

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>		
Measure Title	FOLLOW-UP AFTER INITIAL DIAGNOSIS AND TREATMENT OF COLORECTAL CANCER: CEA		
Disease State	Colorectal Cancer	Indicator Classification	Disease Management
Strength of Recommendation	B		
Organizations Providing Recommendation	American Society of Clinical Oncology National Comprehensive Cancer Network		
Clinical Intent	To ensure that all eligible members with colorectal cancer who are status post colon resection receive follow up CEA test at least every 6 months to monitor for cancer reoccurrence.		
Physician Specialties (suggested)	Family Medicine, Gastroenterology, General Surgery, Geriatrics, Internal Medicine, Oncology		
Background	<p>Disease Burden</p> <ul style="list-style-type: none"> Colorectal cancer is the third most common cancer in the United States and the second leading cause of deaths due to cancer. A person at age 50 has about a 5 percent lifetime risk of being diagnosed with colorectal cancer and a 2.5 percent chance of dying from it.[1-3] People with a previous diagnosis of colorectal cancer experience a higher incidence of subsequent colorectal cancer than the general population. The cumulative incidence of new cancers is about 1.5 percent at five years in this group.[4] Approximately 35-40% of patients with stage II or III colorectal cancer at time of initial diagnosis will have recurrent or metastatic disease.[5] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> Surveillance for second primary colorectal cancer aids in ensuring early removal of pre-malignant polyps and early detection of malignancy.[4] In patients with locally recurrent or anastomotic disease, a limited number of metastases involving liver or lung, or metachronous (second primary) malignancies or polyps are potentially curable with further surgery. <p>Evidence supporting Intervention or Treatment</p> <ul style="list-style-type: none"> In a retrospective cohort study of 1,247 patients with colorectal cancer, of whom 548 had recurrent disease, patients whose recurrences were 		

discovered by routine surveillance testing were three times more likely to be disease-free at five years compared to those diagnosed as a result of new symptoms.[6]

- Another retrospective cohort study of 179 patients with recurrent colorectal cancer, including 137 who underwent re-operation, found that the likelihood of a complete resection was significantly higher among those whose recurrences were detected because of an asymptomatic elevation in the serum tumor marker carcinoembryonic antigen (CEA) as compared to those diagnosed with new symptoms.[7]
- In a meta-analysis of 5 trials documenting 1,342 patients after treatment for colorectal cancer, those who received intensive surveillance (four out of five trials included measurement of CEA levels) were 19% less likely to have a recurrent cancer after 5 years than those who received less intensive surveillance.[8]
- One prospective randomized controlled trial evaluating the efficacy of simple vs. intensive surveillance strategies after the curative resection of colorectal cancer found that intensive strategies had a higher overall survival rate in patients with stage II tumors (HR = 0.34; 95% CI, 0.12 to 0.98; P = 0.045) and in those with rectal lesions (HR = 0.09; 95% CI, 0.01 to 0.81; P = 0.03), mainly due to higher rate of resectability for recurrent tumors.[9]
- A review of evidence found an incidence rate of 0.7% two years following cancer resection.[10]

Clinical Recommendations

- The American Society of Clinical Oncology (ASCO) recommends that Carcinoembryonic antigen (CEA) be checked every 3 months postoperatively for at least 3 years after diagnosis for patients with colon or rectal cancer, if the patient is a candidate for surgery or systemic therapy.[11]
- The ASCO advises deferring measurement of CEA levels until fluorouracil-based therapy treatment has been completed, since fluorouracil-based therapy can falsely elevate CEA levels.[11]
- The NCCN also recommends that all patients with colorectal cancer, who are candidates for further therapy, should have CEA testing done every 3 to 6 month for 2 years and then every 6 months for 5 years.[12]

Source Health Benchmarks, Inc.

Denominator Definition Continuously enrolled members who are status post resection of colon cancer during the one year period ending 15 months prior to the end of the measurement year.

Denominator Codes Excision of a colorectal tumor
CPT-4 code(s): 44110, 44111, 44139-44141, 44143-44147, 44150-44153, 44155-44158, 44160, 44204-44208, 44210-44212, 45110-45114, 45116, 45119, 45123, 45126, 45160, 45170, 45395, 45397
ICD-9 surgical proc code(s): 45.4x, 45.7x, 45.8, 48.35, 48.36, 48.4x, 48.5, 48.6x,

48.8x

Colorectal Cancer

ICD-9 diagnosis code(s): 153.xx, 154.0, 154.1, 154.8, V10.05

Denominator Exclusion Definition Members who were in hospice care or who received fluorouracil-based therapy (5-FU).

Denominator Exclusion Codes Hospice Care:
ICD-9 diagnosis code(s): V66.7
CPT-4 code(s): 99376*, 99377, 99378, G0065*, G0182, G0337, Q5001-Q5009, S0271, S9126, T2042-T2046
UB revenue code(s): 0115, 0125, 0135, 0145, 0155, 0235, 0650-0652, 0655-0659
UB type of bill code(s): 81x, 82x
Place of service code(s): 34

Fluorouracil-based therapy (5-FU)

CPT code(s): J9190

Numerator Definition Members who received a carcinoembryonic antigen (CEA) test during the 9 to 15 months after the index date.

Numerator Codes Carcinoembryonic antigen (CEA) test
CPT-4 code(s): 82378

Physician Attribution Description Score all physicians (in the selected specialties) who saw the member during the 9 to 15 months after the index date.

- References**
1. *Cancer Facts and Figures 2006*. 2006, American Cancer Society: Atlanta.
 2. Winawer, S., et al., *Colorectal cancer screening and surveillance: clinical guidelines and rationale-Update based on new evidence*. *Gastroenterology*, 2003. **124**(2): p. 544-60.
 3. Winawer, S.J., et al., *Colorectal cancer screening: clinical guidelines and rationale*. *Gastroenterology*, 1997. **112**(2): p. 594-642.
 4. Jeffery, G.M., B.E. Hickey, and P. Hider, *Follow-up strategies for patients treated for non-metastatic colorectal cancer*. *Cochrane Database Syst Rev*, 2002(1): p. CD002200.
 5. Desch, C.E., et al., *Recommended colorectal cancer surveillance guidelines by the American Society of Clinical Oncology*. *J Clin Oncol*, 1999. **17**(4): p. 1312.
 6. Goldberg, R.M., et al., *Surgery for recurrent colon cancer: strategies for identifying resectable recurrence and success rates after resection*. *Eastern Cooperative Oncology Group, the North Central Cancer*

- Treatment Group, and the Southwest Oncology Group. Ann Intern Med, 1998. 129(1): p. 27-35.*
7. Quentmeier, A., et al., *Re-operation for recurrent colorectal cancer: the importance of early diagnosis for resectability and survival. Eur J Surg Oncol, 1990. 16(4): p. 319-25.*
 8. Renehan, A.G., et al., *Impact on survival of intensive follow up after curative resection for colorectal cancer: systematic review and meta-analysis of randomised trials. Bmj, 2002. 324(7341): p. 813.*
 9. Rodriguez-Moranta, F., et al., *Postoperative surveillance in patients with colorectal cancer who have undergone curative resection: a prospective, multicenter, randomized, controlled trial. J Clin Oncol, 2006. 24(3): p. 386-93.*
 10. Rex, D.K., et al., *Guidelines for Colonoscopy Surveillance after Cancer Resection: A Consensus Update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer. CA Cancer J Clin, 2006. 56(3): p. 160-167.*
 11. Desch, C.E., et al., *Colorectal cancer surveillance: 2005 update of an American Society of Clinical Oncology practice guideline. J Clin Oncol, 2005. 23(33): p. 8512-9.*
 12. NCCN. *Clinical Practice Guidelines in Oncology: Colon Cancer. 2005* [cited 2005 June 16]; Available from: http://www.nccn.org/professionals/physician_gls/PDF/colon.pdf.