



Complete Summary

GUIDELINE TITLE

Antibiotic prophylaxis for GI endoscopy.

BIBLIOGRAPHIC SOURCE(S)

ASGE Standards of Practice Committee, Banerjee S, Shen B, Baron TH, Nelson DB, Anderson MA, Cash BD, Dominitz JA, Gan SI, Harrison ME, Ikenberry SO, Jagannath SB, Lichtenstein D, Fanelli RD, Lee K, van Guilder T, Stewart LE. Antibiotic prophylaxis for GI endoscopy. *Gastrointest Endosc* 2008 May;67(6):791-8. [70 references] [PubMed](#)

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Hirota WK, Petersen K, Baron TH, Goldstein JL, Jacobson BC, Leighton JA, Mallery JS, Waring JP, Fanelli RD, Wheeler-Harbough J, Faigel DO. Guidelines for antibiotic prophylaxis for GI endoscopy. *Gastrointest Endosc* 2003 Oct;58(4):475-82.

** 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 8, 2008, Fluoroquinolones \(ciprofloxacin, norfloxacin, ofloxacin, levofloxacin, moxifloxacin, gemifloxacin\)](#): A BOXED WARNING and Medication Guide are to be added to the prescribing information to strengthen existing warnings about the increased risk of developing tendinitis and tendon rupture in patients taking fluoroquinolones for systemic use.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **

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SCOPE

DISEASE/CONDITION(S)

Infectious complications related to gastrointestinal endoscopy

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Gastroenterology
Infectious Diseases

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To discuss infectious complications related to endoscopy and to make recommendations for periprocedural antibiotic therapy
- To update the 2003 American Society for Gastrointestinal Endoscopy guideline on this topic

TARGET POPULATION

Individuals with conditions that require gastrointestinal (GI) endoscopy

INTERVENTIONS AND PRACTICES CONSIDERED

Prophylactic Antibiotics

Cardiac Prophylaxis Regimens for Patients with Established Gastrointestinal (GI)-tract Infections

1. Amoxicillin or ampicillin included in the antibiotic regimen for enterococcal coverage
2. Vancomycin for patients unable to tolerate amoxicillin or ampicillin

Prophylaxis Regimens for Infections Other than Infective Endocarditis (IE)

1. Fluoroquinolone administered before endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) to prevent clinical infection or sepsis
2. Cefazolin 30 minutes before percutaneous endoscopic gastrostomy (PEG)
3. Intravenous ceftriaxone or oral norfloxacin in the setting of cirrhosis with GI-tract bleeding
4. Antibiotic prophylaxis before natural orifice transluminal endoscopic surgery (NOTES)

Note: Antibiotic prophylaxis was considered but not recommended in the following situations: (1) antibiotic prophylaxis solely to prevent IE; (2) in patients with biliary obstruction when it is likely that an ERCP will accomplish complete biliary drainage. (3) before a diagnostic EUS or EUS-FNA of solid lesions along the upper-GI tract;(4) before GI endoscopic procedures in patients with synthetic vascular grafts or other nonvalvular cardiovascular devices; (5) in patients with orthopedic prostheses who are undergoing GI endoscopic procedures.

MAJOR OUTCOMES CONSIDERED

Incidence of bacteremia and post-procedural endocarditis and/or other infections

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

In preparing this guideline, a search of the medical literature was performed by using PubMed, supplemented by accessing the "related articles" feature of PubMed. Additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When little or no data exist from well-designed prospective trials, emphasis is given to results from large series and reports from recognized experts.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

See "Rating Scheme for the Strength of the Recommendations."

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Guidelines for appropriate utilization of endoscopy are based on a critical review of the available data and expert consensus.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grade of Recommendation	Clarity of Benefit	Methodologic Strength Supporting Evidence	Implications
1A	Clear	Randomized trials without important limitations	Strong recommendation; can be applied to most clinical settings
1B	Clear	Randomized trials with important limitations (inconsistent results, nonfatal methodologic flaws)	Strong recommendation; likely to apply to most practice settings
1C+	Clear	Overwhelming evidence from observational studies	Strong recommendation; can apply to most practice settings in most situations
1C	Clear	Observational studies	Intermediate-strength recommendation; may change when stronger evidence is

Grade of Recommendation	Clarity of Benefit	Methodologic Strength Supporting Evidence	Implications
			available
2A	Unclear	Randomized trials without important limitations	Intermediate-strength recommendation; best action may differ depending on circumstances or patients' or societal values
2B	Unclear	Randomized trials with important limitations (inconsistent results, nonfatal methodologic flaws)	Weak recommendation; alternative approaches may be better under some circumstances
2C	Unclear	Observational studies	Very weak recommendation; alternative approaches likely to be better under some circumstances
3	Unclear	Expert opinion only	Weak recommendation; likely to change as data become available

*Adapted from Guyatt G, Sinclair J, Cook D, et al. Moving from evidence to action. Grading recommendations: a qualitative approach. In: Guyatt G, Rennie D, editors. Users' guides to the medical literature. Chicago: AMA Press; 2002. p. 599-608.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This document was reviewed and approved by the Governing Board of the American Society for Gastrointestinal Endoscopy. This document was reviewed and endorsed by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Guidelines Committee and Board of Governors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the grades of recommendation (1A to 3) are provided at the end of the "Major Recommendations."

Prevention of Infective Endocarditis

Antibiotic prophylaxis solely to prevent infective endocarditis (IE) is no longer recommended before endoscopic procedures (**Grade 1C+**). For patients with established gastrointestinal (GI)-tract infections in which enterococci may be part of the infecting bacterial flora (such as cholangitis) and with one of the cardiac conditions associated with the highest risk of an adverse outcome from endocarditis*, amoxicillin, or ampicillin should be included in the antibiotic regimen for enterococcal coverage (**Grade 3**). Vancomycin may be substituted for patients allergic to or unable to tolerate amoxicillin or ampicillin.

***Note:** These conditions include: (1) a prosthetic cardiac valve, (2) a history of previous IE, (3) cardiac transplant recipients who develop cardiac valvulopathy, and (4) patients with congenital heart disease (CHD), including (a) those with unrepaired cyanotic CHD (including palliative shunts and conduits), (b) those with completely repaired CHD with prosthetic material or device, placed surgically or by catheter, for the first 6 months after the procedure, and (c) those with repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or device.

Prevention of Infections Other Than Infective Endocarditis (IE)

Endoscopic Retrograde Cholangiopancreatography (ERCP)

Antibiotic prophylaxis should be considered before an ERCP in patients with known or suspected biliary obstruction, in which there is a possibility that complete drainage may not be achieved at the ERCP, such as in patients with a hilar stricture and primary sclerosing cholangitis (PSC) (**Grade 2C**). When biliary drainage is incomplete despite an ERCP, continuation of antibiotics after the procedure is recommended (**Grade 3**). Antibiotics that cover biliary flora, such as enteric gram-negative organisms and enterococci, should be used. When biliary drainage is complete, continuation of antibiotics is not recommended (**Grade 3**). An exception is patients with posttransplant biliary strictures who are undergoing an ERCP; in these patients, continuation of antibiotics after the procedure may be beneficial (**Grade 3**), even when drainage is achieved. Antibiotic prophylaxis is not recommended in patients with biliary obstruction when it is likely that an ERCP will accomplish complete biliary drainage (**Grade 1C**). Antibiotic prophylaxis is not recommended before an ERCP when obstructive biliary-tract disease is not suspected (**Grade 1C**). Antibiotic prophylaxis is recommended before an ERCP in

patients with communicating pancreatic cysts or pseudocysts and before transpapillary or transmural drainage of pseudocysts (**Grade 3**).

Endoscopic Ultrasound-Guided Fine Needle Aspiration (EUS-FNA)

Antibiotic prophylaxis is not recommended before a diagnostic EUS or EUS-FNA of solid lesions along the upper-GI tract (**Grade 1C**). Prophylaxis with an antibiotic such as a fluoroquinolone administered before the procedure is recommended before an EUS-FNA of cystic lesions along the GI tract. Antibiotics may be continued for 3 to 5 days after the procedure (**Grade 1C**). There are insufficient data to make recommendations on antibiotic prophylaxis before an EUS-FNA of solid lesions along the lower-GI tract. The endoscopist may consider prophylaxis on a case-by-case basis. When antibiotic prophylaxis is administered, a fluoroquinolone administered before the procedure and continued for 3 days after the procedure is a reasonable regimen.

Percutaneous Endoscopic Gastrostomy (PEG)

Parenteral cefazolin (or an antibiotic with equivalent coverage) should be administered to all patients 30 minutes before they undergo PEG-tube placement (**Grade 1A**).

Cirrhosis and GI Bleeding

All patients with cirrhosis who are admitted with GI tract bleeding should have antibiotic therapy instituted at admission, preferably with IV ceftriaxone (**Grade 1B**). In patients allergic to or intolerant of ceftriaxone, oral norfloxacin may be used.

Synthetic Vascular Graft and other Nonvalvular Cardiovascular Devices

Antibiotic prophylaxis before GI endoscopic procedures is not recommended for patients with synthetic vascular grafts or other nonvalvular cardiovascular devices (**Grade 1C+**)

Orthopedic Prosthesis

Antibiotic prophylaxis is not recommended for patients with orthopedic prosthesis who are undergoing GI endoscopic procedures (**Grade 1C+**)

Natural Orifice Transluminal Endoscopic Surgery (NOTES)

There are insufficient data to make recommendations on antibiotic prophylaxis before NOTES. However, at this time, antibiotic prophylaxis seems reasonable.

Definitions:

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

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

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate use of antibiotic prophylaxis for gastrointestinal (GI) endoscopy

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

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- 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.
- 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 these guidelines.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

ASGE Standards of Practice Committee, Banerjee S, Shen B, Baron TH, Nelson DB, Anderson MA, Cash BD, Dominitz JA, Gan SI, Harrison ME, Ikenberry SO, Jagannath SB, Lichtenstein D, Fanelli RD, Lee K, van Guilder T, Stewart LE. Antibiotic prophylaxis for GI endoscopy. *Gastrointest Endosc* 2008 May;67(6):791-8. [70 references] [PubMed](#)

ADAPTATION

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

DATE RELEASED

2003 Oct (revised 2008 May)

GUIDELINE DEVELOPER(S)

American Society for Gastrointestinal Endoscopy - Medical Specialty Society

SOURCE(S) OF FUNDING

American Society for Gastrointestinal Endoscopy

GUIDELINE COMMITTEE

Standards of Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Society for Gastrointestinal Endoscopy Web site](#).

Print copies: Available from the American Society for Gastrointestinal Endoscopy, 1520 Kensington Road, Suite 202, Oak Brook, IL 60523

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 16, 2004. The information was verified by the guideline developer on May 12, 2004. This summary was updated by ECRI Institute on September 15, 2008. The information was verified by the guideline developer on October 31, 2008.

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