INDIAN HEALTH SERVICE
National Pharmacy and Therapeutics Committee
Formulary Brief: ***Infectious Vulvovaginitis***
-August 2025-

Background:

The Indian Health Service (IHS) National Pharmacy and Therapeutics Committee (NPTC) provided a drug class review of agents for infectious vulvovaginitis. Medications listed on the National Core Formulary (NCF) relevant to this condition include clindamycin, clotrimazole, fluconazole, metronidazole, and tinidazole. Following clinical review and analysis, the NPTC voted to **make no changes** to the NCF.

Infectious vulvovaginitis accounts for approximately 90% of vaginitis cases in reproductive-aged women, resulting in 5-10 million office visits annually in the United States.[1,2] The three most common etiologies are bacterial vaginosis (BV) affecting up to 50% of cases, vulvovaginal candidiasis (VVC) affecting up to 25%, and trichomoniasis affecting up to 20%.[1,3] The direct annual economic burden of treating symptomatic BV alone is estimated at $4.8 billion, with total costs nearly tripling when including BV-associated complications such as preterm birth and HIV acquisition.[4,5] Data specific to American Indian/Alaska Native (AI/AN) women are limited; however, AI/AN populations experience higher rates of sexually transmitted infections compared to the general US population, potentially increasing the risk for infectious vaginitis in these groups.[6]

Discussion:

Current CDC guidelines recommend metronidazole 500 mg orally twice daily for 7 days, metronidazole 0.75% gel intravaginally once daily for 5 days, or clindamycin 2% cream intravaginally at bedtime for 7 days as first-line treatments for BV, with all regimens demonstrating equivalent efficacy of 70-90% cure rates.[3] Alternative regimens include tinidazole 2 g orally once daily for 2 days, tinidazole 1 g orally once daily for 5 days, or secnidazole 2 g oral granules in a single dose. For recurrent BV (≥3 episodes within 12 months), extended suppressive therapy with twice-weekly intravaginal metronidazole gel for 4-6 months following initial treatment reduces recurrence rates.[3]

Emerging Evidence for Partner Treatment in BV: While current guidelines do not recommend routine partner treatment for BV, a landmark 2023 randomized controlled trial demonstrated that treating male partners with combined oral metronidazole and topical clindamycin reduced BV recurrence in female partners from 63% to 35% (ARR 28%; 95% CI: 19-37%; p<0.001), resulting in 2.6 fewer episodes per year.[11] This compelling evidence is prompting consideration for guideline updates to reclassify BV as a sexually transmitted infection (STI) and recommend partner treatment, particularly for women with recurrent infections.

For VVC, treatment varies by clinical presentation. **Uncomplicated VVC** (sporadic, mild-to-moderate symptoms, likely *Candida albicans*, immunocompetent host) responds well to short-course therapy with either topical azoles for 1-7 days or oral fluconazole 150 mg as a single dose, with comparable clinical cure rates of 75-83% for oral therapy and 77% for intravaginal therapy (OR 1.14; 95% CI: 0.91-1.43).[7] **Complicated VVC** includes severe disease (extensive vulvar erythema, edema, excoriation), non-albicans species, immunocompromised hosts, or recurrent infections (≥4 episodes/year), requiring extended therapy.[3] For severe VVC, fluconazole 150 mg every 72 hours for 2-3 doses achieves higher cure rates. For recurrent VVC, induction with fluconazole 150 mg every 72 hours for 3 doses followed by weekly suppressive therapy for 6 months reduces recurrence rates by 64% at 6 months (RR 0.36; 95% CI: 0.21-0.63; NNT=2).[8]

Special Populations and Situations:

- Pregnancy: Only topical azoles are recommended for VVC (7-14 days of therapy); oral fluconazole is contraindicated. For BV, oral or vaginal metronidazole and oral clindamycin are safe; tinidazole should be avoided.[3] Treatment of symptomatic BV in pregnancy reduces preterm birth risk (RR 0.91; 95% CI: 0.85-0.97).[3,12]
- Non-albicans Candida: *C. glabrata* accounts for 10-20% of VVC cases and often requires intravaginal boric acid 600 mg daily for 14 days, achieving cure rates of 40-70%.[3] Culture with species identification should be obtained for recurrent or refractory cases.[3]
- HIV-positive patients: Treatment regimens remain the same, though recurrence rates are higher, and longer suppressive therapy may be needed.[3]
- Diabetes: Glycemic control improves treatment outcomes; patients may require extended therapy durations.[1]

For trichomoniasis, metronidazole 500 mg orally twice daily for 7 days is preferred for women based on a meta-analysis showing superior efficacy (cure rate 90-95%) compared to single-dose therapy (cure rate 84%), with a relative risk of treatment failure of 0.55 (95% CI: 0.34-0.70) for the 7-day regimen.[3] Tinidazole 2 g orally in a single dose is an alternative with fewer gastrointestinal side effects. Unlike BV and VVC, partner treatment is mandatory for trichomoniasis to prevent

reinfection, as it is a STI. All patients with trichomoniasis should be tested for other STIs, including HIV, gonorrhea, and chlamydia, and retested within 3 months due to high reinfection rates (17% at 3 months).[3]

Treatment Failures and Resistance Considerations:

- BV treatment failure: (10-15% of cases) Consider alternate antibiotic regimens, extended therapy, or combination therapy with intravaginal boric acid 600 mg daily for 21 days plus nitroimidazole therapy[3]
- Azole-resistant VVC: Increasing prevalence of fluconazole resistance, particularly in *C. glabrata* (15-25% resistance rate); consider culture with susceptibility testing for recurrent cases[1]
- Metronidazole-resistant trichomoniasis: Rare (<1%) but increasing; high-dose metronidazole (2 g daily for 7 days) or tinidazole may overcome low-level resistance[3]

A Cochrane review of 26 trials (5,007 patients) examining VVC treatment found no significant difference in clinical cure rates between oral and intravaginal antifungals at both short-term and long-term follow-up.[7] However, oral therapy demonstrated slightly improved mycological cure rates (OR 1.29; 95% CI: 1.05-1.60 at long-term follow-up) and was preferred by patients for convenience despite higher rates of systemic side effects (headache, GI symptoms) compared to local reactions with topical therapy.[7] For recurrent VVC, a separate Cochrane review of 23 trials showed that antifungal maintenance therapy significantly reduced recurrence at 6 months vs. placebo (RR 0.36; 95% CI: 0.21-0.63; NNT=2).[8]

Non-Pharmacologic Treatment Options: For chronic or recurrent infections, non-pharmacologic interventions play an important supportive role:

- Lifestyle modifications: Avoidance of irritants (douches, scented products, harsh soaps), use of cotton underwear, keeping genital area dry, and avoiding tight-fitting clothing may reduce recurrence[3]
- Dietary considerations: Limited evidence suggests reducing refined sugar intake may help prevent VVC recurrence; however, routine dietary restrictions are not recommended[1]
- Probiotics: Oral or vaginal lactobacillus preparations show promise for BV prevention (RR 0.80; 95% CI: 0.65-0.98) but evidence remains insufficient for routine recommendation[13]
- Sexual practices: Consistent condom use may reduce BV recurrence by 45%; limiting number of sexual partners[3]
- Vaginal pH maintenance: Over-the-counter vaginal pH regulators and lactic acid gels may help maintain normal vaginal flora, though evidence is limited[1]

Findings:

The current NCF adequately covers first-line treatments for infectious vulvovaginitis as recommended by contemporary national and international guidelines. Metronidazole and clindamycin effectively treat BV with cure rates of 70-90%.[3] Fluconazole and topical azoles demonstrate equivalent efficacy for uncomplicated VVC.[7] Tinidazole provides an alternative for trichomoniasis treatment. While newer agents like ibrexafungerp and oteseconazole have been approved for recurrent VVC, their role remains limited to azole-resistant cases, and both are contraindicated in pregnancy.[9,10] The NPTC recommends no changes to the NCF at this time as current formulary agents adequately address treatment needs for infectious vulvovaginitis in the IHS patient population.

If you have any questions regarding this document, please contact the NPTC at IHSNPTC1@ihs.gov . For more information about the NPTC, please visit the NPTC website.

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