



# CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Barnett Continent Intestinal Reservoir (BCIR)**

**Effective Date ..... 5/15/2011**  
**Next Review Date ..... 5/15/2012**  
**Coverage Policy Number ..... 0360**

## Table of Contents

Coverage Policy .....	1
General Background .....	1
Coding/Billing Information .....	3
References .....	4
Policy History .....	5

## Hyperlink to Related Coverage Policies

### INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

## Coverage Policy

**CIGNA covers Barnett Continent Intestinal Reservoir (BCIR) as medically necessary for an individual with severe bowel disease, when the individual is not considered to be a candidate for an ileal pouch anal anastomosis (IPAA) or there is failure of a conventional (i.e., Brooke) ileostomy, IPAA or alternative continent (Koch) procedure.**

## General Background

It is estimated that more than two million Americans suffer from severe bowel disease, including familial adenomatous polyposis (FAP) and ulcerative colitis (UC). Prophylactic colectomy or proctocolectomy is recommended in selected patients with FAP, based on their significant risk for colon cancer (American Society of Colon and Rectal Surgeons [ASCRS], 2003). Approximately 25–40% of individuals with UC will require surgery at some time during their illness. Many of these patients are referred for surgical treatment due to disease that is refractory to a medical regimen. Other indications for surgical intervention include hemorrhage, colonic dysplasia, and carcinoma. Total proctocolectomy (TPC), or removal of the entire colon and rectum, is curative for UC in many cases. UC can be difficult to diagnose because its symptoms are similar to those of Crohn's, another chronic disease of the bowel. Approximately 20% of patients presumed to have UC are subsequently diagnosed by postoperative histological findings with either indeterminate colitis or Crohn's disease (CD). The type of surgery performed for patients with severe bowel disease takes into account factors such as the patient's overall health, preoperative anorectal function, and the presence of any dysplasia or cancer.

## **Surgical Procedures**

TPC with conventional (Brooke) ileostomy was one of the earliest procedures performed for UC. In this procedure, the ileum or end of the small intestine is brought through an opening in the abdominal wall and sewn to the skin to create a stoma. An external appliance is attached to the abdominal stoma for drainage of fecal matter. Advantages of this procedure include relatively low morbidity and the absence of functional problems that are associated with other procedures. A significant disadvantage is the permanent need for an external appliance.

Total proctocolectomy with ileal pouch-anal anastomosis (IPAA), also referred to as the J-pouch, has become the surgical procedure of choice for patients requiring TPC for UC or familial polyposis. IPAA involves the construction of a pouch from loops of the ileum or small intestine, which is then attached to the anal canal. The ability to defecate via the anus is maintained. A temporary conventional ileostomy is sometimes used with this procedure to allow for healing. Pouchitis, an inflammation of the ileal reservoir, is the most frequent complication after IPAA.

Another surgical option, TPC with continent reservoir, involves the creation of a pouch from the patient's small intestine. The pouch provides internal storage for intestinal contents and is attached to the abdominal wall with a flush stoma. A one-way valve allows for emptying of the pouch by inserting a catheter through the stoma. This continent device eliminates the need for an external appliance, simplifying social and recreational activities. The procedure was devised by Dr. Nils Koch in 1969. Initially, the Koch pouch was associated with a high failure rate, due to significant complications of valve slippage and fistula formation. In addition, the development of pouch anal procedures reduced the demand for this procedure. Subsequent modifications of the procedure have led to improved outcomes. Currently, the use of the continent ileostomy or Koch pouch is limited to those patients who are not candidates for an IPAA and as a modification to an existing conventional ileostomy or alternative to ileostomy for patients requiring ileal pouch excision (ASCRS, 2003).

The Barnett continent intestinal reservoir (BCIR) is a modified version of the continent (Koch pouch) ileostomy. Dr. William Barnett made several design modifications in an attempt to reduce the incidence of the most serious complications of continent slipped valves and fistulae. The method of valve construction was changed, as well as the direction of the flow within the anastomosed portion of the intestine. Initially, a plastic collar was placed around the valve for additional support and stabilization. Rejection of the plastic material caused the formation of fistulae into the valve. The procedure was further modified to construct a collar from the patient's small intestine. The configuration of the pouch was changed in order to decrease the number of suture lines, allowing for faster healing and reduced fistula development. Lastly, the creation of a serosal patch over the suture line decreased the occurrence of leakage. Construction of the BCIR involves taking down a preexisting ileostomy or removing the colon and rectum if this has not been previously done. It is recommended that surgeons who perform IPAA, Koch or BCIR procedures have specific training or significant experience with those procedures (Society of Surgery of the Alimentary Tract [SSAT], 2005).

## **BCIR Literature Review**

A limited number of studies in the published peer-reviewed medical literature have investigated the safety and effectiveness of BCIR, primarily because this type of continent ileostomy is a variant of the Koch pouch which is an established procedure. Prospective and retrospective case series (n=42–510) of patients with a BCIR have reported success rates of 92%–95% during a postoperative follow-up period of 1–5 years (Behrens, et al., 1999; Mullen, et al., 1995). The majority of patients studied converted from a failed conventional ileostomy or IPAA to a continent ileostomy (BCIR). The reoperation rate for major pouch-related complications was 12.8% in one study (Mullen, et al., 1995) Complications have included slipped valve, pouchitis, pouch fistula, and small bowel obstruction.

Although limited to a few case series, the available evidence supports BCIR as an alternative for patients with severe bowel disease who are not candidates for the more commonly performed IPAA or who have failed other surgical options.

## **Crohn's Disease**

The role of TPC with IPAA or continent reservoir in patients with Crohn's colitis is controversial. Because CD commonly involves the small bowel and anus, the ileal pouch is generally not recommended. In addition, the evidence suggests that pouch procedures produce a high failure rate in patients with CD, and therefore many intestinal surgeons consider CD to be a contraindication to these operations. Recurrence of CD following any

surgical intervention is common. Colectomy, or resection of the diseased segment, is usually performed to manage complications of the disease. However, because of the overlap in clinical presentation of UC and CD, some patients undergoing IPAA are subsequently found to have CD (Braveman, et al., 2004).

**Literature Review:** A number of uncontrolled studies evaluating this subset of patients have been conducted and have had variable outcomes. A case series (n=64) by Lian et al. (2009) reported outcomes for patients undergoing continent ileostomy after a failed IPAA. Median follow-up was five years. Rates of revision, long-term dysfunction, and complications were 45.3%, 50%, and 60.9%, respectively. The retention rate of continent ileostomy was 95.3%.

Delaini et al. (2005) compared morbidity and mortality rates of CD patients who had either TPC with a continent ileostomy (n=59) or a conventional ileostomy (n=57). The rates of recurrent disease and reoperation with loss of small bowel were reported to be similar for the surviving patients (n=46) of each group at 24–27 years of follow-up. Based on the results of this study, it was concluded that proctocolitis due to CD should not be an absolute contraindication for continent ileostomy. The generalizability of these observations is limited by the size and retrospective nature of the study (Delaini, et al., 2005).

A retrospective series (n=41) by Braveman et al. (2004) reported complications such as pouchitis, anal stricture or fistula/abscess formation in 93% of patients at a median follow-up of 66 months. While another case series (n=41) by Regimbeau and colleagues (2001) reported a 27% complication rate at a mean follow-up of 10 years in patients with CD who had no evidence of small bowel or anoperineal disease.

There is some evidence in the published peer-reviewed scientific literature to suggest that continent ileostomy for failed IPAA can be performed safely in patients with CD with a complication rate similar to that in patients with UC.

### Professional Societies/Organizations

According to the ASCRS practice parameters for the surgical treatment of UC, surgery is indicated when medical therapy is ineffective. TPC with ileostomy has been the conventional operative approach for patients with UC and may be considered a benchmark procedure to which all other operations are compared. Although restorative TPC with IPAA has become increasingly popular during the past two decades, proctocolectomy with ileostomy can still be considered the first-line procedure for patients who are at significant risk for pouch failure and for those with impaired anal sphincter muscles, previous anoperineal disease, or limited physiological reserve due to comorbidities (Cohen, et al., 2005).

The SSAT lists four surgical options for patients with ulcerative colitis: 1) TPC and ileostomy; 2) TPC with continent ileostomy (e.g., Koch pouch); 3) TPC with IPAA; or 4) colectomy with ileorectal anastomosis. The Koch pouch is typically reserved for patients with previous TPCs who are experiencing complications with their ileostomies. Advanced age, rectal cancer, and previous anal sphincter damage are relative contraindications for the IPAA procedure. The IPAA is not indicated in patients with Crohn's disease (SSAT, 2005).

### Summary

Despite the lack of evaluation via randomized controlled trials (RCTs), the overall body of evidence in the peer-reviewed medical literature is supportive of the Barnett continent intestinal reservoir (BCIR) as a surgical treatment option for a subset of patients with ulcerative colitis (UC) and familial adenomatous polyposis (FAP). In general, Crohn's disease (CD) remains a contraindication to performing a pouch procedure. However, in patients where Crohn's colitis is limited to the colon and rectum, such a procedure may be considered.

---

## Coding/Billing Information

**Note:** This list of codes may not be all-inclusive.

**Covered when medically necessary and used to report Barnett continent intestinal reservoir (BCIR):**

CPT®* Codes	Description
----------------	-------------

44799	Unlisted procedure, intestine
-------	-------------------------------

ICD-9-CM Diagnosis Codes	Description
153.0-153.9	Malignant neoplasm of colon
154.0-154.8	Malignant neoplasm of rectum, rectosigmoid junction, and anus
211.3	Benign neoplasm of colon
211.4	Benign neoplasm of rectum and anal canal
555.0 - 555.9	Regional enteritis
556.0 - 556.9	Ulcerative colitis
557.0-557.9	Vascular insufficiency of intestine
569.62	Mechanical complication of colostomy and enterostomy

**\*Current Procedural Terminology (CPT®) © 2010 American Medical Association: Chicago, IL.**

## References

1. American Society of Colon and Rectal Surgeons (ASCRS). Practice parameters for the treatment of patients with dominantly inherited colorectal cancer (familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer). 2003. Accessed Mar 13, 2005. Available at URL address: <http://www.fascrs.org/displaycommon.cfm?an=1&subarticlenbr=144>
2. American Society of Colon and Rectal Surgeons (ASCRS). Surgical treatment for ulcerative colitis. 2003. Accessed Mar 9, 2005. Available at URL address: <http://www.fascrs.org/displaycommon.cfm?an=1&subarticlenbr=123>
3. Behrens DT, Paris M, Luttrell JN. Conversion of failed ileal pouch-anal anastomosis to continent ileostomy. *Dis Colon Rectum*. 1999 Apr;42(4):490-5; discussion 495-6.
4. Braveman JM, Schoetz DJ Jr, Marcello PW, Roberts PL, Collier JA, Murray JJ, et al. The fate of the ileal pouch in patients developing Crohn's disease. *Dis Colon Rectum*. 2004
5. Cohen JL, Strong SA, Hyman NH, Buie WD, Dunn GD, Ko CY, et al. Practice parameters for the surgical treatment of ulcerative colitis. *Dis Colon Rectum*. 2005 Nov;48(11):1997-2009.
6. Delaini GG, Scaglia M, Colucci G, Hulten L. The ileoanal pouch procedure in the long-term perspective: a critical review. *Tech Coloproctol*. 2005 Dec;9(3):187-92. Epub 2005 Nov 21.
7. Delaini GG, Scaglia M, Lindholm E, Colucci G, Hulten L. Is an ileal pouch an alternative for patients requiring surgery for Crohn's proctocolitis? *Tech Coloproctol*. 2005 Dec;9(3):222-4. Epub 2005 Nov 21.
8. Goroll AH, Mulley AG. *Primary Care Medicine: Office Evaluation and Management of the Adult Patient*, 6th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.
9. Joyce MR, Fazio VW. Can ileal pouch anal anastomosis be used in Crohn's disease? *Adv Surg*. 2009;43:111-37.
10. Kornbluth A, Sachar DB; Practice Parameters Committee of the American College of Gastroenterology. Ulcerative colitis practice guidelines in adults (update): American College of Gastroenterology, Practice Parameters Committee. *Am J Gastroenterol*. 2004 Jul;99(7):1371-85.
11. Krausz MM, Duek SD. Restorative proctocolectomy with ileal pouch-anal anastomosis for ulcerative colitis and familial adenomatous polyposis: twenty years follow-up in 174 patients. *Isr Med Assoc J*. 2005 Jan;7(1):23-7.

12. Lian L, Fazio VW, Remzi FH, Shen B, Dietz D, Kiran RP. Outcomes for patients undergoing continent ileostomy after a failed ileal pouch-anal anastomosis. *Dis Colon Rectum*. 2009 Aug;52(8):1409-14; discussion 4414-6.
13. McLeod RS. Surgery for inflammatory bowel diseases. *Dig Dis*. 2003;21(2):168-79.
14. Mullen P, Behrens D, Chalmers T, Berkey C, Paris M, Wynn M, et al. Barnett continent intestinal reservoir: multicenter experience with an alternative to the Brooke ileostomy. *Dis Colon Rectum*. 1995 Jun;38(6):573-82.
15. Nessar G, Fazio VW, Tekkis P, Connor J, Wu J, Bast J, et al. Long-term outcome and quality of life after continent ileostomy. *Dis Colon Rectum*. 2006 Mar;49(3):336-44.
16. Regimbeau JM, Panis Y, Cazaban L, Pocard M, Bouhnik Y, Matuchansky C, et al. Long-term results of faecal diversion for refractory perianal Crohn's disease. *Colorectal Dis*. 2001 Jul;3(4):232-7.
17. Society of Surgery of the Alimentary Tract (SSAT), Inc. Management of ulcerative colitis. 2001. Modified 2005 Mar 13. Accessed Mar 31, 2009. Available at URL address: [http://www.guideline.gov/summary/summary.aspx?ss=15&doc\\_id=2967&nbr=2193](http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=2967&nbr=2193)

## Policy History

<b>Pre-Merger Organizations</b>	<b>Last Review Date</b>	<b>Policy Number</b>	<b>Title</b>
CIGNA HealthCare	5/15/2007	0360	Barnett Continent Intestinal Reservoir (BCIR)

"CIGNA", "CIGNA HealthCare" and the "Tree of Life" logo are registered service marks of CIGNA Intellectual Property, Inc., licensed for use by CIGNA Corporation and its operating subsidiaries. All products and services are provided by such operating subsidiaries and not by CIGNA Corporation. Such operating subsidiaries include Connecticut General Life Insurance Company, CIGNA Health and Life Insurance Company, CIGNA Behavioral Health, Inc., CIGNA Health Management, Inc., and HMO or service company subsidiaries of CIGNA Health Corporation and CIGNA Dental Health, Inc. In Arizona, HMO plans are offered by CIGNA HealthCare of Arizona, Inc. In California, HMO plans are offered by CIGNA HealthCare of California, Inc. In Connecticut, HMO plans are offered by CIGNA HealthCare of Connecticut, Inc. In North Carolina, HMO plans are offered by CIGNA HealthCare of North Carolina, Inc. In Virginia, HMO plans are offered by CIGNA HealthCare Mid-Atlantic, Inc. All other medical plans in these states are insured or administered by Connecticut General Life Insurance Company or CIGNA Health and Life Insurance Company.