Parastomal Hernia
A Growing Problem

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Parastomal hernia: a growing problem

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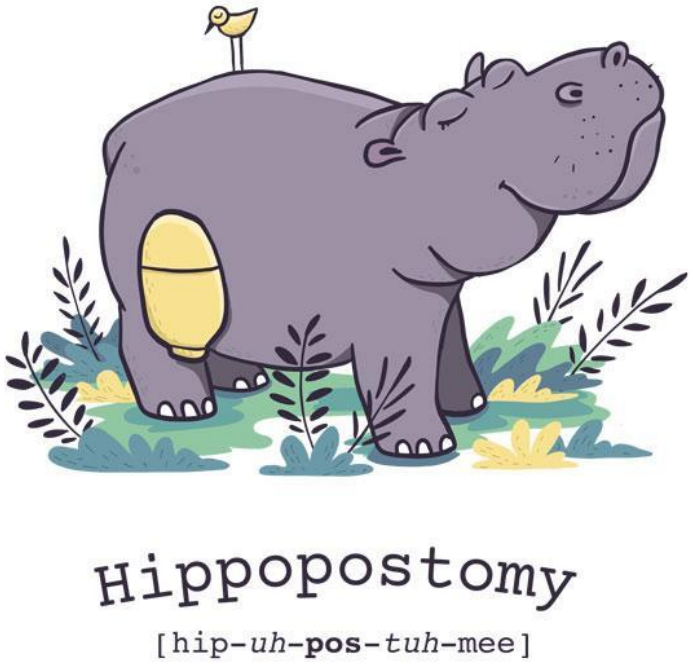
Outline

- Epidemiology
- Prevention
- Management
  - Elective
  - Acute

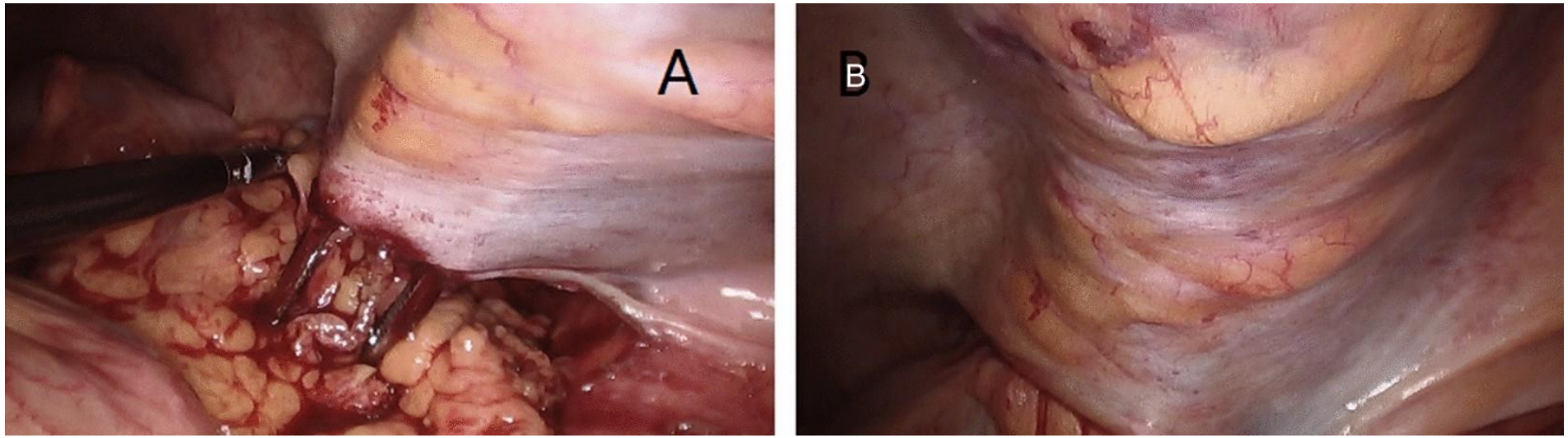


Epidemiology

- Relatively common
  - Clinically up to 50%
  - CT up to 80%
- Presentation
  - Pain, appliance leakage & skin excoriation
  - Incarceration, obstruction, strangulation
- Repair
  - Challenging, plagued by high recurrence rate

Prevention

- Optimise patient & disease factors
- Surgical factors



Prevention: is mesh the answer?

Hernia (2017) 21:177–189
DOI 10.1007/s10029-016-1563-x

REVIEW

Prophylactic mesh to prevent parastomal hernia after end colostomy: a meta-analys

M. López-Cano[1] · H.-T. Brandsma[2] · J. G. Alamino[5] · F. Muysoms[4]

RR 0.43 (95% CI 0.26-0.71)

CURRENT STATUS

Systematic Review and Meta-analysis of Prophylactic Mesh During Primary Stoma Formation to Prevent Parastomal Hernia

Clinical RR 0.34 (0.18-0.65)
CT RR 0.61 (0.42-0.89)
NNT 5

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Systematic review

Meta-analysis of prophylactic mesh to prevent parastomal hernia

OR 65% ↓
NNT 5

A. J. Cross[1], P. L. Buchwald[1], F. A. Frizelle[1,2] and T. W. Eglinton[1,2]

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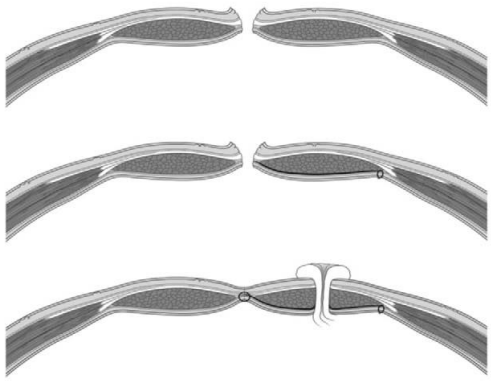
Prevention: is mesh the answer?

RANDOMIZED CONTROLLED TRIAL

Prophylactic Mesh Placement During Formation of an End-colostomy Reduces the Rate of Parastomal Hernia

Short-term Results of the Dutch PREVENT-trial

Henk-Thijs Brandsma, MD, Birgitta M. E. Hansson, MD, PhD,* Theo J. Aufenacker, MD, PhD,† Dick van Geldere, MD, PhD,‡ Felix M. V. Lammeren, MD, PhD,§ Chander Mahabier, MD, PhD,¶ Peter Makai, PhD,|| Pascal Steenvoorde, MD, PhD,** Tammo S. de Vries Reilingh, MD, PhD,†† Marinus J. Wiezer, MD, PhD,‡‡ Johannes H. W. de Wilt, MD, PhD,§§ Robert P. Bleichrodt, MD, PhD,* and Camiel Rosman, MD, PhD*, On behalf of the Dutch Prevent Study group*



RANDOMIZED CONTROLLED TRIAL

OPEN

Use of Prophylactic Mesh When Creating a Colostomy Does Not Prevent Parastomal Hernia

A Randomized Controlled Trial—STOMAMESH

Christoffer Odensten, MD,† Karin Strigård, MD, PhD,* Jörgen Rutegård, MD, PhD,* Michael Dahlberg, MD, PhD,*† Ulrika Ståhle, MD,‡ Ulf Gunnarsson, MD, PhD,* and Pia Näsvall, MD, PhD*†*

TABLE 4. Hernia rate at one year.

	Nonmesh Group n = 107	Mesh Group n = 104	*P*
Hernia (judged clinically)	32 (30%)	30 (29%)	0.866
Bulge, no hernia (judged clinically)	18 (17%)	15 (14%)	0.631
Hernia classified 2 and 3 on CT	28 (26%)	25 (24%)	0.748
Hernia classified 1, 2, and 3 on CT	36 (34%)	33 (32%)	0.765

Follow Up at 1 Year Evaluating Presence of Parastomal Hernia.

CT-scan was performed on 99 patients in each group and the findings were classified according to the model by Moreno-Matias.

Bulge was defined as a protrusion around the stoma judged not to be a hernia.

Prevention: a final word

6. Lightweight polypropylene mesh may be placed at the time of permanent ostomy creation to decrease parastomal hernia rates. Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B.

ASCRS
American Society of Colon & Rectal Surgeons

Statements: *High quality evidence supports the use of a prophylactic mesh during construction of a permanent end colostomy in elective surgery in reducing the incidence of parastomal hernia development.*
Recommendation: *It is recommended to use a prophylactic synthetic non-absorbable mesh when constructing an elective permanent end colostomy to reduce the parastomal hernia rate.*
Quality of evidence: ☒☒☒☒
Strength of recommendation: *Strong*
Recommendation: *No recommendation to use a prophylactic mesh can be made for ileostomies or ileal conduit stomas, nor for the use of synthetic absorbable or biological meshes.*
Quality of evidence: ☒☒☐☐
Strength of recommendation: *No*

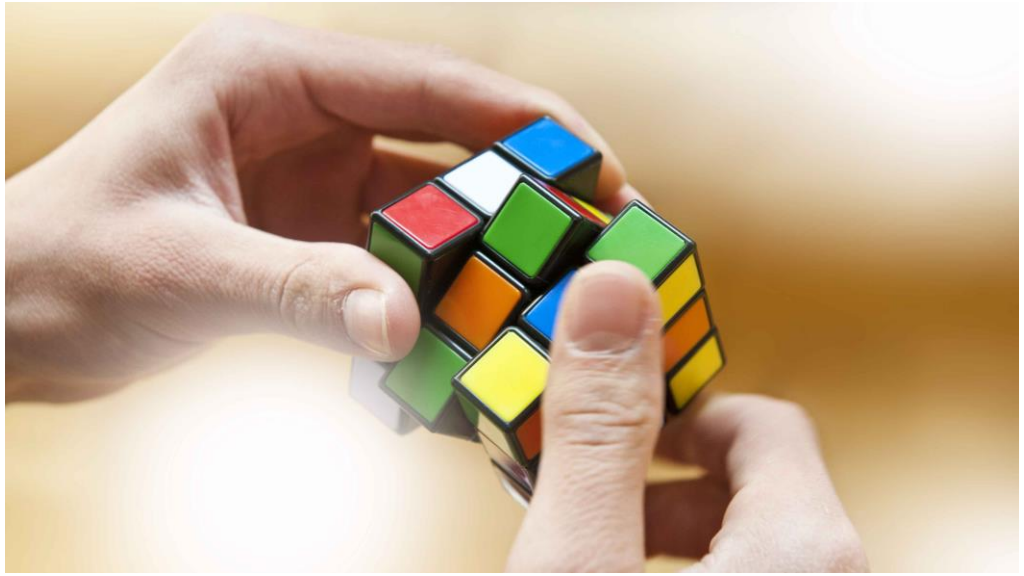
EUROPEAN HERNIA SOCIETY

Statement
The use of non-absorbable synthetic mesh may reduce the incidence of PSH in patients who have permanent end colostomy formation for cancer only during elective surgery.
There is insufficient evidence regarding
1 optimal mesh position within the abdominal wall (retromuscular *vs* intraperitoneal on-lay mesh)
2 use of biologic meshes
3 prophylactic mesh in emergency surgery
4 prophylactic mesh use for ileostomy/urostomy
5 indications for stoma other than cancer (e.g. inflammatory bowel disease/functional)
6 cost effectiveness
7 long-term data, although this is in progress. Results are expected in the next few years.
Recommendation
Prophylactic synthetic non-absorbable mesh may be used when constructing an elective permanent end colostomy for cancer only to reduce the risk of PSH development.
Quality of evidence
Moderate
Strength of recommendation
Weak

The Association of Coloproctology of Great Britain and Ireland

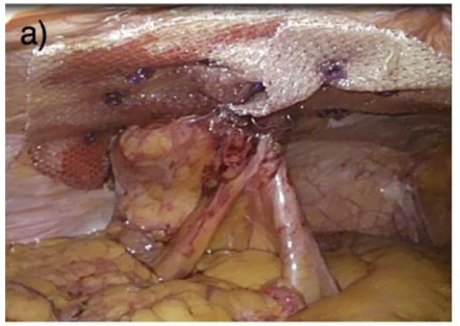
Elective management

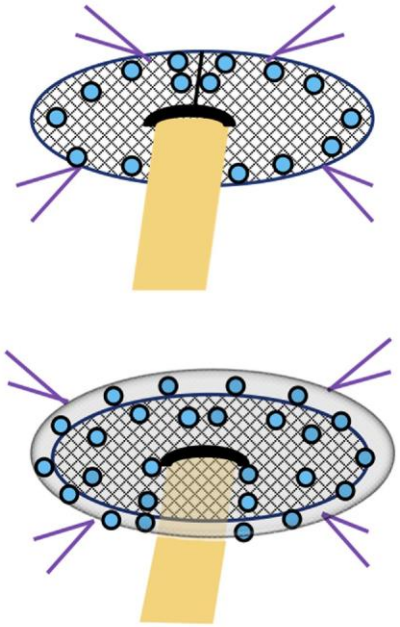
- Reverse
- Resite
- Repair



Elective management: repair

- Repair
  - Suture
  - Mesh
    - Onlay
    - Sublay/retrorectus
    - IPOM: Sugarbaker, keyhole, sandwich
  - Laparoscopic methods
  - Robotic?
  - Type of mesh





Elective management: a final word

1. Parastomal hernia repair should typically be performed by using mesh reinforcement or by relocating the stoma. Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C.

2. Prosthetic mesh may be used during parastomal hernia repair with low short-term risk of intestinal erosion or mesh infection. Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C.

3. Bioprosthetic material may be used as an alternative to synthetic mesh for repair of parastomal hernias. Grade of Recommendation: Weak recommendation based on low-quality evidence, 2C.

4. Laparoscopic parastomal hernia repair with mesh may be a safe alternative to open mesh repair. Grade of Recommendation: Strong recommendation based on low-quality evidence, 1C.

ASCRS
American Society of Colon & Rectal Surgeons

Statements: *There is no high quality evidence on the comparative risk of recurrence following parastomal hernia repair with mesh, stoma relocation or suture repair. There is, however, evidence suggestive of a high risk of recurrence following suture repair. There is insufficient evidence on the comparative risk of morbidity following mesh repair, stoma relocation or suture parastomal hernia repair. There is, however, evidence suggestive of a low rate of infectious complications for parastomal hernia repair with a synthetic mesh.*
Recommendation: *It is recommended not to perform a suture repair for elective parastomal hernia surgery because of a high risk of recurrence.*
Quality of evidence: ☒☒☐☐
Strength of recommendation: *Strong*

Statements: *There is insufficient evidence on the risk of recurrence following laparoscopic versus open parastomal hernia repair with a mesh.*
There is insufficient evidence on the morbidity following laparoscopic versus open parastomal hernia repair with a mesh.
Recommendation: *No recommendation can be made in favor of laparoscopic or open parastomal hernia repair with a mesh in elective surgery.*
Quality of evidence: ☒☐☐☐
Strength of recommendation: *No*
Statements: *There is insufficient evidence on the optimal technique for open parastomal hernia repair with regard to morbidity or recurrence.*
Recommendation: *No recommendation can be made in favour of any open parastomal hernia repair with mesh.*
Quality of evidence: ☒☐☐☐
Strength of recommendation: *No*

EUROPEAN HERNIA SOCIETY

Statement
Suture repair consistently underperforms mesh repair with high recurrence rates and should preferably be only used in emergency situations.
Recommendation
Suture repair should not be used for elective repair of PSHs unless appropriately counselled.
Quality of evidence
High
Strength of recommendation
Strong

Statement
Laparoscopic surgery is safe and with the low quality evidence available has comparable outcomes with open surgery.
Recommendation
None
Quality of evidence
Very low
Strength of recommendation
None

Statement
The evidence for the site of mesh placement is of poor quality but there is a trend towards higher recurrence rates with on-lay placement.
Recommendation
None
Quality of evidence
Very low
Strength of recommendation
None

The Association of Coloproctology of Great Britain and Ireland

Acute management

- Focus of management: preservation of life

Conclusion

- Poor quality evidence
  - Heterogeneity
  - Follow-up
- Prevention
  - Prophylactic mesh probably of benefit in appropriate pt
- Elective management
  - Mesh: what? where? how?
- Acute management
  - Kick for touch