Best timing for temporary stoma closure: Early or late?

By

Radwan Abdelsabour

Ass. professor of colorectal surgery

Assiut University

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No disclosure

- **Diverting stoma decrease complications of AL after colorectal surgery.**

- **It is associated with morbidities and reduced the QOL.**

- **ESC is defined in majority of trials as closure within 4 weeks.**

- **In one study, it was defined as closure after the 8th day of initial surgery.**

Alves A et al., 2008, Raleigh Lean P et al., 2019

▪ **DSC expose patients to various stoma complications (71%) including dehydration, acute renal failure, need for parenteral nutrition, peristomal dermatitis, parastomal hernia, prolapse, retraction, and stenosis.**

Jayapala R.V. et al., 2023

- **Why the time of closure is important?**

- **What is the best time for closure?**

Why the time of closure is important?

- **Stoma is a psychic trauma.**

- **Stoma are not without complications.**

- **15% of patients require readmissions due to complications.**

- **Stoma related complications are common.**

- **Reduced quality of life.**

- **DSC can impact adjuvant chemotherapy resumption.**

Chan D.K.H et al., 2025

Factors affecting the time of closure:

Patient factors

comorbidities, nutrition, continence

Surgical factors

anastomotic healing, pelvic sepsis, leak

Treatment factors

chemotherapy, radiotherapy

What is the best time for closure?

- **Early (4-6 weeks)**

- **Late (> 6-12 weeks)**

Original Article

Does the timing of protective ileostomy closure ... resection have an impact on the outcome? A re...

Fozan Sauri [a], Ahmad Sakr [a, b], Ho Seung Kim [a], Mohammed A...
Eman Zakarneh [a], Seung Yoon Yang [a], Nam Kyu Kim [a, *]

[a] Division of Colorectal Surgery, Department of Surgery, Yonsei University College of Medicine, Seou120-7...
[b] Colorectal Surgery Unit, Department of General Surgery, Mansoura Faculty of Medicine, Mansoura Univ...
[c] Department of Surgery, King Faisal University, Alahsa 31982, Saudi Arabia
[d] Department of Surgery, Main Hospital, Assiut Faculty of Medicine, Assiut University, Assiut 71515, Egypt...

Postoperative complications types and rate.

Type	Total sample (N), percentage	Early closure ≤ 3 M[a] (N) percentage	Late closure > 3 M[a] (N), percentage	P Value
Total number of complications	105	29	76	
Total number of patients with complications	96 23.7%	26 26.8%	70 22.7%	0.44
Intestinal obstruction	47 11.3%	9 9.2%	38 12%	0.28
Superficial SSI	31 7.7%	15 15.4%	16 5.1%	0.002*
Melena	2 0.49%	2 2.06%	0 0	
Pneumonia	5 1.23%	1 1.03%	4 1.29%	
Atelectasis	6 1.48%	0 0	6 1.94%	
PMC	3 0.74%	0 0	3 0.97%	0.55
UTI	2 0.49%	0 0	2 0.64%	
Thrombi − embolic	2 0.49%	0 0	2 0.64%	
Incisional hernia	5 1.23%	2 2.06%	3 0.97%	
Bleeding	2 0.49%	0 0	2 0.64%	
Clavin-Dindo grade				0.29
I	59 14.56%	19 19.58%	40 12.98%	
II	20 4.93%	7 7.21%	13 4.22%	
III	17 4.19%	1 1.03%	16 5.19%	
IV	0 0	0 0	0 0	
V	0 0	0 0	0 0	

Retrospective study
405 pts.
between 2010 and 2017
ESC (< 3 mon. = 97)
LSC (> 3 mon. = 308)

	Early closure ≤ 3 M[a] (N = 97)	Late closure > 3 M[a] (N = 308)	P value
Hospital stay, days, (range)	6 (4–21)	6 (3–29)	0.14
Operation time, minutes, (range)	87.5 (40–175)	105 (45–265)	0.001*
Blood loss in ML (range in ML)	10 (0–150)	25 (0–120)	0.001*
Time to first gas passage days, (range)	4 (1–8)	4 (1–14)	0.31
Time to first soft diet days (range)	4 (2–10)	4 (1–18)	0.18
Method of ileostomy closure			0.37
stapler side to side, percentage	78 80.5%	231 75%	
hand sewn end to end, percentage	18 18.5%	64 20.8%	
fold over, percentage	1 1%	13 4.2%	

Original Article

Outcome of early versus late ileostomy closure in patients with [rectal] cancers undergoing low anterior resection: A prospective cohor[t]

Alimohammad Bananzade [a], Maryam Dehghankhalili [b, *], Faranak Bahrami [a],
Seyed Mohammad Kazem Tadayon [a], Fariborz Ghaffarpasand [c]

[a] Colorectal Research Center, Department of Colorectal Surgery, Shahid Faghihi Hospital, Shiraz University of Medical Sciences, Shiraz, Iran
[b] Department of Surgery, Shiraz University of Medical Sciences, Shiraz, Iran
[c] Research Center for Neuromodulation and Pain, Shiraz University of Medical Sciences, Shiraz, Iran

The outcome of 69 patients with rectal cancers undergoing LAR in two study groups (early versus late ileostomy closure).

Variable	Early (n = 32)	Late (n = 37)	p-value
Hospital Stay (days)	5.06 ± 1.60	5.62 ± 2.24	0.244
Ileostomy duration (weeks)	1.81 ± 0.37	9.51 ± 1.23	<0.001
Operation			
Duration (min)	60.93 ± 14.88	88.37 ± 15.98	<0.001
Bleeding (mL)	30.15 ± 15.31	46.21 ± 20.32	<0.001
Time to first gas passing (days)	1.59 ± 0.79	1.56 ± 0.80	0.892
Time to first soft diet (days)	1.43 ± 0.56	1.18 ± 0.39	0.036

The complications of ileostomy closure in 69 patients with rectal cancers undergoing LAR in two early and late groups.

Variable	Early (n = 32)	Late (n = 37)	p-value
Complications	0.781 ± 0.832	1.00 ± 0.623	0.086
Total number	12	13	

Prospective study
69 pts.
Between 2018 and 2[...]
ESC (< 2 ws.= 32)
LSC (> 2 mon. = 37)

In conclusion, early closure (<2 weeks) of the ileostomy loop following LAR in patients with rectal adenocarcinoma is a feasible and safe technique when compared to late (>2 months) closure. In other words, early ileostomy closure is not associated with increased risk of complications and adverse events. As early closure of the ileostomy is associated with improved quality of life and patient satisfaction, based on the results of the current study we recommend early closure of the ileostomy loop in selected patients with rectal adenocarcinoma undergoing LAR. Further studies are required to confirm the results of the current study.

Table 2. Secondary Outcomes of the Comparison Between ESC and RSC.

Outcomes of Interest	Studies, n	ESC Patients, n	RSC Patients, n	WMD/OR (95% CI)	P
Operative time, minutes	5	238	225	−6.98 (−15.36 to 1.40)	.10
EBL, mL	2	84	86	−2.08 (−6.93 to 2.77)	.40
Length of stay, day	5	238	225	0.38 (−0.49 to 1.25)	.39
Reoperation	4	237	393	1.30 (0.59 to 2.86)	.51
Readmission	2	72	67	2.77 (0.28 to 27.87)	.39
Mortality	4	237	393	NA	NA
Length of stay, day	3	339	335	−0.51 (−1.92 to 0.90)	.48
Quality of life	2	145	141	NA	NA

This meta-analysis has demonstrated that ESC is a safe and feasible therapeutic approach in patients who have undergone colorectal surgery; ESC was associated with reduced bowel obstruction but a higher wound complication rate. Future, large-volume, well-designed

Meta-analysis of early versus late closure of a temporary ileostomy after proctectomy

Xiaozhun Huang[1,*], Chunling Wang[2,*], Zhangkan Huang[1], Houhong Zhou[1], Han Li[1], Fengxiang Shi[3], Longde Du[4], Xianni Ke[5], Biao Zheng[1], Shuisheng Zhang[6] and Xu Che[6]
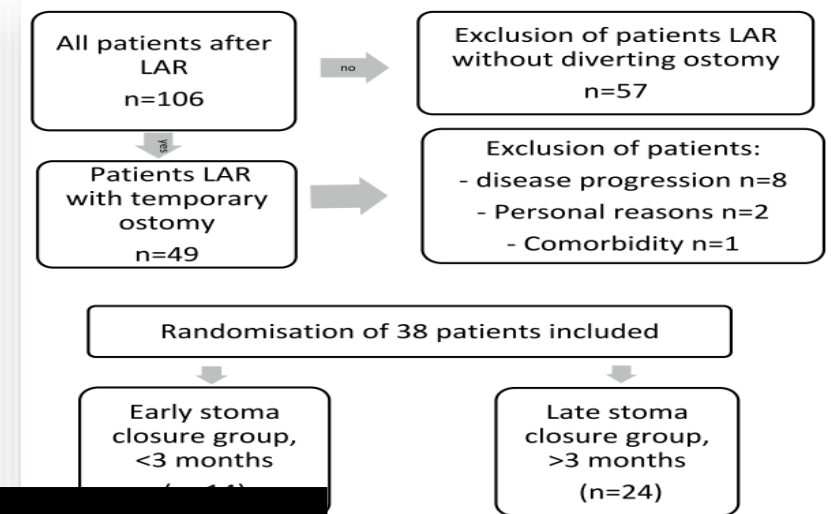
CONCLUSIONS

The best available evidence demonstrates that early closure of atemporary ileostomy after proctectomy at 4 weeks shows no significantly increased morbidity, except an increased wound infection rate. No significant differences in the operative time, postoperative hospital stay length, and total hospital stay length for stoma reversal was observed between the early and late closure groups. In conclusion, our meta-analysis suggests that an early stoma closure after proctectomy is feasible in selected patients,

- **5 RCTs**
- **387 pts. (195 ESC, 192 LSC)**
- **2017 -2021**
- **4 European countries**

Post-surgical morbidity in early versus late closure of defunctioning ileostomy after rectal cancer surgery: A systematic review and meta-analysis of randomised controlled trials

Results Five RCTs were included in this meta-analysis of 387 patients. The pooled estimate of the OR for overall morbidity (OR 1.80, 95% CI 0.97–3.31; $p = 0.06$), reoperation (OR 2.57, 95% CI 0.72–9.14; $p = 0.14$), and anastomotic leakage (OR 3.25, 95% CI 0.40–26.38; $p = 0.27$) were not statistically significant. EC however resulted in a statistically significant increase in terms of surgical complications (OR 2.63, 95% CI 1.04–6.67; $p = 0.04$). These studies had low to moderate levels of statistical heterogeneity.

Conclusion EC of defunctioning ileostomy in rectal cancer patients results in increased surgical complications compared to patients with LC. Caution must be undertaken in patients in whom an EC is performed.

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The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for Ostomy Surgery

European Society of
ESCP | COLOPROCTOLOGY | 20th ANNIVERSARY

Early closure of protective ileostomies may be performed in select low-risk patients with a colorectal anastomosis without clinical evidence of anastomotic leak. Grade of recommendation: weak recommendation based on moderate-quality evidence, 2B

Conclusion: Although the randomized study found that early closure of the temporary ileostomy was associated with significantly fewer complications, this clinical advantage had no effect on the patients' HRQOL

In total, the data on early protective ostomy closure are new and emerging. Early ileostomy closure appears to be contraindicated in high-risk cases such as coloanal anastomosis with transverse coloplasty or IPAA. This recommendation is subject to change as new clinical evidence becomes available.

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Conclusion

- The best time for stoma closure is a matter of debate.

- Closure must be tailored according to many factors.

- The accepted standard time in practice is (8-12 weeks)

- ESC is considered safe in highly selected patients.

- DSC can be resorted to in cases of resumption of CTH.

- Ongoing research is needed for patient selection for ESC.