

## JAMA Clinical Guidelines Synopsis

## Management of Acute Diverticulitis

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**GUIDELINE TITLE** American Gastroenterological Association (AGA) Institute Guideline on the Management of Acute Diverticulitis

**DEVELOPER** AGA Institute Clinical Guidelines Committee

**RELEASE DATE** October 7, 2015

**PRIOR VERSION** November 1999

**FUNDING SOURCE** AGA

**TARGET POPULATION** Adults with acute uncomplicated diverticulitis (AUD)

**MAJOR RECOMMENDATIONS**

- Antibiotics should be used selectively rather than routinely in AUD (conditional).
- Colonoscopy should be performed after resolution of AUD to exclude colonic neoplasm if there has been no recent screening (conditional).
- It is unnecessary to advise patients with a history of AUD to avoid seeds, nuts, and popcorn (conditional).
- Suggest a fiber-rich diet or fiber supplementation for patients with a history of AUD (conditional).
- Do not suggest elective colonic resection after an initial episode of AUD (conditional).

**Summary of the Clinical Problem**

Diverticular disease of the colon is a common condition, and the prevalence increases with age, affecting up to 60% of persons older than 60 years.<sup>1</sup> Approximately 4% of patients with diverticulosis will develop acute diverticulitis, defined as clinically evident macroscopic inflammation of a diverticulum or diverticula.<sup>2</sup> Eighty-five percent of episodes of acute diverticulitis are uncomplicated (defined by absence of abscess, bowel obstruction, perforation, or fistula formation), although 15% to 30% of patients who develop acute diverticulitis experience a recurrence.<sup>3</sup> Diverticulitis remains the leading indication for elective colon resection.<sup>4</sup>

**Characteristics of the Guideline Source**

This guideline (Table)<sup>2</sup> and an accompanying technical review<sup>5</sup> were developed by the AGA Institute's Clinical Guidelines Committee using the GRADE methods.<sup>6</sup> The quality of available evidence was first judged by a technical review panel of content and methodological experts, who then met with the guideline authors to discuss their findings. The guideline authors subsequently met privately and drafted recommendations categorized as strong (most patients should receive the recommended course of action), conditional or weak (representing a summary of the evidence intended primarily to help patients make a decision consistent with their own values and preferences), or no recommendation, according to GRADE terminology. The draft recommendations were then opened to public comment, edited, and approved by the AGA Institute Governing Board. All guideline authors were required to complete disclosure statements. No disclosures represented financial or professional conflict of interest related to the content of this guideline.

**Evidence Base**

Six of the 11 recommendations included in the guideline are discussed herein. The quality of the evidence was found to be universally low; thus, 10 of the 11 recommendations are conditional rather than strong. Randomized clinical trials, when available, were generally small (56-106 patients), and the risk of bias was generally high.

The recommendation in this guideline for selective rather than routine use of antibiotics for patients with AUD was based on 2 large (528 and 669 patients) multicenter randomized trials that demonstrated no benefit from antibiotics in time to resolution of symptoms, complications, length of hospital stay, or risk of recurrence. The quality of the evidence from these trials was rated as low because one trial had a high risk of bias and the other was only available in abstract form.

The conditional recommendation to perform colonoscopy after resolution of AUD to exclude colonic neoplasm was based on low quality of evidence (indirect evidence or observational studies of populations that may have substantial differences from the target population). The pooled analysis suggested that this practice would detect 15 patients with colorectal cancer per 1000 patients tested (95% CI, 10-23; low quality of evidence) and 38 advanced adenomas per 1000 patients tested (95% CI, 27-53; moderate quality of evidence).<sup>5</sup>

Evidence evaluating strategies to prevent recurrent diverticulitis, including surgical resection, adherence to a high-fiber diet, and avoidance of seeds, nuts, and popcorn, was likewise of very low quality and was based on either observational studies or required use of indirect evidence because of the absence of existing studies.

Even though approximately 20% of patients with AUD experience a recurrence within 5 years, the risk of future complications and

Table. Guideline Rating

Standard	Rating
Establishing transparency	Good
Management of conflict of interest in the guideline development group	Good
Guideline development group composition	Fair
Clinical practice guideline-systematic review intersection	Poor
Establishing evidence foundations and rating strength for each of the guideline recommendations	Good
Articulation of recommendations	Good
External review	Fair
Updating	Fair
Implementation issues	Fair

need for emergency surgery is low (<5%).<sup>3</sup> Benefit from risk reduction for recurrent diverticulitis after elective surgery is possible but difficult to determine based on limited data. Among patients who had elective sigmoid resection after an episode of acute diverticulitis, approximately 10% experienced short-term complications of surgery, including wound infection, anastomotic leak, and cardiovascular or thrombotic events.<sup>3</sup> Long-term complications, including abdominal distension, cramping, altered defecation, and fecal incontinence, were reported in 25% of patients after elective surgery.<sup>3</sup>

Evidence supporting dietary changes to help prevent recurrence of acute diverticulitis is also lacking. No studies have addressed whether a high-fiber diet reduces the risk of recurrence. Risk reduction was extrapolated from a study examining patients with incident diverticulitis. Data on consumption of nuts and popcorn and subsequent diverticulitis outcomes were based on observational studies that showed modest benefit but a high degree of statistical uncertainty.<sup>5</sup>

### Benefits and Harms

Overuse of antibiotics can cause significant harm in the form of adverse reactions and increased antibiotic resistance. The potential harms of withholding antibiotics for treatment of diverticulitis may include higher rates of complications and recurrences, although the systematic review reported a very low number of complications and found that treatment with broad-spectrum antibiotics did not reduce duration of symptoms in AUD.<sup>5</sup>

Colonoscopy after AUD may detect a small number of colorectal cancers (15 cases per 1000 patients) and advanced adenomas (38 cases per 1000 patients) with a minimal risk of perforation (0.8 per 1000 patients) based on low-quality observational studies.

There is no quality evidence proving or disproving the benefit of a high-fiber diet or avoidance of seeds, nuts, and popcorn in preventing recurrence of AUD. However, intake of a high-fiber diet or avoidance of seeds, nuts, and popcorn is unlikely to pose a substantial risk to patients.<sup>5</sup>

### Discussion

Although AUD has long been considered a straightforward diagnosis with a well-established management plan, recent evidence has

questioned the universal need for antibiotic therapy and the role of surgery in the setting of recurrent disease.<sup>7,8</sup> The quality of the trials informing this guideline's recommendation on antibiotic use for AUD was low, although a more recent well-designed study showed similar results.<sup>9</sup>

The concept of diverticulitis as an inflammatory rather than infectious process has become more widely accepted and there is no direct, high-quality evidence demonstrating benefit from antibiotics for patients with AUD. Still, it is important to consider the historical context that, as a recent systematic review suggests, "diverticulitis was a devastating disease associated with substantial morbidity and mortality," and "now, most cases resolve with antibiotic therapy."<sup>3</sup>

Certain patients with AUD, such as those who are immunocompromised, have significant comorbidities, are pregnant, or have signs of systematic inflammatory response syndrome or sepsis, should continue to receive antibiotics.<sup>5</sup> For otherwise healthy patients with AUD, however, the decision remains unclear. Clinical judgment and emerging evidence could lead a physician to withhold antibiotics and closely monitor a patient, while decades of clinical experience and good outcomes would support prescribing antibiotics.

### Areas in Need of Future Study or Ongoing Research

The new evidence challenging the need for routine antibiotics for AUD is intriguing but requires confirmation from multicenter randomized clinical trials with data to help identify patients who can be safely managed without antibiotics. A better understanding of the natural history of recurrence, including risk factors and disease phenotypes, should help determine the most effective strategies for both treatment and primary and secondary prevention.

#### Related Guidelines and Other Resources

[American Society of Colon and Rectal Surgeons 2014 practice parameters for the treatment of sigmoid diverticulitis](#)

#### ARTICLE INFORMATION

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