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| Measure Title | FOLLOW-UP AFTER INITIAL DIAGNOSIS AND TREATMENT OF COLORECTAL CANCER | | |
| Disease State | Colorectal Cancer | Indicator Classification¹ | Disease Management |
| Strength of Recommendation² | B | | |
| Physician Specialties | Family Practice, Gastroenterology, Gerontology, Internal Medicine, Colon Rectal Surgery | | |

Clinical Rationale

Disease Burden

- Colorectal cancer is the third most common cancer in the United States and the second leading cause of cancer death. 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 initial diagnosis will have recurrent or metastatic disease.[5]

Reason for Indicated Intervention or Treatment

- Surveillance for second primary colorectal cancer assists in removal of pre-malignant polyps and early detection of malignancy.[4]
- 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.

Evidence supporting Intervention or Treatment

- No prospective randomized trials have investigated whether early diagnosis of recurrent disease results in more favorable outcome.
- In a retrospective cohort study of 1247 patients with colorectal cancer, of whom 548 had recurrent disease, those whose recurrences were discovered by routine surveillance testing were three times more likely to be disease-free at five years compared to those diagnosed because of new symptoms (18.6 versus 5.6 percent, respectively).[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 (52.7 versus 34.5 percent, respectively).[7]
- In a meta-analysis of 5 reviews documenting 1,342 patients after treatment for colorectal cancer, those who received intensive surveillance (defined as CT scans of the liver, CEA measurements, chest x-rays, and endoscopies) were 21% less likely to have a recurrent cancer after 5 years than those who received less intensive surveillance.[4, 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 = .045) and in those with rectal lesions (HR = 0.09; 95% CI, 0.01 to 0.81; P = .03), mainly due to higher rate of resectability for recurrent tumors.[9]

Clinical Recommendations

- The American Society of Clinical Oncology (ASCO) recommends the following[10]:
 - Annual computed tomography (CT) of the chest and abdomen for 3 years after primary therapy for patients who are at higher risk of recurrence (stage II or stage III with multiple poor risk features) and who could be candidates for curative-intent surgery.
 - Pelvic CT scan for rectal cancer surveillance, especially for patients with several poor prognostic factors
 - All patients with colorectal cancer should have a full colonoscopy in the preoperative or perioperative setting. Those who do have cancer should have a colonoscopy within 6 months after surgery. Colonoscopy should be repeated at 3 years after operative treatment, and, if results are normal, every 5 years thereafter.
 - Flexible proctosigmoidoscopy every 6 months for 5 years for rectal cancer patients who have not been treated with pelvic radiation.
 - History and physical examination every 3 to 6 months for the first 3 years, every 6 months during years 4 and 5, and subsequently at the discretion of the physician.
 - Carcinoembryonic antigen (CEA) every 3 months postoperatively for at least 3 years after diagnosis for patients with stage II or III colon or rectal cancer if the patient is a candidate for surgery or systemic therapy.
- The National Comprehensive Cancer Network (NCCN) recommends that all patients should have a colonoscopy one year after their initial resection and then if normal every 3 to 5 years or if abnormal after 1 year. The NCCN also recommends that all patients with at least T2 lesions should have CEA testing done every 3 months for 2 years and then every 6 months for a total of 5 years of surveillance.[13]
- A guideline published by the American Gastroenterological Association (AGA), supported by American College of Gastroenterology, American College of Physicians/American Society of Internal Medicine, and the American Society for Gastrointestinal Endoscopy and endorsed by the American Cancer Society, recommends colonoscopy around the time of initial diagnosis of colon cancer or in the 6 months after surgery if the colon is obstructed preoperatively. It makes no recommendations regarding CEA testing.[2]

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| Source | Health Benchmarks, Inc. |
| Denominator | Continuously enrolled members who are status post resection of colon cancer during the year ending 3 months prior to the beginning of the measurement year |
| Denominator Exclusion | A prior diagnosis of colorectal cancer as defined above in any diagnosis field prior to the beginning of identification period, i.e. any time in the available history prior to the year ending 3 months prior to the beginning of the measurement year. Exclude also members who were in hospice care at any point during the measurement year or fifteen months prior. |

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| Numerator | Members receiving a colonoscopy or CEA test 0-460 days after the initial diagnosis of colorectal cancer. |
| Interpretation of Score | High score implies better performance |
| Physician Attribution | Score all physicians who saw the member 0-460 days after the initial diagnosis of colorectal cancer. |
| External Files Required for Analysis | None |

References

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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.
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11. Benson, A.B., 3rd, et al., *2000 update of American Society of Clinical Oncology colorectal cancer surveillance guidelines*. *J Clin Oncol*, 2000. **18**(20): p. 3586-8.
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¹ **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

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| Diagnosis | Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain) |
| Effectiveness of Care | |
| Prevention | Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations). |
| Screening | Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure). |
| Disease Management | Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event). |
| Medication Monitoring | Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy) |
| Medication Adherence | Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication). |
| Utilization | Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection). |

Strength of Recommendation Based on a Body of Evidence

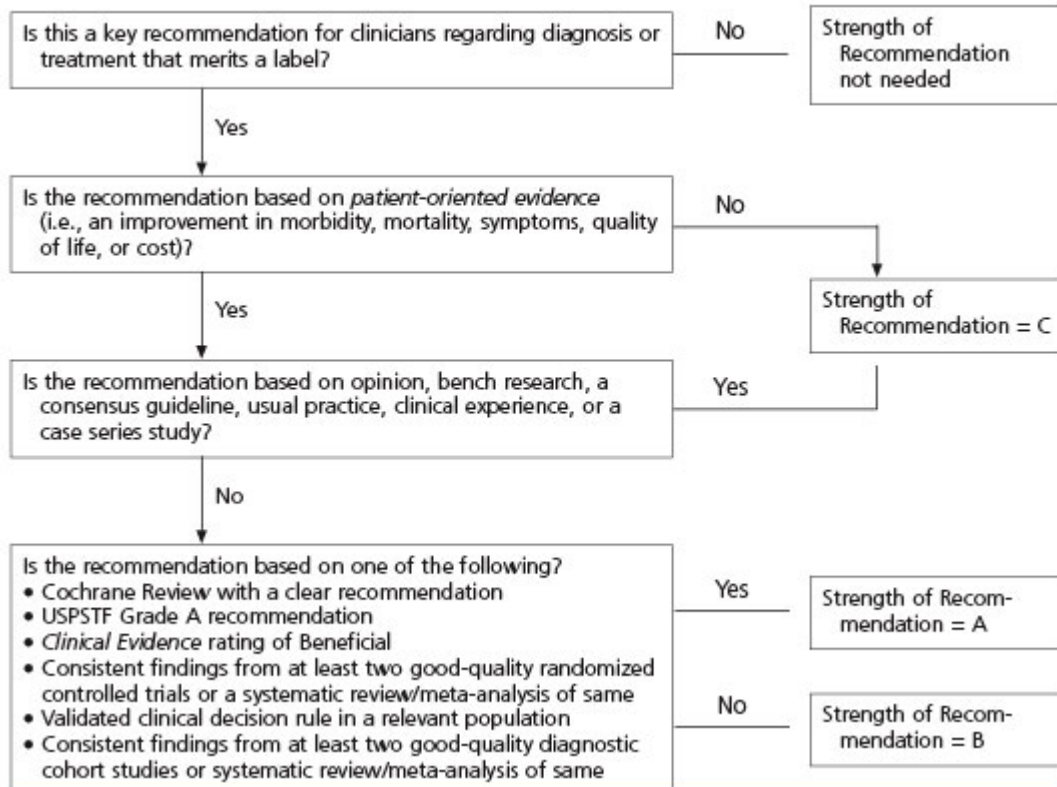


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)