

Recurrent bacterial vaginosis

By Beth Kelsey, EdD, APRN, WHNP-BC, FAANP

What can a nurse practitioner do for a woman who has been treated “countless times” for BV?

Factors that alter the vaginal microbiome increase the risk for bacterial vaginosis (BV) by causing a shift in the vaginal microbiota from lactobacillus-dominated bacteria to a variable mixture of anaerobic and facultative bacteria.^{1,2} These factors include, but are not limited to, sexual behaviors (e.g., frequent vaginal intercourse, multiple male or female sex partners, new sex partner, lack of condom use), hormonal fluctuations, smoking, douch-

ing, and antibiotic use. Protective factors may include having a male partner who is circumcised and use of hormonal contraceptives.¹⁻³

Recent studies have detected a polymicrobial biofilm in the vaginal epithelial cells of some women with BV that aids in bacterial persistence and enhances resistance to host defense mechanisms and antibiotics.^{1,2} This biofilm also may inhibit normal shedding of vaginal epithelial cells needed to provide glycogen as a nu-

trient source of lactobacilli, further disrupting the healthy vaginal microbiota. The trigger for the change in the vaginal microbiota and the development of the biofilm remains elusive, but it may contribute to persistent or recurrent BV.^{1,2} BV is typically defined as recurrent if three or more episodes occur per year. This case report portrays the assessment and management of a woman with recurrent BV.

Bea, a 35-year-old woman, presents at the clinic as a new patient with a complaint of bad-smelling vaginal discharge—again. She states that she just wants a cure that lasts. She tells the nurse practitioner (NP) that she has been treated countless times for BV over the past several years, with temporary relief before the odor and discharge return.

What additional information would be helpful for the NP to obtain?

Bea tells the NP that she has been treated for BV 3 times in the past year, each time with oral metronidazole for 7 days. Her symptoms resolve for a month and then recur when she has a period. The odor is worse after sex. Bea is married and in a monogamous relationship with her husband of 10 years and knows that BV is not a sexually transmitted infection (STI), but she wonders whether he should be treated. Bea admits to douching after sex sometimes to try to eliminate the odor. She is in good health overall, is of normal weight, does not smoke, and is on no medications. She has had no abnormal Pap test results and has never had an STI. Her husband had a vasectomy 3 years ago. They do not use condoms.

A pelvic exam reveals a malodorous thin gray discharge at the vaginal introitus and adhering to the vaginal walls.

No erythema or lesions are noted. Vaginal pH is >5.0 and a wet prep shows clue cells, no yeast buds/hyphae, no trichomonads, and no lactobacilli. A potassium hydroxide (KOH) whiff test result is positive. A diagnosis of BV is made based on the presence of at least three Amsel's criteria: homogeneous thin gray/white discharge, positive whiff test result with 10% KOH, vaginal pH >4.5, and clue cells on microscopy.⁴ A confirmatory test is not needed. Diagnosis based on identification of *Gardnerella vaginalis* on vaginal culture is insufficient; *G. vaginalis* is detected in up to 55% of healthy asymptomatic women.⁵ Based on Bea's history and exam findings, the NP does not order any STI tests.

What is the recommended treatment plan?

The NP acknowledges Bea's frustration with her recurring symptoms. The NP explains that although data on treatment for recurrent BV are not conclusive, several options have been cited in the literature based on limited studies. The NP and Bea develop a treatment plan but agree that they will consider other options as needed. The plan is to treat the current BV infection with metronidazole 500 mg orally twice daily for 7 days, followed by 0.75% metronidazole gel intravaginally twice weekly for 4 months to reduce the risk for recurrence, with cessation of vaginal douching.



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In addition to oral metronidazole, the CDC recommends intravaginal metronidazole gel 0.75% once daily for 5 days or intravaginal clindamycin cream 2% at bedtime for 7 days to treat BV.⁴ Alternative regimens are tinidazole 2 g orally once daily for 2 days, tinidazole 1 g orally once daily for 5 days, or clindamycin 300 mg orally twice daily for 7 days. Secnidazole, a single-dose granule formulation with no warning to avoid alcohol consumption, was approved by the FDA in 2017 for treatment of BV and has been available since 2018.⁶ The granules are mixed with soft food such as applesauce, yogurt, or pudding and then consumed within 30 minutes.

Limited studies support the use of 0.75% metronidazole gel twice weekly for 4-6 months after completion of treatment for the current infection to reduce recurrences. The benefit may not persist after discontinuation.^{2,4}

Several interventions to reduce or eradicate bacteria associated with BV and to restore and maintain a normal vaginal microbiome have been proposed based on limited and sometimes conflicting studies.

Among these interventions are the use of biofilm-disruptive agents such as intravaginal boric acid; probiotics to boost favorable lactobacilli species; hormonal contraception to improve the genital microenvironment through increased glycogen production in vaginal epithelial cells, promoting lactobacilli species growth as well as reduction of menstrual bleeding; male and female partner treatment; condom use; and suppressive antimicrobial therapy.^{1-4,7} ●

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