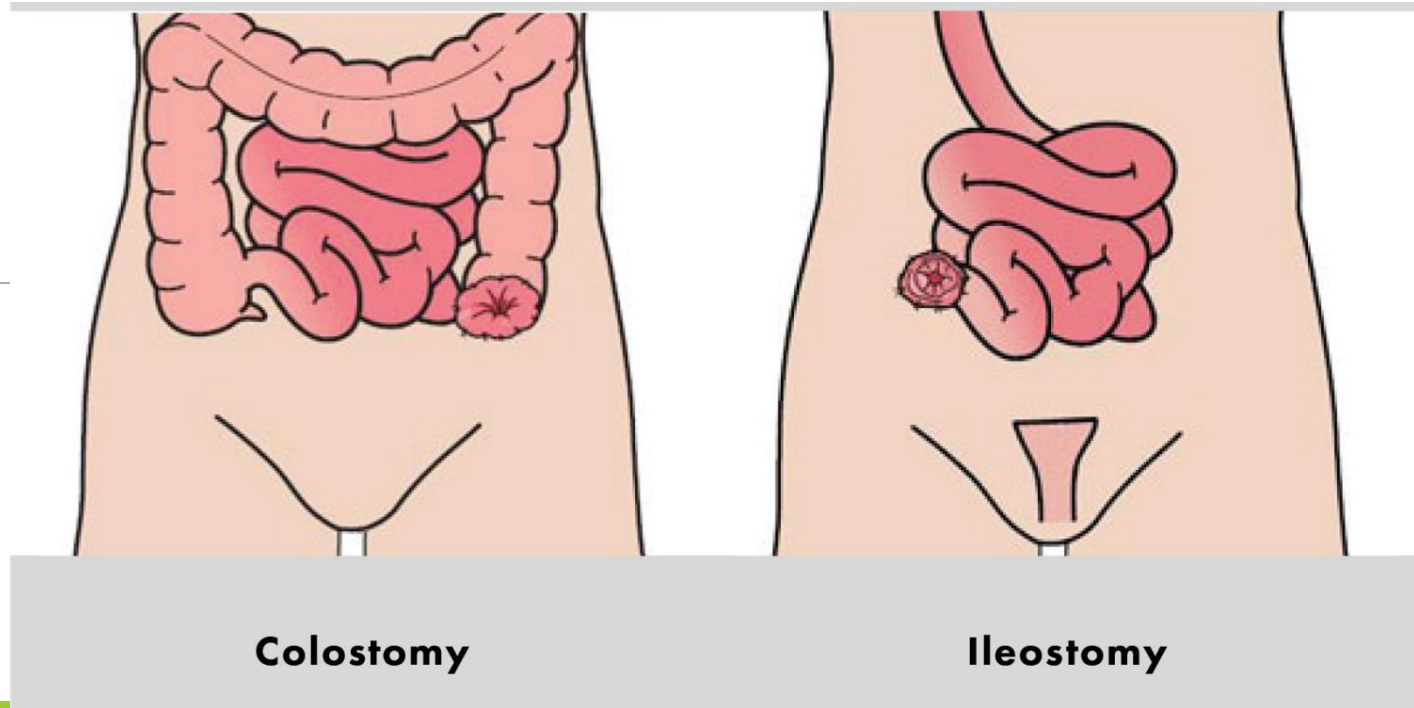


Colostomy & Ileostomy

Indications, problems and preference

By
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Disclosure

I have no disclosures.

Presentation outline

- Stoma: Definition and classifications.
- Rationale and indications.
- Stoma Problems.
- What should we do?
- Colostomy Vs Ileostomy.
- Is there another solution?

Stoma

- Greek in origin means “mouth”
- Intestinal stoma: opening of the intestinal tract onto the abdominal wall.



Classification

According to:

Anatomy

- Colostomy
- Ileostomy
- Urostomy

Duration

- Temporary
- Permanent

Configuration

- End
- Loop
- Others

Rationale

Defunction to allow healing
of distal anastomosis or
reconstruction

Decompression for distal
obstruction

Prevent or reduce complications

Reduce mortality

Indications (general)

•Protecting anastomosis

- Anastomosis at risk due to general condition (immunosuppression, shock, peritonitis..etc)
- Oftnely after certain procedures: Low anterior resection (TME for cancer).
Restorative proctocolectomy (UC, FAP).

•Protecting repair

- Anal sphincter repair
- Complex fistula
- Colorectal Trauma

•Infection

- Fournier gangrene
- Pelvic sepsis
- Bowel perforation

Indications *acc. to disease*

Disease	Presentation	Rationale	Configuration	Time
Colorectal cancer	Rectal cancer (LAR)	Defunction (anastomosis protection)	Loop Ileostomy or colostomy	Usually Temporary
	Very low cancers	A part of APR	End colostomy	Permanent
	Obstruction	Decompression	End or loop colostomy	Usually Temporary
	Perforation	Defunction	End or loop colostomy	

Indications *acc. to disease*

Disease	Presentation	Rationale	Configuration	Time
Diverticular disease	Elective fistula	Defunction (anastomosis protection)	Loop Ileostomy or colostomy	Usually Temporary
	Perforation	Defunction	End or loop colostomy	Usually Temporary
	Obstruction	Decompression	End or loop colostomy	

Indications *acc. to disease*

Disease	Presentation	Rationale	Configuration	Time
Ulcerative colitis	Acute colitis	Defunction (after subtotal colectomy)	End ileostomy	Temporary or permanent
	Chronic disease	Eradication of disease (after panproctocolectomy)	End Ileostomy	Permanent
	Elective	Defunction (after ileal pouch surgery)	Loop ileostomy	Temporary

Indications *acc. to disease*

Disease	Presentation	Rationale	Configuration	Time
Crohn's disease	Crohn's colitis	Defunction	Loop or split ileostomy or colostomy	Temporary or permanent
	Small bowel dis	Defunction	Loop or end or split ileostomy	
	Elective	Eradication of disease (after panproctocolectomy)	End ileostomy	Permanent
	Septic complication Or perianal disease	Defunction	Loop or end ileostomy	Usually Temporary

Indications *acc. to disease*

Disease	Presentation	Rationale	Configuration	Time
Trauma	Colon or rectum	Defunction	Ileosotomy or colostomy	Usually temporary
	Anal sphincter			
Functional	Fecal Incontinence	Defunctioning anus	End colostomy	Permanent
	Sphincter repair	Defunction	Loop ileostomy or colostomy	Temporary

Stoma problems

21-70% overall rate of complications

- *Arumugam et al, Colorectal dis 2003.*

≥50% develop at least one complication within one year.

- *Shabbir et al, Colorectal dis 2010.*

Risk for stoma problems

- Emergency procedures.
- Obesity.
- Female gender.
- Age.
- Type of stoma ??!! 🤔
- Eversion(sprout) >10mm.
- Diabetes.
- Others...

According to:

Cottam et al, Colorectal dis 2007

Shabbir et al, Colorectal dis 2010

Stoma problems

Category	Complications	
	Early	Late
Stoma related	Poor location	Prolapse
	Retraction *	Stenosis
	Ischemic necrosis	Parastomal hernia
	Detachment	Fistula
	Wrong limb exteriorized	Gas and odor
Peristomal skin	Excoriation	Dermatosis
	Dermatitis	Parastomal varices
		Cancer
Systemic	High output/loss of fluid (dehydration) *	Bowel obstruction
		Nonclosure
Closure related	Leakage*	Incisional hernia
Quality of life	↓↓	

* May be developed late

What should we do?

- ❑ *Patient selection (risk assessment).*
- ❑ *Prevention is always better than treatment.*
 - Adequate surgical technique:
 - Positioning
 - Bowel perfusion
 - Length
 - Tension
 - Fascial opening
 - Sprouting
 - Suturing



What should we do?

☐ ***Follow the guidelines (at least the strong recommendations level 1)***

PRACTICE PARAMETERS

Clinical Practice Guidelines for Ostomy Surgery

Samantha Hendren, M.D., M.P.H. • Kerry Hammond, M.D. • Sean C. Glasgow, M.D. W. Brian Perry, M.D. • W. Donald Buie, M.D. • Scott R. Steele, M.D. • Janice Rafferty, M.D.

Prepared by the Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons

Dis Colon Rectum 2015; 58: 375–387
DOI: 10.1097/DCR.0000000000000347
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DISEASES OF THE COLON & RECTUM VOLUME 58: 4
(2015)

Guidelines for ostomy creation (only strong recommendations) 1

1. When feasible, laparoscopy is preferred to ostomy formation via laparotomy. **1C**
2. Whenever possible, both ileostomies and colostomies should be fashioned to protrude above the skin surface. **1C**
3. Lightweight polypropylene mesh may be placed at the time of permanent ostomy creation to decrease parastomal hernia rates. **1B**
4. Ileostomy patients, postoperative care pathways may prevent hospital readmission for dehydration. **1C**

Guidelines for ostomy closure (only strong recommendations) 1

1. Stapled and hand-sutured techniques are both acceptable for loop ileostomy closure. **1B**
2. Ostomy-site skin reapproximation should be performed when feasible, and pursestring skin closure may have advantages compared with other techniques. **1B**
3. Laparoscopic Hartmann reversal is a safe alternative to open reversal in experienced hands. **1C**

Guidelines for ostomy complications (only strong recommendations) 1

1. Parastomal hernia repair should typically be performed by using mesh reinforcement or by relocating the stoma. **1C**
2. Prosthetic mesh may be used during parastomal hernia repair with low short-term risk of intestinal erosion or mesh infection. **1C**
3. Laparoscopic parastomal hernia repair with mesh may be a safe alternative to open mesh repair. **1C**

So, Colostomy or Ileostomy?



Colostomy Vs Ileostomy



Cochrane Database of Systematic Reviews

Ileostomy or colostomy for temporary decompression of colorectal anastomosis (Review)

Güenaga KF, Lustosa SAS, Saad SS, Saconato H, Matos D.

Ileostomy or colostomy for temporary decompression of colorectal anastomosis.

Cochrane Database of Systematic Reviews 2007, Issue 1. Art. No.: CD004647.

DOI: 10.1002/14651858.CD004647.pub2.

www.cochranelibrary.com

- 5 RCT included.
- 20 outcomes measures:
 - A - General outcomes: mortality, wound infection, time interval between formation and closure of the stoma, length of hospital stay, reoperation and colorectal anastomotic dehiscence.
 - B- Stoma construction: time of formation, stoma prolapse, stoma retraction, stoma necrosis, parastomal hernia, parastomal fistula and stoma stenosis.
 - C- Stoma closure: bowel leakage, time of stoma closure, incisional hernia and postoperative bowel obstruction.
 - D - Functioning stoma: patient adaptation, skin irritation and postoperative ileus.
- Only stoma prolapse was significantly less with ileostomy.
- No other significant difference.
- **Conclusion: From the current data included in this review, it is not possible to express a preference for use of either loop ileostomy or loop colostomy for fecal diversion from a colorectal anastomosis.**

Colostomy Vs Ileostomy



Int J Colorectal Dis (2009) 24:479–488

DOI 10.1007/s00384-009-0662-x

REVIEW

Loop ileostomy versus loop colostomy for fecal diversion after colorectal or coloanal anastomosis: a meta-analysis

**F. Rondelli • P. Reboldi • A. Rulli • F. Barberini •
A. Guerrisi • L. Izzo • A. Bolognese • P. Covarelli •
C. Boselli • C. Becattini • G. Noya**



- 12 comparative studies; **5 RCTs**, 7 comparative non randomized (3 prospective & 4 retrospective)
- Outcomes measured:
 - A—General: wound infection and dehydration.
 - B—Stoma Constrution: necrosis, prolapse, retraction, parastomal hernia, stenosis, sepsis, and hemorrhage.
 - C—Stoma closure: occlusion, wound infection, anastomotic leak or fistula, and hernia.
 - D—Stoma function: skin irritation and occlusion.
- **Hernia** and **prolapse** are less with Ileostomy.
- **Dehydration** is less with colostomy.
- No other significant differences.
- **The conclusion reached from this meta-analysis is that the superiority of one treatment over another cannot be definitively declared; however, the authors here endorse LI over LC.**

Colostomy Vs Ileostomy

PRACTICE PARAMETERS

Clinical Practice Guidelines for Ostomy Surgery

Samantha Hendren, M.D., M.P.H • Kerry Hammond, M.D. • Sean C. Glasgow, M.D. W. Brian Perry, M.D. • W. Donald Buie, M.D. • Scott R. Steele, M.D. • Janice Rafferty, M.D.

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(2015)

Conclusion

Loop ileostomy is preferred over transverse loop colostomy for temporary fecal diversion in most cases. **Weak recommendation** based on moderate-quality evidence, **2B**.

Is there another solution?



Maybe!

Another solutions?

❑ *Ghost ileostomy*

ORIGINAL CONTRIBUTION

Ghost Ileostomy in Anterior Resection for Rectal Carcinoma: Is It Worthwhile?

Lorenzo Mori, M.D. • Matteo Vita, M.D. • Francesco Razzetta, M.D.
Piercarlo Meinero, M.D. • Giovanni D'Ambrosio, M.D.

Department of General Surgery, Azienda Sanitaria Locale No. 4 Chiavarese, Lavagna, Genova, Italy

Another solutions?

❑ *Ghost ileostomy*

OF THE COLON & RECTUM VOLUME 56: 1 (2013)

- 168 LAR with TME for rectal cancer.
- 20/168 had leaks
 - 13/20 Ileostomy by local anesthesia.
 - 5/20 successful conservative measures.
 - 2/20 peritonitis required colostomy.

- **91% without Stomas**

High risk patients were excluded



2. Exteriorization and fixation of the vascular loop to the

Another solutions?

❑ *Ghost ileostomy*

Surg Endosc (2015) 29:2590–2597
DOI 10.1007/s00464-014-3974-z



Does ghost ileostomy have a role in the laparoscopic rectal surgery era? A randomized controlled trial

Francesco Saverio Mari • Tatiana Di Cesare • Luciano Novi •
Marcello Gasparrini • Giammauro Berardi • Giovanni Guglielmo Laracca •
Andrea Liverani • Antonio Brescia

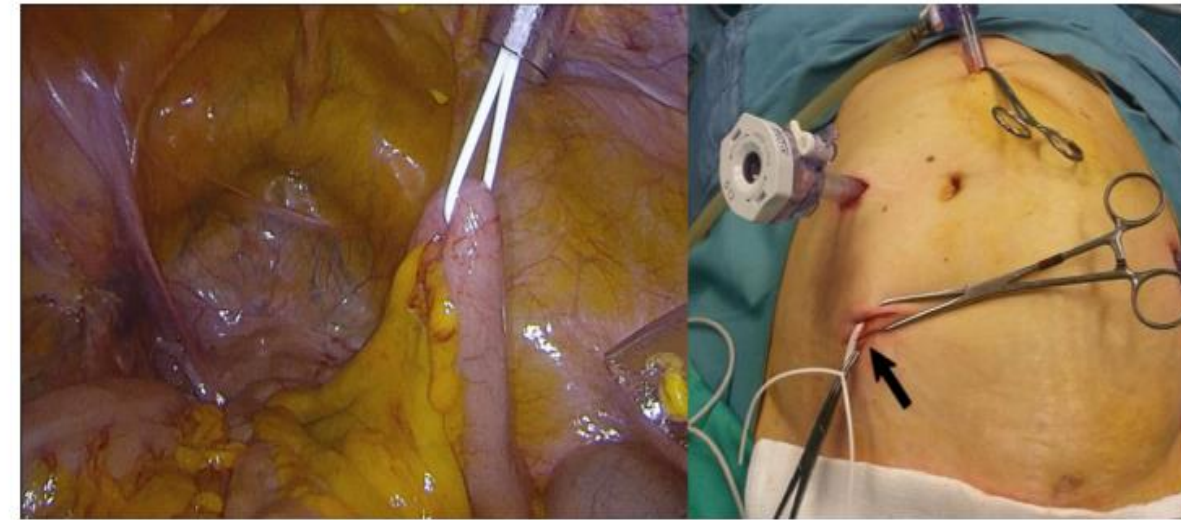
Another solutions?

□ Ghost ileostomy

Surg Endosc (2015) 29:2590–2597

	GI	No stoma	<i>p</i>
<i>N</i>	55	52	
Sex, (male/female)	26/29	27/25	0.63 ^a
Age, mean (SD), years	71 (±7.6)	69 (±8.2)	0.42 ^b
BMI, mean (SD), kg/m ²	29.3 (±2.6)	29.2 (±3.0)	0.40 ^b
Operative time, mean, minutes	185 (±32)	186 (±47)	0.60 ^b
Risk factors for anastomotic dehiscence			
Neoadjuvant chemo-radiotherapy	37	32	0.55 ^a
Emergency setting	6	5	1.0 ^a
ASA score 3–4	7	9	0.59 ^a
Diabetes mellitus	13	16	0.51 ^a
Blood transfusion	14	11	0.65 ^a
Operative time longer than 3 h	41	38	1.0 ^a
Cancer staging ^c			
I	6	5	1.0 ^a
II	19	22	0.43 ^a
III	25	22	0.84 ^a
IV	5	3	0.71 ^a
Hospital stay, days	6.3 (±1.6)	6.6 (±1.7)	0.83 ^b
Clinical evident anastomotic leak	3 (5.4 %)	4 (7.7 %)	0.63 ^a
Severity of anastomotic leakage ^d	Grade B	Grade C	
Hospital stay of patients with an anastomotic leak, days	10.7 (±1.1)	16.2 (±2.0)	0.01 ^b

Surg Endosc (2015) 29:2590–2597



- No patients with leak needed laparotomy (n=3)
- **High risk patients were excluded**

Another solutions?

□ *Tube ileostomy*

Systematic review

doi:10.1111/codi.12997

Tube ileostomy for faecal diversion in elective distal colorectal anastomosis: a systematic review and pooled analysis

S. Nachiappan*†, U. Datta‡, A. Askari*† and O. Faiz*†

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Received 27 October 2014; accepted 9 February 2015; Accepted Article online 9 May 2015

Another solutions? ☐ *Tube ileostomy*

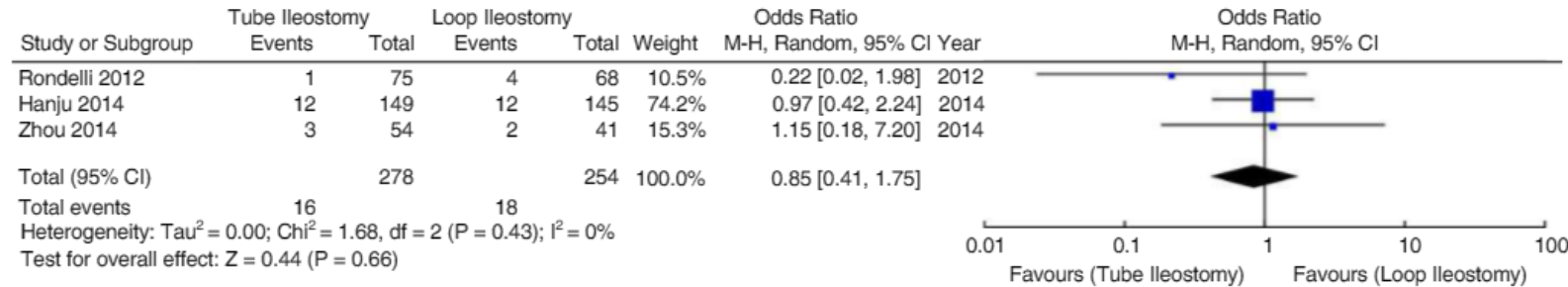
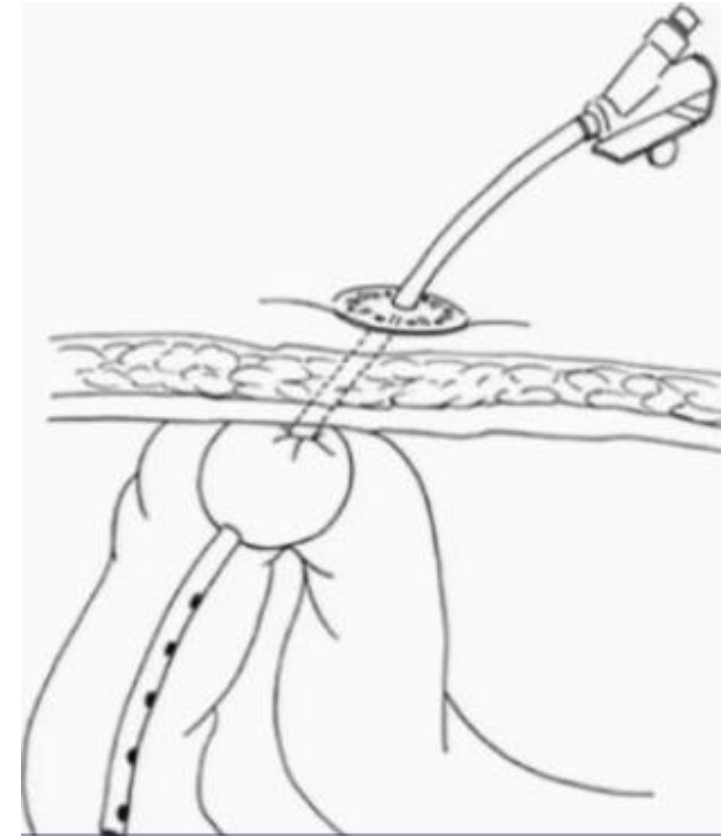


Figure 2 Meta-analysis: risk of anastomotic leak for tube ileostomy *vs* loop Ileostomy (three studies).

- No difference in anastomotic leakage.
- Less morbidity (Mostly peristomal cellulitis)
- **But only retrospective comparative studies, no RCT**



Another solutions?


❑ *Transanal decompression tube*

Surg Endosc (2017) 31:1513–1523
DOI 10.1007/s00464-016-5193-2



REVIEW

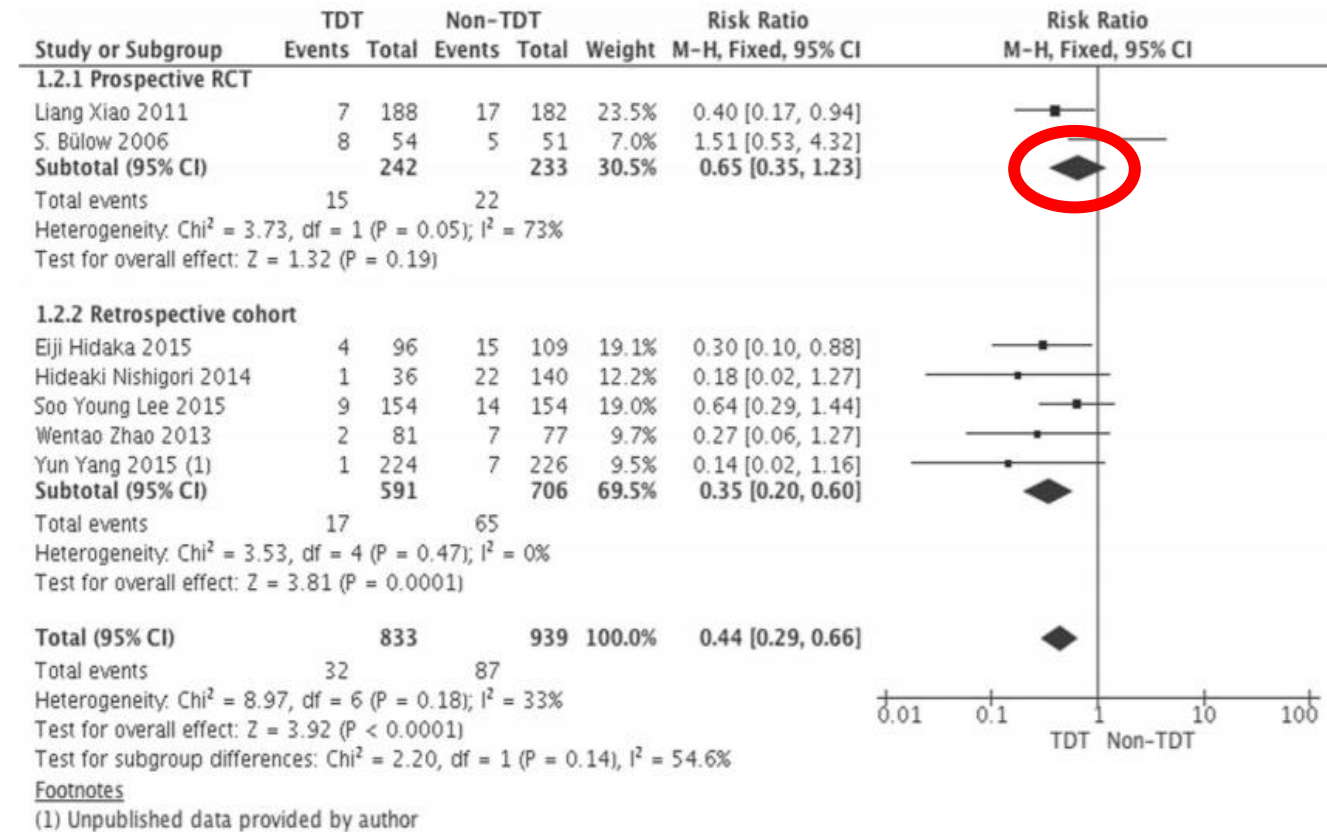
Prophylactic transanal decompression tube versus non-prophylactic transanal decompression tube for anastomotic leakage prevention in low anterior resection for rectal cancer: a meta-analysis

Yun Yang¹ · Ye Shu² · Fangyu Su³ · Lin Xia² · Baofeng Duan⁴ · Xiaoting Wu² 

Another solutions? ☐ *Transanal decompression tube*

Surg Endosc (2017) 31:1513–1523

- 7 studies only **2 RCT**
- Conclusion: TDT might reduce the rate of Anastomotic Leakage.
- *But there was no difference in the RCTs*



Conclusion

- **Stoma has several indications.**
- **Morbidity rates are high.**
- **Prevention of morbidities is always better than treatment:**
 - Patient selection.
 - Adequate surgical technique.
- **According to available evidence there is no difference between colostomy and ileostomy**
 - Ileostomy might have a very slight edge over colostomy
- **Ghost ileostomy, tube ileostomy and transrectal tube decompression may become options.**

Thank you..



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