



## MASSACHUSETTS

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# Wireless Capsule Endoscopy as a Diagnostic Technique in Disorders of the Small Bowel, Esophagus, and Colon

## Table of Contents

- [Policy: Commercial](#)
- [Policy: Medicare](#)
- [Authorization Information](#)
- [Coding Information](#)
- [Description](#)
- [Policy History](#)
- [Information Pertaining to All Policies](#)
- [References](#)

## Policy Number: 185

BCBSA Reference Number: 6.01.33

## Related Policies

None

## Policy

### Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

Wireless capsule endoscopy may be **MEDICALLY NECESSARY** for the following indications:

- Initial diagnosis in patients with suspected Crohn's disease without evidence of disease on conventional diagnostic tests such as small-bowel follow-through (SBFT) and upper and lower endoscopy,
- Obscure GI bleeding suspected of being of small bowel origin, as evidenced by prior inconclusive upper and lower gastrointestinal studies, and
- For surveillance of the small bowel in patients with hereditary GI polyposis syndromes, including familial adenomatous polyposis, and Peutz-Jeghers syndrome.

Note: Obscure GI bleeding is defined as:

- Recurrent or persistent iron-deficiency anemia, positive fecal occult blood test, or
- Visible bleeding with no bleeding source found at original endoscopy.

Wireless capsule endoscopy is **INVESTIGATIONAL** for other indications, including, but not limited to, the following:

- Evaluation of the extent of involvement of known Crohn's disease or ulcerative colitis,
- Evaluation of the esophagus, in patients with gastroesophageal reflux (GERD) or other esophageal pathologies,
- Evaluation of other gastrointestinal diseases not presenting with gastrointestinal bleeding, including, but not limited to celiac sprue, irritable bowel syndrome, Lynch syndrome, and small bowel neoplasm,
- Evaluation of the colon including, but not limited to, detection of colonic polyps or colon cancer, and
- Initial evaluation of patients with acute upper GI bleeding.

The patency capsule including its use to evaluate patency of the gastrointestinal tract before wireless capsule endoscopy is [INVESTIGATIONAL](#).

### **Medicare HMO Blue<sup>SM</sup> and Medicare PPO Blue<sup>SM</sup> Members**

BCBSMA covers wireless capsule endoscopy for the following indication(s) for Medicare HMO Blue and Medicare PPO Blue members in accordance with CMS LCD:

#### **Esophageal Varices**

- Capsule endoscopy of the esophagus may be an alternative to conventional endoscopy in cirrhotic patients who cannot tolerate or refuse to undergo conventional screening endoscopic esophageal endoscopy (2-4) and who are anticipated to tolerate adequate doses of beta-blockers.

#### **Gastrointestinal Bleeding**

- The test is indicated for the diagnosis of occult gastrointestinal bleeding, the site of which has not been identified previously by any of the following: upper gastrointestinal endoscopy, colonoscopy, push enteroscopy, nuclear imaging, or radiological procedures. The test is especially helpful in the diagnosis of angiodysplasias of the gastrointestinal tract.
- Wireless capsule endoscopy is limited to those patients who have undergone upper GI endoscopy and colonoscopy, and when these tests have failed to reveal a source of bleeding. Documentation in the medical record must indicate that the beneficiary has GI blood loss and anemia secondary to the bleeding.

#### **Small Bowel Neoplasm**

- The test is indicated for the detection of neoplasms of the small bowel, when the diagnosis has not been previously confirmed by other studies (e.g. upper gastrointestinal endoscopy, colonoscopy, push enteroscopy, nuclear imaging, or radiological procedures). The patient must be symptomatic for a neoplasm (e.g., partial bowel obstruction, GI bleeding), and other diagnostic testing to assess these symptoms (i.e., upper GI endoscopy and colonoscopy) must have been performed.

#### **Crohn's Disease**

- The test is indicated for the diagnosis of Crohn's disease when the condition has not been previously confirmed. The wireless capsule endoscopy is limited to those patients who are symptomatic for Crohn's disease (e.g., diarrhea, GI bleeding, abdominal pain) and when they have undergone complete lower gastrointestinal studies (i.e., colonoscopy, barium enema, stool specimen) and when these studies have failed to reveal the source of the patient's symptoms. While there is evidence in the literature to support prior radiologic study to exclude strictures, this is not a requirement.

BCBSMA does not cover wireless capsule endoscopy for the following indications for Medicare HMO Blue and Medicare PPO Blue members in accordance with CMS LCD:

- GERD
- Colorectal cancer screening,
- Confirmation of lesions or pathology normally within the reach of upper or lower endoscopes (lesions proximal to the ligament of Treitz or distal to the ileum), and
- Patients with hematemesis

BCBSMA does not cover wireless capsule endoscopy for Medicare HMO Blue and Medicare PPO Blue members in accordance with CMS LCD when the procedure is:

- Performed by physicians not trained in endoscopy or for independent diagnostic testing facilities, which are not under the general supervision of a physician trained in endoscopy procedures or
- The wireless device is not FDA approved

#### ***Local Coverage Determination (LCD) for Wireless Capsule Endoscopy (L22531)***

[http://coverage.cms.fu.com/mcd\\_archive/viewlcd.asp?lcd\\_id=22531&lcd\\_version=27&show=all](http://coverage.cms.fu.com/mcd_archive/viewlcd.asp?lcd_id=22531&lcd_version=27&show=all)

## Authorization Information

### Commercial Members: Managed Care (HMO and POS)

Prior authorization is NOT required.

### Commercial Members: PPO, and Indemnity

Prior authorization is NOT required.

### Medicare Members: HMO BlueSM

Prior authorization is NOT required.

### Medicare Members: PPO BlueSM

Prior authorization is NOT required

## CPT Codes / HCPCS Codes / ICD-9 Codes

*The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member. A draft of future ICD-10 Coding related to this document, as it might look today, is included below for your reference.*

*Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.*

### CPT Codes

CPT codes:	Code Description
91110	Gastrointestinal tract imaging, intraluminal (eg, capsule endoscopy), esophagus through ileum, with physician interpretation and report
91111	Gastrointestinal tract imaging, intraluminal (e.g., capsule endoscopy), esophagus with physician interpretation and report

### ICD-9 Diagnosis Codes

ICD-9-CM diagnosis codes:	Code Description
152.0	Malignant neoplasm of duodenum
152.1	Malignant neoplasm of jejunum
152.2	Malignant neoplasm of ileum
152.3	Malignant neoplasm of Meckel's diverticulum
152.8	Malignant neoplasm of other specified sites of small intestine
152.9	Malignant neoplasm of small intestine, unspecified site
197.4	Secondary malignant neoplasm of small intestine including duodenum
211.2	Benign neoplasm of duodenum, jejunum, and ileum
230.7	Carcinoma in situ of other and unspecified parts of intestine
280.0	Iron deficiency anemia secondary to blood loss (chronic)
456.1	Esophageal varices without mention of bleeding
456.21	Esophageal varices in diseases classified elsewhere, without mention of bleeding
555.0	Regional enteritis of small intestine
560.9	Unspecified intestinal obstruction
562.02	Diverticulosis of small intestine with hemorrhage
562.03	Diverticulitis of small intestine with hemorrhage
569.85	Angiodysplasia of intestine with hemorrhage

569.86	Dieulafoy lesion (hemorrhagic) of intestine
571.2	Alcoholic cirrhosis of liver
571.5	Cirrhosis of liver without mention of alcohol
571.6	Biliary cirrhosis
572.3	Portal hypertension
578.1	Blood in stool
578.9	Hemorrhage of gastrointestinal tract, unspecified
787.91	Diarrhea
789.00	Abdominal pain, unspecified site
789.01	Abdominal pain, right upper quadrant
789.02	Abdominal pain, left upper quadrant
789.03	Abdominal pain, right lower quadrant
789.04	Abdominal pain, left lower quadrant
789.05	Abdominal pain, periumbilic
789.06	Abdominal pain, epigastric
789.07	Abdominal pain, generalized
789.09	Abdominal pain, other specified site
792.1	Nonspecific abnormal findings in stool contents

### ICD-10 Diagnosis Codes

<b>ICD-10-CM Diagnosis codes:</b>	<b>Code Description</b>
C17.0	Malignant neoplasm of duodenum
C17.1	Malignant neoplasm of jejunum
C17.2	Malignant neoplasm of ileum
C17.3	Meckel's diverticulum, malignant
C17.8	Malignant neoplasm of overlapping sites of small intestine
C17.9	Malignant neoplasm of small intestine, unspecified
C78.4	Secondary malignant neoplasm of small intestine
D01.40	Carcinoma in situ of unspecified part of intestine
D01.49	Carcinoma in situ of other parts of intestine
D13.2	Benign neoplasm of duodenum
D13.30	Benign neoplasm of unspecified part of small intestine
D13.39	Benign neoplasm of other parts of small intestine
I85.00	Esophageal varices without bleeding
I85.10	Secondary esophageal varices without bleeding
K50.00	Crohn's disease of small intestine without complications
K50.011	Crohn's disease of small intestine with rectal bleeding
K50.012	Crohn's disease of small intestine with intestinal obstruction
K50.013	Crohn's disease of small intestine with fistula
K50.014	Crohn's disease of small intestine with abscess
K50.018	Crohn's disease of small intestine with other complication
K50.019	Crohn's disease of small intestine with unspecified complications
K52.2	Allergic and dietetic gastroenteritis and colitis
K52.89	Other specified noninfective gastroenteritis and colitis
K55.21	Angiodysplasia of colon with hemorrhage
K56.60	Unspecified intestinal obstruction
K57.01	Diverticulitis of small intestine with perforation and abscess with bleeding
K57.11	Diverticulosis of small intestine without perforation or abscess with bleeding

K57.13	Diverticulitis of small intestine without perforation or abscess with bleeding
K57.41	Diverticulitis of both small and large intestine with perforation and abscess with bleeding
K57.51	Diverticulosis of both small and large intestine without perforation or abscess with bleeding
K57.53	Diverticulitis of both small and large intestine without perforation or abscess with bleeding
K63.01	Dieulafoy lesion of intestine
K70.2	Alcoholic fibrosis and sclerosis of liver
K70.30	Alcoholic cirrhosis of liver without ascites
K70.31	Alcoholic cirrhosis of liver with ascites
K74.0	Hepatic fibrosis
K74.3	Primary biliary cirrhosis
K74.4	Secondary biliary cirrhosis
K74.5	Biliary cirrhosis, unspecified
K74.60	Unspecified cirrhosis of liver
K74.69	Other cirrhosis of liver
K76.6	Portal hypertension
K92.1	Melena
K92.2	Gastrointestinal hemorrhage, unspecified
R10.0	Acute abdomen
R10.10	Upper abdominal pain, unspecified
R10.11	Right upper quadrant pain
R10.12	Left upper quadrant pain
R10.13	Epigastric pain
R10.2	Pelvic and perineal pain
R10.30	Lower abdominal pain, unspecified
R10.31	Right lower quadrant pain
R10.32	Left lower quadrant pain
R10.33	Periumbilical pain
R10.84	Generalized abdominal pain
R10.9	Unspecified abdominal pain
R19.5	Other fecal abnormalities
R19.7	Diarrhea, unspecified

## Description

Wireless capsule endoscopy is performed using a disposable imaging capsule that contains video imaging, self-illumination, and image transmission modules as well as a battery supply that lasts up to 8 hours. The indwelling camera takes images at a rate of 2 frames per second as peristalsis carries the capsule through the gastrointestinal tract. The average transit time from ingestion to evacuation is 24 hours. The device uses wireless radio transmission to send the images to a receiving recorder device that the patient wears around the waist which contains some localizing antennae sensors that can roughly gauge where the image was taken over the abdomen. Images are then downloaded onto a workstation for viewing and processing.

Examples of wireless capsule endoscopy include the PillCam™ Given® Diagnostic Imaging System from Given Imaging, Ltd and the Capsule Endoscope System from Olympus. All wireless capsule endoscopy is considered investigational regardless of the commercial name, the manufacturer or FDA approval status except as noted in the policy statement.

## Summary

Wireless capsule is a device that allows visualization of intestinal mucosa that is not accessible by traditional upper or lower endoscopy. It has been most extensively studied in patients with obscure gastrointestinal (GI) tract bleeding. For this population, the evidence demonstrates that capsule endoscopy can identify a bleeding source in a substantial number of patients who are unable to be diagnosed by other methods, with a low incidence of adverse events. Since there are no other options for diagnosing obscure small bowel bleeding in patients who have negative upper and lower endoscopy, this technique will likely improve health outcomes by directing specific treatment when a bleeding source is identified. Therefore wireless capsule endoscopy may be considered medically necessary for the evaluation of obscure GI bleeding.

Similarly, for patients with suspected small bowel Crohn's disease and for patients with familial polyposis syndromes who require surveillance of the small bowel, other methods are not available for visualizing the small bowel. Although the performance characteristics of the capsule for these indications are uncertain, it is likely to improve health outcomes by identifying some cases of these disorders and directing specific treatment. Therefore, wireless capsule endoscopy may be considered medically necessary for these indications.

For other conditions, including acute upper GI bleeding, determining the extent of involvement in Crohn's disease, ulcerative colitis, celiac disease, esophageal conditions, Lynch syndrome, colon cancer screening, and for determination of patency of the GI tract, the evidence is not sufficient to conclude that health outcomes are improved. For some of these conditions, e.g., esophageal conditions and colon cancer screening, other modalities are available that are superior to capsule endoscopy. For other conditions, e.g., determining the extent of Crohn's disease, the accuracy of the device needs to be established prior to determining whether outcomes are improved. For these reasons, wireless capsule endoscopy is considered investigational for these indications.

## Policy History

Date	Action
7/2014	Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.
2/2014	BCBSA National medical policy review. New investigational indications described. Effective 2/1/2014. Removed CPT code 91112 as it does not meet the intent. Removed ICD-9 diagnosis codes as they are not in the LCD (L22531) 280.9, 456.0, 456.2, 537.83, 555.1, 555.2, 555.9, and added 569.86 as this is in the :LCD.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
10/2011	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements.
11/2010	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements.
5/1/2010	Medical Policy 185 effective 5/1/2010 describing covered and non-covered indications.
11/2008	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements.
11/2007	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements.
1/2007	National policy reviewed 1/2007. Revisions policy statement
11/2006	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements.

## Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)  
[Managed Care Guidelines](#)  
[Indemnity/PPO Guidelines](#)  
[Clinical Exception Process](#)  
[Medical Technology Assessment Guidelines](#)

## References

1. Raju GS, Gerson L, Das A et al. American Gastroenterological Association (AGA) Institute medical position statement on obscure gastrointestinal bleeding. *Gastroenterology* 2007; 133(5):1694-6.
2. Zuckerman GR, Prakash C, Askin MP et al. AGA technical review on the evaluation and management of occult and obscure gastrointestinal bleeding. *Gastroenterology* 2000; 118(1):201-21.
3. Lewis BS. Small intestinal bleeding. *Gastroenterol Clin North Am* 2000; 29(1):67-95, vi.
4. Raju GS, Gerson L, Das A et al. American Gastroenterological Association (AGA) Institute technical review on obscure gastrointestinal bleeding. *Gastroenterology* 2007; 133(5):1697-717.
5. Hartmann D, Schmidt H, Bolz G et al. A prospective two-center study comparing wireless capsule endoscopy with intraoperative enteroscopy in patients with obscure GI bleeding. *Gastrointest Endosc* 2005; 61(7):826-32.
6. Pennazio M, Santucci R, Rondonotti E et al. Outcome of patients with obscure gastrointestinal bleeding after capsule endoscopy: report of 100 consecutive cases. *Gastroenterology* 2004; 126(3):643-53.
7. Koulaouzidis A, Rondonotti E, Giannakou A et al. Diagnostic yield of small-bowel capsule endoscopy in patients with iron-deficiency anemia: a systematic review. *Gastrointest Endosc* 2012; 76(5):983-92.
8. Leung WK, Ho SS, Suen BY et al. Capsule endoscopy or angiography in patients with acute overt obscure gastrointestinal bleeding: a prospective randomized study with long-term follow-up. *Am J Gastroenterol* 2012; 107(9):1370-6.
9. Gutkin E, Shalomov A, Hussain SA et al. Pillcam ESO((R)) is more accurate than clinical scoring systems in risk stratifying emergency room patients with acute upper gastrointestinal bleeding. *Therap Adv Gastroenterol* 2013; 6(3):193-8.
10. Chandran S, Testro A, Urquhart P et al. Risk stratification of upper GI bleeding with an esophageal capsule. *Gastrointest Endosc* 2013; 77(6):891-8.
11. Gralnek IM, Ching JY, Maza I et al. Capsule endoscopy in acute upper gastrointestinal hemorrhage: a prospective cohort study. *Endoscopy* 2013; 45(1):12-9.
12. Bourreille A, Ignjatovic A, Aabakken L et al. Role of small-bowel endoscopy in the management of patients with inflammatory bowel disease: an international OMED-ECCO consensus. *Endoscopy* 2009; 41(7):618-37.
13. Sung J, Ho KY, Chiu HM et al. The use of Pillcam Colon in assessing mucosal inflammation in ulcerative colitis: a multicenter study. *Endoscopy* 2012; 44(8):754-8.
14. El-Matary W, Huynh H, Vandermeer B. Diagnostic characteristics of given video capsule endoscopy in diagnosis of celiac disease: a meta-analysis. *J Laparoendosc Adv Surg Tech A* 2009; 19(6):815-20.
15. Rokkas T, Niv Y. The role of video capsule endoscopy in the diagnosis of celiac disease: a meta-analysis. *Eur J Gastroenterol Hepatol* 2012; 24(3):303-8.
16. Culliford A, Daly J, Diamond B et al. The value of wireless capsule endoscopy in patients with complicated celiac disease. *Gastrointest Endosc* 2005; 62(1):55-61.
17. Kurien M, Evans KE, Aziz I et al. Capsule endoscopy in adult celiac disease: a potential role in equivocal cases of celiac disease? *Gastrointest Endosc* 2013; 77(2):227-32.
18. Guturu P, Sagi SV, Ahn D et al. Capsule endoscopy with PILLCAM ESO for detecting esophageal varices: a meta-analysis. *Minerva Gastroenterol Dietol* 2011; 57(1):1-11.
19. Bhardwaj A, Hollenbeak CS, Pooran N et al. A meta-analysis of the diagnostic accuracy of esophageal capsule endoscopy for Barrett's esophagus in patients with gastroesophageal reflux disease. *Am J Gastroenterol* 2009; 104(6):1533-9.
20. Van Gossum A, Munoz-Navas M, Fernandez-Urien I et al. Capsule endoscopy versus colonoscopy for the detection of polyps and cancer. *N Engl J Med* 2009; 361(3):264-70.

21. Eliakim R, Fireman Z, Gralnek IM et al. Evaluation of the PillCam Colon capsule in the detection of colonic pathology: results of the first multicenter, prospective, comparative study. *Endoscopy* 2006; 38(10):963-70.
22. Schoofs N, Deviere J, Van Gossum A. PillCam colon capsule endoscopy compared with colonoscopy for colorectal tumor diagnosis: a prospective pilot study. *Endoscopy* 2006; 38(10):971-7.
23. Pilz JB, Portmann S, Peter S et al. Colon Capsule Endoscopy compared to Conventional Colonoscopy under routine screening conditions. *BMC Gastroenterol* 2010; 10:66.
24. Spada C, Hassan C, Marmo R et al. Meta-analysis shows colon capsule endoscopy is effective in detecting colorectal polyps. *Clin Gastroenterol Hepatol* 2010; 8(6):516-22.
25. Mata A, Llach J, Castells A et al. A prospective trial comparing wireless capsule endoscopy and barium contrast series for small-bowel surveillance in hereditary GI polyposis syndromes. *Gastrointest Endosc* 2005; 61(6):721-5.
26. Brown G, Fraser C, Schofield G et al. Video capsule endoscopy in peutz-jeghers syndrome: a blinded comparison with barium follow-through for detection of small-bowel polyps. *Endoscopy* 2006; 38(4):385-90.
27. Koornstra JJ. Small bowel endoscopy in familial adenomatous polyposis and Lynch syndrome. *Best Pract Res Clin Gastroenterol* 2012; 26(3):359-68.
28. Delvaux M, Ben Soussan E, Laurent V et al. Clinical evaluation of the use of the M2A patency capsule system before a capsule endoscopy procedure, in patients with known or suspected intestinal stenosis. *Endoscopy* 2005; 37(9):801-7.
29. Spada C, Shah SK, Riccioni ME et al. Video capsule endoscopy in patients with known or suspected small bowel stricture previously tested with the dissolving patency capsule. *J Clin Gastroenterol* 2007; 41(6):576-82.
30. Herrerias JM, Leighton JA, Costamagna G et al. Agile patency system eliminates risk of capsule retention in patients with known intestinal strictures who undergo capsule endoscopy. *Gastrointest Endosc* 2008; 67(6):902-9.
31. Postgate AJ, Burling D, Gupta A et al. Safety, reliability and limitations of the given patency capsule in patients at risk of capsule retention: a 3-year technical review. *Dig Dis Sci* 2008; 53(10):2732-8.
32. Banerjee R, Bhargav P, Reddy P et al. Safety and efficacy of the M2A patency capsule for diagnosis of critical intestinal patency: results of a prospective clinical trial. *J Gastroenterol Hepatol* 2007; 22(12):2060-3.
33. Lansdorp-Vogelaar I, von Karsa L, International Agency for Research on C. European guidelines for quality assurance in colorectal cancer screening and diagnosis. First Edition--Introduction. *Endoscopy* 2012; 44 Suppl 3:SE15-30