior
- T1-T2
- (no nRCT)
- 2- Team operating
- Proctored

- PME
- Males
- Low tumors below 5-6 cm
- Anterior tumors (clearance?)
- Bulky tumors
- post radiation
- Single surgeon initiative
- unproctored



**N = 2653**

## Predicted risk for pCRM+

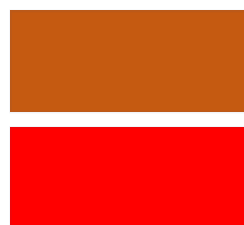
|             |            | cT1-3-stage    |          |                |          | cT4-stage      |          |                |          |
|-------------|------------|----------------|----------|----------------|----------|----------------|----------|----------------|----------|
| EMVI on MRI | CRM on MRI | Tumor >1cm ARJ |          | Tumor ≤1cm ARJ |          | Tumor >1cm ARJ |          | Tumor ≤1cm ARJ |          |
| ⊖           | ⊖          | 2%             | 3%       | 3%             | 5%       | 3%             | 5%       | 6%             | 10%      |
| ⊖           | ⊕          | 3%             | 4%       | 6%             | 9%       | 5%             | 9%       | 11%            | 17%      |
| ⊕           | ⊖          | 3%             | 5%       | 6%             | 10%      | 5%             | 9%       | 12%            | 18%      |
| ⊕           | ⊕          | 5%             | 8%       | 10%            | 16%      | 9%             | 15%      | 19%            | 28%      |
|             |            | not Anterior   | Anterior | not Anterior   | Anterior | not Anterior   | Anterior | not Anterior   | Anterior |





# Predicted risk for pCRM+

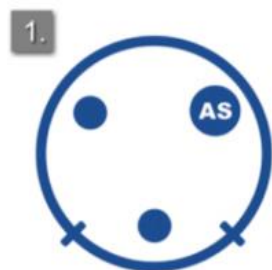
|             |            | cT1-3-stage    |          |                |          | cT4-stage      |          |                |          |
|-------------|------------|----------------|----------|----------------|----------|----------------|----------|----------------|----------|
| EMVI on MRI | CRM on MRI | Tumor >1cm ARJ |          | Tumor ≤1cm ARJ |          | Tumor >1cm ARJ |          | Tumor ≤1cm ARJ |          |
| ⊖           | ⊖          | 2%             | 3%       | 3%             | 5%       | 3%             | 5%       | 6%             | 10%      |
| ⊖           | ⊕          | 3%             | 4%       | 6%             | 9%       | 5%             | 9%       | 11%            | 17%      |
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|             |            | not Anterior   | Anterior | not Anterior   | Anterior | not Anterior   | Anterior | not Anterior   | Anterior |



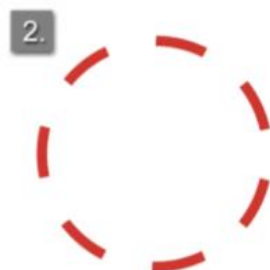
Case selection learning curve  
Intensified neo-adjuvant therapy  
Extended TME / Beyond TME



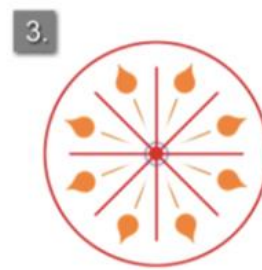
## PROCEDURAL STEPS



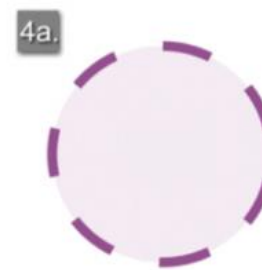
Set-up



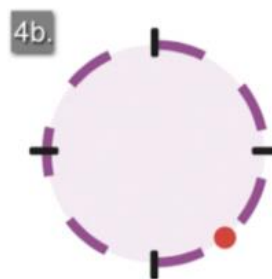
Pursestring



Washout



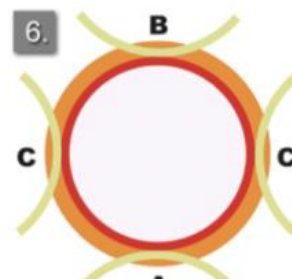
Marking



Start Rectotomy



360° Rectotomy



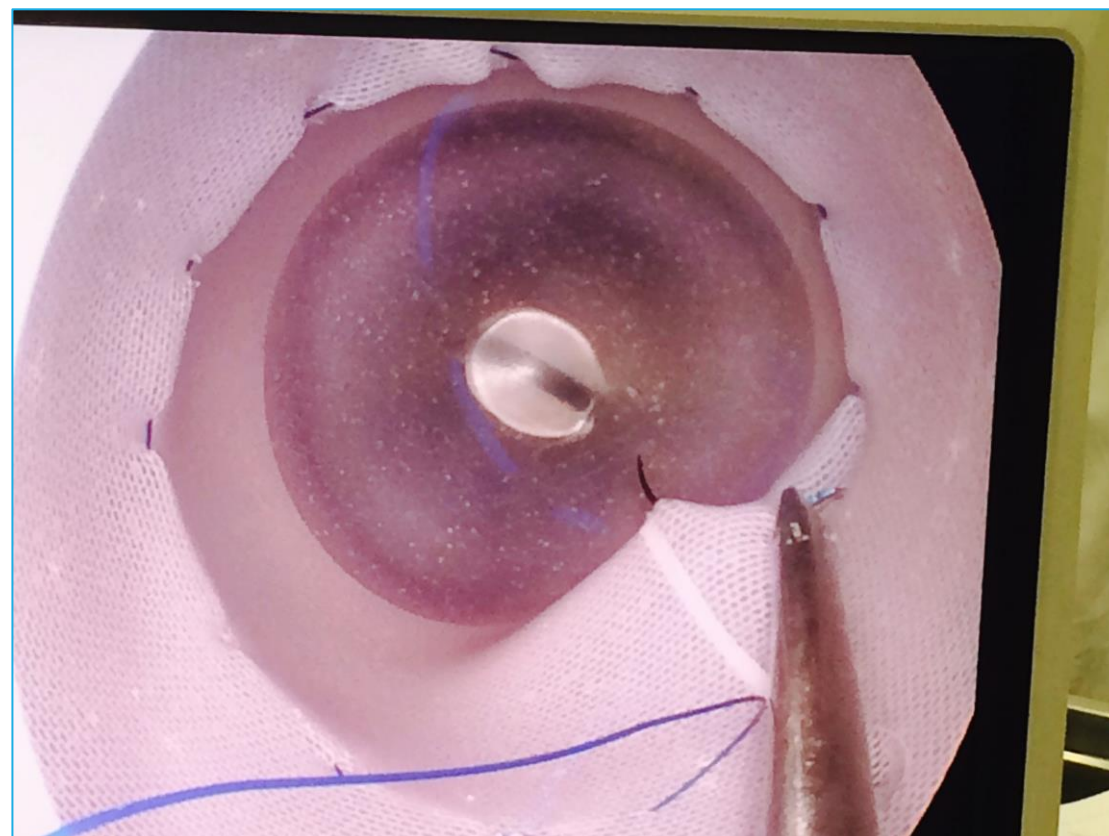
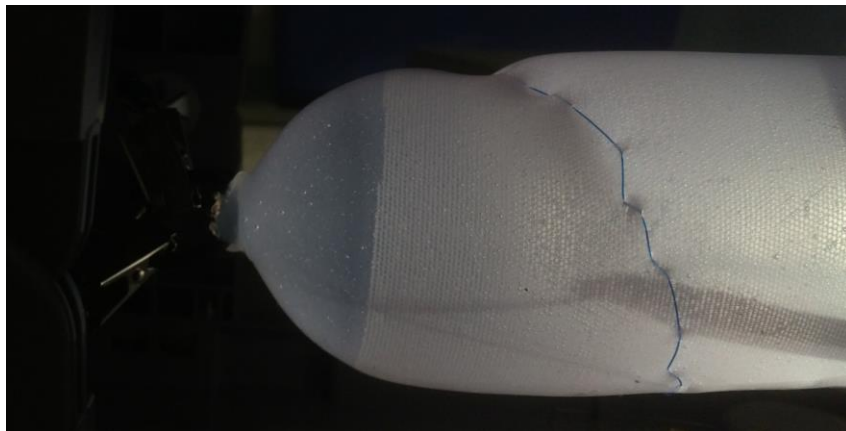
TME dissection A-B-C



Extraction &  
Anastomosis



# Pursestring



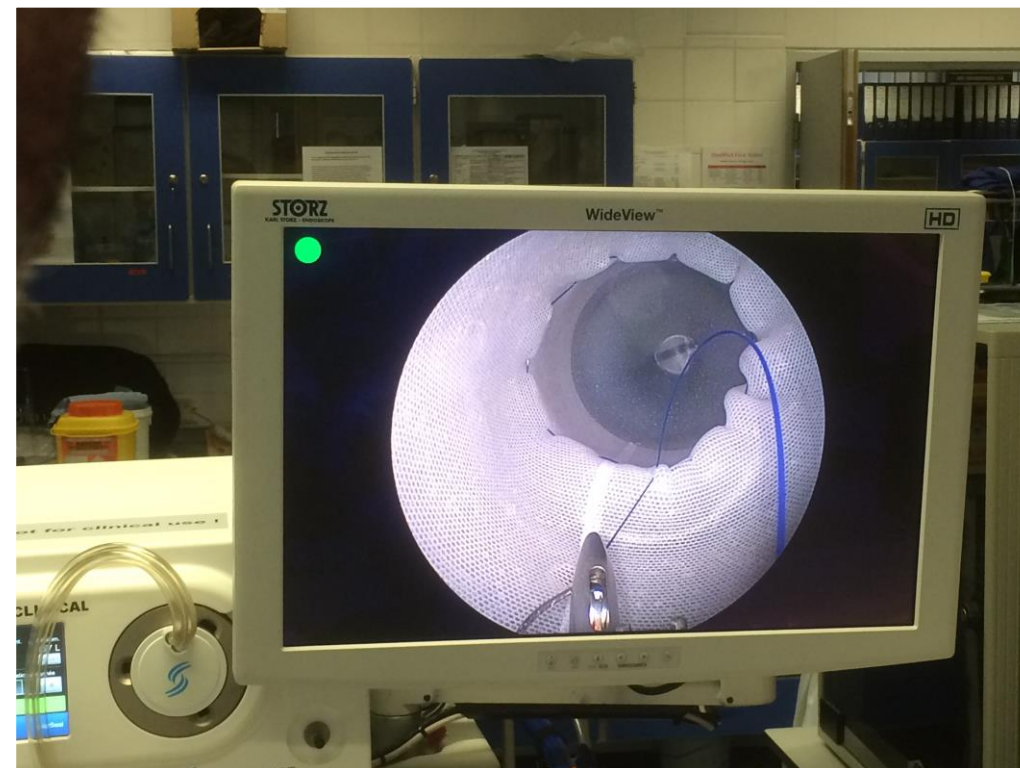


# Pursestring



Equal steps A -> B

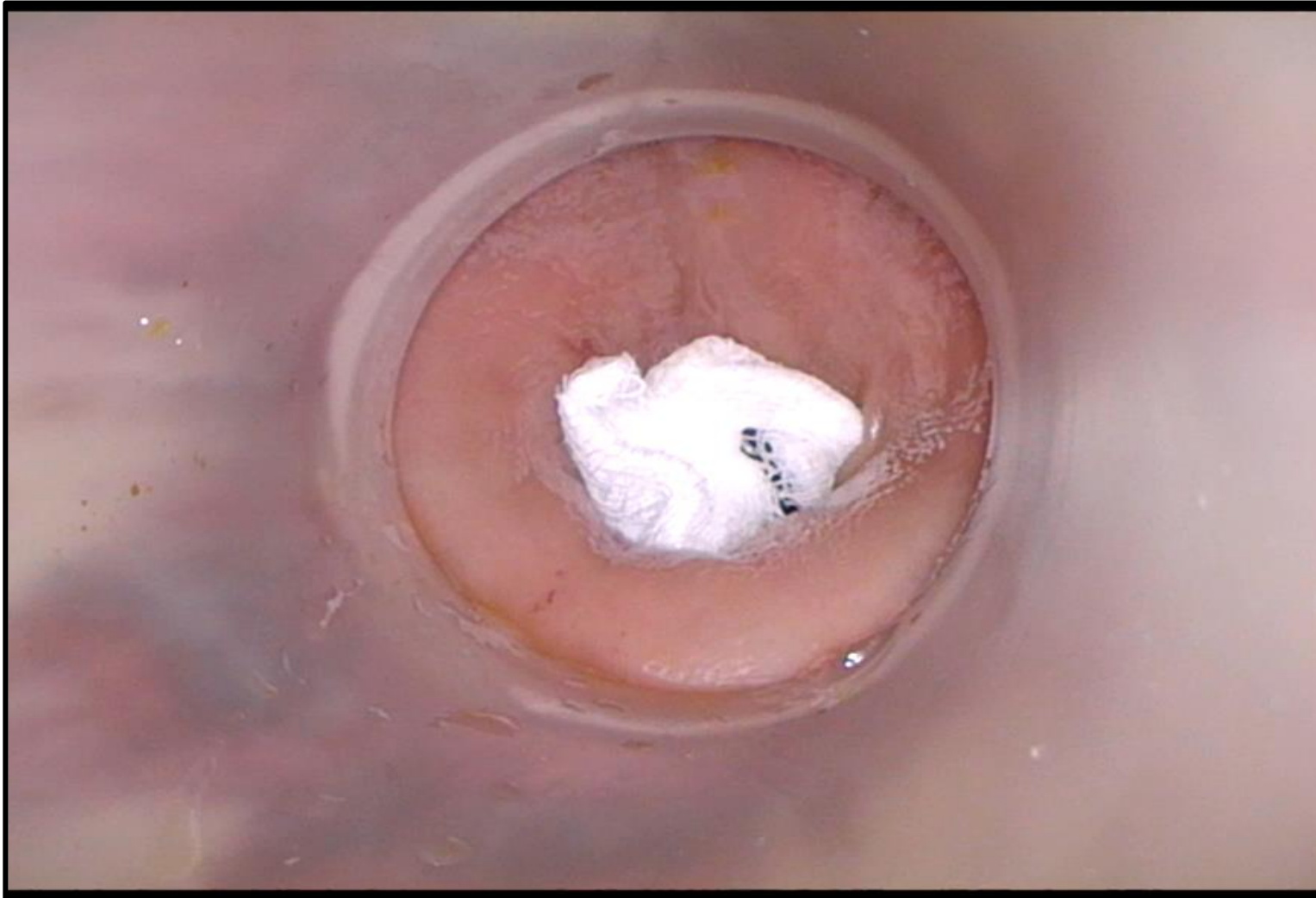
Avoid Spiralling





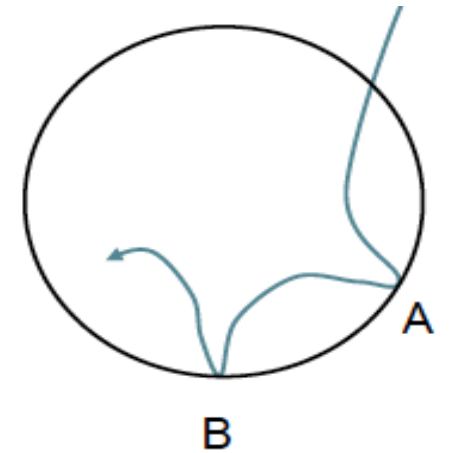


# Pursestring



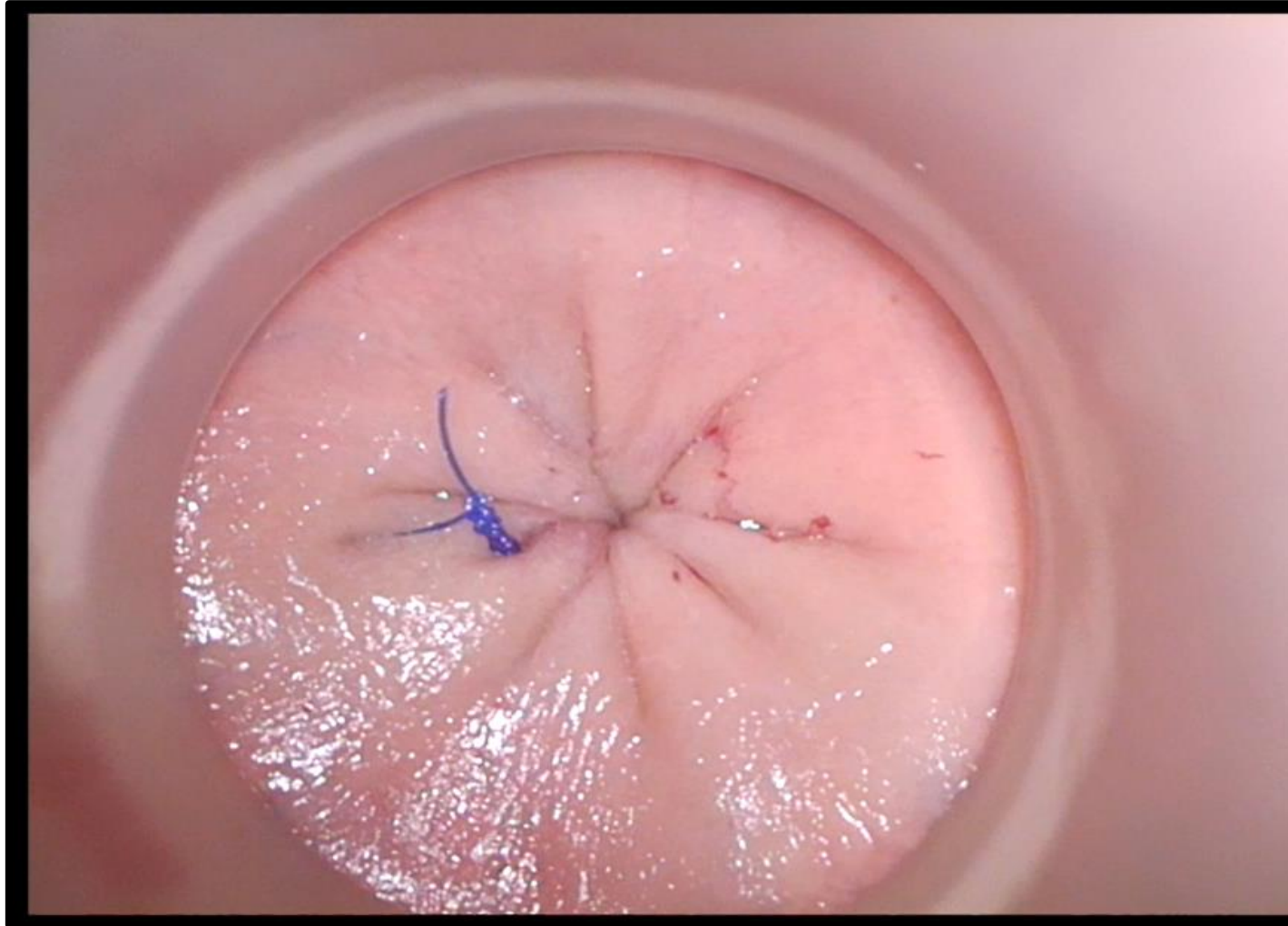
Equal steps A -> B

- Gauze + **Wall tension**
- Avoid too much suture inside
- In = Out
- Position Needle early !
- Rotate TO MIDDLE
- Avoid Tissue injury





## Check Pursestring

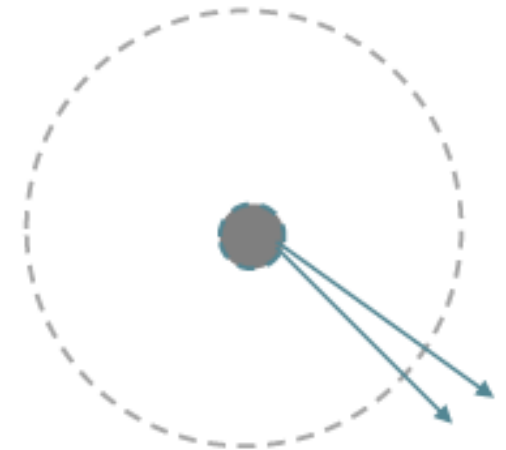


Equal steps A -> B

Avoid Too many steps & **Close Tight**

Use **Monofilament 0** - not 2/0

**Check pursestring !!**





# Purse-string reinforcement in transanal total mesorectal excision: a further essential step to increase oncological safety

M. J. Koch <sup>1</sup>, P. J. Tanis <sup>2</sup>, W. A. Bemelman <sup>2</sup>, J. B. Tuynman <sup>2</sup>, R. Hompes <sup>2</sup>

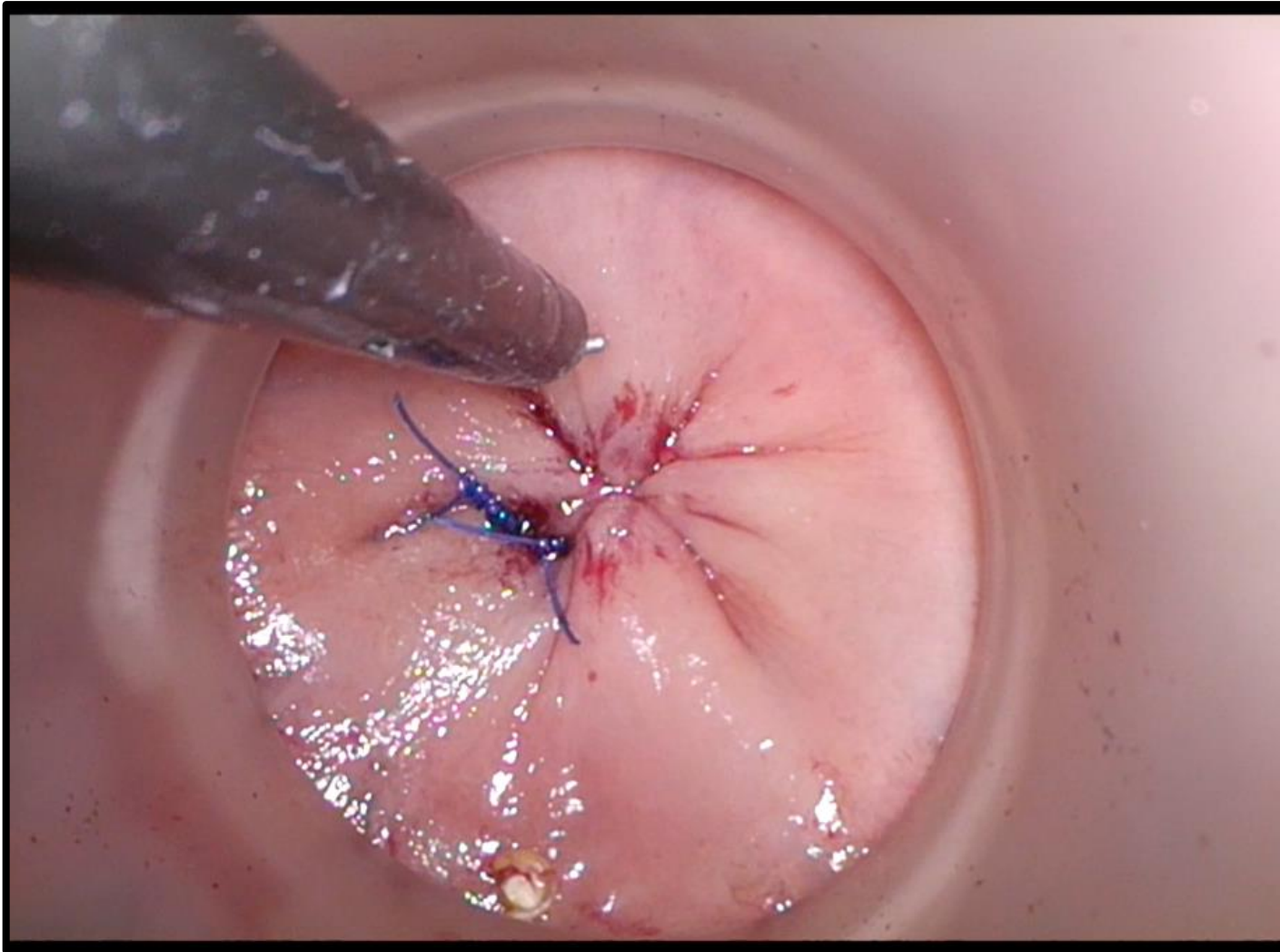
<sup>1</sup> *Surgery Department, Centro Hospitalar e Universitário de Coimbra, Portugal*

<sup>2</sup> *Amsterdam UMC, University of Amsterdam, Department of Surgery, The Netherlands*





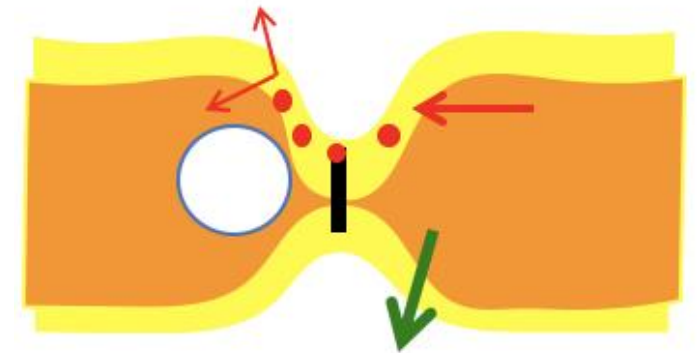
# Rectotomy



Wall Tension Crucial  
(15-20mmHg)

2-3 cm area : go FT

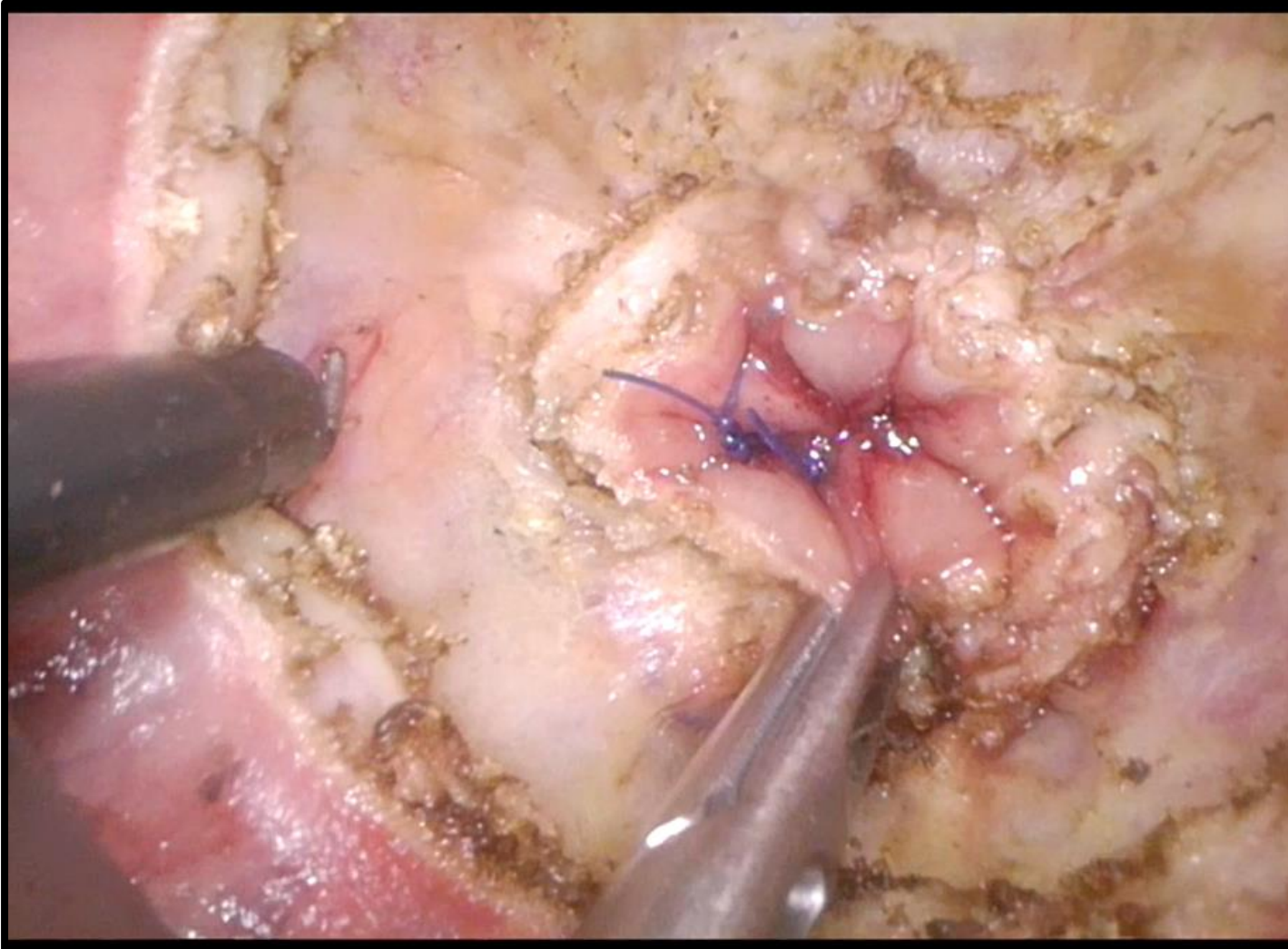
Hook around : leave no muscle  
behind







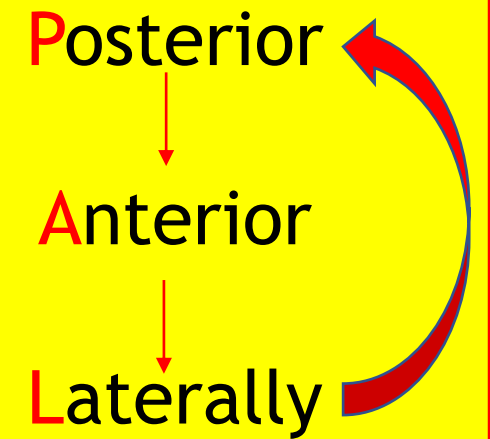
# Posterior Plane



Acute Posterior Angle

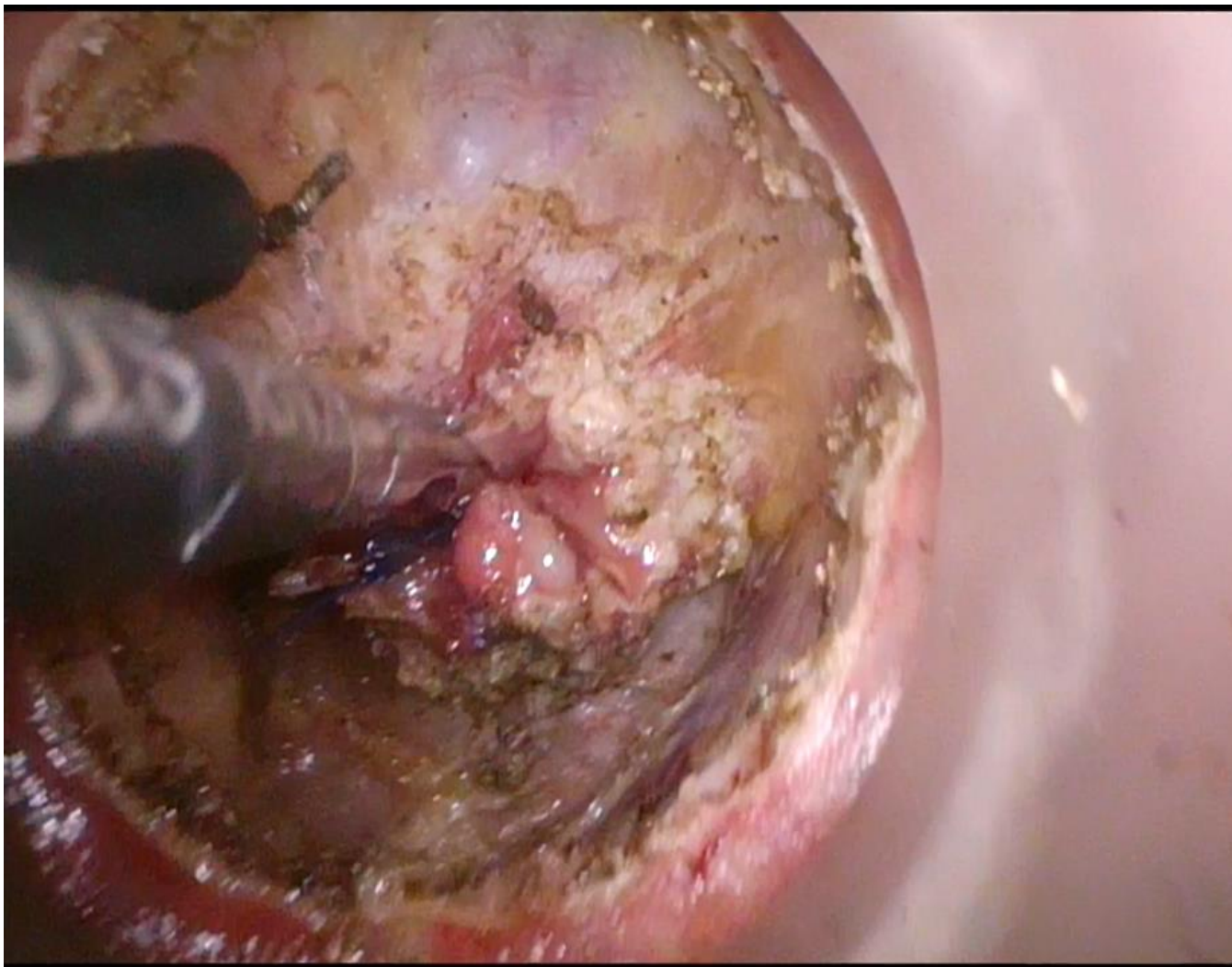
Aim for Pelvic Floor as reference

Avoid big “pushes” - movements





# Anterior Plane



Pull towards you & Down

No FAT anterior

Female : more floppy plane

Male : Ant/Post Denonvilliers

11 & 1 o'clock : NV bundles

Complete Lateral

Posterior  
↓  
Anterior  
↓  
Laterally





## TATME DISSECTION TIPS

DONUTS !!

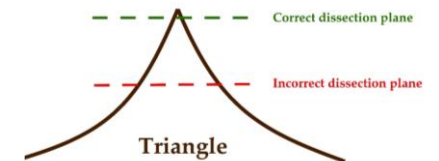
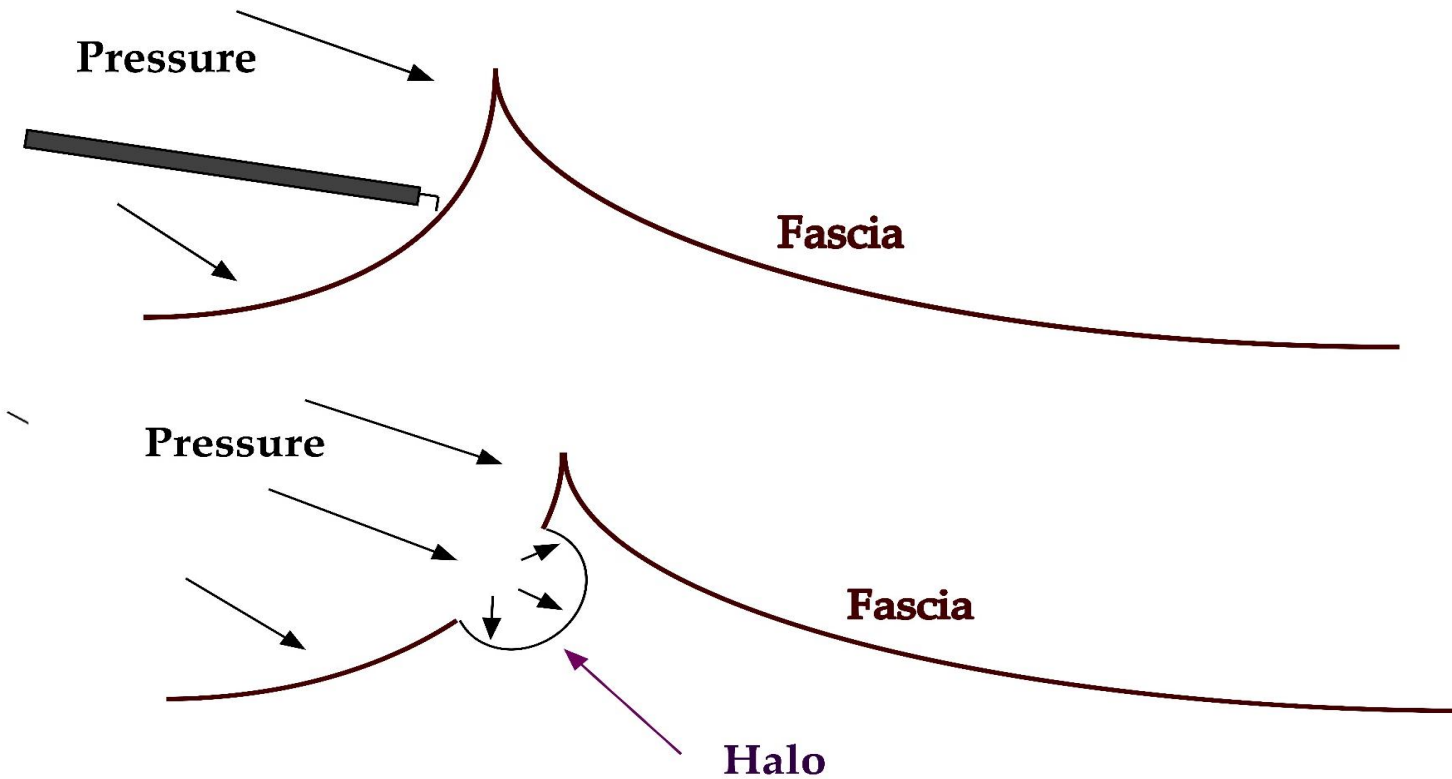


# HALO's & Triangles



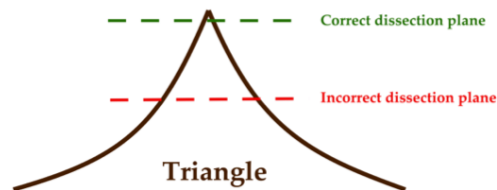
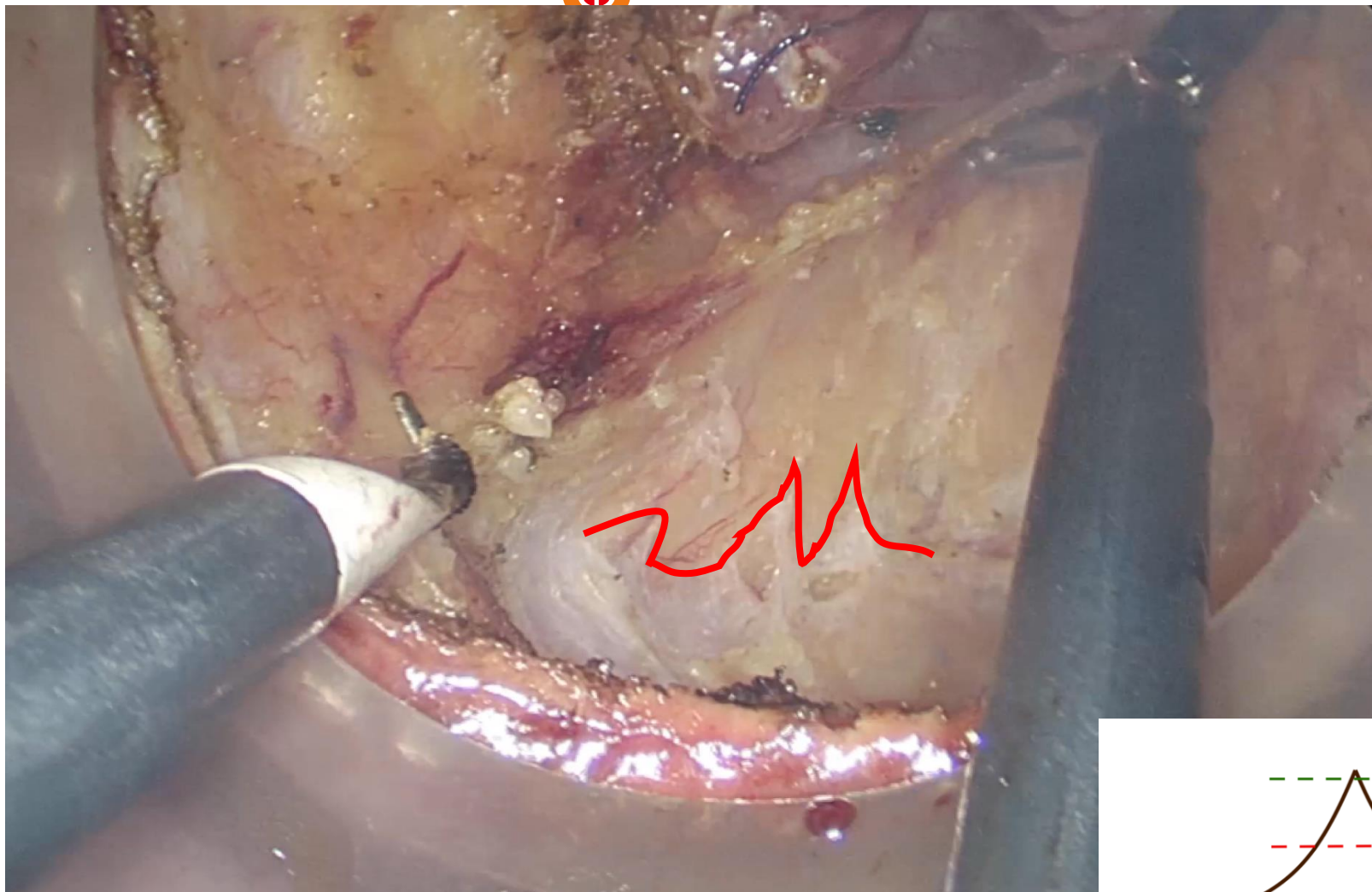
## Carefull identification of TME plane

- post of midline > ant > lat [ SLEEVE ]
- avoid early connection with abdomen
- recognise WRONG plane - Halo sign

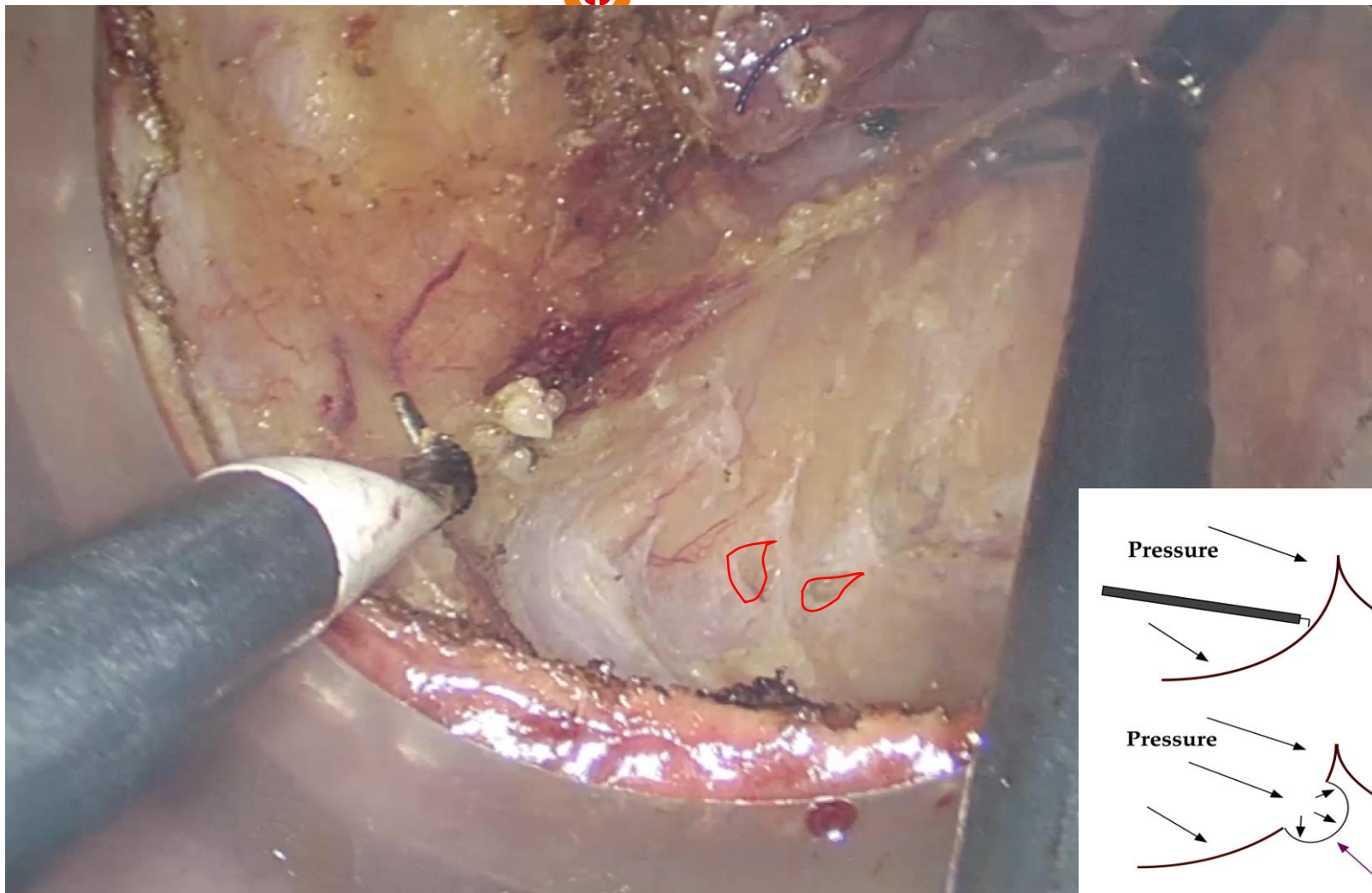




# HALO's & Triangles

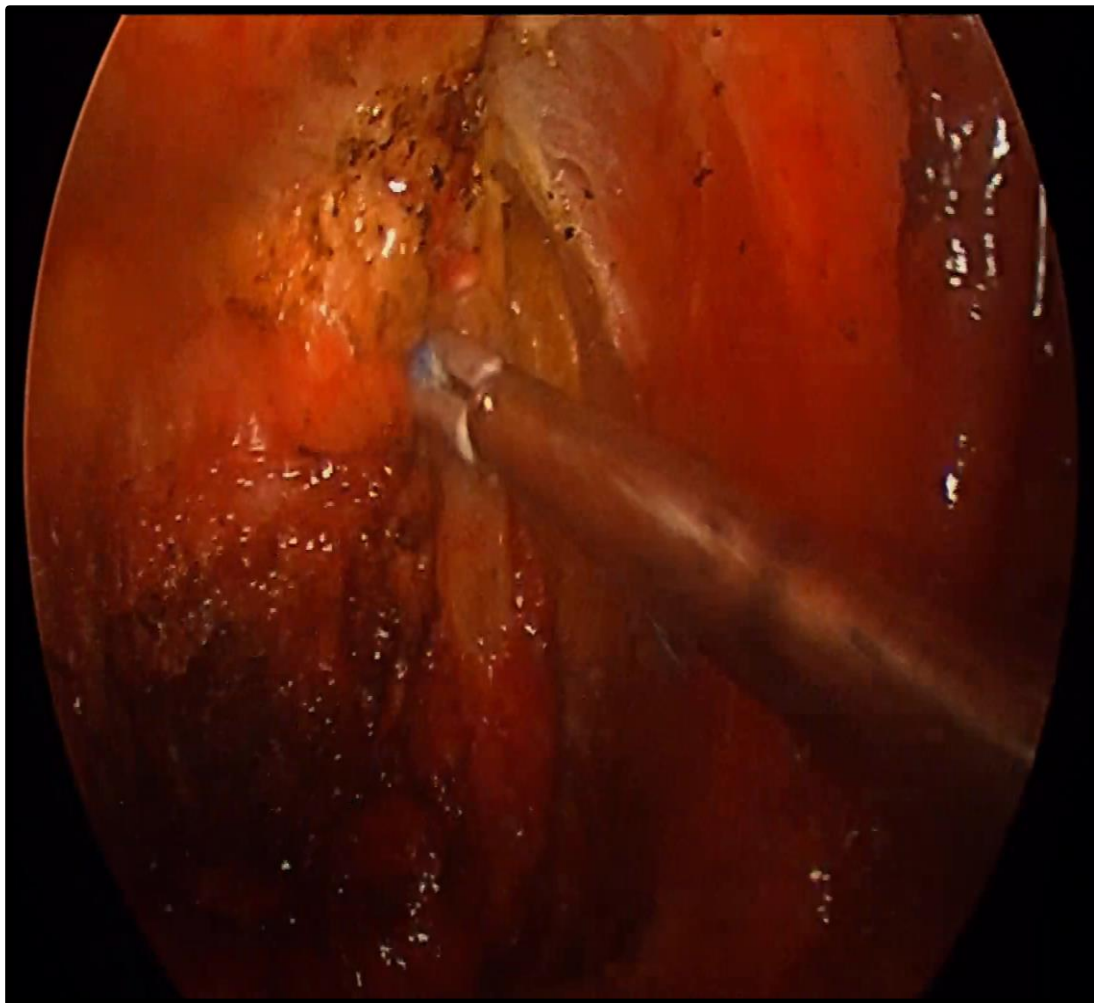


# HALO's & Triangles





# Pelvic Sidewall



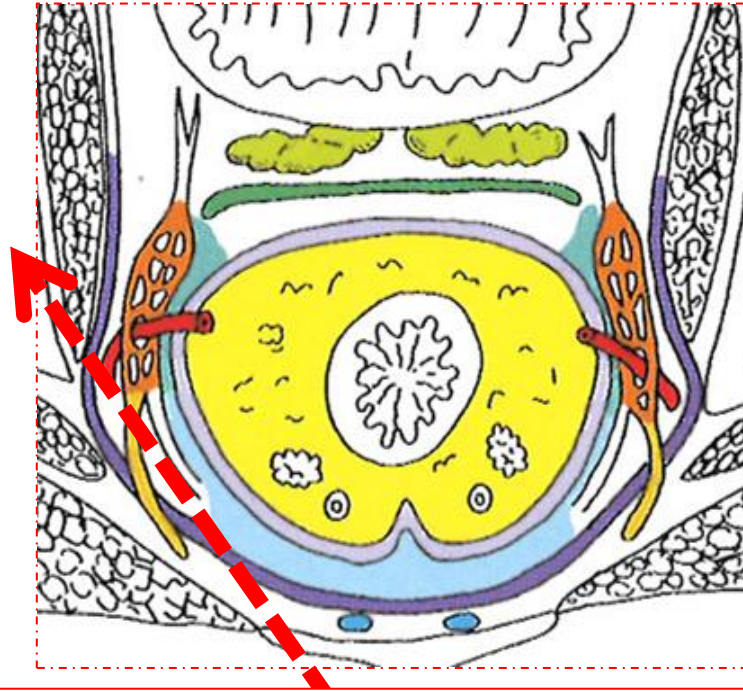
**Reversed Coning !!**

Bleeding  
Different colour/consistency FAT  
Denuded Muscle





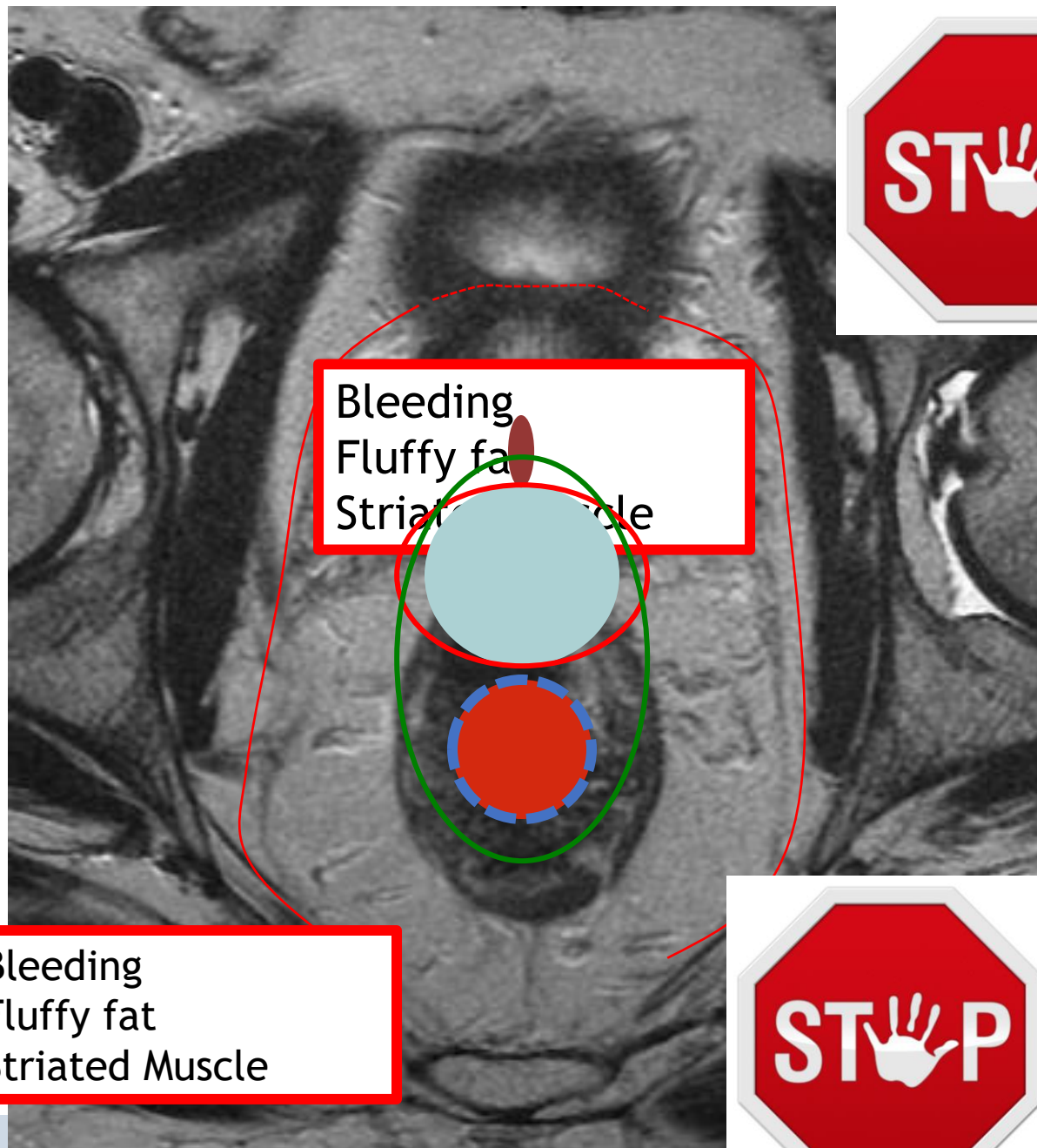
## TATME CONCERNS : REVERSE CONING



If going **outside Waldeyer's fascia** into the **lateral pelvic compartments** → too wide dissection → **injury** NV bundles / sidewall / membranous urethra



# Urethra



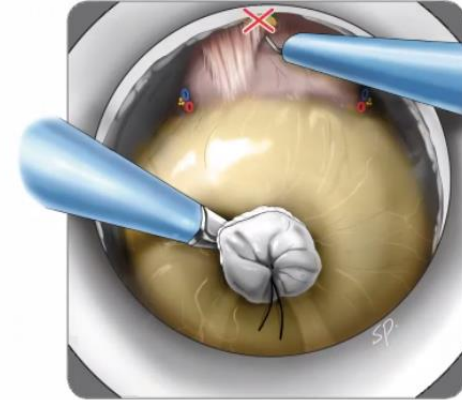
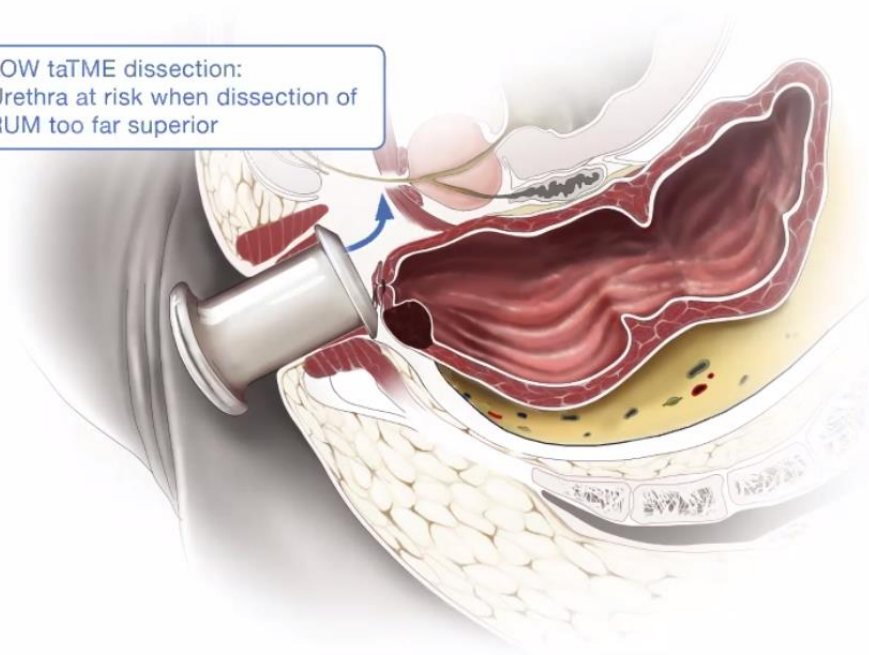
Bleeding  
Fluffy fat  
Striated muscle

Bleeding  
Fluffy fat  
Striated Muscle



# Urethra

LOW taTME dissection:  
Urethra at risk when dissection of  
RUM too far superior



Urethral injury and other urologic injuries during transanal Total Mesorectal Excision  
An International Collaborative Study  
Sylla P, Knol J et al. – *Annals of Surgery* 2019



# Take home message

## Good and safe & potential better

- High volume
- High experience with Lap/TAMIS
- Training pathway with proctoring
- Appropriate case selection

## Poor outcome & potential worse

If not met the above

→ Careful implementation and audit of data



Technique-related or just poor implementation?







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