Client: HEALTH BENCHMARKS, INC. STANDARD ALGORITHM

Measure Title: FOLLOW-UP AFTER INITIAL DIAGNOSIS AND TREATMENT OF COLORECTAL CANCER: COLONOSCOPY

Disease State: Colorectal Cancer

Indicator Classification: Disease Management

Strength of Recommendation: B

Organizations Providing Recommendation:
- American Cancer Society
- American Society of Clinical Oncology
- American Society of Colon and Rectal Surgeons
- American Society for Gastrointestinal Endoscopy
- National Comprehensive Cancer Network
- US Multi-Society Task Force on Colorectal Cancer

Clinical Intent: To ensure that all eligible members who have been newly diagnosed with colorectal cancer receive a follow-up colonoscopy within 15 months of resection.

Background: 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% 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 metachronous colorectal cancer than the general population. The cumulative incidence of new cancers is about 1.5% at five years in this group.[4]
- Approximately 30-40% of patients with colorectal cancer at the time of initial diagnosis will have recurrent disease.[5-7]

Reason for Indicated Intervention or Treatment
- Surveillance for recurrent colorectal cancer assists in removal of premalignant 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.
- In addition, incidence of metachronous cancer is higher in colorectal cancer patients status post resection compared with the general population, and incidence is highest in the first 24 months after surgery.[8-10] Colonoscopy surveillance can potentially detect these metachronous cancers at a surgically curable stage as well as prevent...
metachronous lesions by providing an opportunity for removing adenomatous polyps.[10]

Evidence supporting Intervention or Treatment

- Although no study was identified that shows a positive correlation with survival from colonoscopy surveillance alone, some studies have shown a statistically significant impact on survival with intensive follow-up that included yearly colonoscopy.[3, 11]
- In two meta-analyses, patients who received intensive surveillance (using multi-component surveillance strategies which included colonoscopy) were less likely to have a recurrent cancer after 5 years than those who received less intensive surveillance.[4, 13]
- A third meta-analysis of 7 clinical trials involving a total of 2,293 patients with colorectal cancer undergoing curative resection also found significant reduction in overall mortality in patients who underwent intensive follow-up using colonoscopy (p=0.04).[14]
- A review of evidence found an incidence rate of 0.7% two years following cancer resection. Use of surveillance colonoscopy followed by surgery resulted in a cure for 87% of cancers found.[15]

Clinical Recommendations

- In 2005, The American Society of Clinical Oncology (ASCO), citing an old 2003 American Gastroenterology Association (AGA) surveillance guideline, recommended that patients with resection for colorectal cancer should have a repeat colonoscopy 3 years after operative treatment and that patients with rectal cancer who had not been treated with pelvic radiation should have flexible proctosigmoidoscopy every 6 months for 5 years.[16] Of note, subsequently, AGA updated their guideline to recommend repeat colonoscopy for colorectal patients after resection in 1 year post resection.
- In 2006, the American Society of Colon and Rectal Surgeons recommended that colonoscopy should be performed 3 years after resection, and if normal, followed by colonoscopy every 5 years. [17] Of note, this guideline was referencing an old 2003 guideline published by US Multi-Society Task Force on Colorectal Cancer, which updated its recommendation in 2006 to colonoscopy for colorectal patients after resection in 1 year post resection.
- The National Comprehensive Cancer Network (NCCN) recommends that all patients with non-metastatic colon cancer, or colon cancer with resectable synchronous liver or lung metastases should have a colonoscopy 1 year after their initial resection. If the results are normal, NCCN recommends a repeat colonoscopy in 3 years and then every 5 years thereafter. If the colonoscopy at 1 year is abnormal, then NCCN recommends a repeat colonoscopy in 1 year.[18]
- In 2006, in a consensus guideline endorsed by the AGA, the American Society for Gastrointestinal Endoscopy, the American Cancer Society (ACS) and the US Multi-Society Task Force on Colorectal Cancer together recommended that patients undergoing curative resection for colorectal
cancer should undergo a colonoscopy 1 year after the resection and if normal, then repeat colonoscopy can be performed every 3 to 5 years.[15]

- In 2006 the American Society for Gastrointestinal Endoscopy recommended that surveillance colonoscopy be performed 1 year after surgical resection of colon cancer, and if normal, again in 3 years. If the repeat colonoscopy is normal, then the patient should undergo repeat colonoscopy in 5 years.[19]

**Source**
Health Benchmarks, Inc.

**Denominator**

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Continuously enrolled members who are status post resection of colorectal cancer during the year ending 15 months prior to the measurement year.</th>
</tr>
</thead>
</table>

**Denominator Index Date**
First instance of Partial colectomy or proctectomy during the year ending 15 months prior to the end of the measurement year.

**Denominator Encounters/Claims Criteria**
- CPT-4 code(s): 44139-44141, 44143-44147, 44150, 44151, 44160, 44204-44208, 44210, 44213, 45110-45114, 45116, 45119, 45123, 45126, 45160, 45170, 45395, 45397
- ICD-9 surgical proc code(s): 45.4x, 45.7x, 48.35, 48.36, 48.4x, 48.5, 48.6x, 48.8x
- ICD-9 diagnosis code(s): 153.0-153.4, 153.6-153.9 154.0, 154.1, 154.8

**Denominator Exclusion**

<table>
<thead>
<tr>
<th>Denominator Exclusion Definition</th>
<th>Members who are status post resection of colon cancer any time prior to the index date or members who were in hospice care 0 to 15 months after the index date.</th>
</tr>
</thead>
</table>

**Denominator Exclusion Claims Criteria**
- ICD-9 diagnosis code(s): 153.0-153.4, 153.6-153.9 154.0, 154.1, 154.8, V66.7
- CPT-4 code(s): 44139-44141, 44143-44147, 44150,44151, 44160, 44204-44208, 44210, 45110-45114, 45116, 45119, 45123, 45126, 45160, 45170, 45395, 45397, 99376*, 99377, 99378
- ICD-9 surgical proc code(s): 45.4x, 45.7x, 48.35, 48.36, 48.4x, 48.5, 48.6x, 48.8x
- HCPCS code(s): G0065*, G0182, G0337, Q5001-Q5009, S0255, 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

*Code range expired, but still appropriate for retrospective analysis.

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Members receiving a colonoscopy, sigmoidoscopy, or proctoscopy as appropriate during the 15 months after the index date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator Claims Criteria</td>
<td>CPT-4 code(s): 3017F,44388-44394, 44397, 45330-45335, 45337, 45338-45342, 45345, 45378-45387, 45391, 45392, S0601</td>
</tr>
<tr>
<td>HCPCS code(s): G0104, G0105, G0121</td>
<td></td>
</tr>
<tr>
<td>ICD-9 surgical proc code(s): 45.22, 45.23, 45.24, 45.25, 45.42, 45.43, S0601</td>
<td></td>
</tr>
</tbody>
</table>

Physician Attribution

| Physician Attribution Description | Score all physicians (in the selected specialties) who saw the member during the 0-15 months after the index date. |

References

11. Desch, et al., Recommended colorectal cancer surveillance guidelines by


### Indicator Classification

(Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>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).</td>
</tr>
</tbody>
</table>

1. The term **Indicator Classification** is adapted from the Health Plan Employer Data Information Set (HEDIS®) technical specifications.
Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label? No → Strength of Recommendation not needed

Yes →

Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)

No → Strength of Recommendation = C

Yes →

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?

No → Strength of Recommendation = B

Yes →

Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

No →

Yes →

Strength of Recommendation = A

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)