Clinical Policy Title: Mucosal and submucosal endoscopic resection of colorectal polyps

Clinical Policy Number: CCP.1328

Effective Date: October 1, 2017
Initial Review Date: August 17, 2017
Most Recent Review Date: August 30, 2018
Next Review Date: September 2019

Policy contains:
- Colorectal cancer.
- Endoscopic mucosal resection.
- Endoscopic submucosal dissection.

Related policies:

CCP.1319 Colorectal cancer screening
CCP.1055 Capsule endoscopy
CCP.1269 Virtual colonoscopy (CT colonography)
CCP.1050 Familial polyposis gene testing

ABOUT THIS POLICY: Prestige Health Choice has developed clinical policies to assist with making coverage determinations. Prestige Health Choice’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by Prestige Health Choice when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Prestige Health Choice’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Prestige Health Choice’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Prestige Health Choice will update its clinical policies as necessary. Prestige Health Choice’s clinical policies are not guarantees of payment.

Coverage policy

Prestige Health Choice considers the use of endoscopic mucosal resection to be clinically proven and, therefore, medically necessary for the complete resection or en bloc histologic staging of large (typically 10 mm to 20 mm), sessile, and laterally spreading or complex colorectal polyps with limited submucosal involvement (< 1,000 µm) when performed by an experienced endoscopist in a specialty center.

Prestige Health Choice considers the use of endoscopic submucosal dissection to be clinically proven and, therefore, medically necessary for the complete resection or en bloc histologic staging of large (typically > 20 mm) colorectal lesions with limited submucosal involvement (< 1,000 µm) for which complete resection or en bloc histologic staging cannot be achieved by standard polypectomy or
endoscopic mucosal resection when performed by an experienced endoscopist in a specialty center (Ferlitsch, 2017; Maple, 2015).

**Limitations:**

Coverage determinations are subject to benefit limitations and exclusions as delineated by the state Medicaid authority. The Florida Medicaid website may be accessed at http://ahca.myflorida.com/Medicaid/.

Colorectal lesions with advanced endoscopic imaging characteristics of deep submucosal invasion is considered investigational/experimental for endoscopic treatment and should be referred for surgery.

**Alternative covered services:**

- Surgical (open or laparoscopic) resection.
- Transanal endoscopic microsurgery.
- Standard endoscopic polypectomy.

**Background**

Colon polyps are slow-growing protrusions into the colon lumen that most commonly occur sporadically or as part of other syndromes (Meseeha, 2017). The colon consists of the same four layers that are present in most parts of gastrointestinal tract: the mucosa, submucosa, muscularis propria, and serosa (Cohen, 2013). Most polyps arise from the most superficial mucosal layer of the colon, are less than 10 mm in diameter, and carry a small risk of malignancy, but confer an important predisposition to colorectal cancer.

Polyps are classified according to size and appearance. Size classifications are diminutive if the polyps are \( \leq 5 \) mm in diameter, small if they are 6 to 9 mm, or large if they are \( \geq 10 \) mm in diameter. Their appearance can be described as depressed (on the surface), flat, pedunculated (with a stalk), or sessile (no stalk, broad base). Histologic descriptions include adenomatous, serrated (sessile or traditional), or non-neoplastic (hyperplastic and juvenile), and tubular (the most common), villous, and tubulovillous with a degree of dysplasia. Increased cancer risk is associated with large adenomas containing a substantial villous component or high-grade dysplasia (Meseeha, 2017).

The incidence and mortality of colorectal cancer have been decreasing for several decades. From 1985 to 2015, the U.S. mortality rate fell 48 percent, from 26.93 to 13.99 deaths per 100,000, and incidence fell 43 percent, from 66.30 to 37.55 cases per 100,000 (Noone, 2018). This trend has occurred in part to endoscopic removal of adenomatous polyps (Zauber, 2012). The risk of submucosal invasion and subsequent lymph node spread is central to managing early colorectal neoplasia, as those with
increased risk of nodal metastasis require surgical staging with lymph node dissection and pathologic evaluation.

Endoscopically treatable colorectal cancer is typically defined as lesions localized to the mucosal or submucosal layers with no nodal metastases, based on endoscopic or endosonographic findings that predict a curative resection. They correspond to Stage 0 or 1 according to Tumor, Node, Metastasis staging (American Joint Committee on Cancer, 2009):

<table>
<thead>
<tr>
<th>Stage</th>
<th>Stage grouping</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Tis, N0, M0</td>
<td>Carcinoma in situ or intramucosal carcinoma (Tis). The cancer is in its earliest stage and has not grown beyond the mucosa of the colon or rectum.</td>
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<tr>
<td>1</td>
<td>T1 or T2, N0, M0</td>
<td>The cancer has penetrated through the muscularis mucosa into the submucosa (T1), and it may also have grown into the muscularis propria (T2). It has not spread to nearby lymph nodes (N0) or distant sites (M0).</td>
</tr>
</tbody>
</table>

Endoscopic polypectomy techniques continue to evolve to improve the rate of complete resection and reduce the need for formal surgical resection (Fyock, 2010). The most common techniques use snares and forceps with electrocautery (hot) or none (cold). Submucosal injection, tattooing, and endoloops may increase procedural success. Endoscopic ultrasound, high-definition colonoscopy, chromoendoscopy, and narrow band imaging can enhance optical diagnosis of T1 colorectal cancer or deep-invasion polyp detection beyond gross morphologic features on standard white-light colonoscopy (Backes, 2017). Transanal minimally invasive techniques can improve the resectability of rectal polyps. Other less-invasive options include combined endoscopic and laparoscopic polypectomy, endoscopic mucosal resection, and endoscopic submucosal dissection, which may obviate the need for formal surgical resection in many patients.

**Endoscopic mucosal resection and endoscopic submucosal dissection:**

Endoscopic mucosal resection was first developed in Japan to histologically stage and remove large superficial neoplasms from the digestive tract that have limited submucosal invasion (Huang, 2015). Several procedural variations exist, but all apply specialized devices to identify, demarcate, and lift the lesion (with a submucosal injection) for endoscopic snare resection. The lesion may be removed as a single piece or piecemeal.

Endoscopic submucosal dissection uses a specialized electrocautery knife that allows for en bloc removal of the submucosa under the target lesion (Maple, 2015). Endoscopic submucosal dissection involves demarcating the perimeter of the lesion, submucosal injection around the perimeter, and mucosal excision, followed by injection of the submucosa beneath the target lesion and dissection. Ancillary tools, such as distal caps, dyes, and injecting agents, may improve visualization and tissue retraction.
Endoscopic submucosal dissection enables resection of larger (typically > 20 mm), non-pedunculated, and potentially deeper lesions with a curative intent and easier detection of noncurative resections.

A 2008 guideline from the British Society of Gastroenterology on polypectomy recommended that endoscopic mucosal resection is preferred for sessile polyps > 2 cm (Riley, 2008). A 2017 guideline on colorectal polypectomy and endoscopic mucosal resection from the European Society of Gastrointestinal Endoscopy recommends the procedure for lesions ≤ 20 mm in the colon and ≤ 25 mm in the rectum, and advanced endoscopic imaging for sessile polyps ≥ 10 mm (Ferlitsch, 2017). Another was a technology status report on treatment of early rectal cancer, including by endoscopic submucosal dissection (Maple, 2015). Another guideline from the British Society of Gastroenterology concluded that endoscopic mucosal resection is the most viable first-line option for polyp removal if no features indicative of malignancy are present (Rutter, 2015).

 Searches

Prestige Health Choice searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services.

We conducted searches on July 11, 2018. Search terms were: “Endoscopic mucosal resection,” “Colonoscopy,” and free text terms “endoscopic mucosal resection” and “endoscopic submucosal dissection.”

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

 Findings

The goals of endoscopic resection are to achieve complete resection in the safest minimum number of pieces, with adequate margins, and without need for adjunctive ablative techniques (Ferlitsch, 2017). Patients with large (≥ 20 mm) sessile and laterally spreading or complex polyps are typically referred to a specialty endoscopy center. When performed in a specialty setting, evidence suggests endoscopic
mucosal resection and endoscopic submucosal dissection are safe, effective, and potentially cost-effective for resecting large, distal, premalignant, and early stage malignant colorectal lesions with limited submucosal involvement (< 1,000 µm) (Huang, 2015).

Endoscopic mucosal resection has been found to be safe and effective in removing large polyps. A study of 479 people with lesions > 20 mm (average, 35.6 mm) found 89.2 percent were fully removed and 83.7 percent avoided surgery. No deaths were reported (Moss, 2011). Endoscopic mucosal resection and endoscopic submucosal dissection offer curative treatment and quality en bloc tissue sampling for accurate histologic T staging and may avoid surgical resection in large numbers of patients without compromising safety, but this should be confirmed in prospective studies.

Limited evidence from indirect comparisons suggests both procedures compare favorably with other minimally invasive options, such as laparoscopic resection of colon polyps and transanal endoscopic microsurgery for rectal lesions, but these results need confirmation in randomized controlled trials. Surgical resection should be reserved for polyps with characteristics predictive of deep submucosal invasive cancer (> 1,000 µm), those likely to result in an incomplete resection (e.g., > 40 mm or located at the ileocecal valve), or recurrent polyps after one year of attempted endoscopic resection.

We identified a number of systematic reviews and meta-analyses, which determined the following outcomes-based results for types of endoscopic resection of colorectal polyps:

1. Endoscopic submucosal dissection has high resection rates and low rates of perforation, major bleeding, and recurrence (Akintoye, 2016).

2. Endoscopic mucosal resection, compared to endoscopic submucosal dissection, has higher recurrence and perforation rates and lower en bloc resection rates (DeCeglie, 2016).

3. For early rectal cancers, endoscopic submucosal dissection (compared to local excision) has a lower average length of stay and lower recurrence rate, with no difference in en bloc resection and complication rates (Wang, 2016).

4. For rectal neuroendocrine tumors < 16 mm, endoscopic (and modified) mucosal resection have high complete resection rates compared to conventional mucosal resection; endoscopic submucosal dissection is more time consuming than modified and conventional mucosal resection (Zhang, 2016).

5. A high proportion (88 percent) of recurrences after endoscopic mucosal resection occur within six months of the procedure (Belderbos, 2014).

6. Endoscopic mucosal resection, compared to endoscopic submucosal dissection, has a lower rate of en bloc resection and is less time consuming, with no difference between the groups in resection rates (Wang, 2014).
Within these systematic reviews and other research, the evidence for endoscopic mucosal resection (largely injection-assisted) and endoscopic submucosal dissection primarily consists of retrospective case series and case-control studies. We found no randomized controlled trials reporting results, although a multicenter randomized trial is underway in the Netherlands (clinicaltrials.gov identifier: NCT02657044).

The systematic reviews noted heterogeneous results among studies attributed to endoscopists’ experience, prospective versus retrospective studies, length of the procedure, and tumor size. The majority of studies were conducted in Japan, South Korea, European countries, and to a far-less extent, North American countries. There is a need for randomized controlled trials to directly compare resection procedures and define optimal follow-up intervals and for epidemiologic studies to determine the prevalence of endoscopically treatable colorectal cancer in the United States to support high-volume specialty centers of excellence. Acceptance of these technically demanding procedures will depend to a great extent on the availability of training in endoscopic mucosal resection and endoscopic submucosal dissection to ensure optimal outcomes.

The choice of when to use endoscopic mucosal resection, specifically piecemeal endoscopic mucosal resection, versus endoscopic submucosal dissection depends on whether the lesion is an adenoma or a carcinoma and whether the lesion needs en bloc excision. Lesions with an average diameter up to 20 mm can be definitively treated with en bloc snare endoscopic mucosal resection. A non-lifting sign after submucosal injection is indicative of deep submucosal invasion, unless non-lifting is thought to be a consequence of submucosal fibrosis related to previous manipulation. Larger lesions can be definitely treated using piecemeal endoscopic mucosal resection without affecting the pathological diagnosis, but piecemeal dissection is associated with lower radical (R0) resection rates and higher recurrence rates.

Endoscopic submucosal dissection can remove larger and potentially deeper lesions with a curative intent than can be accomplished with endoscopic mucosal resection. Endoscopic submucosal dissection offers higher en bloc resection rates and lower recurrence rates for lesions > 20 mm than endoscopic mucosal resection, but endoscopic submucosal dissection is more technically demanding with longer procedure times and a higher perforation rate. The most common complications for each procedure are bleeding and perforation, and most can be managed endoscopically.

The medical literature provides evidence for predicting certain outcomes, including adverse ones. For example, one study of 302 endoscopic mucosal resections was able to identify factors that significantly elevated risk of bleeding, including right colon location, use of aspirin, and age (Metz, 2011).

A systematic review and meta-analysis compared outcomes for 71 studies in Asia and 26 in other countries on endoscopic submucosal dissection of colorectal lesions. Significantly superior outcomes were observed in Asian nations for R0 resection rates (higher in Asia, 85.6 percent versus 71.3 percent); en bloc resection rate (higher in Asia, 93 percent versus 81.2 percent); cases that required surgery (higher in Asia, 3.1 percent versus 0.8 percent) (Fuccio, 2017). A similar meta-analysis for endoscopic submucosal dissection included 238 studies (n = 89,502), all but 2,216 performed in Asia, of patients
with gastrointestinal lesions. Asian studies had significantly higher rates of curative en bloc (82 percent versus 71 percent) and R0 (89 percent versus 74 percent) resection. The perforation rate requiring surgery was significantly greater outside Asia (0.53 percent versus 0.01 percent). Non-Asian nations had longer average procedure times (110 minutes versus 77 minutes) (Daoud, 2018).

Policy updates:

A total of three guidelines/other and four peer-reviewed references were added to this policy in July 2018.

Summary of clinical evidence:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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| Ferlitsch (2017) | **Key points:**
| | ● Recommends en bloc endoscopic mucosal resection for lesions ≤ 20mm in the colon and ≤ 25mm in the rectum (low-quality evidence; weak recommendation).
| | ● Refer to an expert endoscopist in a tertiary center for a non-lifting lesion that is otherwise suitable for endoscopic mucosal resection or for removal of large (≥ 20 mm) sessile and laterally spreading or complex polyps.(moderate-quality evidence; strong recommendation).
| | ● Consider endoscopic submucosal dissection for removal of colorectal lesions with high suspicion of superficial submucosal invasion, which otherwise cannot be removed en bloc by standard polypectomy or endoscopic mucosal resection (moderate-quality evidence; strong recommendation).
| | ● Suggests advanced endoscopic imaging for sessile polyps ≥ 10 mm.
| | ● Refer polyps with advanced endoscopic imaging characteristics of deep submucosal invasion for surgery, not endoscopic treatment (moderate-quality evidence; strong recommendation).
| Akintoye (2016) | **Key points:**
| | ● Systematic review and meta-analysis of 104 studies (13,833 tumors in 13,603 patients who underwent colorectal endoscopic submucosal dissection between 1998 and 2014). Average tumor size was 31 mm (range: 2 mm – 158 mm); 42% were female; average postoperative follow up was 19 months.
| | ● R0 resection rate was 83% (95% confidence interval [CI]: 80% – 86%; 60 studies), significant between-study heterogeneity (P < 0.001).
| | ● Endoscopic en bloc and curative resection rates were 92% (95% CI: 90% – 94%) and 86% (95% CI: 80% – 90%), respectively.
| | ● Immediate and delayed perforation rates were 4.2% (95% CI: 3.5% – 5.0%) and 0.22% (95% CI: 0.11% – 0.46%), respectively.
| | ● Immediate and delayed major bleeding rates were 0.75% (95% CI: 0.31% – 1.80%) and 2.1% (95% CI: 1.6% – 2.6%), respectively.
| | ● Overall recurrence rate was 1% (95% CI: 0.42% – 2.10%); with R0 resection tumor, it was 0.04% (95% CI: 0.01% – 0.31%); without R0 resection, it was 3.6% (95% CI: 1.4%
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<tr>
<td>De Ceglie (2016)</td>
<td><strong>Key points:</strong></td>
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<td>• Systematic review of 66 studies (endoscopic mucosal resection: 11,873 total lesions; endoscopic submucosal dissection: 6,077 total lesions).</td>
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<td>• Higher recurrence rate with endoscopic mucosal resection (765/73,031 lesions) than endoscopic submucosal dissection (50/3,910 lesions) (OR: 8.19; 95% CI: 6.2 – 10.9; P &lt; 0.0001).</td>
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<td>• Lower en bloc resection rate with endoscopic mucosal resection (6,793/10,803 lesions; 62.8%) than endoscopic submucosal dissection (5,500/6,077 lesions; 90.5%): OR: 0.18; 95% CI: 0.16 – 0.20; P &lt; 0.0001).</td>
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<td>• Higher perforation rate in endoscopic submucosal dissection than endoscopic mucosal resection group (OR: 0.19; 95% CI: 0.15 – 0.24; P &lt; 0.0001).</td>
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<td>Law (2016)</td>
<td><strong>Key points:</strong></td>
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<td>• Systematic review of 33 studies of patients who had nonpedunculated colon polyps treated with endoscopic mucosal resection to generate summary estimates.</td>
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<td>• Results: Endoscopists trained in endoscopic mucosal resection can perform complete endoscopic resection at the index procedure in 91% of cases; adverse event rate = 9.1%; adverse event rate requiring surgical intervention = 1%. After the index resection and routine surveillance colonoscopies at three to six months and at 12 months, the probability of persistent adenomatous tissue was 7.2%.</td>
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<td>• Hybrid Markov model with a 10-year time horizon using a reference case of a healthy 50-year-old patient who underwent an initial colonoscopy with identification of a complex, sessile colon polyp without features of deep submucosal invasion (&gt; 1,000 µm), in-hospital resection, and guideline-driven surveillance.</td>
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<td>• Results: Compared with endoscopic mucosal resection, laparoscopic resection was more costly ($18,717 per patient versus $5,570 per patient) and yielded fewer quality-adjusted life years (9.640 versus 9.577).</td>
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<td>Wang (2016)</td>
<td><strong>Key points:</strong></td>
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<td>• Systematic review and meta-analysis of four studies (307 patients).</td>
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<td>• Hospital length of stay was longer for patients undergoing local excision (weighted mean difference: -1.94; 95% CI: -2.85 to -1.02; P &lt; 0.0001).</td>
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<td>• No significant differences between endoscopic submucosal dissection and local excision for en bloc resection rate (OR: 0.82; 95% CI: 0.25 – 2.70; P = 0.74), R0 resection rate (OR: 1.53; 95% CI: 0.62 – 3.73; P = 0.35), overall complication rate (OR: 0.67; 95% CI: 0.26 – 1.69; P = 0.40), and tumor size (weighted mean difference: 0.57; 95% CI: -3.64 to 4.78; P = 0.79).</td>
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<td>• Fixed effect modeling showed endoscopic submucosal dissection was associated with a lower recurrence rate than local excision (OR: 0.15; 95% CI: 0.03 – 0.87; P = 0.03), while random-effect modeling showed no significant difference (OR: 0.18; 95% CI: 0.02 – 2.04; P = 0.17).</td>
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<tr>
<td>Zhang (2016)</td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Citation</td>
<td>Content, Methods, Recommendations</td>
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| Endoscopic treatments for rectal neuroendocrine tumors smaller than 16 mm | - Meta-analysis comparing outcomes of conventional endoscopic mucosal resection, modified endoscopic mucosal resection, and endoscopic submucosal dissection.  
- Compared with conventional endoscopic mucosal resection, both endoscopic submucosal dissection and modified endoscopic mucosal resection could achieve higher complete resection rate ($P < 0.00001$) without increasing overall complication rates.  
- Endoscopic submucosal dissection was more time-consuming than either modified endoscopic mucosal resection or conventional endoscopic mucosal resection.  
- Well-designed, multicenter, randomized controlled trials with large samples and long-term follow ups from more countries are needed. |
| Huang (2015) for the American Society for Gastrointestinal Endoscopy (ASGE) Technology status evaluation report: endoscopic mucosal resection | **Key points:**  
- Indications for endoscopic mucosal resection:  
  - As definitive therapy of premalignant and early stage (T1N0) malignant lesions of the digestive tract if there is limited submucosal invasion.  
  - To facilitate histologic diagnosis by obtaining larger specimens (versus standard endoscopic tissue sampling techniques) and provide an accurate histologic T stage for malignancies located in the muscularis mucosa or superficial submucosa.  
- In general, endoscopic mucosal resection should not be attempted if invasion into the deep submucosa or beyond is suspected.  
- Endoscopic ultrasound is often used for locoregional staging before endoscopic resection.  
- Nonlifting of the lesion after submucosal injection is a predictor of deep invasion and indicates that the lesion is not amenable to endoscopic removal, unless nonlifting is thought to be a consequence of submucosal fibrosis related to previous manipulation (previous biopsy or attempted/incomplete endoscopic mucosal resection ) of the lesion. |
| Maple (2015) | **Key points:**  
- Endoscopic submucosal dissection is an established effective treatment for premalignant and early-stage malignant lesions of the stomach, esophagus, and colorectum.  
- Compared with endoscopic mucosal resection, endoscopic submucosal dissection is generally associated with higher rates of en bloc, R0, and curative resections, and a lower rate of local recurrence. Oncologic outcomes with endoscopic submucosal dissection compare favorably with competing surgical interventions.  
- Endoscopic submucosal dissection is an excellent T-staging tool to identify noncurative resections that will require further treatment.  
- Endoscopic submucosal dissection is technically demanding and has a higher rate of adverse events than most endoscopic procedures, including endoscopic mucosal resection; sufficient training is critical to ensure safe conduct and high-quality resections. |
| Morino (2015) | **Key points:** |
European Association for Endoscopic Surgery
Guideline: early rectal cancer

- Digital rectal examination, magnification chromoendoscopy, endoscopic ultrasound, and magnetic resonance imaging are complementary staging modalities.
- Endoscopic submucosal dissection and transanal endoscopic microsurgery are the two established approaches for local excision of selected early rectal cancer.
- The role of all organ-sparing approaches including neoadjuvant therapies followed by local excision should be formally assessed by randomized controlled trials.

Belderbos (2014)
Local recurrence after endoscopic mutual resection of nonpedunculated colorectal lesions

Key points:
- Systematic review and meta-analysis of 33 studies.
- Mean recurrence risk after endoscopic mutual resection was 15% (95% CI: 12% – 19%); piecemeal resection was 20% (95% CI: 16% – 25%); en bloc resection was 3% (95% CI: 2% – 5%; P < 0.0001).
- At six-month endoscopy (15 studies), 88% (152/173) of recurrences were detected.
- At three months’ follow-up, there were 19/25 (76%) recurrences; at six months, there were 24/25 (96%) recurrences (four studies).
- In multivariable analysis, only piecemeal resection was associated with recurrence (three studies).
- Authors propose an optimal initial follow-up interval of six months.

Wang (2014)
Endoscopic submucosal dissection versus endoscopic mucosal resection

Key points:
- Meta-analysis of six retrospective case-control studies (1,642 total lesions) from Japan and South Korea.
- Compared with endoscopic mucosal resection, endoscopic submucosal dissection results in higher en bloc resection rate (OR: 7.94; 95% CI: 3.96 – 15.91) and lower local recurrence rate (OR: 0.09; 95% CI: 0.04 – 0.19).
- Between groups, there was no significant difference in histologic resection rate (OR:1.65; 95% CI: 0.29 – 9.30) or procedure-related complication rate (OR:1.59; 95% CI: 0.92 – 2.73).
- Endoscopic submucosal dissection was more time consuming than endoscopic mucosal resection.
- Mean age and tumor size were not calculated, but studies reported most participants were older than age 60 with tumor sizes > 20 mm.

References

Professional society guidelines/other:


American Joint Committee on Cancer. Colon and Rectum Cancer Staging. 7th edition. Chicago: American Joint Committee on Cancer. 


**Peer-reviewed references:**


**Centers for Medicare & Medicaid Services National Coverage Determinations:**

No National Coverage Determinations identified as of the writing of this policy.

**Local Coverage Determinations:**

No Local Coverage Determinations identified as of the writing of this policy.

**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>Comments</th>
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<tbody>
<tr>
<td>45349</td>
<td>Sigmoidoscopy, flexible; with endoscopic mucosal resection</td>
<td></td>
</tr>
<tr>
<td>45390</td>
<td>Colonoscopy, flexible; with endoscopic mucosal resection</td>
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<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>C18</td>
<td>Malignant neoplasm of colon</td>
<td></td>
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<tr>
<td>C18.9</td>
<td>Malignant neoplasm of colon, unspecified</td>
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<tr>
<td>C19</td>
<td>Malignant neoplasm of rectosigmoid junction</td>
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<thead>
<tr>
<th>HCPCS Level II Code</th>
<th>Description</th>
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