Complete Summary

GUIDELINE TITLE

Antibiotic prophylaxis for gynecologic procedures.

BIBLIOGRAPHIC SOURCE(S)

American College of Obstetricians and Gynecologists (ACOG). Antibiotic prophylaxis for gynecologic procedures. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2006 Jul. 10 p. (ACOG practice bulletin; no. 74). [48 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Antibiotic prophylaxis for gynecologic procedures. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2001 Jan. 9 p. (ACOG practice bulletin; no. 23).

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Surgical site infection and other infectious complications of gynecologic procedures, including

- Pelvic inflammatory disease
- Endometritis
- Bacterial vaginosis
- Bacteremia

- Bacterial endocarditis
- Bacteriuria and urinary tract infection

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Cardiology
Infectious Diseases
Obstetrics and Gynecology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To aid practitioners in making decisions about appropriate obstetric and gynecologic care
- To review the evidence for surgical site infection prevention and appropriate antibiotic prophylaxis for gynecologic procedures

TARGET POPULATION

Women undergoing gynecologic surgery and other gynecologic procedures

INTERVENTIONS AND PRACTICES CONSIDERED

Prevention

1. Antibiotic prophylaxis for the following gynecologic procedures:
    - Vaginal/abdominal hysterectomy
    - Hysterosalpingogram demonstrating dilated tubes
    - Induced abortion/dilation and curettage
    - Preoperative bowel preparation
    - Endocarditis prophylaxis for susceptible patients undergoing genitourinary or gastrointestinal procedures
2. Antibiotic prophylaxis for patients with penicillin allergy
3. Procedures for which antibiotic prophylaxis is not recommended:
    - Laparoscopy and laparotomy
    - Intrauterine device (IUD) insertion or removal (unless infection is present)
    - Endometrial or cervical biopsy
    - Urodynamic studies or bladder catheterization (urinalysis and/or urine culture before urodynamic testing to identify existing infection is recommended)

MAJOR OUTCOMES CONSIDERED

- Rates of infection in gynecologic procedures
- Cost-effectiveness of antibiotic prophylaxis in women undergoing gynecologic procedures

METHODOLOGY

METHODS USED TO COLLECT/SELECT 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

The MEDLINE database, the Cochrane Library, and American College of Obstetricians and Gynecologists' own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1961 and April 2006. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document. Guidelines published by organizations or institutions such as the National Institutes of Health and the American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles.

NUMBER OF SOURCE DOCUMENTS

Not stated

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

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force:

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

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

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of Recommendations" field regarding Grade C recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

COST ANALYSIS

- The cost-effectiveness of screening for sexually transmitted diseases (STDs) before intrauterine device (IUD) insertion remains unclear because of limited data. The only randomized controlled trial performed in the United States concluded that in women screened for STDs before IUD insertion, prophylactic antibiotics provide no benefit.

- One of the most effective and inexpensive regimens reported in a meta-analysis was doxycycline, 100 mg orally 1 hour before the abortion followed by 200 mg after the procedure. It is estimated that the cost of treating a single case of postabortal PID as an outpatient far exceeds the cost of doxycycline prophylaxis.
- Prophylactic antibiotics add cost to the routine care of surgical patients, but the prevention of postoperative infection decreases overall hospital costs because of prevention of postoperative infection or febrile morbidity. This savings would be eroded by use of the more expensive cephalosporins unless they were considerably more effective than cefazolin. Likewise, the inexpensive prophylactic regimens used for the prevention of postabortal pelvic inflammatory disease (PID) are cost-effective. It is estimated that more than $500,000 in direct treatment costs alone would be saved each year in the United States by providing antibiotic prophylaxis to women at average risk undergoing induced abortion.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists, generalists and subspecialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of "Major Recommendations" field.

The following recommendations and conclusions are based on good and consistent scientific evidence (Level A)

- Patients undergoing abdominal or vaginal hysterectomy should receive single-dose antimicrobial prophylaxis.
- Pelvic inflammatory disease (PID) complicating intrauterine device (IUD) insertion is uncommon. The cost-effectiveness of screening for gonorrhea and chlamydia before insertion is unclear; in women screened and found to be negative, prophylactic antibiotics appear to provide no benefit.
- Antibiotic prophylaxis is indicated for suction curettage abortion.
- Appropriate prophylaxis for women undergoing surgery that may involve the bowel includes a mechanical bowel preparation without oral antibiotics and the use of a broad-spectrum parenteral antibiotic, given immediately preoperatively.
- Antibiotic prophylaxis is not recommended in patients undergoing diagnostic laparoscopy.

The following recommendations and conclusions are based on limited or inconsistent scientific evidence (Level B):

- In patients with no history of pelvic infection, hysterosalpingography (HSG) can be performed without prophylactic antibiotics. If HSG demonstrates dilated fallopian tubes, antibiotic prophylaxis should be given to reduce the incidence of post-HSG PID.
- Routine antibiotic prophylaxis is not recommended in patients undergoing hysteroscopic surgery.
- Cephalosporin antibiotics may be used for antimicrobial prophylaxis in women with a history of penicillin allergy not manifested by an immediate hypersensitivity reaction.
- Patients found to have preoperative bacterial vaginosis should be treated before surgery.

The following recommendations and conclusions are based primarily on consensus and expert opinion (Level C):

- Antibiotic prophylaxis is not recommended in patients undergoing exploratory laparotomy.
- Use of antibiotic prophylaxis with saline infusion ultrasonography should be based on clinical considerations, including individual risk factors.
- Patients with high- and moderate-risk structural cardiac defects undergoing certain surgical procedures may benefit from endocarditis antimicrobial prophylaxis.
- Patients with a history of anaphylactic reactions to penicillin should not receive cephalosporins.
- Pretest screening for bacteriuria or urinary tract infection by urine culture or urinalysis, or both, is recommended in women undergoing urodynamic testing. Those with positive results should be given antibiotic treatment.

Definitions:

Grades of Evidence

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Levels of Recommendation

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

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 gynecologic procedures
- Prevention of surgical site infection of gynecologic procedures

POTENTIAL HARMS

Adverse Effects of Antibiotics

- Allergic reactions (from minor skin rashes to anaphylaxis)
- Pseudomembranous colitis
- Diarrhea
- Induction of bacterial resistance
- Nausea, vomiting, and/or abdominal pain

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Audit Criteria/Indicators

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

Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

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

DATE RELEASED

2001 Jan (revised 2006 Jul)

GUIDELINE DEVELOPER(S)

American College of Obstetricians and Gynecologists - Medical Specialty Society

SOURCE(S) OF FUNDING

American College of Obstetricians and Gynecologists (ACOG)

GUIDELINE COMMITTEE

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Gynecology

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 4500, Kearneysville, WV 25430-4500; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

AVAILABILITY OF COMPANION DOCUMENTS

Proposed performance measures are included in the original guideline document.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on September 21, 2004. The information was verified by the guideline developer on December 9, 2004. This NGC summary was updated by ECRI Institute on October 5, 2007. The updated information was verified by the guideline developer on December 3, 2007.

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