

Parastomal Hernia

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Definition

“A parastomal hernia is an incisional hernia related to an abdominal wall stoma”

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“A parastomal hernia is an incisional hernia related to an abdominal wall stoma”

- Palpable defect or bulge
- “Cough impulse”
- ? Stomal prolapse
- Imaging- US / CT
- Length of follow up

Incidence

- Depends on definition
- Wide reported variability
- 5-52% of all stomas

Incidence

- 90 patients with stoma attending the stoma clinic
- Hernias diagnosed on physical examination
- Median time from stoma formation 14.1 months (range 0.1–596)
- Parastomal hernia rate: 33%

Risk Factors

Co-morbidities

- BMI
- COPD
- Chronic constipation
- BPH
- DM

Risk Factors

Surgical technique

- Through the rectus abdominis
 - 130 patients
 - Retrospective
 - Trans rectus abdominis: 3% hernia
 - Lateral muscles: 22% hernia

Risk Factors

Surgical technique

- Through the rectus abdominis
- Opening of the abdominal wall: “not too large”
- Fixation of the mesentery- no effect
- Extraperitoneal tunneling- no effect

Surgical Repair

Primary closure of the fascia

		<i>recurrence</i>
• Rubin MS	1994	85%
• Rieger N	2004	59%
• Cheung MT	2001	46%
• Allen-Mersh	1988	47%
• Horgan K	1986	100%

Surgical Repair

Relocation:

- Other side
- Frequently requires laparotomy
- New parastomal hernia- as frequent as de novo stoma
- POVH at the closed site- as frequent as re-POVH

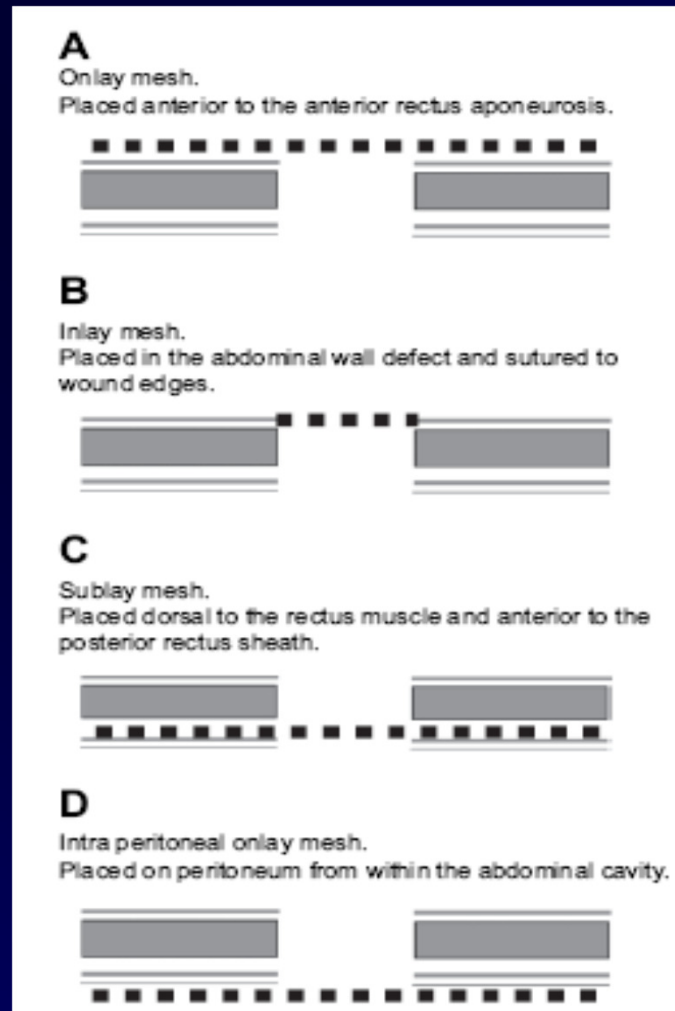
Surgical Repair

Mesh repair

- No tension
- Same principles as in incisional hernia
- Contaminated case
- Direct contact of mesh with bowel

Surgical Repair

Mesh repair



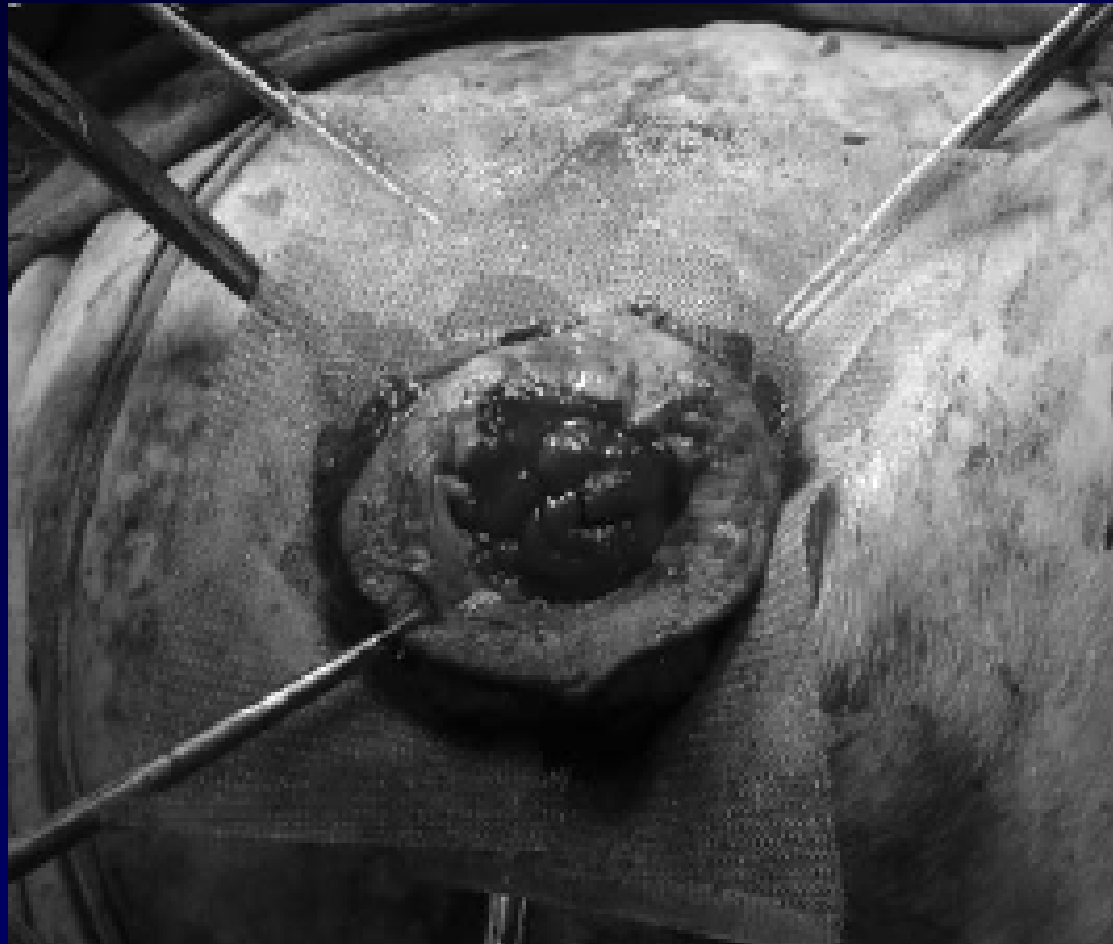
Surgical Repair

Mesh repair



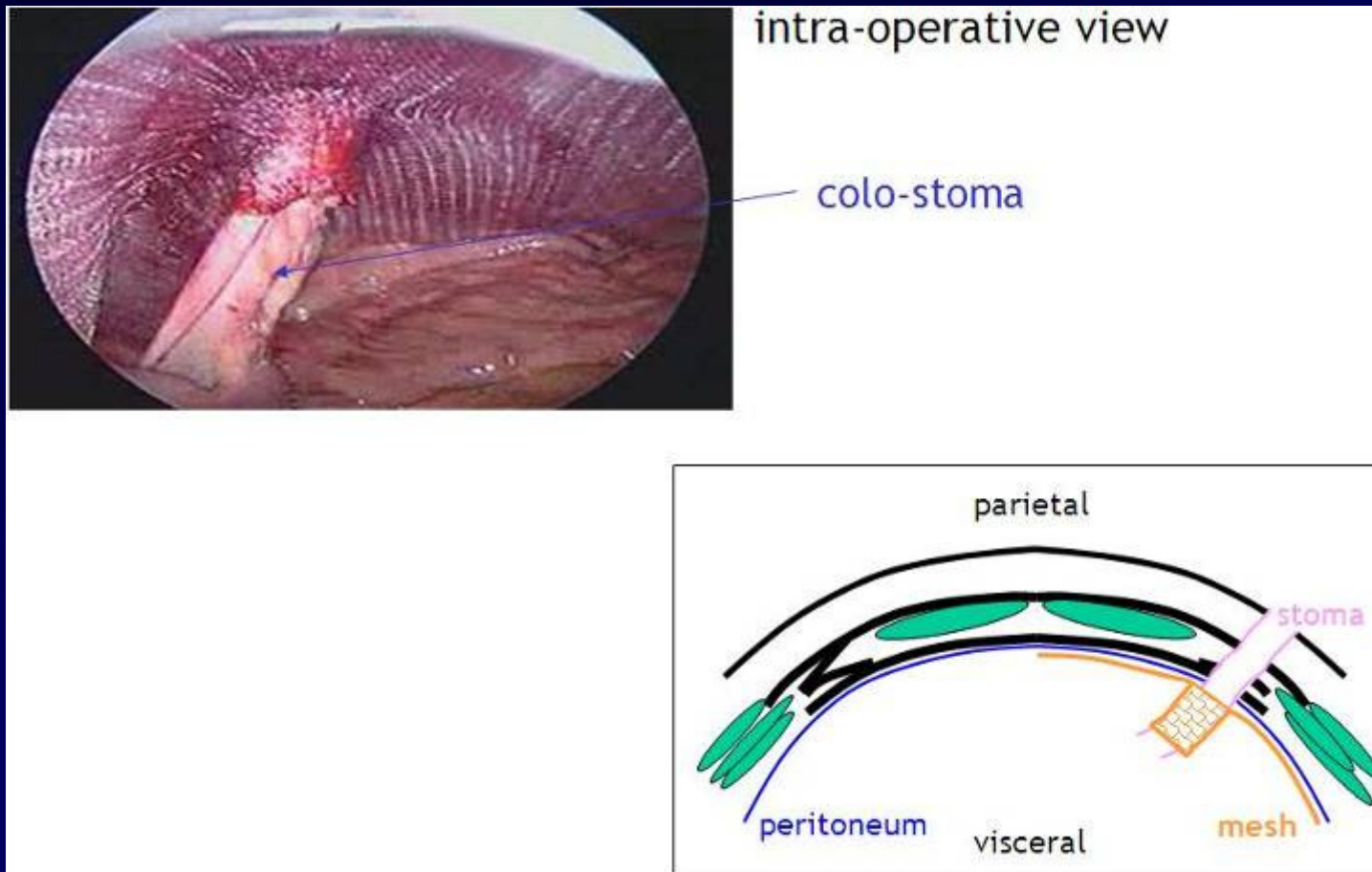
Surgical Repair

Mesh repair



Surgical Repair

Mesh repair



Surgical Repair

Mesh repair- types of mesh

- Absorbable
- Non absorbable (large pores, light weight)
- Partially absorbable
- Collagen matrix

Surgical Repair

Mesh repair- lightweight Polypropylene mesh

- 25 patients
- Fixation to the posterior part of the anterior fascia
- 12 month follow up
- 2 (8%) recurrences
- 2 infection
- 2 seroma

Surgical Repair

Mesh repair- collagen matrix

- Collagen acellular matrix made of porcine submucosa
- Induces scare formation while gradually absorbed



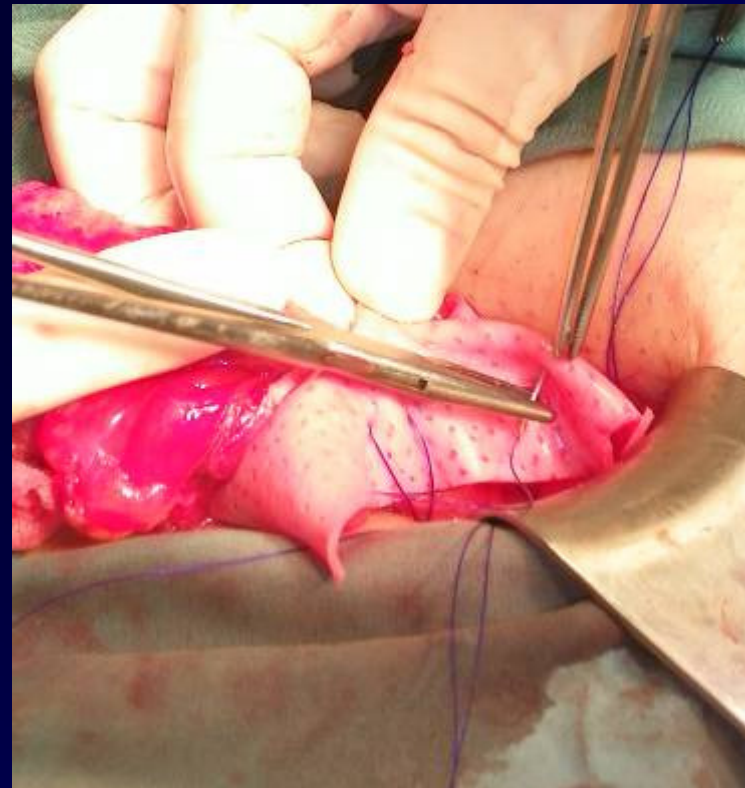
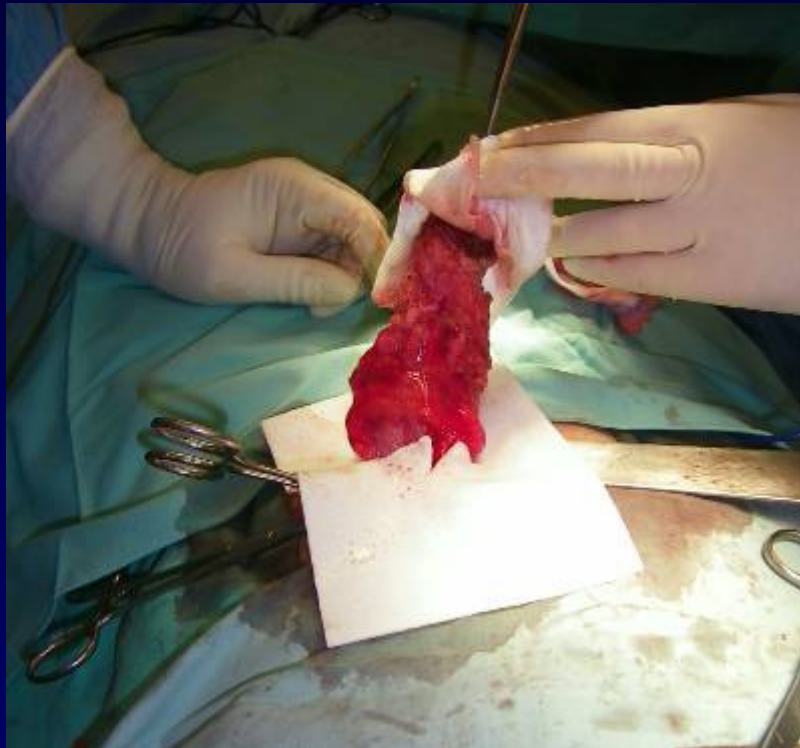
Surgical Repair

Mesh repair- collagen matrix



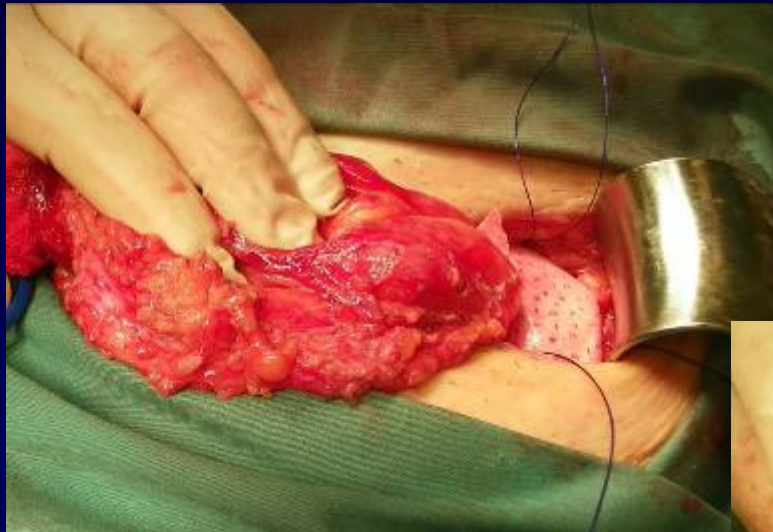
Surgical Repair

Mesh repair- collagen matrix



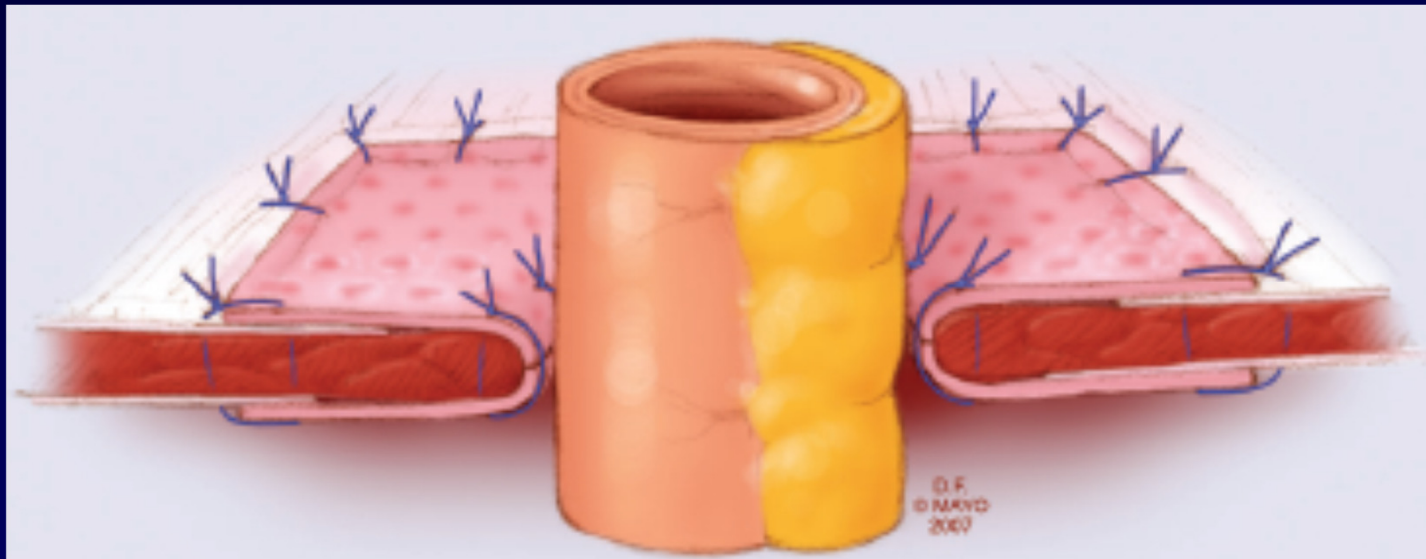
Surgical Repair

Mesh repair- collagen matrix



Surgical Repair

Mesh repair- human acellular dermal matrix



Taner T et al, Dis Colon Rectum 2009

Surgical Repair

Mesh repair- human acellular dermal matrix

- 13 patients
- Mean follow up (including CT)- 9.6 m
- 2 (15%) – recurrence
 - 2 seroma
 - 1 wound infection
 - 1 incisional separation

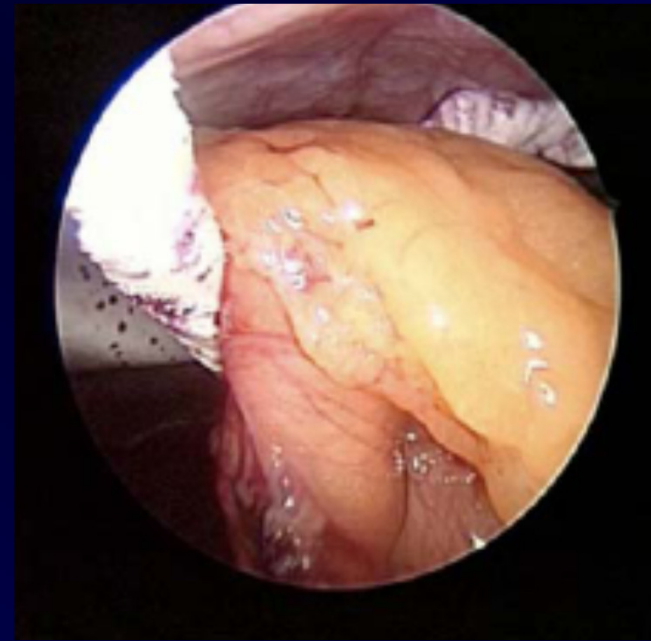
Surgical Repair

Laparoscopic repair

Key hole silted mesh



Non-slited mesh



Surgical Repair

Laparoscopic repair

- 13 patients
- Mix of key hole and non-slit technique
- Goretex dual mesh
- Average follow up- 14 (1-36) m
- One recurrence
 - 1 mesh removal
 - 1 obstructed conduit

Surgical Repair

Laparoscopic repair

- 55 patients
- Key hole technique
- Goretex dual mesh
- Mean follow up 36 (12-72) m
- 20 (37%) recurrence

Prevention

- High incidence of parastomal hernia
- The use of mesh is probably allowed
- Preventive use in primary (permanent) stoma formation is attractive

Prevention

- Randomized controlled trial
 - 27- lightweight polypropylene mesh
 - 27- no prevention
- Clinical + CT follow up
- Median follow up 23 (13-49) m

Prevention

- Randomized controlled trial

- Clinical recurrence:

– Mesh	4/27 (15%)
– No mesh	11/27 (41%)
	<i>p=0.03</i>

- Radiologic recurrence:

– Mesh	6/27 (22%)
– No mesh	14/27 (45%)
	<i>p=0.08</i>

Prevention

- Randomized controlled trial
 - 27- lightweight polypropylene mesh
 - 27- no prevention
- Clinical follow up
- 5 years follow up (mean- 65 m)

Prevention

- Alive/available at 5 years:
 - Mesh 15
 - No mesh 21

Prevention

- Recurrence in available patients:
 - Mesh 17/21 (80%)
 - No Mesh 2/15 (13%)

p<0.001
- Recurrence in the initial group
 - Mesh 20/27 (74%)
 - No Mesh 2/27 (7%)

Prevention

- No fistulas or strictures
- No mesh infection
- No mesh was removed

Prevention

- Biologic porcine submucosa matrix
- Randomized controlled trial
 - 10- biologic mesh
 - 27- no prevention
- Clinical follow up
- Mean follow up- 6 m
- **Recurrence**

Mesh	0
No mesh	3

Hammond TM et al, Hernia 2008



Repair

? Combination of:

- Stoma relocation
- Mesh prevention at the new site
- Mesh repair of the old site

?? Zmora et al, NEJM 2025

