



TIME INTERVAL TO CLOSURE AFFECTS THE INCIDENCE OF POST-OPERATIVE ILEUS AFTER LOOP ILEOSTOMY CLOSURE FOR RECTAL CANCER PATIENTS.



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Introduction: Temporary loop ileostomies are frequently performed during rectal cancer surgeries. Postoperative ileus (POI) remains a common complication after ileostomy reversal, paralleling the incidence found after major colorectal resections. The literature suggests that this may be due to dysfunction of the de-functionalized bowel downstream. We hypothesize that a longer time interval between ileostomy creation and closure is associated with a greater incidence of POI.

Purpose:

1. To identify the proportion of patients who underwent proctectomy for rectal cancer and then developed POI after ileostomy closure.
2. To identify factors related to POI after ileostomy reversal, specifically in a rectal cancer population.

Identifying the study population using the Nationwide Readmissions Database from 2010-2105:

Index hospitalization for proctectomy with diverting ileostomy	Second hospitalization for ileostomy closure
<u>ICD-9 codes</u>	<u>ICD-9 codes</u>
1541: rectal cancer	4650: closure of intestinal stoma, NOS
1540: rectosigmoid junction cancer	4651: closure of stoma of small intestine
5411: laparotomy	465: closure of intestinal stoma
5421: laparoscopy	
V644 or V6441: laparoscopic surgery converted to open	
4863: anterior resection NEC	
4869: rectal resection NEC	
4620: ileostomy NOS	
4621: temporary ileostomy	
4601: small bowel exteriorization (loop)	

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ICD-9 codes (applied to the ileostomy closure surgery)

5601: paralytic ileus
9607: insertion of NG
5643: vomiting following gastrointestinal surgery
560.81: intestinal or peritoneal adhesions with obstruction (postoperative)

Covariates independently associated with POI:

Variables	No POI n = 2304	POI n = 292	P-value	OR	95%CI
Teaching status of hospital, n (%)					
Non-teaching	621 (27.0)	106 (36.3)	0.002	1.538	1.148-2.061
Teaching	1683 (73.0)	186 (63.7)			
Ileus at index (proctectomy), n (%)	393 (17.1)	91 (31.2)	<0.0001	0.550	0.374-0.080
** Time to closure, weeks	15.7 ± 7.7	16.5 ± 8.0	0.079	1.019	1.001-1.037
Length of stay (ileostomy closure), days (mean ± SD)	4.0 ± 3.1	8.2 ± 6.8	<0.0001	1.325	1.262-1.393

Longer time to ileostomy closure is associated with POI after ileostomy closure.

Time to ileostomy closure:

- Is a modifiable variable.
- Supports prompt closure surgery to avoid physiologic changes of the defunctionalized bowel of a loop ileostomy.
- Potentially underlines the importance of bowel stimulation prior to ileostomy closure.