The Laparoscopic ventral mesh rectopexy my approach

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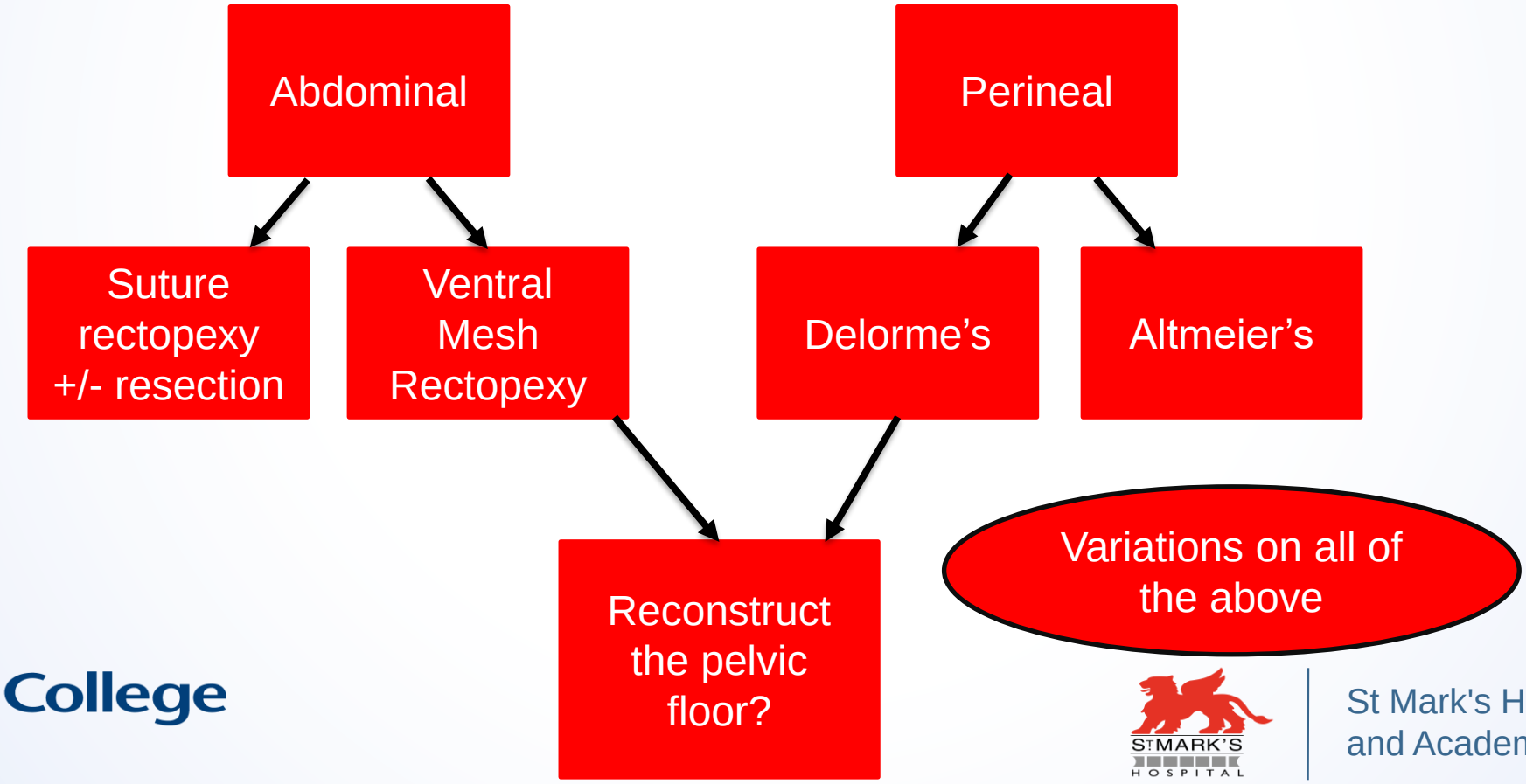
What are the controversies in prolapse surgery

- What operation ?



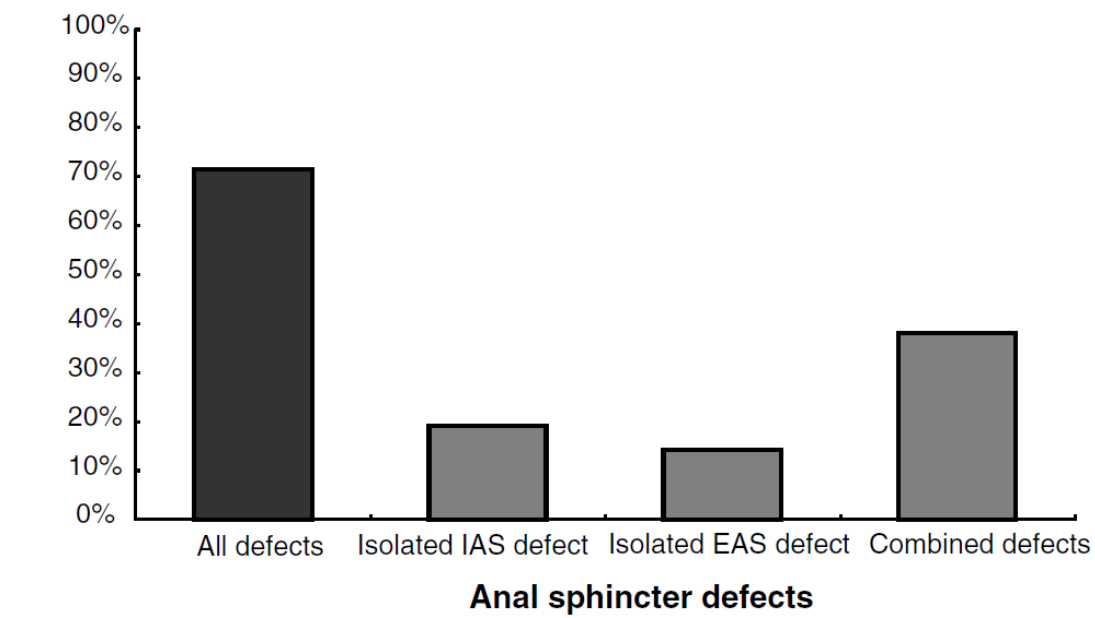
What is the end goal of any treatment

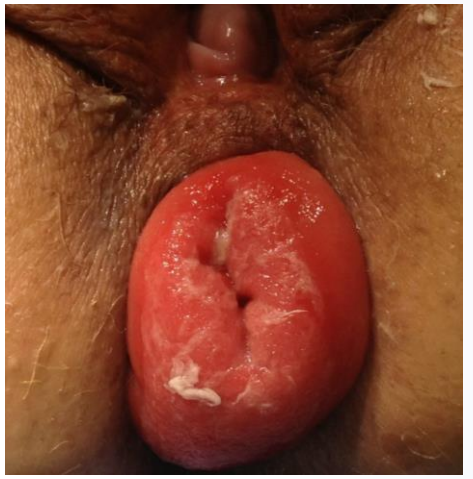
Improve quality of life

Where prolapse is concerned reduce the risk of long term consequences

internal sphincter weakness

Rectal prolapse can cause sphincter damage





Wood et al CD 2003

The Longer the prolapse is present and the more operations an individual has had the higher the grade of sphincter injury

TABLE 3. Wexner Incontinence Scores and Anal Pressures of Patients With Rectal Prolapse in Relation to the Grade of Anal Sphincter Injury

Variables	Grade 0 (N = 12)	Grade I (N = 29)	Grade II (N = 7)	Grade III (N = 11)	*P*
Preoperative incontinence score (mean ± SD)	0.16 ± 0.5	6.5 ± 4.2	10.6 ± 3.3	12.5 ± 3.7	**< 0.00001**
Postoperative incontinence score (mean ± SD)	0	1.6 ± 1.3	4.7 ± 3.2	7.3 ± 2.8	**< 0.00001**
Preoperative resting anal pressure (mean ± SD) (mm Hg)	65.7 ± 11.2	48.3 ± 13.7	31.2 ± 9.6	35.2 ± 15.9	**< 0.00001**
Postoperative resting anal pressure (mean ± SD) (mm Hg)	67.6 ± 10	64.1 ± 12.9	56 ± 11.7	54.5 ± 8.9	0.072
Preoperative squeeze anal pressure (mean ± SD) (mm Hg)	134 ± 41.3	102 ± 35.3	76.3 ± 36.1	60.3 ± 19.9	**0.0006**
Postoperative squeeze anal pressure (mean ± SD) (mm Hg)	134 ± 36.9	114.8 ± 28.5	100.1 ± 23.8	92.7 ± 13.6	**0.024**
Recurrence [n (%)]	0	4 (13.8)	3 (42.8)	3 (27.2)	0.054

Emile et al Surg Lap Endo Perc tech 2020

How do we decide now ?

- Elderly patients – perineal
  - Delorme's
  - Altmeier's
- Younger patients – abdominal
  - Posterior rectopexy +/- resection
  - Ventral rectopexy

Are we asking the correct questions when we decide on the operations

- Does it take into account ‘take off’ and risk of recurrence
- Is perineal operation really safer than abdominal especially in the laparoscopic era
- When does an internal intussusception become a prolapse and if so is this then a high ‘take off’ prolapse
- How does one judge ‘take off’ in prolapse

The birth of ventral rectopexy

- Why?
  - To reduce the risk of pelvic nerve damage and constipation
  - Early results showed reduction in constipation but no long term results
  - Recent consensus statement suggests it is a safe procedure for external prolapse but limited long term data and possibly good for internal prolapse but even less data.

The problems with the ventral rectopexy

- But is the effect on bowel function really true?
  - Can a prolapse be converted to intussusception – high take off
- Mesh erosion
- Long term results not conclusive

The mesh is not without its problems

TABLE 2. Late and Mesh Complications After LVR–*Treatment**

	Total (%†)	CD Classification[19,20]	Months‡
Late complication	Minor		
Dyspareunia	21 (3.3)	21 I	8.2 [1.1–60.3]
Proctalgia fugax	17 (2.5)	17 II	5.4 [1.1–38.8]
Anal fissure	14 (2.4)	14 I	5.2 [1.3–70.9]
Chronic pelvic pain	1 (0.1)	I	1.1
SRUS/rectitis	1 (0.2)	II	13.5
Total minor late complications >30 days n = 54 (8.5%)			
Late complication	Major		
Perianal fistula—*fistulectomy*	4 (0.6)	4 IIIa	11.5 [3.2–13.5]
Incisional hernia—*primary closure*	5 (0.9)	5 IIIb	12.0 [5.1–52.3]
Anal fissure—*LIS*	2 (0.3)	2 IIIa	6.4 [4.4–13.6]
Chronic pain—*adhesiolysis/cleaving mesh*	3 (0.4)	3 IIIb	11.0 [4.3–14.4]
Neurinoma scar—*excision*	1 (0.1)	IIIa	7.5
Spondylodiscitis—*prolonged AB/orthopedic surgery (spondylodesis, stabilization titanium cage)*	1 (0.1)	IIIb	2.8
Rectal perforation/spondylodiscitis/sepsis—*mesh removal/double-barrel colostomy*	1 (0.1)	IIIb	1.5
Total major late complications, n = 17 (2.5%)			
Mesh complication			
Mesh detachment—*re-do rectopexy*	9 (2.7)	IIIb	45.6 [5.0–99.3]
Mesh erosion—*resection*	7 (1.3)	IIIb	8.9 [1.7–47.9]
Obstruction/presacral adhesions mesh—*adhesiolysis/partial enterectomy*	1 (0.4)	IIIb	69.6
(Chronic) mesh infection and fistula–*low anterior side to end coloanal anastomosis*	1 (0.2)	IIIb	18.2
Total mesh complications n = 18 (4.6%)			

Consten et al Annals of Surgery 2015

The problems with the ventral rectopexy

- But is the effect on bowel function really true?
  - Can a prolapse be converted to intussusception – high take off
  - We started seeing patients who felt that
    - Emptying was not the issue getting stool into the rectum was the issue
    - Bloating abdominal distension
    - pain
- Mesh erosion – relatively low risk but still present
- Long term results not conclusive

Patient forums

★1 carol93755 > karen01345
20 days ago

Hi Karen

I'm suffering dreadful quality of life since having ventral mesh rectory. Can't eat. Pain and constipation is dreadful.

In constant pain. Even affecting my walking. Have been told my pelvis veins dilated.

Prolapse failed ages ago but surgeon is ignoring me. Have you had mesh operation?

Report this 0 Reply t

The revolution started to quiver

- 2008 FDA public health notification on serious mesh related complications
- Manufacturers had to reclassify mesh to class III (high risk prosthesis)

- Scotland 2014 women affected by mesh related complications gave evidence to Scottish Parliamentary enquiry. Mesh placement was banned until further enquiry
- 2017 restricted use

And then shake

- 16 October 2017

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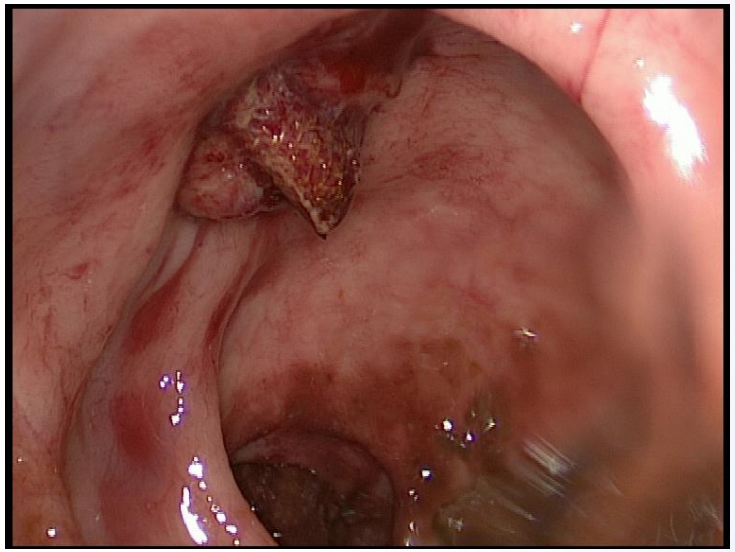
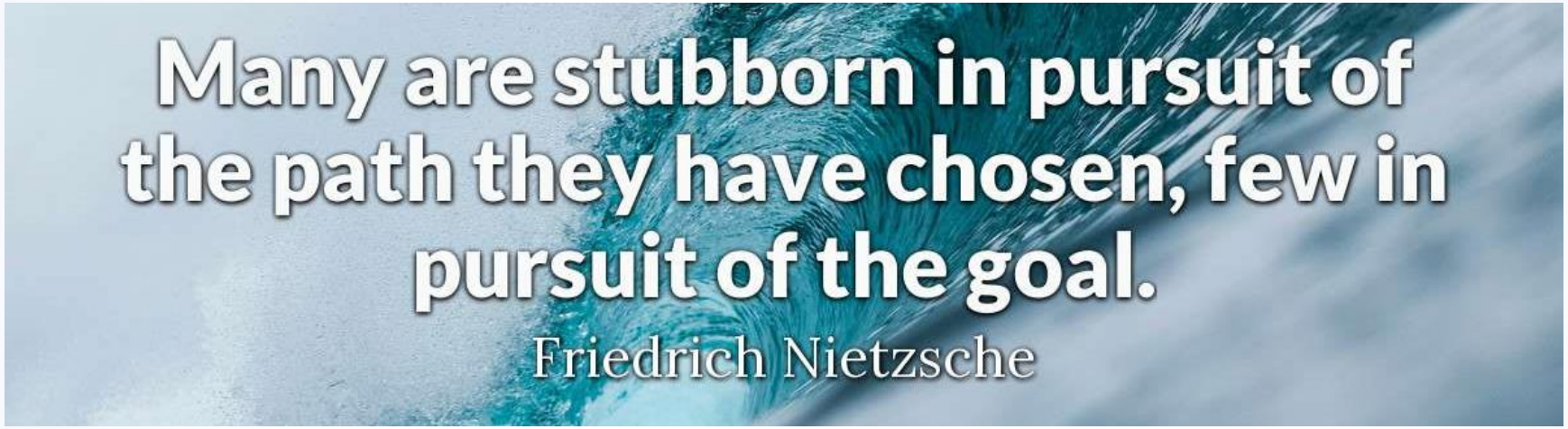
- Patients often complain they are worse & in pain
- Use of non-absorbable mesh can lead to erosion even years down the line
- Woe betide the surgeon going back in to do a rectal resection after prosthetic mesh placement !




Many are stubborn in pursuit of the path they have chosen, few in pursuit of the goal.
Friedrich Nietzsche

What is the goal

- Quality of life
- Less leakage
- Reduced recurrence

Now

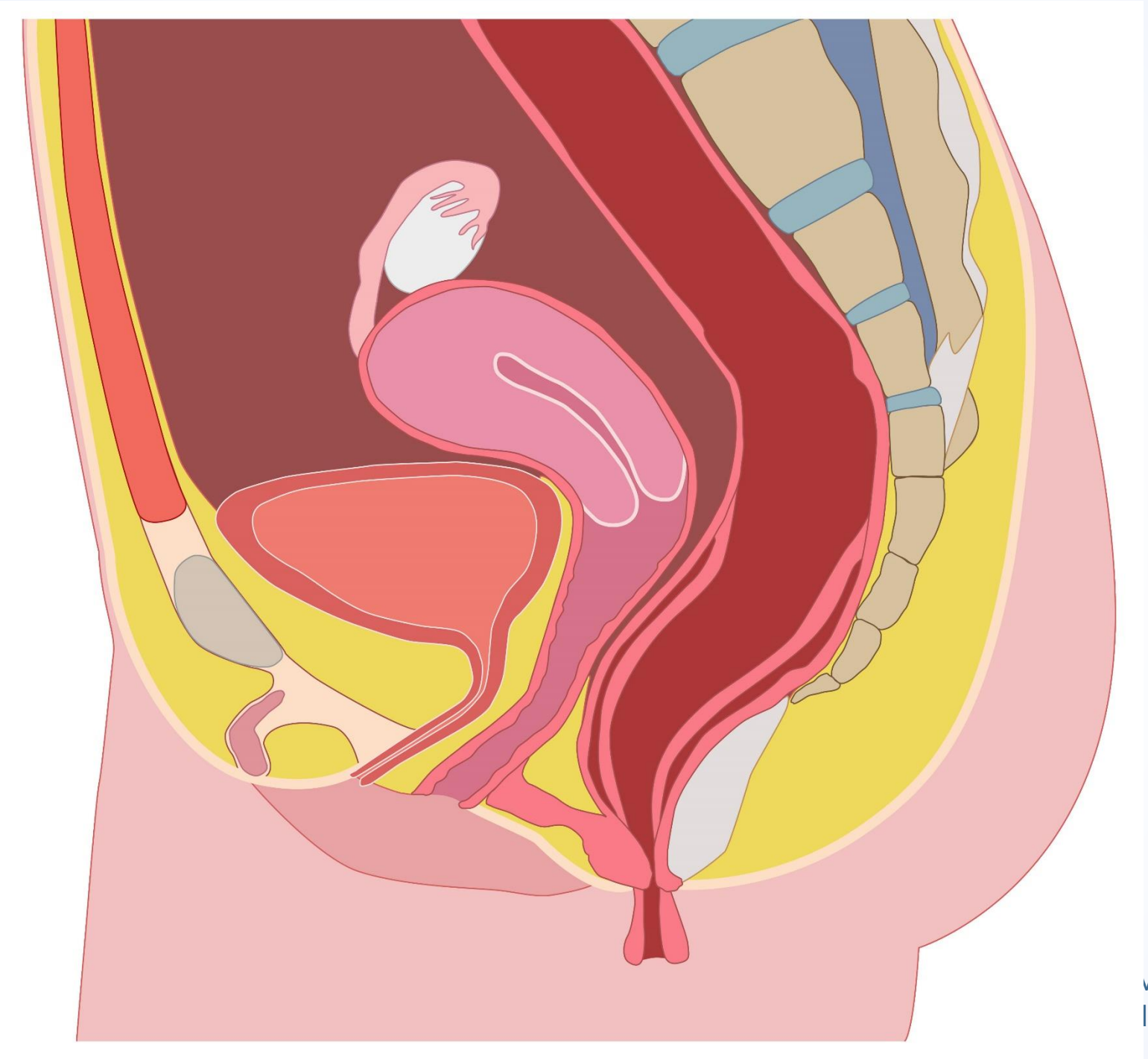
- The patients do not want a mesh most times
- Enhanced consent procedures are in place
  - Pelvic floor society
- Is this all a storm in a tea cup ?

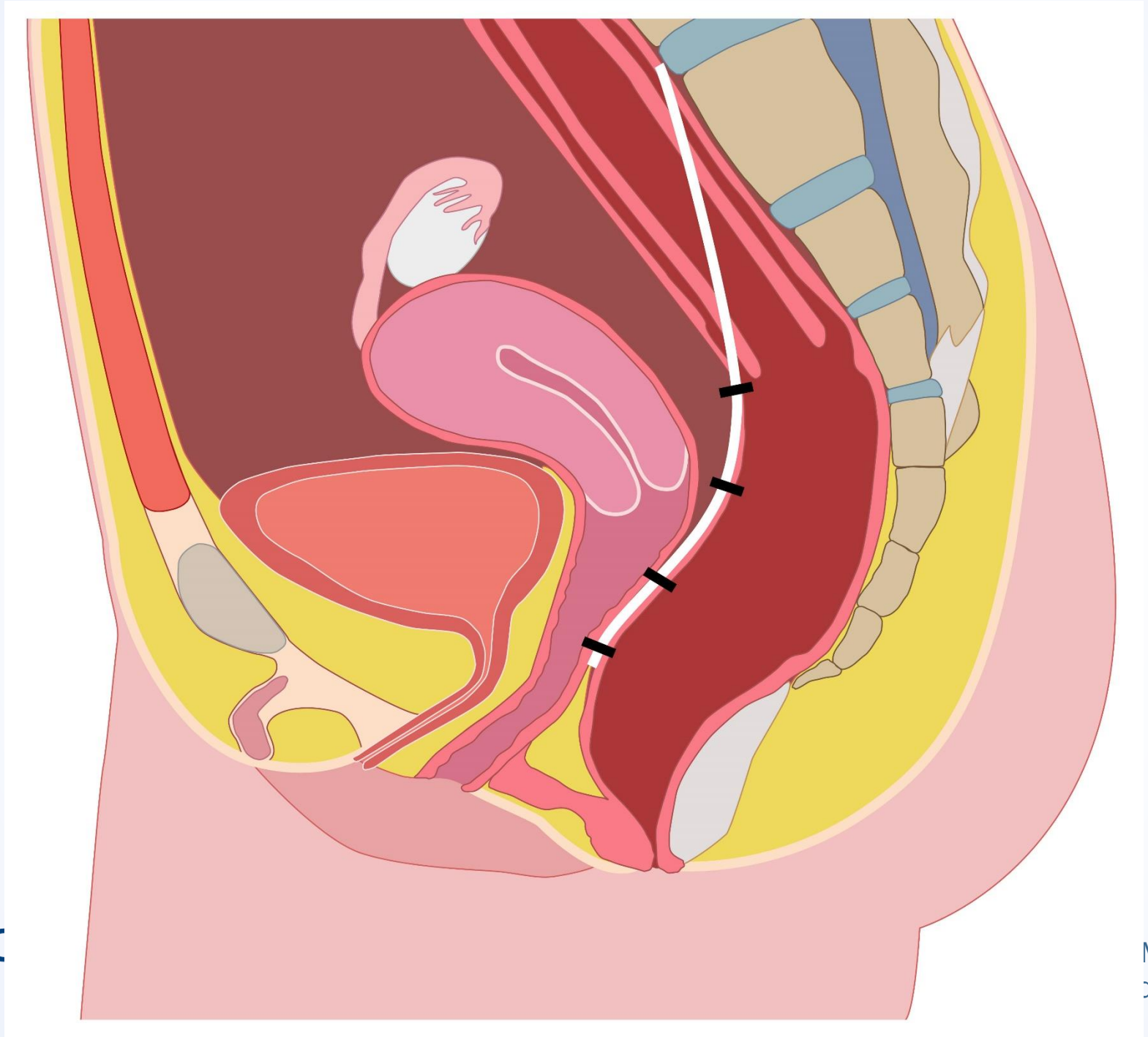
Ok we had a fair bit of the bad

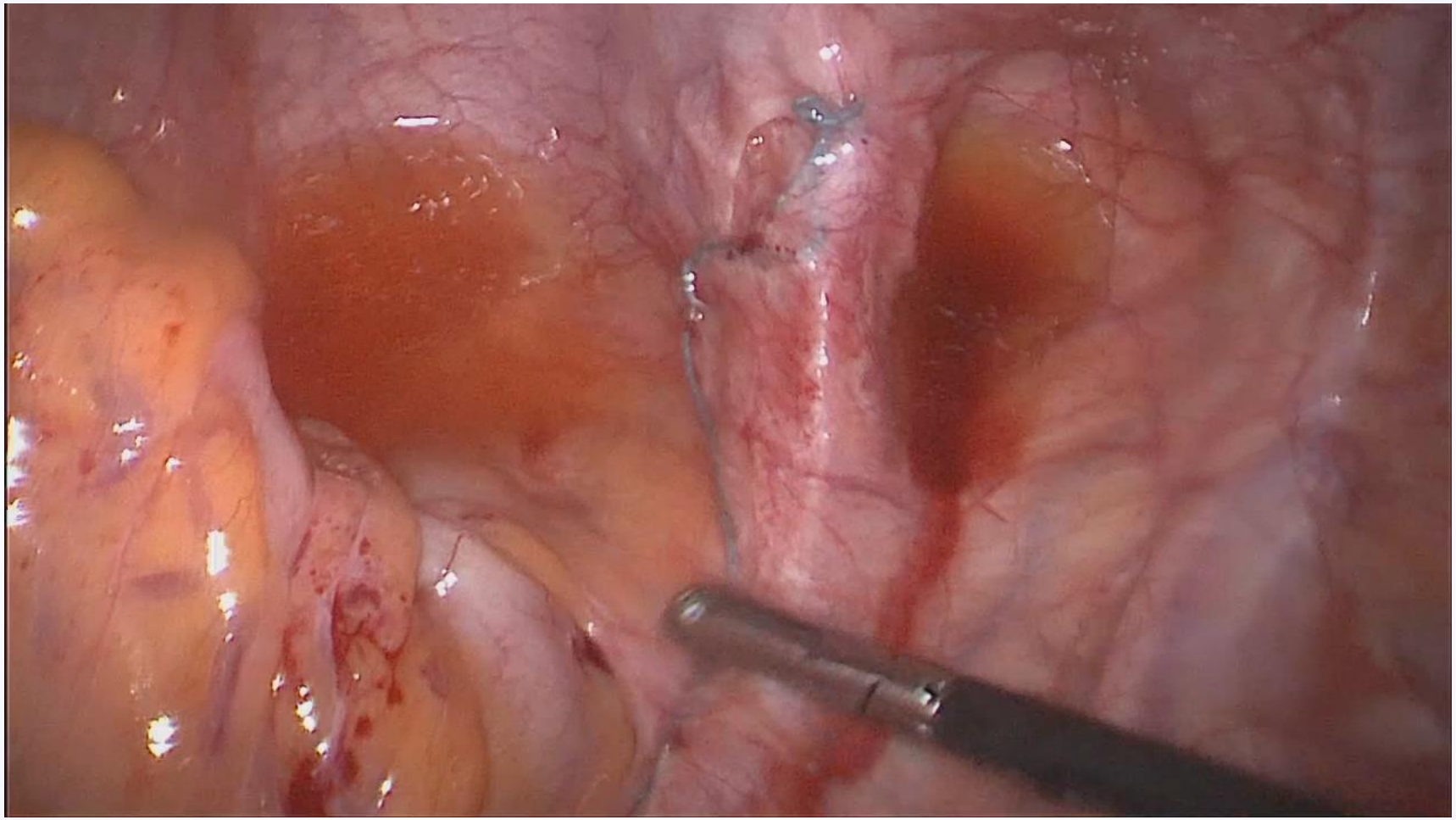
- What about the good ?
  - Well the middle compartment certainly should not be forgotten
  - The mesh certainly offers support to the middle compartment
  - Reduces the depth of the pouch of Douglas
  - And also deals with the anterior compartment

But I come back to the take off argument

- How do we work out where the prolapse starts ?
- What about combining posterior and anterior repair
  - Nerve sparing
- Is it the lateral ligaments that matter
  - May be the problem was complete mobilisation of the rectum leading to constipation

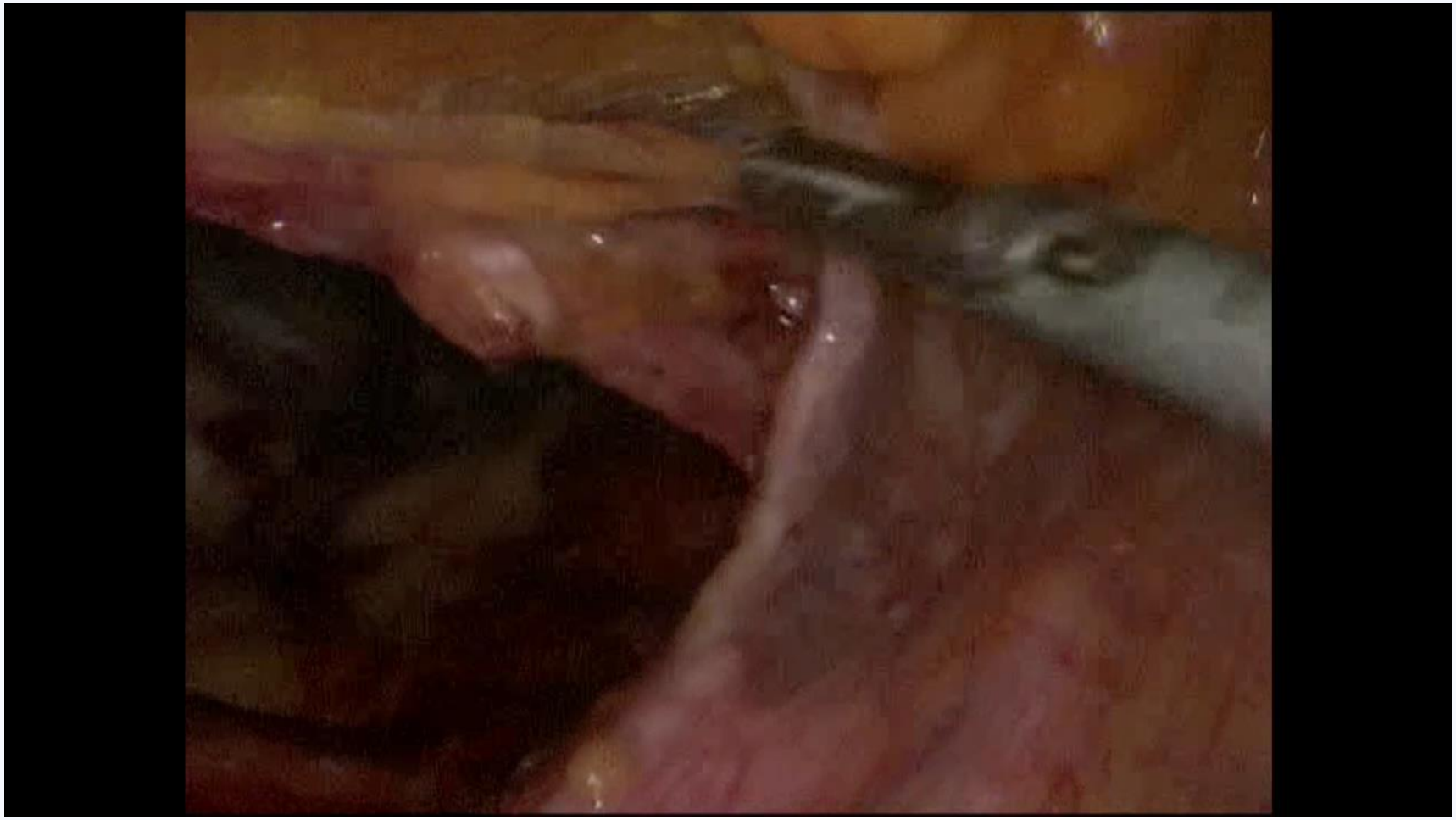






What about the nerves/lateral ligaments?

- Do they exist?
  - yes
- What is there function?
  - I don’t know – probably nerve related
- Should we preserve them?
  - I think so



- Not all prolapses are the same and the same operation may not apply to all patients

Approach	Advocate (year)		Morbidity (%)	Mortality (%)	Recurrence (%)
Perineal approach					
Mucosal plication	Gant	(1923)	0-23	0	8-30
Anal encirclement	Thiersch	(1891)	20	0	13-44
Mucosal sleeve resection	Delorme	(1900)	4-33	0-7	6-26
Rectosigmoidectomy	Altemeier	(1971)	5-24	0-6	0-18
Abdominal approach					
Conventional laparotomy					
Suture rectopexy	Sudeck	(1922)	9-20	0-4	0-20
Encircled/anterior mesh rectopexy	Ripstein	(1963)	4-33	0-3	0-12
Rectopexy and resection	Frykman	(1955)	7-23	0-7	0-9
Lateral mesh rectopexy	Orr-Loygue	(1957)	0-4	0-17	0-5
Posterior mesh rectopexy	Wells	(1959)	0-28	0-4	0-10
Laparoscopic surgery					
Suture rectopexy	-	-	9-19	0	0-7
Lateral mesh rectopexy	-	-	0-5	0	0-6
Posterior mesh rectopexy	-	-	0-14	0	0-4
Rectopexy and sigmoidectomy	-	-	8-21	0-1	0-11
Ventral rectopexy	D'Hoore	(2004)	10-36	0	0-15

The data doesn't make it look like the gold standard

- **Results:** The overall recurrence rate was 11.7% (n = 27). Twenty-five recurrences occurred in patients with full-thickness rectal prolapse, of which 16 were full-thickness recurrences (14.2% (16/113))

2017 Feb;60(2):178-186.
DCR.
Risk Factors for Recurrence After Laparoscopic Ventral Rectopexy
Cherylin W P Fu[1], Andrew R L Stevens

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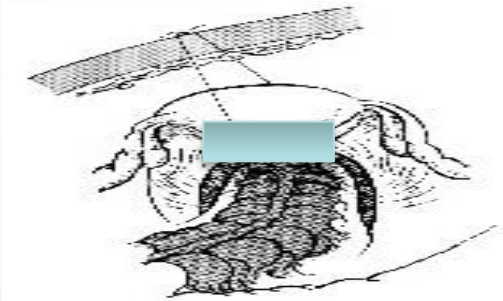
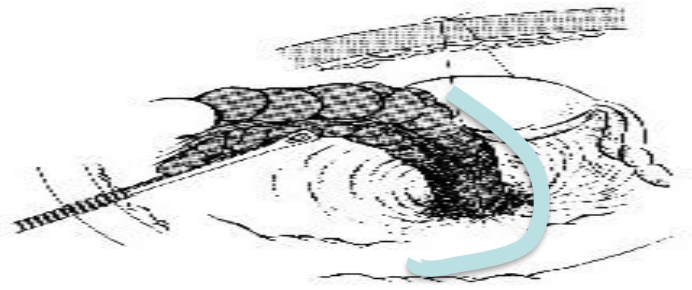
St Mark’s/Modified Laparoscopic Ventral Rectopexy

- Why?
  - Mesh related complications reported
    - Mesh erosion
    - Mesh detachment (from sacral promontory)
  - Worsening emptying problems

St Mark’s/Modified Laparoscopic Ventral Rectopexy

- How?
  - Right lateral, anterior and posterior rectal mobilisation
  - Anterior reinforcing biological mesh in rectovaginal septum to treat rectocele
  - Posterior suture rectopexy
  - Fibrin glue reinforcement of posterior wall



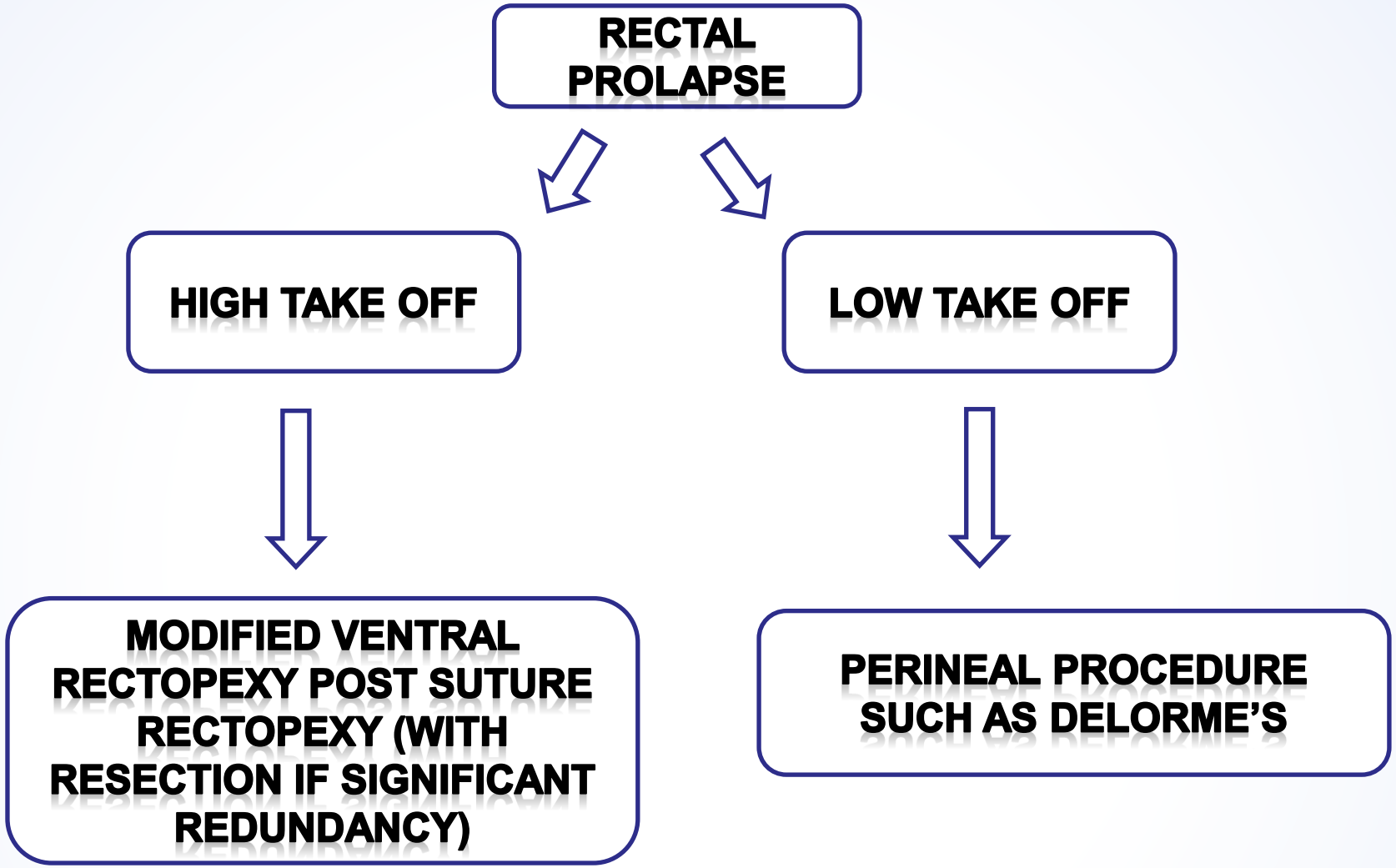


PATIENT WITH PROLAPSE OR OBSTRUCTED DEFAECATION

HISTORY:
ONSET OF PROLAPSE
PREVIOUS ABDOMINAL PERINEAL SURGERY
PRESENCE OF INCONTINENCE OR CONSTIPATION
FEELING OF INCOMPLETE EMPTYING
NEED TO DIGITATE
OBSTETRIC HISTORY

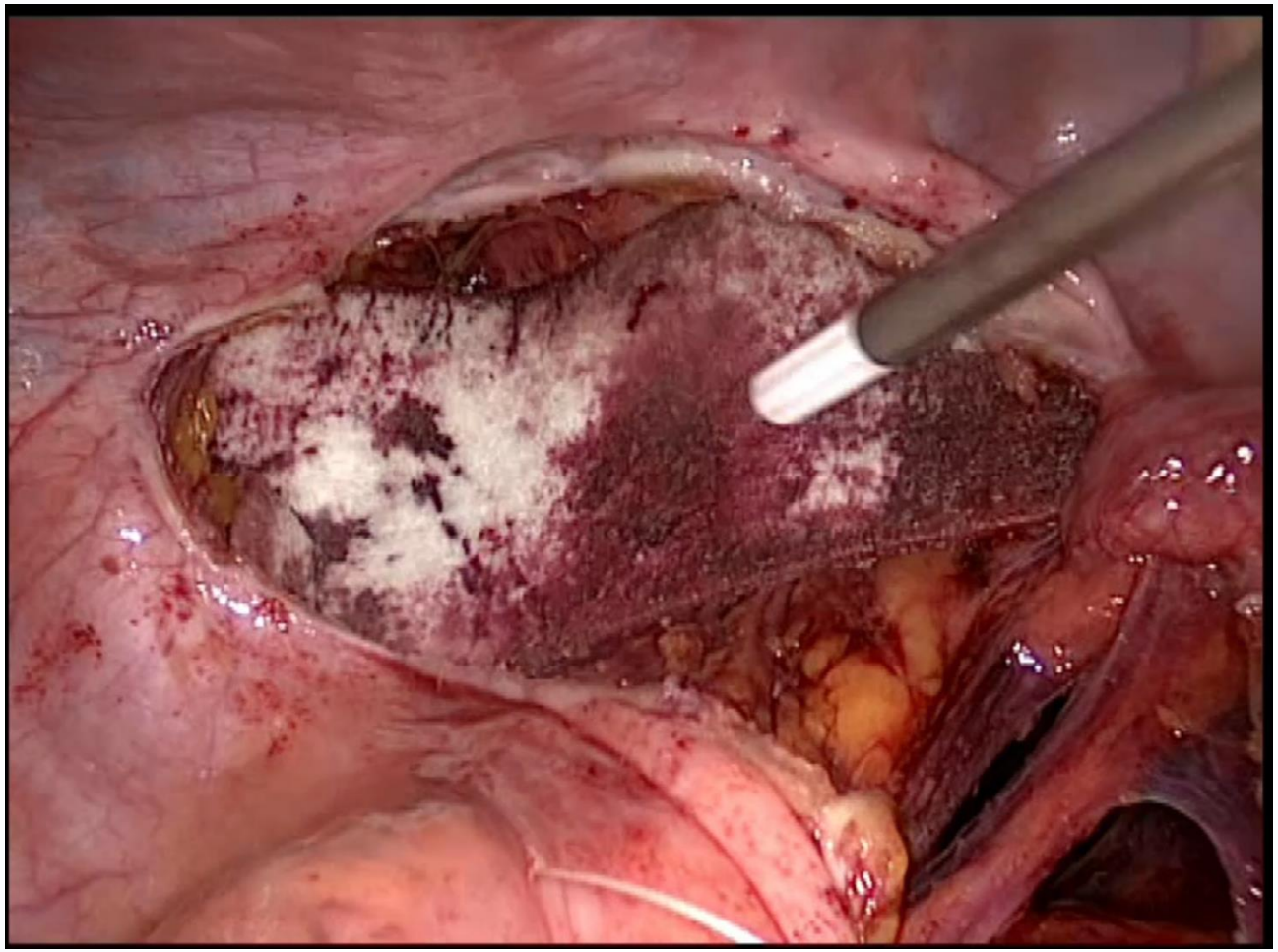
EXAMINATION:
SIT ON TOILET AND LOOK FOR PROLAPSE- HIGH OR LOW TAKE OFF
SIZE OF PROLAPSE
RECTOCELE / ENTEROCELE
PERINEAL DESCENT
RIGID SIGMOIDOSCOPY

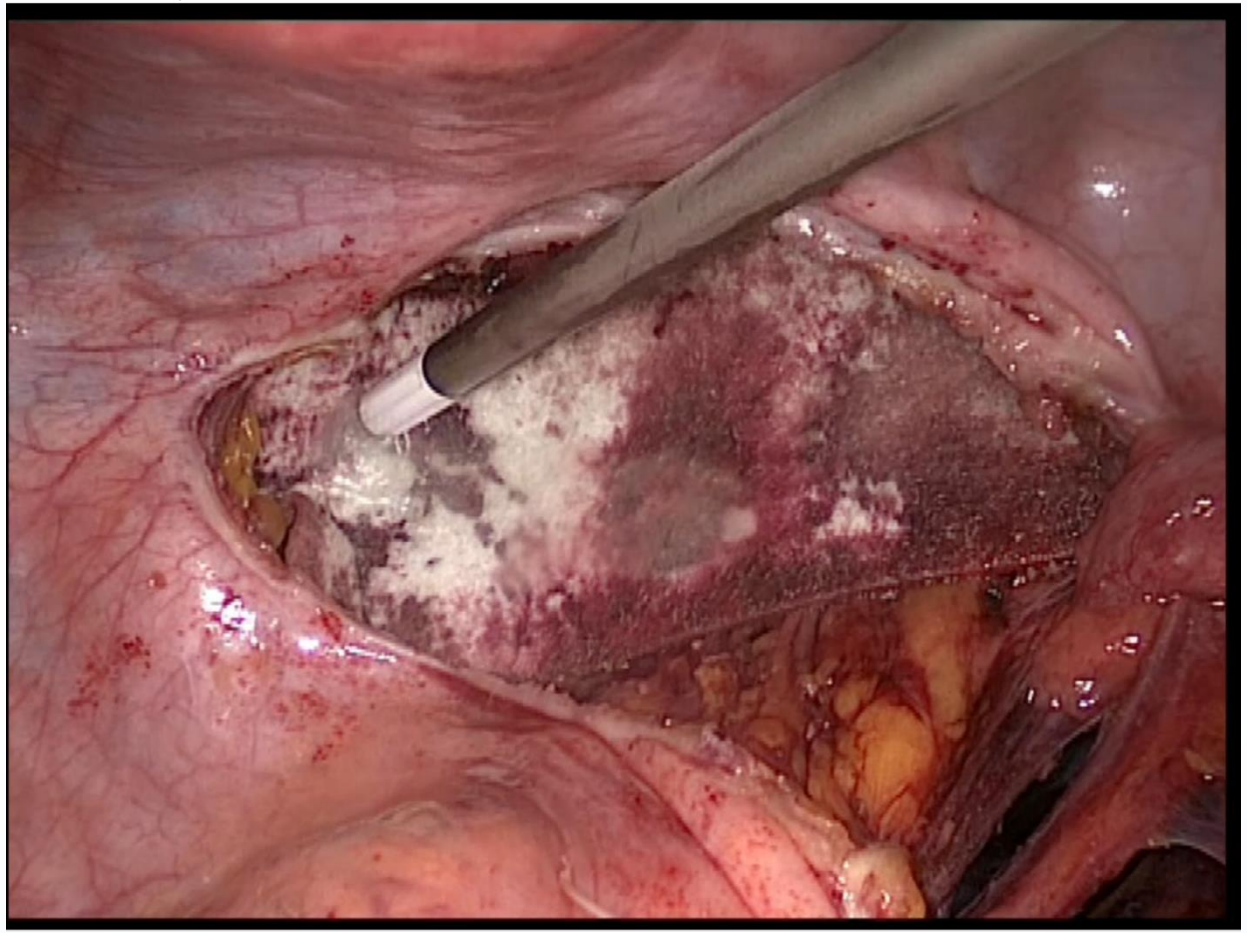
INVESTIGATIONS:
ARP AND ULTRASOUND
COLONOSCOPY IF INDICATED
INSTANT GASTROGRAFFIN ENEMA TO LOOK FOR REDUNDANCY
PROCTOGRAM
COLONIC TRANSIT STUDY IF INDICATED

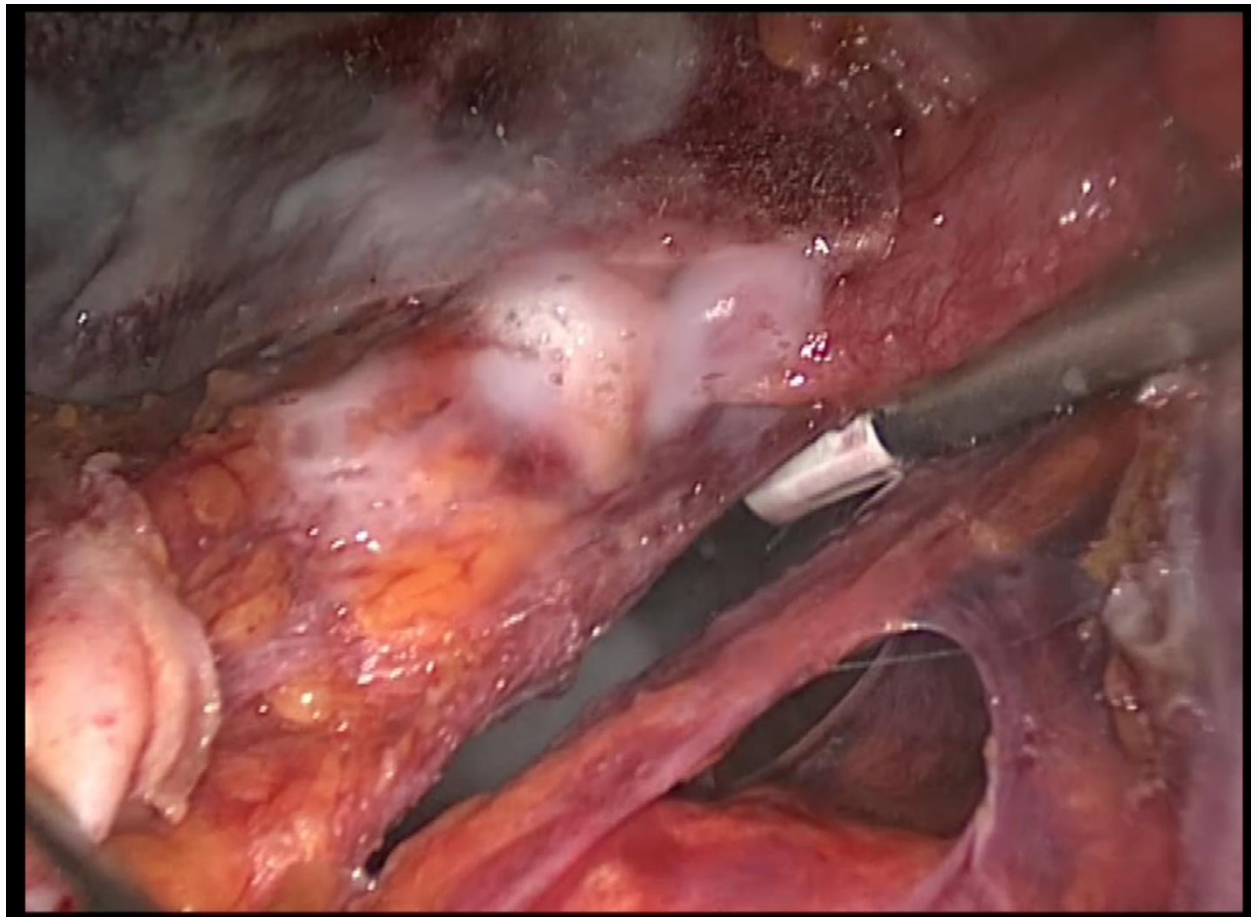

RECTAL PROLAPSE
HIGH TAKE OFF
LOW TAKE OFF
MODIFIED VENTRAL RECTOPEXY POST SUTURE RECTOPEXY (WITH RESECTION IF SIGNIFICANT REDUNDANCY)
PERINEAL PROCEDURE SUCH AS DELORME'S

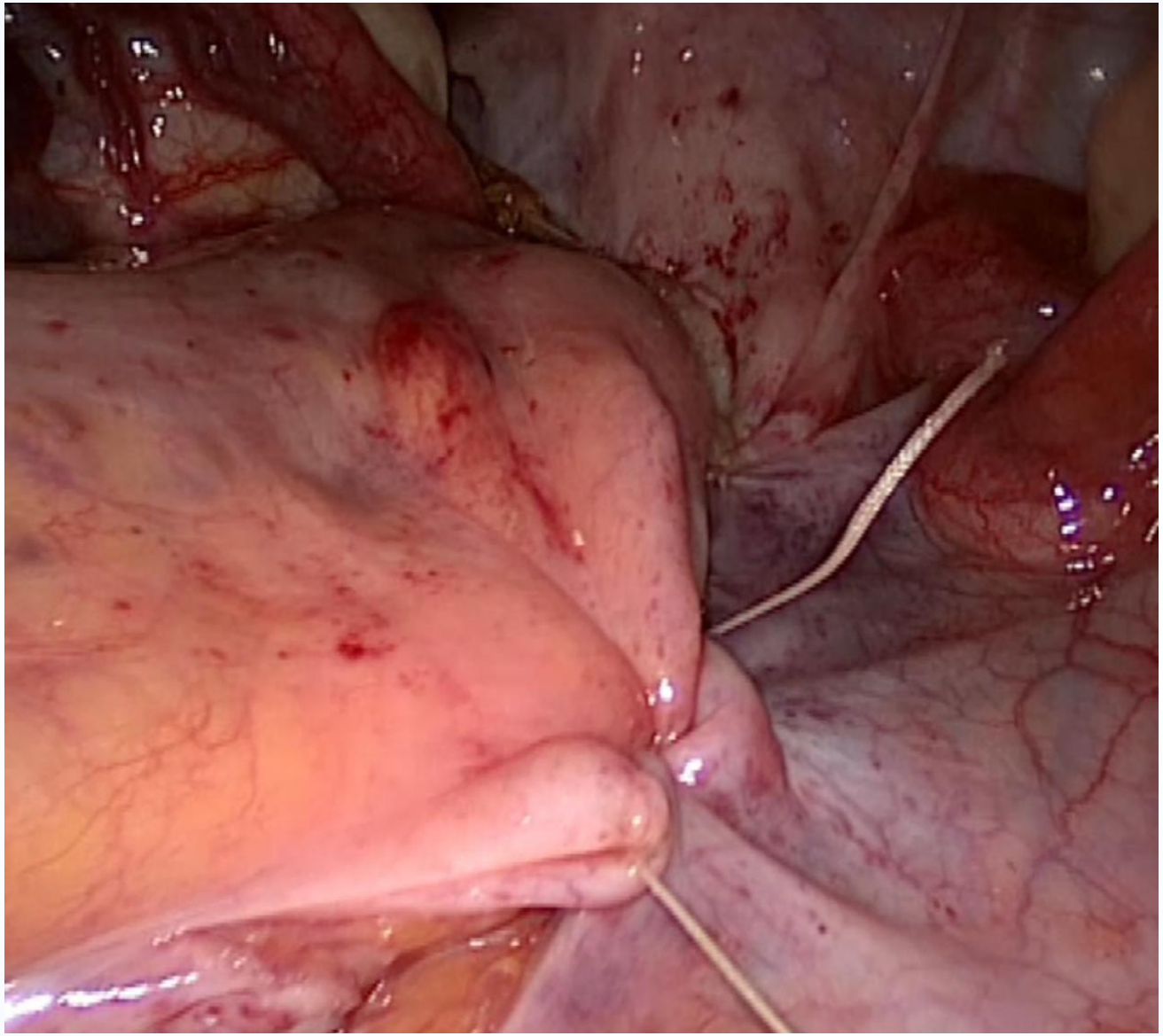
VENTRAL SYMPTOMS
NEED TO DIGITATE VAGINA OR RECTUM TO EMPTY
FEELING OF INCOMPLETE EVACUATION
TOGETHER WITH PROCTOGRAM SHOWING BARIUM TRAPPING, ENTEROCELE, RECTOCELE

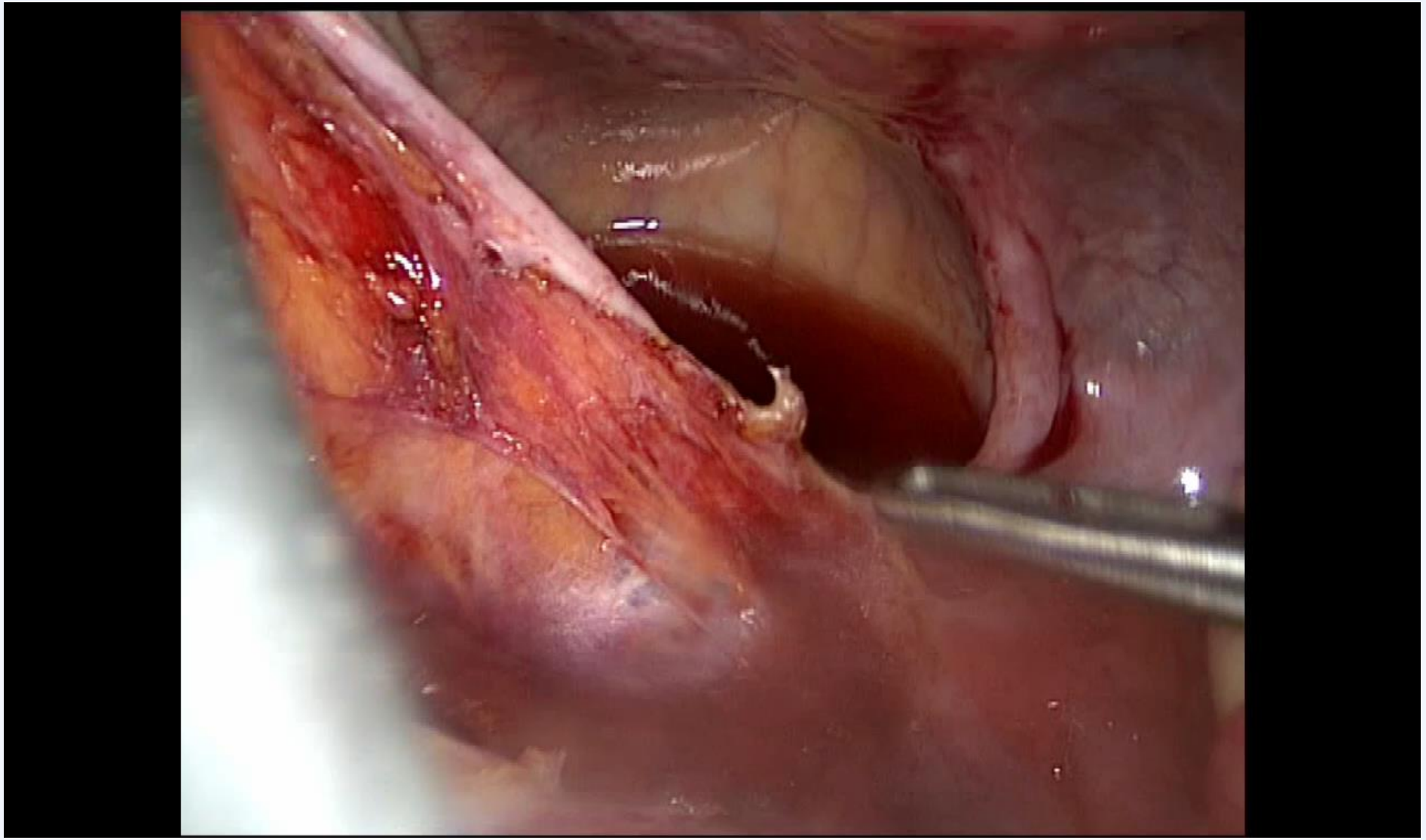
MODIFIED VENTRAL MESH RECTOPEXY (WILL NEED COMBINATION WITH SUTURE RECTOPEXY IF FULL THICKNESS PROLAPSE)
CAN ALSO BE COMBINED WITH RESECTION IN THE EVENT OF REDUNDANCY











Our results

Gender	
Female	77
Male	3
Age, years	
<40	15
41–60	16
61–80	40
>81	9
Median (range)	67.5 (48–75)
Charleson Comorbidity Index	
Mild	43
Moderate	31
Severe	6
Previous rectal prolapse repair	28
Previous rectopexy	6
Previous perineal repair	19
Connective tissue disorder	10
Parity ≥2	8
OASIS	4
Eating disorder	1

5 year results- 12% recurrence in primary repairs and 19% recurrence in recurrent repairs

Total number of recurrences	First intervention after recurrence (*n*)	Second intervention after recurrence (*n*)
11	Repeat modified mesh rectopexy (3)	Delormes (1)
	Suture rectopexy (1)	Resection rectopexy (1)
	Altemeier's perineal repair (1)	
	Delorme's perineal repair (1)	
	Stoma (1)	
	Resection rectopexy (1)	
	Pending (3)	

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Shaila Kumar
Nurse

Phoebe Dumaran
Nurse

Xiaoling Tang
Nurse

So all patients need to be supported by a Biofeedback Team

Tatenda Marunda
Nurse & Head of Team

Ludushi Nagularaj,
Psychotherapist

Athena Rosa D'Mello
Physiotherapist

Anna Brophy
Physiotherapist

Dianne Brundrett,
Dietician, runs the "Bloating Clinic"

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The underlying causes must be addressed at the same time as surgical repair

Anorexia

Weak pelvic floor

Excessive exercise

Straining

Conclusion

- The ventral rectopexy remains an option but it is not without issues
- The use of mesh in the pelvis is controversial and many patients wish not to have it
- Patient selection is also key and ventral rectopexy should not be the gold standard