NuSwab®

Vaginitis/STI Screening and Treatment Guide

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CDC Screening Guidelines

Chlamydia (CT)

	Chlamydia (CT)
Women	Sexually active women under 25 years of age. Sexually active women aged 25 years and older if at increased risk.* Providers might consider opt-out chlamydia and gonorrhea screening (i.e., the patient is notified that testing will be performed unless the patient declines, regardless of reported sexual activity) for adolescent and young adult females during clinical encounters. Rectal chlamydial testing can be considered in females based on reported sexual behaviors and exposure, through shared clinical decision between the patient and the provider.
Pregnant Women	All pregnant women under 25 years of age. Pregnant women aged 25 and older if at increased risk.*
Men	There is insufficient evidence for screening among heterosexual men who are at low risk for infection; however, screening young men can be considered in high prevalence clinical settings.**
Men Who Have Sex with Men (MSM)	At least annually for sexually active MSM at sites of contact[c] regardless of condom use. Every 3 to 6 months if at increased risk.*
HIV-infected Individuals	For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter. More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology.
Retesting	All persons who receive a diagnosis of chlamydia should be tested for HIV, gonorrhea and syphilis. **Women:** Retest 3 months after treatment. **Pregnant Women:** Retest during the 3rd trimester for women under 25 years of age or at risk. Pregnant women with chlamydial infection should have a test-of-cure 4 weeks after treatment and be retested within 3 months.

CDC Screening Guidelines

Gonorrhea (NG)

	Gonorrhea (NG)
Women	Sexually active women under 25 years of age. Sexually active women aged 25 years and older if at increased risk.* Pharyngeal and rectal gonorrhea screening can be considered in females based on reported sexual behaviors and exposure, through shared clinical decision between the patient and the provider.
Pregnant Women	All pregnant women under 25 years of age. Pregnant women aged 25 and older if at increased risk.*
Men	There is insufficient evidence for screening among heterosexual men who are at low risk for infection.
Men Who Have Sex with Men (MSM)	At least annually for sexually active MSM at sites of contact*** regardless of condom use. Every 3 to 6 months if at increased risk.*
HIV-infected Individuals	For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter. More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology.
Retesting	All persons who receive a diagnosis of gonorrhea should be tested for HIV, chlamydia and syphilis. **Women:** Retest 3 months after treatment. **Pregnant Women:** Retest during the 3rd trimester for women under 25 years of age or at risk. Pregnant women with gonorrhea should be retested within 3 months.

CDC Screening Guidelines

Trichomoniasis (TV)

	Trichomoniasis (TV)
Women	Diagnostic testing for *T. vaginalis* should be performed for women seeking care for vaginal discharge. Consider screening for women receiving care in high-prevalence settings** and for asymptomatic women at high risk for infection.* This screening should be conducted at intake and offered as opt-out screening.
Pregnant Women	Evidence does not support routine screening for *T. vaginalis* among asymptomatic pregnant women.
Men	No specific guidelines.
Men Who Have Sex with Men (MSM)	No specific guidelines.
HIV-infected Individuals	Recommended for sexually active women at entry to care and at least annually thereafter. Routine annual screening for *T. vaginalis* among asymptomatic women with HIV infection is recommended because of the adverse events associated with trichomoniasis and HIV infection.
Retesting	All persons who receive a diagnosis of *T. vaginalis* should be tested for HIV, syphilis, gonorrhea and chlamydia. **Women:** Retest 3 months after treatment.

CDC Screening Guidelines

Mycoplasma genitalium (MG)

	Mycoplasma genitalium (MG)
Women	Women with recurrent cervicitis should be tested for MG, and testing should be considered among women with PID. Testing should be accompanied with resistance testing, if available. Screening of asymptomatic MG infection among women is not recommended. Extragenital testing for MG is not recommended.
Pregnant Women	No specific guidelines.
Men	Men with recurrent nongonococcal urethritis (NGU) should be tested for MG using an FDA-cleared nucleic acid amplification technologies (NAAT). If resistance testing is available, it should be performed, and the results used to guide therapy. Screening of asymptomatic MG infection among men is not recommended. Extragenital testing for MG is not recommended.
Men Who Have Sex with Men (MSM)	No specific guidelines.
HIV-infected Individuals	No specific guidelines.
Retesting	No specific guidelines.

* People with increased risk are women who have new or multiple partners, whose partners have concurrent partners or who have sexually transmitted infections, who have a history of STDs themselves, or who exchange sex for payment.
** High prevalence settings include STI/sexual health clinics, adolescent clinics and correctional facilities.
*** MSM sites of contact include the urethra, rectum, and pharynx.
Source: Sexually Transmitted Diseases Treatment Guidelines, 2021 (CDC).

CDC Treatment Guidelines

Vulvovaginal Candidiasis (VVC)[2]

VVC is caused by *Candida* species—*C. albicans* and *C. glabrata* account for approximately 93% to 97% of *Candida* species found. The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration
Uncomplicated VVC	**Over-the-Counter Intravaginal Agents**	
	Clotrimazole 1% cream	5 g intravaginally daily for 7–14 day
	Clotrimazole 2% cream	5 g intravaginally daily for 3 days
	Miconazole 2% cream	5 g intravaginally daily for 7 days
	Miconazole 4% cream	5 g intravaginally daily for 3 days
	Miconazole 100 mg vaginal suppository	one suppository daily for 7 days
	Miconazole 200 mg vaginal suppository	one suppository daily for 3 days
	Miconazole 1,200 mg vaginal suppository	one suppository for 1 day
	Tioconazole 6.5% ointment	5 g intravaginally in a single application
	Prescription Intravaginal Agents	
	Butoconazole 2% cream	(single-dose bioadhesive product) 5 g intravaginally in a single application
	Terconazole 0.4% cream	5 g intravaginally daily for 7 days
	Terconazole 0.8% cream 5 g	5 g intravaginally daily for 3 days
	Terconazole 80 mg vaginal suppository	one suppository daily for 3 days
	Oral Agent	
	Fluconazole 150 mg	orally in a single dose

CDC Treatment Guidelines

Vulvovaginal Candidiasis (VVC)[2] *(continued)*

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration
Complicated or Recurrent VVC	• **Recurrent VVC**—Most episodes of recurrent VVC caused by *C. albicans* respond well to short-duration oral or topical azole therapy. However, to maintain clinical and mycologic control, a longer duration of initial therapy (e.g., 7–14 days of topical therapy or a 100-mg, 150-mg, or 200-mg oral dose of fluconazole every third day for a total of 3 doses [days 1, 4, and 7]) is recommended, to attempt mycologic remission, before initiating a maintenance antifungal regimen. • **For maintenance**—Oral fluconazole (ie, 100 mg, 150 mg, or 200 mg dose) weekly for 6 months is the first line of treatment. If this regimen is not feasible, topical treatments used intermittently as a maintenance regimen can be considered. • **Severe VVC**—Either 7–14 days of topical azole or 150 mg of fluconazole in two sequential oral doses (second dose 72 hours after initial dose) is recommended. • **Nonalbicans VVC**—Longer duration of therapy (7–14 days) with a nonfluconazole azole drug (oral or topical) as first-line therapy. If recurrence occurs, 600 mg of boric acid in a gelatin capsule is recommended, administered vaginally once daily for 3 weeks.	

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/candidiasis.htm**

CDC Treatment Guidelines

Bacterial Vaginosis (BV)[2]

BV is a vaginal dysbiosis resulting from replacement of normal hydrogen peroxide and lactic-acid–producing *Lactobacillus* species in the vagina with high concentrations of anaerobic bacteria, including *G. vaginalis*, *Prevotella* species, *Mobiluncus* species, *A. vaginae* and other BV-associated bacteria. A notable feature is the appearance of a polymicrobial biofilm on vaginal epithelial cells.

Women with BV are at increased risk for STI acquisition, such as HIV, *N. gonorrhoeae*, *C. trachomatis*, *T. vaginalis*, *M. genitalium*, HPV and HSV-2; complications after gynecologic surgery; complications of pregnancy; and recurrence of BV.

Treatment for BV is recommended for women with symptoms. The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration	Alternative Regimens
Adults and/or adolescents	Metronidazole 500 mg or	500 mg po bid for 7 days	Clindamycin 300 mg orally 2 times/day for 7 days Clindamycin ovules 100 mg intravaginally once at bedtime for 3 days Secnidazole 2 g oral granules in a single dose† Tinidazole 2 g orally once daily for 2 days Tinidazole 1 g orally once daily for 5 days
	Metronidazole 0.75% gel or	one full applicator, 5 g intravaginally qd for 5 days	
	Clindamycin 2% cream*	one full applicator, 5 g intravaginally qhs for 7 days	

All women with BV should be tested for HIV and other STIs.

* Clindamycin ovules use an oleaginous base that might weaken latex or rubber products (e.g., condoms and diaphragms). Use of such products within 72 hours after treatment with clindamycin ovules is not recommended.

† Oral granules should be sprinkled onto unsweetened applesauce, yogurt or pudding before ingestion. A glass of water can be taken after administration to aid in swallowing.

CDC Treatment Guidelines

Bacterial Vaginosis (BV)[2] *(continued)*

Oral therapy has not been reported to be superior to topical therapy for treating symptomatic BV in effecting cure or preventing adverse outcomes of pregnancy. Pregnant women can be treated with any of the recommended regimens for nonpregnant women, in addition to the alternative regimens of oral clindamycin and clindamycin ovules.

Women should be advised to refrain from sexual activity or to use condoms consistently and correctly during the BV treatment regimen. Douching might increase the risk for relapse, and no data support use of douching for treatment or symptom relief.

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/bv.htm**

BV NAATs should be used among symptomatic women only (e.g., women with vaginal discharge, odor or itch) because their accuracy is not well defined for asymptomatic women.

CDC Treatment Guidelines

Trichomoniasis (TV)[2]

TV infection is caused by *T. vaginalis*, which is not considered normal flora. Treatment of sexual partners is recommended.
The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration	Alternative Regimens
Women	Metronidazole 500 mg*	500 mg orally 2 times/day for 7 days	Tinidazole 2 g orally in a single dose
Men	Metronidazole 2 g	2 g orally in a single dose	Tinidazole 2 g orally in a single dose
	If this treatment regimen fails: Metronidazole 2 g* **or** Tinidazole 2 g* **If this treatment regimen fails, susceptibility testing is recommended.**	2 g po bid for 7 days 2 g po bid for 7 days	
HIV-positive Women	Metronidazole 500 mg*	500 mg orally 2 times/day for 7 days	

* Because of the high rate of reinfection among women treated for trichomoniasis, retesting for *T. vaginalis* is recommended for all sexually active women <3 months after initial treatment regardless of whether they believe their sex partners were treated or 72 hours after completion of tinidazole.

** Providers should advise persons with *T. vaginalis* infections to abstain from sex until they and their sex partners are treated (i.e., when therapy has been completed and any symptoms have resolved). Testing for other STIs, including HIV, syphilis, gonorrhea, and chlamydia, should be performed for persons with *T. vaginalis*.

CDC Treatment Guidelines

Chlamydia (CT)[2]

CT infection is caused by *C. trachomatis*, which is not considered normal flora. Evaluation of sexual partners is recommended.
The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration	Alternative Regimens
Adults and/or Adolescents	Doxycycline 100 mg	100 mg orally 2 times/day for 7 days	Azithromycin 1 g orally in a single dose
			Levofloxacin 500 mg orally once daily for 7 days
Pregnant Women	Azithromycin 1 g	1 g orally in a single dose	Amoxicillin 500 mg orally 3 times/day for 7 days

Note: Patients who are coinfected with HIV and chlamydia should receive the same treatment regimen as those who are HIV negative.

To minimize disease transmission to sex partners, persons treated for chlamydia should be instructed to abstain from sexual intercourse for 7 days after single-dose therapy or until completion of a 7-day regimen and resolution of symptoms if present. To minimize risk for reinfection, patients also should be instructed to abstain from sexual intercourse until all of their sex partners have been treated.

Persons who receive a diagnosis of chlamydia should be tested for HIV, gonorrhea and syphilis. MSM who are HIV negative with a rectal chlamydia diagnosis should be offered HIV PrEP.

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/chlamydia.htm**

CDC Treatment Guidelines

Gonorrhea (NG)[2]

NG infection is caused by *N. gonorrhoeae*, which is not considered normal flora. Evaluation of sexual partners is recommended. The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration	Alternative Regimens
Uncomplicated Gonococcal Infections of the Cervix, Urethra, and Rectum in Adults and Adolescents <150 kg	Ceftriaxone 500 mg	500 mg IM in a single dose*	Gemtamicin 240 mg IM in a single dose **plus** Azithromycin 2 g orally in a single dose **or** Cefixime 800 mg orally in a single dose
Pregnant Women	Ceftriaxone 500 mg	500 mg in a single dose*	

*If chlamydial infection has not been excluded, treat for chlamydia with doxycycline 100 mg orally 2 times/day for 7 days.

Note: Patients who are coinfected with HIV and gonococcal infection should receive the same treatment regimen as those who are HIV negative.

All persons who receive a diagnosis of gonorrhea should be tested for other STIs, including chlamydia, syphilis and HIV. Those persons whose HIV test results are negative should be offered HIV PrEP.

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/gonorrhea.htm**

CDC Treatment Guidelines

Anogenital Herpes (HSV1/HSV2)[2]

HSV infection is caused by the herpes simplex virus. Anogenital HSV cannot be cured, but antiviral therapy is recommended for infected individuals, and evaluation recommended for sexual partners. The following is taken from CDC recommendations:

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration
Primary Infection		
First Clinical Episode of Genital Herpes*	Acyclovir 400 mg	400 mg orally 3 times/day for 7–10 days
	Famciclovir 250 mg	250 mg orally 3 times/day for 7–10 days
	Valacyclovir 1 g	1 g orally 2 times/day for 7–10 days
Suppressive Therapy for Recurrent Genital Herpes	Acyclovir 400 mg	400 mg orally 2 times/day
	Famiciclovir 250 mg	250 mg orally 2 times/day
	Valacyclovir 500 mg^	500 mg orally once a day
	Valacyclovir 1 g	1 g orally once a day
Pregnant Women		
Pregnant Women with Recurrent Genital Herpes†	Acyclovir 400 mg	400 mg orally 3 times/day
	Valacyclovir 500 mg	500 mg orally 2 times/day

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/herpes.htm**

CDC Treatment Guidelines

Anogenital Herpes (HSV1/HSV2)[2] *(continued)*

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration
Established Infection		
Episodic Therapy for Recurrent Genital Herpes	Acyclovir 800 mg	800 mg orally 2 times/day for 5 days
	Acyclovir 800 mg	800 mg orally 3 times/day for 2 days
	Famciclovir 125 mg	125 mg orally 2 times/day for 5 days
	Famciclovir 1 g	1 g orally 2 times/day for 1 day
	Famciclovir 500 mg	500 mg orally, once followed by 250 mg 2 times/day for 2 days
	Valacyclovir 500 mg	500 mg orally 2 times/day for 3 days
	Valacyclovir 1 g	1 g orally once daily for 5 days
HIV Coinfection		
Suppressive Therapy for Recurrent Genital Herpes	Acyclovir 400–800 mg	400–800 mg orally 2–3 times/day
	Famciclovir 500 mg	500 mg orally 2 times/day
	Valacyclovir 500 mg	500 mg orally 2 times/day
Episodic Therapy for Recurrent Genital Herpes	Acyclovir 400 mg	400 mg orally 3 times/day for 5–10 days
	Famciclovir 500 mg	500 mg orally 2 times/day for 5–10 days
	Valacyclovir 1 g	1 g orally 2 times/day for 5–10 days

* Treatment can be extended if healing is incomplete after 10 days of therapy.
^ Valacyclovir 500 mg once a day might be less effective than other valacyclovir or acyclovir dosing regimens in patients who have very frequent recurrences (i.e., ≥10 episodes per year).
† Treatment recommended starting at 36 weeks of gestation.

CDC Treatment Guidelines

Mycoplasma genitalium[2]

M. genitalium causes symptomatic and asymptomatic urethritis among men and is the etiology of approximately 15%–20% of NGU, 20%–25% of nonchlamydial NGU, and 40% of persistent or recurrent urethritis. Infection with *C. trachomatis* is common in selected geographic areas, although *M. genitalium* is often the sole pathogen.

Excerpts from CDC Treatment Recommendations:

M. genitalium lacks a cell wall, and thus antibiotics targeting cell-wall biosynthesis (e.g., ß-lactams including penicillins and cephalosporins) are ineffective against this organism.

Because of the high rates of macrolide resistance with treatment failures and efficient selection of additional resistance, a 1-gram dose of azithromycin should not be used.

Two-stage therapy approaches, ideally using resistance-guided therapy, are recommended for treatment. Resistance-guided therapy has demonstrated cure rates of more than 90% and should be used whenever possible; however, it requires access to macrolide-resistance testing.

- As part of this approach, doxycycline is provided as initial empiric therapy, which reduces the organism load and facilitates organism clearance, followed by macrolide-sensitive *M. genitalium* infections treated with high-dose azithromycin; macrolide-resistant infections are treated with moxifloxacin.

CDC Treatment Guidelines

Mycoplasma genitalium[2] *(continued)*

Indication and/or Condition	Drug Formulation	CDC Recommended Dosage and Duration
Recommended Regimen if *M. genitalium* Resistance Testing Is Available	**If macrolide sensitive**: Doxycycline 100 mg	100 mg orally 2 times/day for 7 days, FOLLOWED BY azithromycin 1 gm orally initial dose, FOLLOWED BY azithromycin 500 mg orally once daily for 3 additional days (2.5 gm total)
	If macrolide resistant: Doxycycline 100 mg	100 mg orally 2 times/day for 7 days followed by moxifloxacin 400 mg orally once daily for 7 days
Recommended Regimen if *M. genitalium* Resistance Testing Is Not Available	Doxycycline 100 mg	100 mg orally 2 times/day for 7 days, followed by moxifloxacin 400 mg orally once daily for 7 days
Persons who have *M. genitalium* and HIV infection should receive the same treatment regimen as those persons without HIV.		

For more information, visit **https://www.cdc.gov/std/treatment-guidelines/urethritis-and-cervicitis.htm**

Our NuSwab Portfolio

	NuSwab VG	NuSwab VG+	NuSwab STI		NuSwab SELECT
Test Number	**180039**	**180021**	**188070**	**183160**	**Individual Test List**
Components	Bacterial vaginosis *Atopobium vaginae*, BVAB-2, *Megasphaera-1* *C. albicans, C. glabrata, Trichomonas*	Bacterial vaginosis *Atopobium vaginae,* BVAB-2, *Megasphaera-1* *C. albicans, C. glabrata, Chlamydia, Gonorrhea, Trichomonas*	*Chlamydia* *Gonorrhea* *Trichomonas* HSV 1/2	*Chlamydia* *Gonorrhea* *Trichomonas*	Bacterial vaginosis (**180060**) *C. albicans* and *C. glabrata* (**180055**) *Candida* Six-species Profile (**180010**) *C. albicans* *C. tropicalis* *C. parapsilosis* *C. glabrata* *C. krusei* *C. lusitaniae* *Chlamydia/Gonorrhea* (**183194**) Genital *Mycoplasma* Profile (**180089**) *M. genitalium, M. hominis, Ureaplasma* species HSV 1/2 (**188056**) *Mycoplasma genitalium* (**180076**) *Trichomonas* (**188052**)
	180042	**180068**			
	Vaginitis (VG) With *Candida* (Six Species) Bacterial vaginosis *Atopobium vaginae*, BVAB-2, *Megasphaera-1* *C. albicans, C. glabrata, C. tropicalis, C. parapsilosis, C. lusitaniae, C. krusei, Trichomonas*	**Vaginitis Plus (VG+) With *Candida* (Six Species)** Bacterial vaginosis *Atopobium vaginae*, BVAB-2, *Megasphaera-1* *C. albicans, C. glabrata, C. tropicalis, C. parapsilosis, C. lusitaniae, C. krusei, Chlamydia, Gonorrhea, Trichomonas*			
Test Number	**180039**	**180021**	**188070**	**183160**	**Individual Test List**
Clinical Use	Symptoms of vaginitis/ vaginosis, such as discharge.	Symptoms of vaginitis/vaginosis and/or patients at risk for coinfection with Ct/Ng.	Screening high-risk patients. Testing patients with symptoms of multiple STIs or coinfections.		Flexibility to order any individual component.
Specimen Type	APTIMA® vaginal (preferred) or unisex swab. Transported at room temperature.				

The NuSwab portfolio combines high-quality testing with the convenience of a single-swab collection, providing reliable and actionable information to manage your patients better. The NuSwab test menu offers a targeted approach for clinically appropriate, cost-effective care with profiles that contain fewer, select individual tests without sacrificing the content needed for comprehensive results. Better information from fewer tests…smart testing has arrived.

Labcorp's proprietary Bacterial Vaginosis assay was shown to be 97% sensitive and 92% specific in a published study.[1] For more information, visit **womenshealth.labcorp.com/providers/sexual-health/vaginal-health**

The NuSwab Screening and Treatment Guide was prepared by Labcorp using the CDC's *Sexually Transmitted Diseases Treatment Guidelines* from 2021 and other published literature. It was also reviewed by practicing clinicians on Labcorp's Women's Health Advisory Board. This publication is provided as a convenience to clinicians and does not constitute medical advice, nor should the information included herein substitute for informed deliberate decisions of the patient's physician regarding treatment. The information included herein is current only as of the date of issuance* of this resource, and Labcorp has no obligation to update this document. Readers are encouraged to obtain additional information about available treatment options from www.cdc.gov and other resources. Labcorp is not responsible for negative patient outcomes that may directly or indirectly result from use of the NuSwab Screening and Treatment Guide.

*July 23, 2021

References

1. Cartwright CP, Lembke BD, Ramachandran K, Body BA, Nye MB, Rivers RA, Schwebke JR. Development and validation of a semiquantitative multitarget PCR assay for diagnosis of bacterial vaginosis. *J Clin Microbiol*. 2012 Jul;50(7):2321-2329.
2. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2021. *MMWR*.

For more information, visit us at
womenshealth.labcorp.com/providers/sexual-health

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