



## MASSACHUSETTS

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# Medical Policy **In Vivo Analysis of Colorectal Polyps**

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## Policy Number: 521

BCBSA Reference Number: 2.01.51A (For Plan internal use only)  
NCD/LCD: NA

## Related Policies

None

## Policy

### Commercial Members: Managed Care (HMO and POS), PPO and Indemnity Medicare HMO Blue<sup>SM</sup> and Medicare PPO Blue<sup>SM</sup> Members

In vivo analysis of colorectal polyps is [INVESTIGATIONAL](#).

## Prior Authorization Information

### Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

### Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	This is <b>not</b> a covered service.
Commercial PPO and Indemnity	This is <b>not</b> a covered service.
Medicare HMO Blue <sup>SM</sup>	This is <b>not</b> a covered service.
Medicare PPO Blue <sup>SM</sup>	This is <b>not</b> a covered service.

## CPT Codes / HCPCS Codes / ICD Codes

*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.*

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

## CPT Codes

There is no specific CPT code for this service.

## Description

Identification of premalignant lesions is considered one of the cornerstones of colorectal cancer prevention. While hyperplastic polyps are considered benign without malignant potential, adenomatous polyps are thought to represent one of the earliest stages in the progression to a malignancy.

Techniques have been developed as adjuncts to colonoscopy that are intended to distinguish between normal and precancerous tissue.

The first system developed was based on the observation that benign and malignant tissues emit different patterns and wavelengths of fluorescence after exposure to a laser light. One such device consists of an optical fiber emitting a laser that is directed against three different regions of the same polyp. The subsequent fluorescent signal is collected, measured, and analyzed by a proprietary system software, and classifies a polyp as "suspicious" (i.e., adenomatous) or "not suspicious" (i.e., hyperplastic).

Narrow band imaging (NBI) is another technique that allows visualization of the mucosal surface and capillary vessels and thus may assist in the differentiation of abnormal from normal mucosa during colonoscopy.

Examples of devices for in vivo analysis of colorectal polyps include the Optical Biopsy System from Spectra Science and the EVIS EXERA 160A System from Olympus Medical Systems Corp. All devices for in vivo analysis of colorectal polyps are considered investigational regardless of the commercial name, the manufacturer or FDA approval status.

## Summary

The pivotal question is whether any in vivo analysis of colorectal polyps is superior to established colorectal screening procedures. Randomized trial data, in which participants receive both in vivo and standard screening tests, and histologic confirmation of disease is matched to screening test results for each polyp are required to evaluate this technology. These studies have not been done. Since the impact of this technology on health outcomes is not known, it is considered investigational.

## Policy History

Date	Action
9/2022	Annual policy review. Policy updated with literature review through September 2022. References added. Policy statements unchanged.
2/2020	Policy updated with literature review through February 1, 2020, references added. Policy statements unchanged.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements
7/2011	Reviewed - Medical Policy Group - Hematology and Oncology. No changes to policy statements.
2/2/2011	New policy effective 2/2/2011 describing ongoing non-coverage.

## 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. Optical Biopsy System: Summary of Safety and Effectiveness. [www.fda.gov](http://www.fda.gov)
2. Mayinger B, Jordan M, Horner P et al. Endoscopic light-induced autofluorescence spectroscopy for the diagnosis of colorectal cancer and adenoma. *J Photochem Photobiol B*. 2003; 70(1):13-20.
3. Dhar A, Johnson KS, Novelli MR et al. Elastic scattering spectroscopy for the diagnosis of colonic lesions: initial results of a novel optical biopsy technique. *Gastrointest Endosc* 2006; 63(2):1257-61.
4. Inoue T, Murano M, Murano N et al. Comparative study of conventional colonoscopy and pan-colonic narrow-band imaging system in the detection of neoplastic colonic polyps: a randomized, controlled trial. *J Gastroenterol* 2008; 43(1):45-50.
5. Matsumoto T, Esaki M, Fujisawa R et al. Chromoendoscopy, narrow-band imaging colonoscopy and autofluorescence colonoscopy for detection of diminutive colorectal neoplasia in familial adenomatous polyposis. *Dis Colon Rectum* 2009; 52(6):1160-5.
6. Hunenburg R, Lammert F, Rabe C et al. Chromocolonoscopy detects more adenomas than white light colonoscopy or narrow band imaging colonoscopy in hereditary nonpolyposis colorectal cancer screening. *Endoscopy* 2009; 41(4):316-22.
7. Adler A, Pohl H, Papanikolaou IS. A prospective randomised study on narrow-band imaging versus conventional colonoscopy for adenoma detection: does narrow-band imaging induce a learning effect? *Gut* 2008; 57(1):59-64.
8. Adler A, Aschenbeck J, Yenerim T et al. Narrow-band versus white-light high definition television endoscopic imaging for screening colonoscopy: A prospective randomized trial. *Gastroenterology* 2009; 136(2):410-6.
9. Togashi K, Osawa H, Koinuma K et al. A comparison of conventional endoscopy, chromoendoscopy, and the optimal-band imaging system for the differentiation of neoplastic and non-neoplastic colonic polyps. *Gastrointest Endosc* 2009; 69(3):734-41.
10. Pohl J, Lotterer E, Balzer C et al. Computed virtual chromoendoscopy versus standard colonoscopy with targeted indigocarmine chromoscopy: a randomised multicentre trial. *Gut* 2009; 58(1):73-8.
11. Van den Broek FJ, Fockens P, Van Eeden S et al. Clinical evaluation of endoscopic trimodal imaging for the detection and differentiation of colonic polyps. *Clin Gastroenterol Hepatol* 2009; 7(3):288-95.
12. Hirata M, Tanaka S, Oka S et al. Magnifying endoscopy with narrow band imaging for diagnosis of colorectal tumors. *Gastrointest Endosc* 2007; 65(7):988-95.
13. Tischendorf JJ, Wasmuth HE, Koch A et al. Value of magnifying chromoendoscopy and narrow band imaging (NBI) in classifying colorectal polyps: a prospective controlled study. *Endoscopy* 2007; 39(12):1092-6.
14. Kaltenbach T, Friedland S, Soetikno R. A randomised tandem colonoscopy trial of narrow band imaging versus white light examination to compare neoplasia miss rates. *Gut* 2008; 57(10):1406-12.
15. Rex DK. Narrow band imaging without optical magnification for histologic analysis of colorectal polyps. *Gastroenterology* 2009; 136(4):1174-81.
16. Rastogi A, Keighley J, Singh V et al. High accuracy of narrow band imaging without magnification for the real-time characterization of polyp histology and its comparison with high-definition white light colonoscopy: a prospective study. *Am J Gastroenterol* 2009; 104(10):2422-30.
17. Rex DK, Helbig CC. High yields of small flat adenomas with high-definition colonoscopes using either white light or narrow band imaging. *Gastroenterology* 2007; 133(1):42-7.
18. Rogart JN, Jain D, Siddiqui UD. Narrow band imaging without high magnification to differentiate polyps during real-time colonoscopy: improvement with experience. *Gastrointest Endosc* 2008; 68(6):1136-45.
19. Sikka S, Ringold DA, Jonnalagadda S et al. Comparison of white light and narrow band high definition images in predicting colon polyp histology, using standard colonoscopes without optical magnification. *Endoscopy* 2008; 40(10):818-22.
20. Soetikno R, Kaltenbach T. The beginning of a new paradigm in colonoscopy? *Gastrointest Endosc* 2007; 65(7):996-7.
21. Lee MM, Enns R. Narrow band imaging for the detection of neoplastic lesions of the colon. *Can J Gastroenterology* 2009; 23(1):15-18.
22. Triadafilopoulos G, Li J. A pilot study to assess the safety and efficacy of the Third Eye retrograde auxiliary imaging system during colonoscopy. *Endoscopy* 2008; 40(6):478-82.

23. Matsuda T, Saito Y, Fu KI et al. Does autofluorescence imaging videoendoscopy system improve the colonoscopic polyp detection rate?--a pilot study. *Am J Gastroenterol* 2008; 103(8):1926-32.
24. Kaltenbach T, Sano Y, Friedland S et al. American Gastroenterological Association (AGA) Institute technology assessment on image-enhanced endoscopy. *Gastroenterology* 2008; 134(1):327-40.
25. Klenske E, et al. I-scan optical enhancement for the in vivo prediction of diminutive colorectal polyp histology: Results from a prospective three-phased multicentre trial. *PLoS One* 2018 - Clinical Trial. PMID 29768508
26. van Lanschot MCJ, et al. Molecular profiling of longitudinally observed small colorectal polyps: A cohort study. *EBioMedicine* 2019 - Clinical Trial. PMID 30555044
27. Alla Synytsya et al. Ex Vivo Vibration Spectroscopic Analysis of Colorectal Polyps for the Early Diagnosis of Colorectal Carcinoma. *Diagnostics (Basel)*. . 2021 Nov 4;11(11):2048.