Cecostomy for fecal incontinence

Clinical Policy ID: CCP.1223

Recent review date: 3/2024

Next review date: 7/2025

Policy contains: Chronic constipation; fecal incontinence; open and percutaneous cecostomy.

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Coverage policy

Cecostomy is clinically proven and, therefore, may be medically necessary for fecal incontinence when all of the following criteria are met (Assmann 2022;Bharucha, 2017; Itkin, 2011; Liliana, 2023; Paquette, 2015):

- Members age four years or older.
- Members unresponsive to conservative treatment for relieving the bowels for at least a 60-day period. Conservative treatment consists of at least two of the following:
    - Biofeedback.
    - Lifestyle and dietary modifications.
    - Bowel habit interventions.
    - Anal plugs.
    - Pelvic floor muscle training.
    - Rectal irrigation.
    - Drug therapy.
    - Electrostimulation.
- For the purpose of either:
    - Facilitating an antegrade continence enema in members with fecal incontinence secondary to neurologic disease.
    - Providing cecal decompression for members with chronic refractory constipation, chronic colonic pseudo-obstruction, or colonic obstruction.

For any determinations of medical necessity for medications, refer to the applicable state-approved pharmacy policy.

Limitations

All other uses of cecostomy for fecal incontinence are not medically necessary.

Absolute contraindications to cecostomy include previous abdominal surgical procedures; active peritonitis, colitis, or ileocolitis; uncorrectable coagulopathy; bowel ischemia; and excessive abdominal wall fat.

Relative contraindications include recent gastrointestinal bleeding, hemodynamic instability, ascites, respiratory compromise, and certain anatomic alterations.

For members receiving anticoagulant or antiplatelet therapy (Itkin, 2011):

- International Normalized Ratio should be less than 1.5.
- Platelet count should be greater than 50,000/µL

Alternative covered services

- Bowel habit interventions.
- Anal plugs.
- Pelvic floor muscle training.
- Rectal irrigation.
- Drug therapy (e.g., bulk-forming agents [fibers], emollient stool softeners, rapidly acting lubricants, prokinetics, laxatives, osmotic agents, and prosecretory drugs).
- Electrostimulation.
- Other surgical or minimally invasive procedures (e.g., colostomy, artificial bowel sphincter, or dynamic graciloplasty).

Background

Fecal incontinence is a debilitating symptom resulting from deficits in factors that control bowel function. Organic causes include neurogenic disorders, inflammatory disorders, obstetric trauma, and anorectal anomalies. Functional causes encompass bowel disturbances, most commonly constipation with or without fecal impaction or overflow diarrhea, without evidence of a structural or biochemical explanation (Bharucha, 2015).

Definitions of fecal incontinence vary according to target population (adults versus children), symptoms, symptom duration, and criteria used (Bharucha, 2015; Paquette, 2015). A working definition from the American Society of Colon and Rectal Surgeons encompasses several factors: “The uncontrolled passage of feces or gas over at least one month’s duration, in an individual of at least four years of age, who had previously achieved control” (Paquette, 2015).

Fecal incontinence is a clinical diagnosis primarily based on history and examination, and may include anal manometry, anal ultrasound, colonic transit study, magnetic resonance imaging, defecography, flexible sigmoidoscopy or colonoscopy, and anal electromyography (National Institute of Diabetes and Digestive and Kidney Diseases, 2017). Initial treatment typically involves one or more of the following conservative approaches: dietary modifications, medications (laxatives and suppositories), rectal irrigation, bowel training, pelvic floor exercises, biofeedback, manual disimpaction, and electrostimulation. Surgery may be indicated for fecal incontinence refractory to conservative treatment or for colonic pseudo-obstruction.

Cecostomy is the creation of an opening in the cecum to facilitate an antegrade continence enema or to provide cecal decompression (Itkin, 2011). The procedure involves a standard colonoscopy preparation followed by placement of a temporary decompressive or lavage cecostomy tube (C-tube) surgically or percutaneously with endoscopic or image guidance. Fluoroscopically-guided percutaneous cecostomy is performed according to the technique first described by Chait, et al. (1997) in treating fecal incontinence in children (see also Itkin, 2011). The cecostomy tube/catheter used in this procedure has received marketing approval as a Class II device (U.S. Food and Drug Administration, 2021).

For open cecostomy, the hospital length of stay ranges from five to 10 days. Patients undergoing percutaneous cecostomy typically have a shorter hospital stay. Approximately one week after the procedure, the patient begins self-administering antegrade continence enemas through the C-tube, and an individualized irrigation routine is established. After six weeks, the temporary catheter is exchanged for a semipermanent, low-profile cecostomy catheter designed to accommodate different lengths of subcutaneous tissue. This exchange is an outpatient procedure performed by a gastroenterologist, colorectal surgeon, or interventional radiologist over a wire with fluoroscopic guidance, without sedation or antibiotic coverage. Replacement of the semipermanent catheters is performed annually.

Findings

We identified three systematic reviews or evidence reports, four evidence-based guidelines, two new case series, one retrospective cohort study, and no economic studies for this policy. The evidence consists of largely single-institution, retrospective case series without comparators.

The American Gastroenterological Association and the Society of Interventional Radiology in joint guidelines suggest several pre-procedural measures for cecostomy, applicable based on patient risk. For low-risk conditions, recommendations include stopping warfarin five days prior and ensuring International Normalized Ratio is below 1.5, alongside managing clopidogrel and aspirin therapies. High-risk patients should also cease warfarin five days before, substitute it with low molecular weight heparin, and carefully manage clopidogrel and aspirin. Additionally, the Society recommends correcting International Normalized Ratio above 1.5, ensuring adequate platelets, withholding clopidogrel for five days, continuing aspirin, and managing low molecular weight heparin doses appropriately before the procedure (Itkin, 2011). American Gastroenterological Association released updated guidelines in 2017, but no policy changes are warranted (Bharucha, 2017).

An American Academy of Family Physicians guideline for treating constipation in the elderly does not mention cecostomy as an option (Mounsey, 2015).

In 2022, the United European Gastroenterology, European Society of Coloproctology, European Society of Neurogastroenterology and Motility and the European Society for Primary Care Gastroenterology issued diagnosis and treatment of fecal Incontinence that mirrors others published (Assmann, 2022).

The American Society of Colon and Rectal Surgeons' 2023 guidelines reviewed 182 sources on fecal incontinence, highlighting cecostomy in 2 case series with a total of n = 134 adults. At 22-48 months follow-up, 78-100% of patients continued using antegrade enemas via cecostomy tubes. Additionally, a retrospective study (n = 75) showed a decrease in mean Wexner scores from 14.3 to 3.4 post-treatment. Despite limited evidence, cecostomy tubes are considered for highly motivated patients with refractory fecal incontinence, aiming to avoid permanent fecal diversion (Liliana, 2023).

A systematic review of 40 studies (n = 2,086) of pediatric fecal incontinence showed the complication rate after cecostomy was lower compared to after appendicostomy (16.6% versus 42.3%). The most frequent complication

after appendicostomy was stenosis, occurring in 16.7% of patients. Leakage was the second most common complication after appendicostomy at 10.8%. In contrast, stenosis and leakage were rare after cecostomy, occurring in only 0.5% and 2.3% of patients, respectively. Revision of surgery owing to failure was required in 1.5% of cecostomy patients compared to 16.5% of appendicostomy patients. Only 0.5% of cecostomy patients required a diverting ostomy due to failure, versus 3.0% of appendicostomy patients. Achievement of fecal continence and improvement in patient quality of life were similar in both groups, but need for surgical revision was 15% higher after appendicostomy (Mohamed, 2020).

A systematic review/meta-analysis of three studies (n = 166) compared Malone appendicostomy and cecostomy tube insertion among children with intractable constipation. No significant difference existed in the percent achieving continence (80% to 70%). Need for additional surgery was higher in Malone appendicostomy patients (30% versus 12%, *P* = .01) (Li, 2018). Complication rates also varied between the two procedures. No significant difference was found in fecal leakage around the insertion site between the two methods, although there was high heterogeneity across studies. The Malone appendicectomy group had a higher rate of infection at the insertion site (18%) compared to the cecostomy group (10%), with a relative risk of 2.59 (95% confidence interval: 1.08 to 6.16). Additionally, excessive granulation tissue was notably higher in patients treated with cecostomy tube insertion (49%) compared to Malone appendicostomy (13%), with a relative risk of 0.35 (95% confidence interval: 0.13 to 0.97).

A systematic review of 45 articles (n = 1157) of pediatric idiopathic constipation included only two which were randomized, many with small sample sizes (median = 16). Half of the studies had heterogenous populations, and follow-up was short (median 1.5 years). Antegrade continence enema operation-open/laparoscopic assisted, cecostomy, was successful in 82% of cases, with high morbidity and reoperations. Colon resection and pull-through operations reported good outcomes in 79% of children but were also associated with significant morbidity and a 10% reoperation rate. Botulinum toxin injections and internal sphincter myectomy were comparably effective in the short term. A permanent colostomy was successful in 86% of refractory cases (Siminas, 2015).

In a study of 290 children with fecal incontinence, the success rate of cecostomy placement was 98%, and 92% had a successful exchange to a low-profile tube. In addition, 29% experienced one or more early problems after cecostomy, and 3% had major complications (Khan, 2015).

One Cochrane review found a striking lack of high-quality randomized controlled trials on fecal incontinence surgery, with existing trials focusing on sacral neuromodulation and injectable bulking agents (Brown, 2013). Therefore, clinical research provides limited guidance for use of alternative surgical procedures such as cecostomy.

A review observes that surgery for bowel obstruction has high recurrence, elevated morbidity and mortality, comorbidities that may prevent surgical intervention, and limits of endoscopic stent placement. Decompressive cecostomy placement is minimally invasive, safe, and effective, and more data will better define its indications (Miller, 2017).

References

On January 5, 2024, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “cecostomy” [MeSH] and free text terms

“cecostomy” and “caecostomy.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

2/2016: initial review date and clinical policy effective date: 7/2016

1/2018: Policy references updated.

1/2019: Policy references updated. Policy ID changed

3/2000: Policy references updated.

3/2021: Policy references updated.

3/2022: Policy references updated.

3/2023: Policy references updated.

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