

Ethnic issues in endoscopy

This is one of a series of statements discussing the use of GI endoscopy in common clinical situations. The Standards of Practice Committee of the American Society for Gastrointestinal Endoscopy (ASGE) prepared this text. In preparing this guideline, a search of the medical literature was performed by using PubMed. Additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When few or no data exist from well-designed prospective trials, emphasis is placed on results from large series and reports from recognized experts. Guidelines for appropriate use of endoscopy are based on a critical review of the available data and expert consensus at the time the guidelines are drafted. Further controlled clinical studies may be needed to clarify aspects of this guideline. This guideline may be revised as necessary to account for changes in technology, new data, or other aspects of clinical practice. The recommendations are based on reviewed studies and are graded on the quality of the supporting evidence (Table 1). The strength of individual recommendations is based on both the aggregate evidence quality and an assessment of the anticipated benefits and harms. Weaker recommendations are indicated by phrases such as “we suggest,” whereas stronger recommendations are typically stated as “we recommend.”

This guideline is intended to be an educational device to provide information that may assist endoscopists in providing care to patients. This guideline is not a rule and should not be construed as establishing a legal standard of care or as encouraging, advocating, requiring, or discouraging any particular treatment. Clinical decisions in any particular case involve a complex analysis of the patient's condition and available courses of action. Therefore, clinical considerations may lead an endoscopist to take a course of action that varies from this guideline.

BACKGROUND

The United States (U.S.) population is ethnically diverse and disease patterns can affect each ethnic group differently. Observations of the differences in the prevalence or presentations of disease among ethnic groups can be important keys to disease diagnosis and management. This

guideline is prepared to emphasize some of the more important differences in GI disease patterns among minority ethnic groups in the U.S. that may influence the practice of endoscopy in these patient groups. This guideline is not intended to serve as a comprehensive list of GI disease profiles for various ethnic groups. Colorectal cancer screening is one example wherein practice recommendations have been modified to account for differences based on patient ethnicity.¹ Studies addressing the impact of modifying specific endoscopic standards of practice for conditions based on ethnicity are currently lacking. However, it is logical to assume that increased awareness of differences in disease patterns and management among different ethnic groups could have beneficial impacts on the health-related quality of life of these groups. At the same time, it is important to recognize that ethnic populations are not homogeneous and that additional factors, such as environment and behavior, also play important roles in disease.²

ESOPHAGUS

Esophageal carcinoma

Among men, squamous cell carcinoma of the esophagus is the most frequent esophageal tumor in African Americans, with an annual incidence of 9.3/100,000 compared with only 2.0/100,000 in European Americans, 2.5/100,000 in Native Americans/Alaska Natives, and 3.0/100,000 in Asian Americans and Pacific Islanders.³ A similar pattern is seen among women, although the incidence is much lower (range, 0.5/100,000-2.8/100,000). Among new immigrants from regions of the world such as Northern China, India, and Northern Iran, where squamous cell carcinoma of the esophagus is common, the annual incidence of this cancer reaches over 100/100,000.⁴ In contrast, the incidence of adenocarcinoma of the esophagus in European-American men is much higher (5.4/100,000) than in African Americans (1.4/100,000), Native Americans/Alaska Natives (3.0/100,000), and Asian Americans and Pacific Islanders (0.8/100,000).⁴ This may be related to the higher prevalence of gastroesophageal reflux disease in Caucasians than in other racial groups.⁵ The recognition of divergent incidence rates of esophageal adenocarcinoma and squamous cell carcinoma among different ethnicity and gender groups has led to suggestions that screening for Barrett's esophagus should be preferentially conducted in Caucasian males with GERD symptoms,^{6,7} but recent practice guidelines do not endorse

screening for Barrett esophagus based on ethnicity.^{8,9} We acknowledge that currently there are insufficient data to support ethnicity-specific guidelines regarding the endoscopic approach to either esophageal adenocarcinoma or squamous cell cancer.

STOMACH

***Helicobacter pylori* infection and gastric cancer**

The prevalence and incidence of infection with *Helicobacter pylori* varies among different ethnic groups in the United States. One study found that, when adjusted for age, income, and education, African Americans and Hispanics had an *H pylori* prevalence of 70% to 80%, whereas the prevalence was only 34% in Caucasians.¹⁰ A study of sera collected from 1988 to 1991 as part of the National Health and Nutritional Examination Survey found age-adjusted prevalence rates of *H pylori* to be 52.7% in non-Hispanic blacks and 61.6% in Mexican Americans, compared with 26.2% in non-Hispanic whites.¹¹ When further adjusted for other risk factors, both minority groups were 2 to 3 times more likely to harbor *H pylori* infection than non-Hispanic whites.

Because chronic *H pylori* infection is a risk factor for gastric carcinoma, the differences in the prevalence of *H pylori* observed among these groups may contribute to the two- to threefold higher incidence of gastric carcinoma in African Americans, Hispanics, and Native-Americans compared with Caucasians.^{9,12,13} Because of the recognized association between *H pylori* and gastric cancer, detection and eradication of *H pylori* infection in these minority groups may have beneficial impact on their subsequent risk for this malignancy. Cost-effectiveness models suggest that screening for and treating *H pylori* have the potential to reduce the risk for gastric cancer at a reasonable cost, and this benefit is even more evident for groups at high risk for the development of gastric cancer. However, clinical studies are needed to confirm these conclusions before recommendations regarding *H pylori* screening based on ethnicity can be made.^{14,15}

Gastric intestinal metaplasia and gastric cancer

The minority ethnic groups that are at risk for gastric carcinoma predominantly have the "intestinal" type of gastric cancer, where intestinal metaplasia in the stomach is considered to be a precursor lesion. In one study from the southwestern United States, the prevalence of intestinal metaplasia was significantly higher in Hispanics and African Americans combined (50%) compared with non-Hispanic whites (13%).¹⁶ Endoscopic surveillance of intestinal metaplasia may highlight the patient groups at risk for gastric cancer,¹⁷ and recent ASGE guidelines stipulate that patients at perceived increased risk of gastric cancer based

on ethnic background or family history may benefit from surveillance of gastric intestinal metaplasia.¹⁶

East Asians also have a significantly increased rate of gastric carcinoma. In some Asian countries, screening of asymptomatic individuals for gastric cancer is performed, typically beginning around age 40.¹⁸ The cause of this increased risk is not known, but leading hypotheses center on the East Asian diet, which is high in salt, nitrites, and nitrates.¹⁹ In Japan, where the prevalence of gastric cancer is among the highest in the world, a vigorous screening protocol may have contributed to a significant decrease in gastric cancer mortality,^{20,21} although some studies suggest that the observed decreases in gastric cancer in that society may also stem from changes in diet and lifestyle.²² A recent study of cancer incidence and mortality in East Asian Americans in California found that Chinese, Vietnamese, Korean, and Japanese Americans had higher rates of gastric cancer and death from gastric cancer than non-Hispanic European Americans, with Koreans having the greatest risk among these groups.²³ Additional studies are needed to assess whether more vigilant screening for gastric cancer in these high-risk ethnic groups in the United States could produce a beneficial effect similar to those observed in some Asian countries. In accordance with recent recommendations regarding screening for gastric cancer in populations within the Asian Pacific region,²⁷ endoscopic screening for gastric cancer in new (first-generation) U.S. immigrants from high-risk regions around the world, such as Japan, China, Russia, and South America, should be considered if there is a family history of gastric cancer in a first-degree relative.²⁴

COLON

Colorectal cancer

Being the second leading cause of cancer mortality, colorectal cancer is a major public health issue in the United States.²⁵ The incidence of colon cancer in the United States is among the highest in the world, and screening for colorectal cancer has been proven to reduce mortality.²⁶ Differences in colon cancer incidence and mortality exist between racial groups, and recognition of these differences has resulted in recent recommendations for earlier screening in certain ethnic groups.^{2,27} African Americans with colon cancer have a 20% stage-adjusted increase in mortality risk compared with European Americans,²⁸ younger age at presentation,^{29,30} and a higher proportion of cancers presenting before age 50.³¹ Advanced cancer stage at the time of diagnosis accounts for half of the increased mortality risk in African Americans. There are multiple possible explanations for this phenomenon, including societal issues (such as access to medical care and increased exposure to modifiable colon cancer risk factors), as well as possible inherent biologic differences resulting in more aggressive colon neoplasm behavior in African Americans than in European Americans.

TABLE 1. GRADE system for rating the quality of evidence for guidelines

Quality of evidence	Definition	Symbol
High quality	Further research is very unlikely to change our confidence in the estimate of effect	⊕⊕⊕⊕
Moderate quality	Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate	⊕⊕⊕○
Low quality	Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate	⊕⊕○○
Very low quality	Any estimate of effect is very uncertain	⊕○○○

Adapted from: Guyatt GH, Oxman AD, Vist GE, et al, GRADE Working Group. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ* 2008;336(7650):924-6. Weaker recommendations are indicated by phrases such as “we suggest,” and stronger recommendations are typically stated as “we recommend.”

African Americans have lower rates of colorectal cancer screening than European Americans.³² This is especially true for elderly African-American men.³³⁻³⁵ Because African Americans appear to have an increased likelihood of right-side adenomatous polyps,³⁶ screening methods for this group should evaluate the entire colon. A recent analysis of data from the Clinical Outcomes Research Initiative regarding the prevalence and location of polyps identified on screening colonoscopy determined that African-American men (odds ratio [OR], 1.16; 95% confidence interval [CI], 1.01-1.34) and women (OR, 1.62; 95% CI, 1.39-1.89) were more likely than age-matched European Americans to have polyps >9 mm in diameter.³⁷ When analyzed by age, African-American men ($P = .03$) and women ($P < .001$) were more likely than European-American men and women to have polyps >9 mm in diameter proximal to the splenic flexure. Given that screening programs including colonoscopy with polypectomy have been effective in reducing colon cancer mortality,³⁸⁻⁴¹ special efforts are needed to reduce ethnic disparities in the utilization of colorectal cancer screening.

Recognition of ethnic differences in the epidemiology of colorectal neoplasia has led some to suggest modifications in programmatic colon cancer screening strategies based on ethnicity,⁴² and the American College of Gastroenterology has recommended that colon cancer screening in African-American men and women begin at age 45.²

Because early detection of colon cancer and removal of adenomatous polyps results in lower colon cancer incidence and mortality rates, we also suggest initiating screening earlier in African Americans.

Colorectal cancer screening should also be emphasized in other minority ethnic groups, such as Hispanics and Native Americans, that have been observed to have developed an increasing incidence of colorectal cancer compared with historical rates of the disease in their ethnic groups as well as a trend toward later-stage disease compared with non-Hispanic European Americans.^{43,44} A recent analysis of cancer incidence and mortality of various East Asian–American populations in California identified a higher rate of colorectal cancer in Japanese Americans compared with other Asian populations and non-Hispanic European Americans.⁴⁵ Factors such as obesity, lack of physical activity, smoking, and “Westernization” of this population, which historically had very low rates of colon cancer, have been cited as possible explanations for their increased risk of colorectal cancer. However, population-based data from the United States Surveillance Epidemiology and End Results database show that Asian Americans/Pacific Islanders, Native Americans/Alaska Natives, and Hispanics continue to have a lower overall incidence rate of colorectal cancer than European Americans.⁴⁶ Current data are insufficient to determine whether or not early screening in these minority ethnic populations is needed or cost-effective on a population scale. Therefore, current population-based colorectal cancer screening recommendations should be followed with these patients, with deviations based on clinical judgment.

Screening rates vary by race, socioeconomic status, and insurance status.^{36,47} It is conceivable that the colorectal cancer–associated outcomes observed in ethnic minorities are due in part to lower screening utilization, so every effort should be made to educate these groups about the need for colorectal cancer screening, and additional efforts to increase the availability of screening tests to these populations should be encouraged.

In summary, several GI diseases demonstrate racial and ethnic differences in their epidemiology. Practitioners should be aware of these differences, because alteration of diagnostic and management strategies may help reduce racial and ethnic disparity in healthcare outcomes.

RECOMMENDATIONS

1. We suggest that screening EGD for adenocarcinoma or squamous cell carcinoma of the esophagus should be based on clinical considerations and not upon ethnicity. ⊕⊕○○
2. Screening for and treating *H pylori* has the potential to reduce the risk for gastric cancer in groups with high gastric cancer risk, but we do not suggest ethnicity-based deviations from usual care. ⊕⊕○○

3. In patients found to have gastric intestinal metaplasia, we suggest surveillance for those at increased risk of gastric cancer due to ethnic background or family history. ⊕⊕○○
4. We suggest screening EGD for gastric cancer in new U.S. immigrants from high-risk regions around the world, such as Korea, Japan, China, Russia, and South America, especially if there is a family history of gastric cancer in a first-degree relative. ⊕⊕○○
5. We suggest that colorectal cancer screening should commence at age 45 for average-risk African-American men and women. ⊕⊕○○
6. We recommend that colorectal cancer screening be emphasized for other minority ethnic groups that have lower screening utilization rates. ⊕⊕○○

Abbreviations: ASGE, American Society for Gastrointestinal Endoscopy.

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