

TYPE I CLINICAL INQUIRIES

What is the best approach for managing recurrent bacterial vaginosis?

■ EVIDENCE-BASED ANSWER

The best way to prevent recurrent bacterial vaginosis is to treat the initial episode with the most effective regimen. Metronidazole (500 mg orally twice daily for 7 days) has the lowest recurrence rate among antimicrobial regimens for bacterial vaginosis (20% vs 34%–50% for other agents) (strength of recommendation [SOR]: **A**). Women should be treated if they are symptomatic (SOR: **A**), undergoing gynecologic surgery (SOR: **B**), or at risk for preterm labor (SOR: **B**).

When bacterial vaginosis recurs, providers should confirm the diagnosis (**Table 1**) (SOR: **A**), identify and control risk factors for recurrence (**Table 2**) (SOR: **B**), and consider other causes while retreatment of bacterial vaginosis (SOR: **C**). If the diagnosis is confirmed and retreatment fails, consider suppression with metronidazole 0.75% vaginal gel for 10 days followed by twice weekly administration for 4 to 6 months (SOR: **C**, trial ongoing). No evidence supports treating sexual partners or administering oral or vaginal *Lactobacillus acidophilus*, but recolonization with vagina-specific lactobacilli (*L. crispatus* and *L. jensenii*) is undergoing Phase III clinical trials.

■ EVIDENCE SUMMARY

No trials have tested or compared specific, comprehensive strategies for recurrent bacterial vaginosis. Given that bacterial vaginosis can also be

asymptomatic, recurrence often cannot be differentiated from treatment failure. Accordingly, recurrent bacterial vaginosis may be prevented by using the most effective therapy for the initial episode. A 2002 meta-analysis by the Centers for Disease Control and Prevention's (CDC) bacterial vaginosis working group reviewed the indications

What are Clinical Inquiries?

Clinical Inquiries answer real questions that family physicians submit to the Family Practice Inquiries Network (FPIN), a national, not-for-profit consortium of family practice departments, residency programs, academic health sciences libraries, primary care practice-based research networks, and other specialists.

Questions chosen for Clinical Inquiries are those that family physicians vote as most important through a web-based voting system.

Answers are developed by a specific method:

Type I answers

- FPIN medical librarians conduct systematic and standardized literature searches in collaboration with an FPIN clinician or clinicians.
- FPIN clinician authors select the research articles to include, critically appraise the research evidence, review the authoritative sources, and write the answers.
- Each Clinical Inquiry is reviewed by 4 or more peers and editors before publication in *JFP*.
- FPIN medical librarians coauthor Type I Clinical Inquiries that have required a systematic search.
- Finally, a practicing family physician writes an accompanying commentary.

Type II answers

- FPIN librarians and editors review questions chosen by practicing physicians and identify those that have been recently answered in the highest-quality sources, such as Cochrane Reviews, Clinical Evidence, or the US Preventive Services Task Force report. These sources report evidence that has been gathered through a systematic literature review, critically appraised, and summarized.
- FPIN clinician authors integrate the available evidence, conduct background searches as needed, conduct a structured search dating from the original search to the present, and prepares the evidence-based answer.
- The Type II Clinical Inquiry is reviewed by two or more peers and editors.
- The author(s) of the Clinical Inquiry answer also prepare the clinical commentary.

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for therapy and best treatments for bacterial vaginosis.¹ The group found 25 trials evaluating oral metronidazole therapy involving 2742 women. Although cure rates using either 500 mg twice daily for 5 to 7 days or 2 g as a single dose were similar at 2 weeks post follow-up (85%; range 67%–98%), the single-dose regimen led to higher relapse rates 1 month after treatment (35%–50% vs 20%–33%).

Six trials enrolling 946 women assessed the efficacy of various topical vaginal treatments. Metronidazole gel, clindamycin cream, and clindamycin ovules had a wide range of initial cure rates (50%–95%), but all had higher relapse rates at 4 weeks than did oral metronidazole for 1 week (34%–49%).¹ A more complete discussion of the effectiveness of antibiotics for bacterial vaginosis can be found in a recent Clinical Inquiry.²

The CDC reviewers identified causal relationships between bacterial vaginosis and plasma-cell endometritis, postpartum fever, and posthysterectomy vaginal-cuff cellulitis. They therefore concluded it is reasonable to try to prevent post-procedure infections by treating women who have asymptomatic bacterial vaginosis before hysterectomy or pregnancy termination. Although bacterial vaginosis has been associated with preterm labor, trials evaluating treatment of bacterial vaginosis to prevent preterm delivery are conflicting. A Cochrane review of bacterial vaginosis and preterm labor suggests treating women at high risk for preterm birth may reduce the risk of low birthweight and preterm prelabor rupture of membranes.³

Patients frequently try to self-diagnose vaginal complaints and ask for treatments and retreatments by phone. However, a prospective study of 253 women who underwent a structured telephone interview and subsequent physical exam found a poor correlation between telephone diagnosis and final clinical diagnosis (kappa coefficient of 0.12—very poor agreement).⁴ Accordingly, clinical and laboratory evaluation of vaginal discharge and especially recurrent symp-

TABLE 1
Amsel criteria for diagnosis of bacterial vaginosis
Patient must have 3 of the 4 criteria for diagnosis.
1. pH >4.5 (most sensitive)
2. Clue cells >20% (most specific)
3. Homogenous discharge
4. Positive whiff test (amine odor with addition of KOH)
<i>Source: Based on Amsel et al 1983.¹¹</i>

TABLE 2
Risk factors for bacterial vaginosis
Use of vaginal foreign bodies, perfumed soaps, or douching
Cigarette smoking
Intrauterine device
New male sexual partner
Sex with another woman
No condom use (trend toward association)
<i>Source: Based on Marrazzo et al 2002⁷; CDC 2002.⁸</i>

toms is essential for diagnostic accuracy and treatment for bacterial vaginosis (**Table 1**).

For recurrent symptomatic bacterial vaginosis, 1 option is suppressive therapy with metronidazole gel 0.75%. After initial daily retreatment for 10 days, this can be used twice weekly for 4 to 6 months to decrease symptoms. This strategy is based on expert opinion but is currently undergoing clinical trial.

One small crossover randomized controlled trial of 46 women with bacterial vaginosis studied the consumption of live *L acidophilus* cultures.⁵ Only 20 of the women had recurrent

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bacterial vaginosis. The groups were randomized to eat yogurt with and without live *L acidophilus* cultures. While the results were encouraging (50% reduction in episodes of bacterial vaginosis and increase in detectable vaginal *Lactobacillus*), only 7 women actually completed the study protocol.

Douching is the best-studied risk factor for bacterial vaginosis. A recent multicenter cross-sectional study of 1200 women assessed douching practices and found that recent douching increased the risk of bacterial vaginosis twofold (odds ratio=2.1; 95% confidence interval, 1.3–3.1).⁶ Evidence for the other risk factors listed in **Table 2** is based on smaller studies or expert opinion.^{7,8}

For women who continue to have recurrent or unresolved vaginal symptoms not explained by candidiasis or sexually transmitted infections such as trichomoniasis, consider less common causes such as atrophic vaginitis, chemical/irritant vaginitis, allergic vaginitis, Behçets disease, desquamative interstitial vaginitis, or erosive lichen planus vaginitis.⁹

■ RECOMMENDATIONS FROM OTHERS

No organizations have developed guidelines for treating recurrent bacterial vaginosis. In 2002, the Association for Genitourinary Medicine and the Medical Society for the Study of Venereal Diseases released national guidelines on the management of bacterial vaginosis,¹⁰ which generally agrees with the previously described CDC recommendations.

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■ CLINICAL COMMENTARY:

Take a detailed history, make sure clinical findings support the diagnosis

Patients with recurrent bacterial vaginosis are often embarrassed, frustrated, or angry with the failure of prior medical therapy. Our challenge is to listen empathetically and avoid blaming the patient for the failure. It is critical to take another detailed history (again reviewing sexual and perineal hygiene habits), consider an expanded differential, and make sure clinical findings continue to support the diagnosis. A discussion about the (current lack of) evidence on pharmacologic therapy for recurrent cases must also be included in the visit. A collaborative plan of action will help the patient regain a sense of control over her health.

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