Polyp Guideline: Diagnosis, Treatment, and Surveillance for Patients with Nonfamilial Colorectal Polyps*
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Objective: To outline the preferable approach to the management of patients with nonfamilial colorectal polyps.

Data Sources: The human subject English language literature for the past 15 years, searched using MEDLINE and the terms "polyp-", "adenoma-", and "polypectomy-colorectal."

Study Selection: The titles and abstracts of all pertinent articles were reviewed. All randomized controlled trials and large case-control and cohort studies related to colorectal polyps were reviewed in depth.

Data Synthesis: Evidence was evaluated along a hierarchy with randomized controlled trials receiving the greatest weight. Conclusions and recommendations were reviewed by a large group of experts in gastroenterology, radiology, and pathology and were circulated for comment to primary care medical societies.

Conclusions: Most patients with polyps should undergo colonoscopy to excise the polyp and search for synchronous neoplasms. Small polyps (<0.5 cm) require individualization. A hyperplastic polyp found during proctosigmoidoscopy is not an indication for colonoscopy. Large sessile polyps require careful follow-up to ensure complete resection. The need for further treatment of a resected polyp with invasive carcinoma depends on several well-defined clinical and pathologic criteria. Follow-up surveillance after polypectomy should be tailored to the individual risk assessment for each patient. Initial follow-up should be performed at 3 years for most post-polypectomy patients. After one negative result of a 3-year examination, the interval can be increased to 5 years. Patients with one small tubular adenoma do not have an increased risk for cancer, and therefore follow-up surveillance may not be indicated. Adoption of these recommendations should substantially reduce the cost of post-polypectomy surveillance and of screening for colorectal cancer.

Preamble

This guideline is intended to indicate preferable approaches to the management of patients with colorectal polyps. It does not deal with either patients with known colon cancer or familial polyposis. When only data that will not withstand objective scrutiny are available, an American College of Gastroenterology (ACG) recommendation is identified as a consensus of experts. The guideline is applicable to all physicians who address this subject without regard to specialty training or interests and is intended to indicate the preferable but not necessarily the only acceptable approach to the patient with colorectal polyps. The guideline is intended to be flexible and must be distinguished from standards of care that are inflexible and rarely violated. Given the wide range of specifics in this common health care problem, the physician must always choose the course best suited to the individual patient and the variables in existence at the moment of decision.

This guideline was developed under the auspices of the American College of Gastroenterology and its Practice Parameters Committee and approved by the Board of Trustees. It has been intensely reviewed and revised by the committee, other experts in the field, physicians who will use it, and specialists in the science of decision analysis (see Methods). The ACG recommendations are therefore considered valid at the time of their publication based on available data.

Methods

The human subject English-language literature was searched using MEDLINE and the following MeSH terms: polyp-, adenoma-, and polypectomy-colorectal. The titles and abstracts of the articles were reviewed by the primary author. All randomized, controlled trials were read in depth, as were all large case-control and cohort studies. In the resulting review, evidence was evaluated along a hierarchy with randomized, controlled trials receiving the greatest weight. Abstracts presented at national meetings were used only in special circumstances in which unique data from ongoing randomized trials were presented. When scientific data were lacking, recommendations were based on expert consensus. During its preparation, the guideline was submitted for review by the Practice Committees and the Governing Boards of the American Gastroenterological Association and the American Society for Gastrointestinal Endoscopy, and by selected authorities in colorectal neoplasia including gastroenterologists, pathologists, and radiologists. All recommendations resulting from this review were carefully considered by the Committee and incorporated in the final revision. In addition, the guideline was circulated for review and comment to primary internal medicine and family practice societies and to the membership of the American College of Gastroenterology.


* This guideline has been officially endorsed by the American Society for Gastrointestinal Endoscopy and the American Gastroenterological Association. It is an official statement of the American College of Gastroenterology. For a list of the members of the Practice Parameters Committee of the American College of Gastroenterology, see end of text.
A colorectal polyp is a circumscribed mass of tissue that projects above the surface of the bowel mucosa. Grossly, a polyp is classified as pedunculated or sessile depending on whether it contains a discrete stalk. Polyps may ulcerate and cause intestinal bleeding. Rarely, large polyps may cause symptoms of partial bowel obstruction. Most polyps, however, are asymptomatic lesions detected only by screening or diagnostic studies. This guideline addresses the management of patients known to have one or more polyps; it does not address primary screening for colorectal neoplasia. Colorectal polyps are extremely common in Western countries; they are found in more than 30% of autopsies performed in people older than 60 years (1, 2).

The main importance of polyps is their well-recognized relationship to colorectal cancer (3). After years of debate, it is generally accepted that most colorectal cancers arise from benign, neoplastic polyps (adenomas). Although this adenoma-cancer sequence can probably never be proved directly, persuasive data exist indicating that colorectal neoplasia changes through a continuous process from normal mucosa, to benign adenoma, to carcinoma (4). Evidence of this sequence includes the following:

1. There is a parallel prevalence of adenomas and carcinomas, with the average age of patients with adenomas being 5 to 7 years less than that of patients with carcinomas (5, 6).
2. Cancer is often contiguous with benign adenomatous tissue, whereas small carcinomas without adenomatous tissue are rare (7, 8).
3. The adenomas of the familial polyposis syndrome, a well-recognized premalignant state, are histologically similar to sporadic adenomas (9).
4. As adenomas grow, they exhibit increasing cellular atypia and abnormal chromosomal patterns (5, 10).
5. The anatomic distribution is similar for adenomas and carcinomas (11).
6. Adenomas are found in more than one third of surgical specimens containing a colorectal cancer (12, 13).

Histologically, polyps are classified as neoplastic (adenomas) or non-neoplastic (14, 15). Non-neoplastic polyps have no malignant potential and include hyperplastic polyps, hamartomas, lymphoid aggregates, and inflammatory polyps. Neoplastic polyps or adenomas have malignant potential and are classified according to the World Health Organization as tubular, tubulovillous, or villous adenomas, depending on the presence and volume of villous tissue (16). Tubular adenomas are composed of straight or branched tubules of dysplastic tissue; villous adenomas contain fingerlike projections of dysplastic epithelium appearing 70% of polyps removed at colonoscopy are adenomas (17). Seventy percent to 85% of these are classified as tubular (0% to 25%, villous tissue), 10% to 25% are tubulovillous (25% to 75%, villous tissue), and fewer than 5% are villous adenomas (75% to 100%, villous tissue).

Some degree of dysplasia exists in all adenomas. Most authorities recommend that dysplasia be classified as mild, moderate, or severe (18). Others prefer only two gradations, progressively severe dysplasia, because this classification reduces the problem of interobserver variation (19). Severe, or high-grade, dysplasia includes the histologic changes previously called "carcinoma in situ," "intramucosal carcinoma," or "focal carcinoma." Abandonment of these terms is recommended because of concern for misinterpretation of the clinical significance that might lead to overtreatment, and thus they will not be used in this guideline. Approximately 5% to 7% of patients with adenomas have severe dysplasia and 3% to 5% have invasive carcinoma at the time of diagnosis. Increasing dysplasia and, presumably, malignant potential correlate with increasing adenoma size, villous component, and patient age (19). The likelihood of invasive carcinoma also increases with increasing polyp size (15).

The development of colorectal adenomas and carcinomas probably involves both environmental and genetic factors (10, 20-22). Environmental carcinogens appear to act on a genetically susceptible mucosa causing cellular proliferation followed by oncogene activation and chromosomal deletions leading to adenoma formation, growth, increasing dysplasia, and then invasive carcinoma.

Diagnosis and Treatment

Colonic polyps are diagnosed by endoscopy or barium radiography. Because most polyps are asymptomatic, they are usually found incidentally. The single-contrast barium enema examination is an inaccurate method for detecting polyps in most patients. In one large screening study, single-contrast barium enemas found only 40% of neoplastic polyps detected on subsequent colonoscopy (23). Double-contrast techniques greatly improve the accuracy of radiologic methods for detecting polyps (24). A study comparing the accuracy of both radiographic methods in 425 patients reported a sensitivity for detecting polyps of 90% and 40% for double- and single-contrast methods, respectively (25). Several studies indicate that the double-contrast barium enema can accurately detect most cancers and most polyps that are larger than 1 cm in diameter (26, 27).

The main limitation of barium enema is that it does not allow biopsy or polypectomy.

The most common use of flexible sigmoidoscopy is for screening asymptomatic average-risk persons for colonic neoplasms. Flexible sigmoidoscopy done with the standard 60-cm instrument detects two to three times as many polyps and is more comfortable than is rigid sigmoidoscopy (28, 29). Sensitivity and specificity are very high because few polyps within reach of the examination instrument are missed and the false-positive rate is negligible. The combination of a double-contrast barium enema and flexible sigmoidoscopy has been promoted as an acceptable alternative to colonoscopy for patients requiring a complete examination of the large bowel.

When a barium enema is used for surveillance, rigid or flexible proctosigmoidoscopy should always be done to ensure an adequate examination of the rectum. Flexible sigmoidoscopy also provides a more accurate examination of the sigmoid colon, which is often a difficult area for the radiologist to examine. Double-contrast barium enema appears to be more accurate in the proximal colon than in the distal colon (30). Although flexible sigmoidoscopy allows biopsy of lesions, it should not be used for electrosurgical polypectomy unless the entire colon is prepared to eliminate the risk for electrocatheter-induced explosion (31). Furthermore, detection of a neoplastic polyp by screening flexible sigmoidoscopy is usually an indication for colonoscopy, at which time the polyp can be resected and a search made for synchronous neoplasia.

Colonoscopy is the best method for detecting polyps accurately, especially those measuring less than 1 cm in diameter, and it allows biopsy of lesions and resection of most polyps (32, 33). A controlled, single-blinded comparison study of double-contrast barium enema and colonoscopy performed by expert examiners reported an accuracy of 94% and 67% for diagnosing polyps for colonoscopy and radiographic studies, respectively (34).

In a recent, similarly controlled investigation, tandem colonoscopies performed by two experienced examiners on 96 patients indicated a miss rate of 14.7% for polyps measuring 8-mm diameter or less, but no polyps larger
than 8 mm were undetected by the first examination (35). Most polyps found during colonoscopy can be completely and safely removed by electrocautery (36–38).

Despite its advantages for the diagnosis and treatment of polyps, colonoscopy has some limitations. Areas adjacent to acute angulations or flexures and the ileocecal valve may be difficult to observe. Further, in 5% to 10% of patients, usually those with diverticulosis or previous pelvic surgery, the endoscopist may not be able to pass the instrument comfortably and safely to the cecum (39).

Serious complications of perforation and bleeding occur in 0.1% to 0.2% of patients having diagnostic colonoscopy (40). Major complications are appreciably less common during barium enema (0.02%) and flexible sigmoidoscopy (0.01% to 0.04%) (41, 42). The cost of colonoscopy exceeds that of barium enema plus flexible sigmoidoscopy by 40% to 60% in most centers. However, because 30% to 40% of patients undergoing barium enema examination for the purpose of detecting neoplasia will be found to have lesions requiring the subsequent performance of colonoscopy, the average cost of the two alternative diagnostic strategies are approximately the same (43).

Uncontrolled, descriptive case studies have suggested that removing colonic polyps reduces cancer mortality. Long-term screening with rigid proctoscopy with removal of all rectal polyps reduced the incidence of subsequent rectal cancer to 15% of that predicted and eliminated rectal cancer mortality (44). In addition, a recently reported retrospective, case-controlled study indicated that screening rigid proctoscopy resulted in a threefold reduction in fatal distal adenocarcinoma during the next 10 years (45). The National Polyp Study recently reported the results of postpolypectomy colonoscopic surveillance of 1422 persons who had undergone removal of one or more adenomas (46). During more than 6000 person-years of follow-up surveillance, only five cancerous lesions were detected. This represented a 58% to 87% reduced incidence compared to that of three well-defined reference populations. Although available studies strongly suggest the effectiveness of polypectomy in reducing the incidence of colorectal cancer, no randomized trial has yet proved that resecting adenomas reduces colorectal mortality. Some caution regarding this issue is therefore justified pending completion of ongoing trials such as the National Polyp Study.

Initial Management of Polyps

Because of the adenoma-cancer relationship and the mounting evidence that resecting adenomas prevents cancer, most patients with polyps detected by barium enema or flexible sigmoidoscopy should undergo colonoscopy to excise the polyp and search for additional neoplasms. The incidence of synchronous adenomas in a patient with one known adenoma is 40% to 50% (47–49). Most polyps diagnosed during colonoscopy can be completely removed by electrocautery techniques. The risk and cost of colonoscopic polypectomy are substantially less than resection at laparotomy, which is indicated only when an experienced endoscopist is unable to resect a clinically significant polyp safely or when a malignant polyp requires surgical resection (37, 38). Most pedunculated polyps and medium- to large-sized sessile polyps are resected by snare-polypectomy and the entire specimen is submitted for pathologic evaluation. A total excisional biopsy is desirable so the polyp can be properly classified and the presence or absence of malignancy determined; and for malignant polyps, the grade, vascular and lymphatic involvement, and proximity to the margin of resection of the cancer can be assessed. Small sessile polyps are usually examined by biopsy and fulgurated. Large sessile polyps may require piecemeal snare resection, but, again, every effort is made to retrieve all resected tissue for pathologic analysis.

Small Polyps

The decision whether to perform colonoscopy for patients with polyps measuring less than 0.5 cm in diameter must be individualized depending on the patient’s age, comorbidity, and past history or family history of colonic neoplasia. Most small polyps are adenomas with some malignant potential, although the likelihood of cancer already existing in a polyp this size is small (<0.1%) (50, 51). Small polyps encountered during colonoscopy are usually examined by biopsy and then destroyed by fulguration. Representative biopsies should be obtained when these small lesions are numerous.

When a small polyp is encountered during screening flexible sigmoidoscopy, it should be examined by biopsy to determine if it is an adenoma. Small distal adenomas are associated with an increased incidence of proximal synchronous adenomas, although this risk appears to be less than that for larger distal adenomas (52). Hyperplastic polyps have no proven malignant potential (15, 53). Several recent reports suggest that a hyperplastic polyp found in the left colon may predict the presence of an adenoma in the proximal colon (54–57). Other large, prospective, controlled studies, some performed in asymptomatic persons, have failed to confirm this association (49, 58, 59). The balance of evidence supports the recommendation that a hyperplastic polyp found during flexible sigmoidoscopy is not, by itself, an indication for subsequent colonoscopy (49).

Large Sessile Polyps

Large sessile polyps (>2 cm) usually contain villous tissue with a high malignant potential and tend to recur locally after resection (53). For technical reasons, many such lesions cannot be completely or safely excised during colonoscopy and the patient should be referred for primary surgical resection. A patient who has had successful colonoscopic excision of a large sessile polyp should undergo follow-up colonoscopy 3 to 6 months later to determine if resection was complete (60). If residual polyp is present, it should be removed and the completeness of resection documented within another 3- to 6-month interval. If complete resection is not possi-
ble after two to three examinations, the patient should usually be referred for surgical therapy.

The Malignant Polyp

A malignant polyp is a neoplasm that contains malignant cells that have penetrated through the muscularis mucosae (61). Usually the term is used to describe an endoscopically resected polyp that appears benign, but on histologic analysis contains invasive carcinoma. Questions that must be addressed when dealing with these lesions are: Does the patient require cancer surgery or is colonoscopic polypectomy adequate treatment? Is the risk for local recurrence of lymph node metastasis greater than that of partial colectomy or is it so small that no further treatment is indicated?

The risk for lymphatic spread from a malignant polyp has been estimated by histologic study of resected specimens. Because lymphatics do not penetrate much beyond the muscularis mucosae, focal cancer that has not invaded through this layer appears to have little or no risk for lymph node spread (62). Prospective studies of patients with resected polyps containing such superficial carcinomas ("carcinoma in situ") confirm that colonoscopic polypectomy is definitive therapy for these lesions (63). In one large series, lymph node metastasis occurred in about 10% of cases in which adenocarcinoma penetrated the muscular mucosa into the submucosa layers (7). However, all of these cancers involving lymph nodes were poorly differentiated. Only 5% to 10% of all colorectal carcinomas are poorly differentiated (7).

In a large series of cases with malignant polyps, 60 patients were followed a minimum of 5 years after resection or until death (64). Two patients with incompletely excised polyps developed local recurrence, and one patient with a poorly differentiated carcinoma developed lymph node metastasis. Therefore, if there is no evidence of high-grade malignancy or incomplete excision in a properly processed specimen, simple polypectomy appears to be adequate treatment. A number of smaller series confirm these criteria (65-73). Some of these add the stipulation that lymphatic or vascular invasion in the polyp also requires surgery for definitive treatment.

The risk for death from elective colonic resection averages about 2% and varies from 0.2% in young, healthy persons to more than 5% in elderly patients (74-76). A recent analysis of published series of malignant polyps estimates a risk for residual cancer or nodal metastases from endoscopically resected pedunculated malignant polyps with favorable criteria of 0.3%, and the risk with sessile malignant polyps with favorable criteria of 1.5% (77). Another review of endoscopically resected polyps with poor prognostic factors (poorly differentiated cancer, margin involvement, or presence of lymphatic or vascular invasion) reported residual cancer in 8.5% of patients (78).

In summary, the literature dealing with malignant polyps indicates a low risk for residual cancer when the criteria are favorable. Even with unfavorable criteria, the likelihood of death from cancer is low and must be weighed against the surgical risk of colectomy for each patient.

Recommendations for a Patient with a Malignant Polyp

Although these recommendations are not the result of controlled prospective trials, they are the product of considerable clinical experience and formal decision analysis. The risk for local recurrence or of lymph node metastasis from invasive carcinoma in a colonoscopically resected polyp is less than the risk for death from colon surgery, and therefore the ACG recommends no further treatment if the following criteria are fulfilled:

1. The polyp is considered completely excised by the endoscopist and is submitted in toto for pathologic examination.
2. In the pathology laboratory, the polyp is fixed and sectioned so that it is possible to accurately determine the depth of invasion, grade of differentiation, and the completeness of excision of the carcinoma.
3. The cancer is not poorly differentiated.
4. There is no vascular or lymphatic involvement.
5. The margin of excision is not involved.

Patients with malignant polyps with favorable prognostic criteria should have follow-up colonoscopy in 3 months to check for residual abnormal tissue at the polypectomy site, especially if the polyp was sessile (79). After one negative follow-up examination, care can revert to standard surveillance as performed for patients with benign adenomas. Because the incidence of recurrent cancer is small, no other follow-up laboratory or imaging studies are indicated for these patients.

When a patient’s malignant polyp has poor prognostic features, one should weigh the relative risks of surgical resection against the risk for death from metastatic cancer. The patient at high risk for morbidity and mortality from surgery should probably not have surgical resection. If a malignant polyp is located in that part of the low rectum that would require an abdominal-perineal resection, local excision rather than a standard cancer resection is usually justified. Depending on the pathologic features of the resected specimen, further treatment (for example, radiotherapy) may be indicated.

Postpolypectomy Surveillance

The prevalence of synchronous polyps is 40% to 50% (47-49). Some of these polyps, especially those measuring less than 1 cm in diameter, will be missed on the initial colonoscopy (35). Metachronous adenomas are reported in 20% to 50% of patients, depending on the follow-up surveillance interval used (80-84). The National Polyp Study found that the rate of adenoma detection 1 and 3 years after initial adenoma resection was 28% and 42%, respectively (77). Recurrent adenomas were mostly small, tubular adenomas with mild dysplasia and therefore were of marginal immediate clinical significance.

A large series found no increased incidence of cancer in 751 patients after resection of small colorectal polyps (<1 cm) compared with that of the local community from which these cases originated (85). However, the relative risk for developing colon cancer was 2.7 times
that of the average-risk population if the index polyps were larger than 1 cm, and was increased five times in patients who initially had multiple polyps (86). Another long-term, follow-up study of 1618 postpolypectomy patients also found no increased risk for cancer in patients undergoing resection of single, small, tubular adenomas, but an increased risk of 3.6 times in those with index adenomas that were large (≥1 cm) or contained villous tissue and 6.6 times in patients with multiple adenomas on their original examinations compared with the known rates in the local community (87). Therefore, clearly, some, but not all, patients with adenomas have a clinically significant risk for developing colorectal cancer and may benefit from postpolypectomy surveillance.

Most patients who have had resection of a colorectal adenoma, therefore, have an increased risk for recurrent adenomas and subsequent cancer and may benefit from long-term surveillance (47). The purpose of this surveillance is to detect and resect synchronous adenomas missed during the initial colonoscopy and all subsequent metachronous adenomas, before they grow to a size at which they might become malignant. The appropriate frequency of surveillance is yet to be precisely determined by controlled trials. Therefore, follow-up strategies are based on current knowledge of the polyp-cancer sequence, special risk factors, the sensitivity and specificity of diagnostic tests, and the individual needs and characteristics of each patient.

The appropriate frequency of surveillance was investigated by the National Polyp Study (88). Analysis of the age distribution and colonoscopic findings of patients evaluated for this study suggests that the average time it takes for a medium-sized adenoma to develop from a grossly normal-appearing colon is about 5 years and for a gross cancer to develop is about 10 years (6). This supports the concept of a long natural history of evolution of colon cancer through an intermediate adenoma stage and suggests that frequent surveillance is not necessary if accurate methods are used to detect developing neoplasia. In the National Polyp Study, colonoscopy performed 3 years after initial colonoscopic removal of adenomatous polyps detected important colonic lesions as effectively as follow-up colonoscopy performed after both 1 and 3 years. At 3 years, only 3.3% of patients had adenomas with advanced pathologic features (defined as those >1 cm in diameter and those with high-grade dysplasia or invasive cancer). Therefore, this study recommends an interval of at least 3 years before follow-up colonoscopy after resection of newly diagnosed adenomatous polyps. Because many clinicians perform the first surveillance examination for these patients at 1 year, national adoption of this new recommendation should substantially reduce the cost of postpolypectomy surveillance. Furthermore, reduction in the frequency of postpolypectomy surveillance will reduce the cost of screening for colorectal cancer because the cost of follow-up for patients found to have asymptomatic adenomas contributes appreciably to the overall cost of screening.

**Recommendations for Postpolypectomy Surveillance**

On the basis of all available data and the previous discussion, the following program appears rational after colonoscopic polypectomy (47, 89). Evidence that this approach will reduce mortality from colorectal cancer awaits the conclusion of long-term studies currently in progress.

1. Complete colonoscopy should be done at the time of polypectomy to detect and resect all synchronous adenomas. Additional clearing examinations may be required after resection of a large sessile adenoma or of multiple adenomas to ensure complete resection.

2. Repeated colonoscopy to check for missed synchronous and for metachronous adenomas should be performed in 3 years for most patients with a single or only a few adenomas, provided they have had a high-quality initial clearing examination.

3. Selected patients with multiple adenomas or those who have had a suboptimal clearing examination might require colonoscopy at 1 and 4 years.

4. After one negative 3-year follow-up examination, subsequent surveillance intervals may be increased to 5 years.

5. The presence of severe or high-grade dysplasia in a resected polyp does not, per se, modify recommendations 1 to 4.

6. If complete colonoscopy is not feasible, flexible sigmoidoscopy followed by a double-contrast barium enema is an acceptable alternative.

7. Because patients undergoing resection of a single, small tubular adenoma (<1 cm) may not have an increased subsequent risk for cancer, follow-up surveillance may not be indicated according to decision analysis of available data (90).

8. Follow-up surveillance should be individualized according to the age and comorbidity of the patient. Surveillance should be discontinued when it appears unlikely that continued follow-up is capable of prolonging life expectancy.

**Summary of American College of Gastroenterology Recommendations**

1. **Initial Management**
   
   A. Most patients with polyps detected by barium enema or flexible sigmoidoscopy should undergo colonoscopy to excise the polyp and search for additional neoplasms.

   B. The decision whether to perform colonoscopy for patients with polyps less than 0.5 cm in diameter must be individualized depending on the patient's age, comorbidity, and past history of colonic neoplasia.

   C. Small polyps encountered during colonoscopy are usually examined by biopsy and then destroyed by fulguration. Representative biopsies are obtained when these small lesions are numerous.

   D. When a small polyp is encountered during screening flexible sigmoidoscopy, it should be examined by biopsy to determine if it is an adenoma and thus may be an indication for colonoscopy. The balance of current evidence supports the recommendation that a hyperplastic polyp found during flexible sigmoidoscopy...
is not, by itself, an indication for subsequent colonscopy.

E. A patient who has had successful colonoscopic excision of a large sessile polyp (≥2 cm) should undergo follow-up colonoscopy in 3 to 6 months to determine if resection was complete. If residual polyp is present, it should be removed and the completeness of resection documented within another 3- to 6-month interval. If complete resection is not possible after 2 to 3 examinations, the patient should usually be referred for surgical therapy.

2. The Malignant Polyp
   A. No further treatment is indicated after colonoscopic resection of a malignant polyp if the following criteria are fulfilled:
      1. The polyp is considered completely excised by the endoscopist and is submitted in toto for pathologic examination.
      2. In the pathology laboratory, the polyp is fixed and sectioned so that it is possible to accurately determine the depth of invasion, grade of differentiation, and the completeness of excision of the carcinoma.
      3. The cancer is not poorly differentiated.
      4. There is no vascular or lymphatic involvement.
      5. The margin of excision is not involved.

   B. Patients with malignant polyps with favorable prognostic criteria should have follow-up colonoscopy 3 months to check for residual abnormal tissue at the polypectomy site, especially if the polyp was sessile. After one negative result of follow-up examination, the clinician can revert to standard surveillance as is performed for patients with benign adenomas.

C. When a patient's malignant polyp has poor prognostic features, the relative risks of surgical resection should be weighed against the risk for death from metastatic cancer. The patient at high risk for morbidity and mortality from surgery should probably not have surgical resection. If a malignant polyp is located in that part of the low rectum that would require an abdominal-perineal resection, local excision rather than a standard cancer resection is usually justified.

3. Postpolypectomy Surveillance
   A. Complete colonoscopy should be performed at the time of polypectomy to detect and resect all synchronous adenomas. Additional clearing examinations may be required after resection of a large sessile adenoma or of multiple adenomas to ensure complete resection.

   B. Repeated colonoscopy to check for missed synchronous and for metachronous adenomas is performed in 3 years for most patients with a single, or only a few adenomas, provided they have had a high-quality initial clearing examination.

   C. Selected patients with multiple adenomas or those who have had a suboptimal clearing examination might require colonoscopy at 1 and 4 years.

   D. After one negative 3-year follow-up examination, subsequent surveillance intervals may be increased to 5 years.

   E. The presence of severe or high-grade dysplasia in a resected polyp does not, per se, modify recommendations A through D.

   F. If complete colonoscopy is not feasible, flexible sigmoidoscopy followed by a double-contrast barium enema is an acceptable alternative.

G. Because patients undergoing resection of a single, small, tubular adenoma (<1 cm) may not have an increased subsequent risk for cancer, follow-up surveillance may not be indicated according to decision analysis of available data.

H. Follow-up surveillance should be individualized according to the age and comorbidity of the patient. Surveillance should be discontinued when it appears unlikely that continued follow-up is capable of prolonging life expectancy.

Appendix. Members of the Practice Parameters Committee of the American College of Gastroenterology

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References


