Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

American Gastroenterological Association Institute guideline on the management of acute diverticulitis.

Bibliographic Source(s)

Stollman N, Smalley W, Hirano I, AGA Institute Clinical Guidelines Committee. American Gastroenterological Association Institute guideline on the management of acute diverticulitis. Gastroenterology. 2015 Dec;149(7):1944-9. [7 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- July 9, 2015 - Non-aspirin Nonsteroidal Anti-inflammatory Drugs (NSAIDS) : The U.S. Food and Drug Administration (FDA) is strengthening an existing label warning that non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs) increase the chance of a heart attack or stroke. Based on FDA's comprehensive review of new safety information, FDA is requiring updates to the drug labels of all prescription NSAIDs. As is the case with current prescription NSAID labels, the Drug Facts labels of over-the-counter (OTC) non-aspirin NSAIDs already contain information on heart attack and stroke risk. FDA will also request updates to the OTC non-aspirin NSAID Drug Facts labels.

Recommendations

Major Recommendations

Definitions for the quality of evidence (High, Moderate, Low, Very low) and strength of recommendation (Strong, Conditional) are provided at the end of the "Major Recommendations" field.

Recommendations

Question 1. Should antibiotics be routinely used in patients with acute uncomplicated diverticulitis?

The American Gastroenterological Association (AGA) Institute suggests that antibiotics should be used selectively, rather than routinely, in patients with acute uncomplicated diverticulitis. (Conditional recommendation, Low quality of evidence).

Question 2. Should a colonoscopy be performed after an episode of acute diverticulitis confirmed by computed tomography (CT) scan?

The AGA suggests that colonoscopy be performed after resolution of acute diverticulitis in appropriate candidates to exclude the misdiagnosis of a colonic neoplasm if a high-quality examination of the colon has not been recently performed. (Conditional recommendation, Low quality of evidence).

Question 3. Should elective colonic resection be performed after an initial episode of acute uncomplicated diverticulitis?

The AGA suggests against elective colonic resection in patients with an initial episode of acute uncomplicated diverticulitis. The decision to perform elective prophylactic colonic resection in this setting should be individualized. (Conditional recommendation, Very low quality of evidence).

Question 4. Should a high fiber diet, rather than a regular diet, be advised in patients with a history of acute diverticulitis?

The AGA suggests a fiber-rich diet or fiber supplementation in patients with a history of acute diverticulitis. (Conditional recommendation, Very low quality of evidence).

Question 5. Should consumption of nuts and popcorn be avoided in patients with a history of acute diverticulitis?

The AGA suggests against routinely advising patients with a history of acute diverticulitis to avoid consumption of nuts and popcorn. (Conditional recommendation, Very low quality of evidence).

Question 6. Should aspirin be avoided in patients with a history of acute diverticulitis?

The AGA suggests against routinely advising patients with a history of acute diverticulitis to avoid the use of aspirin. (Conditional recommendation, Very low quality of evidence).

Question 7. Should nonaspirin nonsteroidal anti-inflammatory drugs (NSAIDs) be avoided in patients with a history of acute diverticulitis?

The AGA suggests advising patients with a history of diverticulitis to avoid the use of nonaspirin NSAIDs if possible. (Conditional recommendation, Very low quality of evidence).

Question 8. Should mesalamine rather than placebo be used in patients with a history of acute uncomplicated diverticulitis?

The AGA recommends against the use of mesalamine after acute uncomplicated diverticulitis. (Strong recommendation, Moderate quality of evidence).

Question 9. Should rifaximin rather than placebo be used in patients with a history of acute uncomplicated diverticulitis?

The AGA suggests against the use of rifaximin after acute uncomplicated diverticulitis. (Conditional recommendation, Very low quality of evidence).

Question 10. Should probiotics rather than placebo be used in patients with a history of acute uncomplicated diverticulitis?

The AGA suggests against the use of probiotics after acute uncomplicated diverticulitis. (Conditional recommendation, Very low quality of evidence).

Question 11. Should vigorous physical activity rather than regular activity be encouraged in patients with a history of acute diverticulitis?

The AGA suggests advising patients with diverticular disease to consider vigorous physical activity. (Conditional recommendation, Very low quality of evidence).

Definitions

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Categories of Quality of Evidence

High	The Committee is very confident that the true effect lies close to that of the estimate of the effect.

Moderate	The Committee is moderately confident in the effect estimate. The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	The Committee's confidence in the effect estimate is limited. The true effect may be substantially different from the estimate of the effect.
Very low	The Committee has very little confidence in the effect estimate. The true effect is likely to be substantially different from the estimate of effect.

GRADE Categories of Strength of Recommendation

	For the Patient	For the Clinician
Strong	Most individuals in this situation would want the recommended course of action and only a small proportion would not.	Most individuals should receive the recommended course of action. Formal decision aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.
Conditional	The majority of individuals in this situation would want the suggested course of action, but many would not.	Different choices will be appropriate for different patients. Decision aids may well be useful helping individuals making decisions consistent with their values and preferences. Clinicians should expect to spend more time with patients when working towards a decision.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Acute diverticulitis

Note: This guideline does not address other manifestations of diverticular disease, such as symptomatic uncomplicated diverticular disease, diverticular bleeding, and segmental colitis associated with diverticulosis, and does not examine the prevention of incident diverticulitis or the management of complicated disease.

Guideline Category

Management

Treatment

Clinical Specialty

Gastroenterology

Intended Users

Physicians

Guideline Objective(s)

To present the official recommendations of the American Gastroenterological Association (AGA) Institute on the management of acute diverticulitis

Target Population

Adult patients with acute diverticulitis or a history of diverticulitis

Interventions and Practices Considered

1. Selective use of antibiotics
2. Colonoscopy
3. Elective colonic resection
4. Fiber-rich diet or fiber supplementation
5. Vigorous physical activity

Note: The following were considered but not recommended: routinely advising patients with a history of acute diverticulitis to avoid consumption of nuts and popcorn, use of aspirin, and use of nonaspirin nonsteroidal anti-inflammatory drugs (NSAIDs); and use of mesalamine, rifaximin, or probiotics after acute uncomplicated diverticulitis.

Major Outcomes Considered

- Resolution of symptoms
- Diverticular complications
- Surgery
- Polyp/cancer detection
- Recurrence

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Defining the Clinical Questions

Through an iterative process, the authors of the technical review and the guideline panelists defined the clinical questions that the guideline would address. They focused on the medical management of patients with acute uncomplicated diverticulitis and developed 11 clinical questions that they considered relevant for clinicians. No question was excluded from the technical review. For each question, they specified the population of interest and one or more alternative management strategies (see Table 1 in the technical review [see the "Availability of Companion Documents" field]). Clinical questions provided the framework for formulating study inclusion and exclusion criteria and guided the literature search.

Selecting the Outcomes

For each question, the technical review authors developed a comprehensive list of potentially relevant outcomes. Then, along with the guideline panelists, they independently rated the importance of each outcome on a scale from 1 to 9, considering the patients' perspective. Outcomes with a

median rating of 1 to 3 were considered not important to patients and were not included in the evidence tables. Outcomes with a median rating of 4 to 6 were considered important to patients, and outcomes with a median rating of 7 to 9 were considered critical to patients. The important and the critical outcomes were included in the evidence tables. At the end of the process, they readjusted the ratings to ensure consistency across clinical questions.

Identifying the Evidence

Estimates of the Effect

With the help of a specialized librarian, the technical review panel conducted an electronic search in MEDLINE, EMBASE, and the Cochrane Library in August 2014. They first searched for recent systematic reviews (2009 and onward). The technical review authors then conducted a search for primary studies, using the search date of the latest systematic review identified as a starting point. Finally, the technical review panel reviewed the reference lists of included studies and the ClinicalTrials.gov Web site for additional trials. The literature search is described in detail in Appendix 1 of the technical review.

The methodologist screened the list of hits retrieved and obtained the full text of relevant citations. The inclusion and exclusion of studies was decided by consensus of the technical review team. Included studies were restricted to randomized trials but included observational studies when there were no data from randomized trials.

Values and Preferences

The technical review team also conducted a search for studies evaluating the values and preferences of patients in relation to outcomes and treatment alternatives for diverticulitis. They conducted an electronic search in November 2014 of MEDLINE and EMBASE without a time limit.

Number of Source Documents

Refer to Appendix 1 in the technical review (see the "Availability of Companion Documents" field) for results of the searches.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Categories of Quality of Evidence

High	The Committee is very confident that the true effect lies close to that of the estimate of the effect.
Moderate	The Committee is moderately confident in the effect estimate. The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	The Committee's confidence in the effect estimate is limited. The true effect may be substantially different from the estimate of the effect.
Very low	The Committee has very little confidence in the effect estimate. The true effect is likely to be substantially different from the estimate of effect.

Methods Used to Analyze the Evidence

Meta-Analysis

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evaluating the Quality of the Evidence

The technical review panel assessed the quality of evidence using the system described by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group. In short, the quality of evidence is classified as "high," "moderate," "low," or "very low" based on the study design and judgments about methodological characteristics of the available body of evidence (see the "Rating Scheme for the Strength of the Evidence" field). The quality of the evidence reflects the review team's confidence that the estimates of the effect calculated from the body of evidence lie close to their true value.

In the GRADE approach, randomized trials start as high-quality evidence, but the evidence can be rated down if the primary studies have a high risk of bias, the results are imprecise, there is substantial inconsistency, there is a high probability of publication bias, or the evidence found does not apply directly to the proportion of interest. Observational studies, in turn, start as low-quality evidence, and it is also possible to rate down the quality with the situations just mentioned. However, it is also possible to increase the quality of the evidence in special situations, such as a large observed effect or the observation of a dose-responsive gradient.

In each clinical question, the methodologist evaluated the quality of the evidence for each outcome. Those judgments were discussed with the rest of the technical review team, and disagreements were resolved by consensus. The technical review panel considered the overall quality of the evidence as the lowest rating among the critical outcomes.

Evidence Tables

The evidence review team summarized the estimates of the effect and the judgments regarding the quality of the evidence in the tables. They used the alternative format proposed by Carrasco-Labra et al, because evidence shows that this format improves understanding of risk differences and helps with the interpretation of the results.

Refer to the "Summarizing the Evidence" section in the technical review (see the "Availability of Companion Documents" field) for information on the meta-analyses performed.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

This guideline was developed by the American Gastroenterological Association' s (AGA's) Clinical Guidelines Committee and approved by the AGA Institute Governing Board. Briefly, the AGA process for developing clinical practice guidelines incorporates Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology and best practices as outlined by the Institute of Medicine. GRADE methodology was used to prepare the accompanying technical review on focused questions and their related specific populations, interventions, comparisons, and outcomes. Optimal understanding of this guideline will be enhanced by reading applicable portions of the technical review. The quality of available evidence on each question was first judged by the technical review panel of content and methodological experts (see the "Rating Scheme for the Strength of the Evidence" field). Reasons justifying grading are detailed in the following text when appropriate. The guideline authors, none of whom have any potential financial or professional conflict of interest on the topic, met with the technical review panel to discuss the evidence. The guideline authors subsequently met privately and drafted recommendations, taking into account the quality of evidence as well as the balance between benefits and harms, patient preferences, and resource utilization. Such pertinent considerations are also detailed in the guideline text when relevant. The strength of the recommendations was categorized as strong, conditional, or no recommendation according to GRADE terminology (see the "Rating Scheme for the Strength of the Recommendations" field).

Rating Scheme for the Strength of the Recommendations

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Categories of Strength of Recommendation

	For the Patient	For the Clinician
Strong	Most individuals in this situation	Most individuals should receive the recommended course of action. Formal decision

	For the Patient	For the Clinician
	would want the recommended course of action and only a small proportion would not.	aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.
Conditional	The majority of individuals in this situation would want the suggested course of action, but many would not.	Different choices will be appropriate for different patients. Decision aids may well be useful helping individuals making decisions consistent with their values and preferences. Clinicians should expect to spend more time with patients when working towards a decision.

Cost Analysis

Acute diverticulitis is the third most common inpatient gastrointestinal diagnosis in the United States, costing more than $2 billion annually, and is a common outpatient and emergency department diagnosis as well.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

This document presents the official recommendations of the American Gastroenterological Association (AGA) Institute on the management of acute diverticulitis. The draft recommendations were opened to public comment, edited, and approved by the Governing Board of the AGA.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Appropriate management of acute diverticulitis
- Possible reduction in risk of recurrent diverticulitis

Potential Harms

- Aspirin use may cause a slightly increased risk of occurrence of any episode of diverticulitis.
- Nonsteroidal anti-inflammatory drug (NSAID) use may cause a moderately increased risk of occurrence of any episode of diverticulitis and complicated diverticulitis.
- Although an increased risk of recurrent diverticulitis or colonic perforation is a concern in patients undergoing colonoscopy after an episode of acute diverticulitis, this was not reported as an adverse event in the available literature.
- Approximately 10% of patients managed with elective sigmoid resection after an episode of acute diverticulitis experience short-term complications of surgery, including wound infection, anastomotic leak, and cardiovascular/thrombotic events. Such postoperative risks are increased in patients older than 65 years of age.
- Long-term complications of abdominal distention, cramping, altered defecation, and fecal incontinence are reported in 25% of patients after

elective surgery.
- Side effects of fiber such as abdominal bloating

Qualifying Statements

Qualifying Statements

The management of acute diverticulitis has undergone meaningful changes over the past decade, including more judicious use of antibiotics and surgery as well as preliminary and ongoing investigations into medical therapies to decrease symptoms and reduce recurrence. However, the majority of the evidence is currently of poor quality, and most of the recommendations are therefore conditional.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Stollman N, Smalley W, Hirano I, AGA Institute Clinical Guidelines Committee. American Gastroenterological Association Institute guideline on the management of acute diverticulitis. Gastroenterology. 2015 Dec;149(7):1944-9. [7 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2015 Dec

Guideline Developer(s)

American Gastroenterological Association Institute - Medical Specialty Society

Source(s) of Funding

American Gastroenterological Association Institute

Guideline Committee

American Gastroenterological Association Institute Clinical Guidelines Committee

Composition of Group That Authored the Guideline

Authors: Neil Stollman, Alta Bates Summit Medical Center, Oakland, California; Walter Smalley, Department of Medicine, Division of Gastroenterology, Hematology, and Nutrition, Vanderbilt University School of Medicine and VA Tennessee Valley Healthcare System, Nashville, Tennessee; Ikuo Hirano, Division of Gastroenterology, Northwestern University Feinberg School of Medicine, Chicago, Illinois

American Gastroenterological Association (AGA) Institute Clinical Guidelines Committee Members: Megan A. Adams, University of Michigan Medical School, Ann Arbor, MI; Spencer D. Dorn, Division of Gastroenterology, University of North Carolina at Chapel Hill, Chapel Hill, NC; Sharon L. Dudley-Brown, Division of Gastroenterology and Hepatology, Johns Hopkins Medical Center, Lutherville-Timonium, MD; Steven L. Flamm, Northwestern Feinberg School of Medicine, Chicago, IL; Ziad F. Gellad, Division of Gastroenterology, VA Medical Center, Durham, VA; Claudia B. Gruss, ProHealth Physicians, Farmington, CT; Lawrence R. Kosinski, Illinois Gastroenterology Group, Algonquin, IL; Joseph K. Lim, Section of Digestive Diseases, Yale Medical Group, New Haven, CT; Yvonne Romero, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; Joel H. Rubinstein, Veterans Affairs Center for Clinical Management Research and Division of Gastroenterology, University of Michigan Medical School, Ann Arbor, MI; Walter E. Smalley, Vanderbilt University School of Medicine, Nashville, TN; Shahnaz Sultan, Minneapolis VA Health Care System, University of Minnesota, Minneapolis, MN; David S. Weinberg, Department of Medicine, Fox Chase Cancer Center, Philadelphia, PA; Yu-Xiao Yang, Division of Gastroenterology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

Financial Disclosures/Conflicts of Interest

Conflicts of Interest

All members were required to complete disclosure statements. These statements are maintained at the American Gastroenterological Association (AGA) Institute headquarters in Bethesda, Maryland and none of the disclosures were potentially related to the content of this guideline.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the Gastroenterology Journal Web site .

Availability of Companion Documents

The following are available:

- American Gastroenterological Association Institute technical review on the management of acute diverticulitis. Gastroenterology. 2015 Dec;149(7):1950-76. Available from the Gastroenterology Journal Web site .
- AGA process for developing guidelines. 2014 Dec. Available from the American Gastroenterological Association (AGA) Web site .
- The AGA Institute process for developing clinical practice guidelines part one: grading the evidence. Clin Gastroenterol Hepatol. 2013 Apr;11(4):329-32. Available from the Clinical Gastroenterology and Hepatology Web site .

Patient Resources

The following is available:

- A patient guide: managing diverticulitis. Gastroenterology. 2015 Dec;149(7):1977-8. Available from the Gastroenterology Journal Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on May 5, 2016. The information was verified by the guideline developer on June 3, 2016.

Copyright Statement

This NGC summary is based on the original guideline, which is subject to the guideline developer's copyright restrictions.

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines

represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.