Bacterial Genital Tract Infections

CHI Formulary Treatment algorithm

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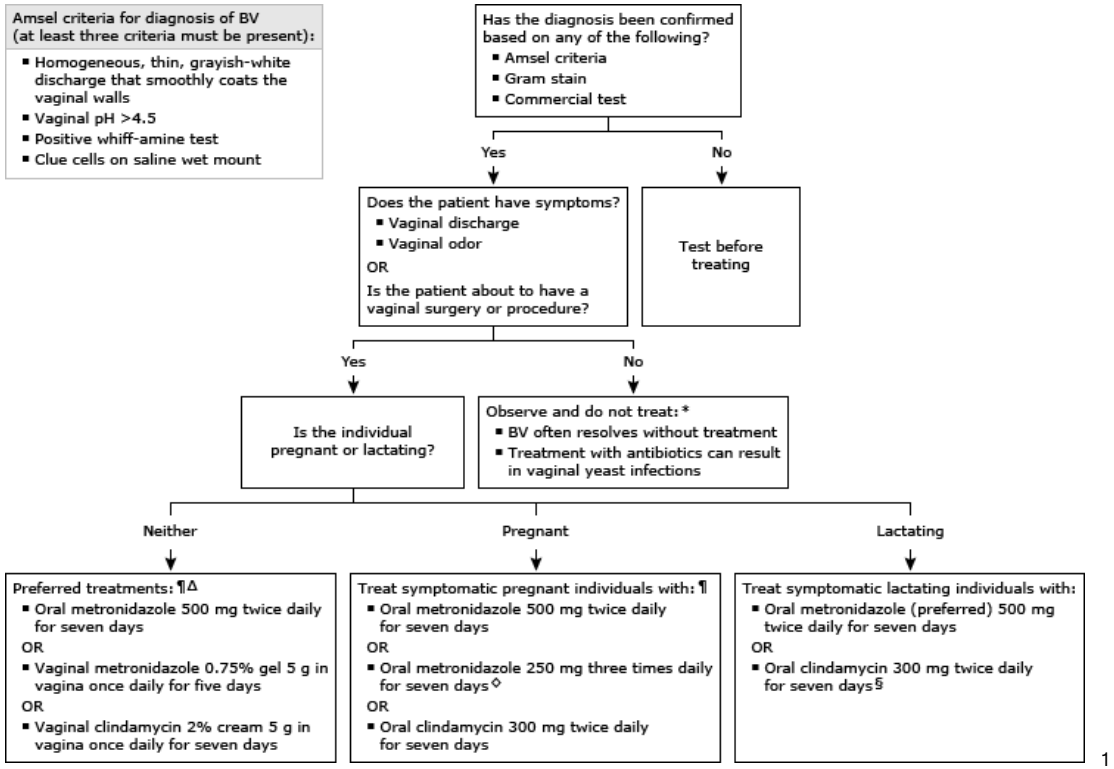
Council of Health Insurance

Treatment algorithm- November 2023

Supporting treatment algorithms for the clinical management of Bacterial Genital Tract Infections

Figures 1 to 8 outline a comprehensive treatment algorithm on the **antimicrobial therapies for Bacterial Genital Tract Infections**, respectively, aimed at addressing the different lines of treatment after thorough review of medical and economic evidence by CHI committees.

For further evidence, please refer to CHI **Bacterial Genital Tract Infections** full report. You can stay updated on the upcoming changes to our formulary by visiting our website at https://chi.gov.sa/AboutCCHI/CCHIprograms/Pages/IDF.aspx



[1]

Figure 1: Treatment Algorithm for Bacterial Vaginosis

* We do not routinely treat asymptomatic individuals, including pregnant and lactating persons. However, others may reasonably elect to treat asymptomatic pregnant individuals as the supporting data conflict, particularly for those with a history of preterm birth.
¶ As treatment efficacy is similar between metronidazole and clindamycin, the choice of medication is based on availability, patient preference, side effects, cost, and history of response or adverse reactions.[1]
Δ For additional treatment options, please refer to related UpToDate content on treatment of bacterial vaginosis.
◊ Pregnant individuals who are unable to tolerate metronidazole 500 mg twice daily because of gastrointestinal symptoms may be able to tolerate metronidazole 250 mg three times daily.
§ Breastfeeding infants may develop side effects from maternal clindamycin treatment and should be monitored for possible symptoms, including diarrhea, candidiasis (thrush, diaper rash), or rarely, colitis.
¥ Until definitive data are available, we treat patients who have undergone gender-affirming surgery based on their revised anatomy. As example, patients with neo-vaginas are treated as female and those with neophalluses are treated as male.

1. Bacterial vaginosis: Initial treatment - UpToDate. Accessed October 18, 2023. https://www.uptodate.com/contents/bacterial-vaginosis-initial-treatment?search=bacterial%20gonorrhea%20treatment&source=graphics_search&graphicRef=131909#graphicRef131909

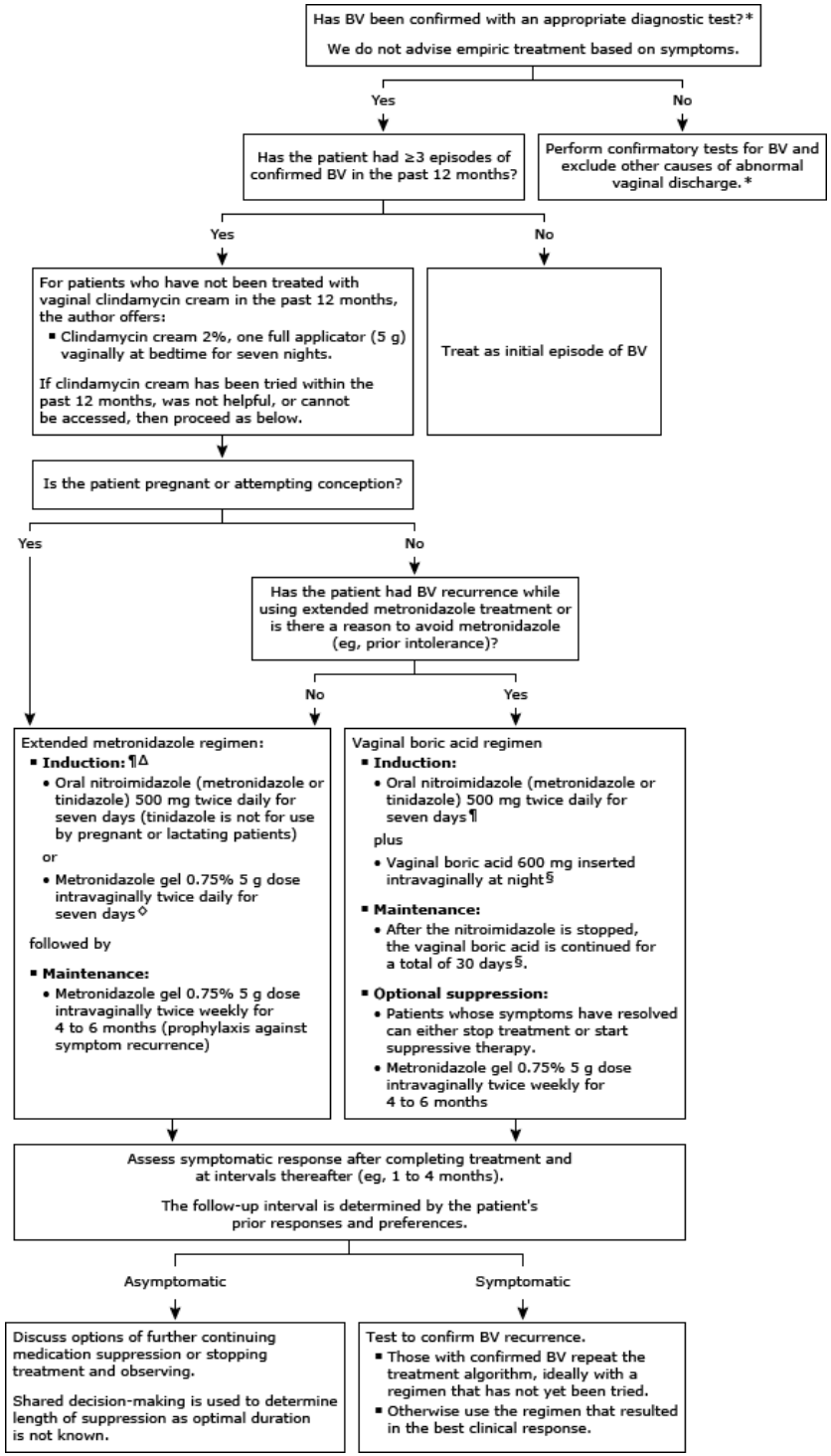

Has BV been confirmed with an appropriate diagnostic test?*
We do not advise empiric treatment based on symptoms.
Yes
No
Has the patient had ≥3 episodes of confirmed BV in the past 12 months?
Perform confirmatory tests for BV and exclude other causes of abnormal vaginal discharge.*
Yes
No
For patients who have not been treated with vaginal clindamycin cream in the past 12 months, the author offers:
Clindamycin cream 2%, one full applicator (5 g) vaginally at bedtime for seven nights.
If clindamycin cream has been tried within the past 12 months, was not helpful, or cannot be accessed, then proceed as below.
Treat as initial episode of BV
Is the patient pregnant or attempting conception?
Yes
No
Has the patient had BV recurrence while using extended metronidazole treatment or is there a reason to avoid metronidazole (eg, prior intolerance)?
No
Yes
Extended metronidazole regimen:
Induction:¶Δ
Oral nitroimidazole (metronidazole or tinidazole) 500 mg twice daily for seven days (tinidazole is not for use by pregnant or lactating patients)
or
Metronidazole gel 0.75% 5 g dose intravaginally twice daily for seven days◇
followed by
Maintenance:
Metronidazole gel 0.75% 5 g dose intravaginally twice weekly for 4 to 6 months (prophylaxis against symptom recurrence)
Vaginal boric acid regimen
Induction:
Oral nitroimidazole (metronidazole or tinidazole) 500 mg twice daily for seven days¶
plus
Vaginal boric acid 600 mg inserted intravaginally at night§
Maintenance:
After the nitroimidazole is stopped, the vaginal boric acid is continued for a total of 30 days§.
Optional suppression:
Patients whose symptoms have resolved can either stop treatment or start suppressive therapy.
Metronidazole gel 0.75% 5 g dose intravaginally twice weekly for 4 to 6 months
Assess symptomatic response after completing treatment and at intervals thereafter (eg, 1 to 4 months).
The follow-up interval is determined by the patient's prior responses and preferences.
Asymptomatic
Symptomatic
Discuss options of further continuing medication suppression or stopping treatment and observing.
Shared decision-making is used to determine length of suppression as optimal duration is not known.
Test to confirm BV recurrence.
Those with confirmed BV repeat the treatment algorithm, ideally with a regimen that has not yet been tried.
Otherwise use the regimen that resulted in the best clinical response.

Figure 2: Treatment Algorithm for Recurrent Bacterial Vaginosis

* Discussion of testing options to confirm bacterial vaginosis and/or ot[2]her causes of abnormal vaginal discharge are presented in related UpToDate content on abnormal vaginal discharge.
¶ Choice of metronidazole or tinidazole is based on prior patient response (if any), availability, and cost.
Δ If response to a drug was inadequate in the past, then we select a different drug if available.
◊ Patients often prefer oral rather than vaginal treatment but both are effective.
§ **Critical warning:** Boric acid is for **vaginal** use only. Boric acid can cause death if taken orally. Commercially available vaginal suppository preparation is preferred but compounded products are an acceptable alternative. Vaginal boric acid should not be used by people who are pregnant or attempting conception. Boric acid should be stored safely away from children. Optimal treatment duration is not known.

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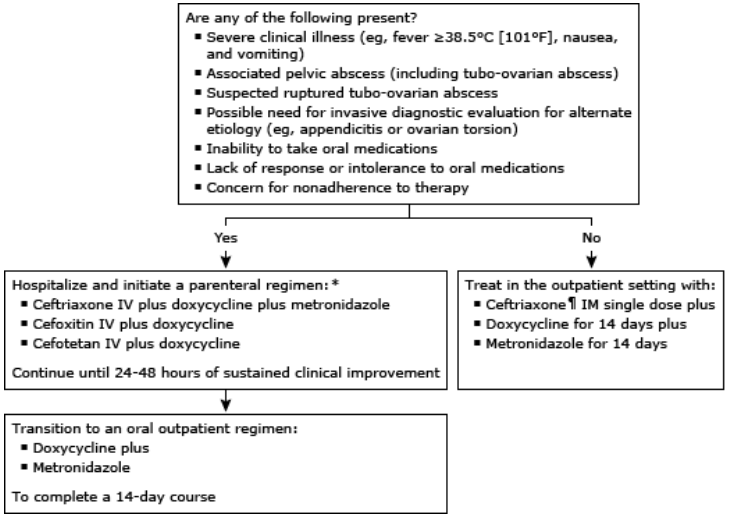
2. Bacterial vaginosis: Initial treatment - UpToDate. Accessed October 18, 2023. https://www.uptodate.com/contents/bacterial-vaginosis-initial-treatment?search=bacterial%20gonorrhea%20treatment&source=graphics_search&graphicRef=131909#graphicRef131909



Dosing of antimicrobials	
Ceftriaxone IV	1 g intravenously every 24 hours
Cefoxitin IV	2 g intravenously every 6 hours
Cefotetan IV	2 g intravenously every 12 hours
Ceftriaxone IM	500 mg intramuscularly once (if <150 kg)
	1 g intramuscularly once (if ≥150 kg)
Doxycycline$^{\Delta}$	100 mg orally twice daily
Metronidazole$^{\Delta}$	500 mg orally twice daily

[3]

Figure 3: Antimicrobial therapy for pelvic inflammatory disease in adults and adolescents

This algorithm represents our approach to antimicrobial selection for nonpregnant patients with PID. Treatment should be tailored to the individual. Refer to other UpToDate content on PID therapy for details on and doses for alternative regimens, including management of PID in pregnant individuals (which is uncommon).

PID: pelvic inflammatory disease; IM: intramuscular; IV: intravenous.
* Alternative regimens include clindamycin plus gentamicin, ampicillin-sulbactam plus doxycycline, and if *Neisseria gonorrhoeae* has been ruled out, azithromycin plus metronidazole. Because of various drawbacks, we reserve these for patients who cannot take preferred regimens.
¶ We prefer ceftriaxone because it has the best and most established activity against *N. gonorrhoeae*. Other appropriate long-acting intramuscular cephalosporins include cefoxitin (with probenecid), cefotaxime, and ceftizoxime.
Δ Doxycycline and metronidazole can also be given intravenously at the same doses for those who cannot take oral medications.

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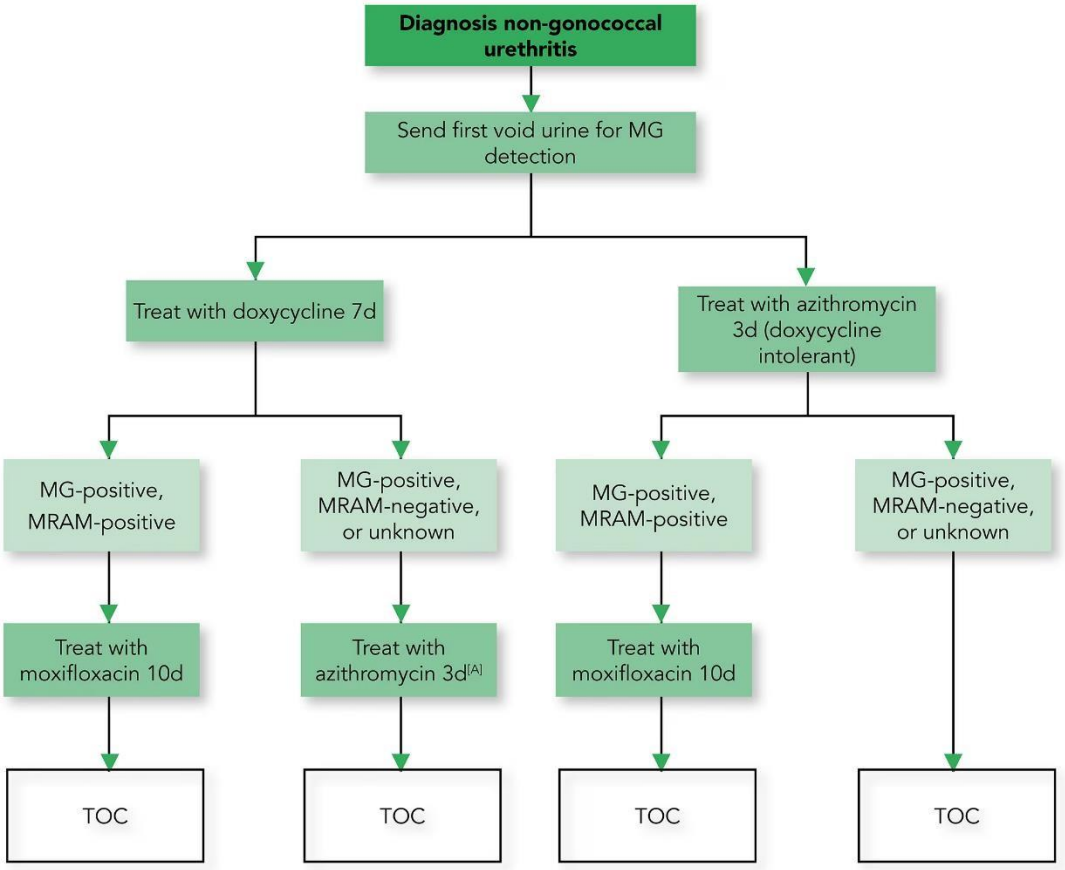
3. Pelvic inflammatory disease: Treatment in adults and adolescents - UpToDate. Accessed October 18, 2023. https://www.uptodate.com/contents/pelvic-inflammatory-disease-treatment-in-adults-andadolescents?search=pelvic%20inflammatory%20disease%20treatment&source=graphics_search&graphicRef=118249#graphicRef118249



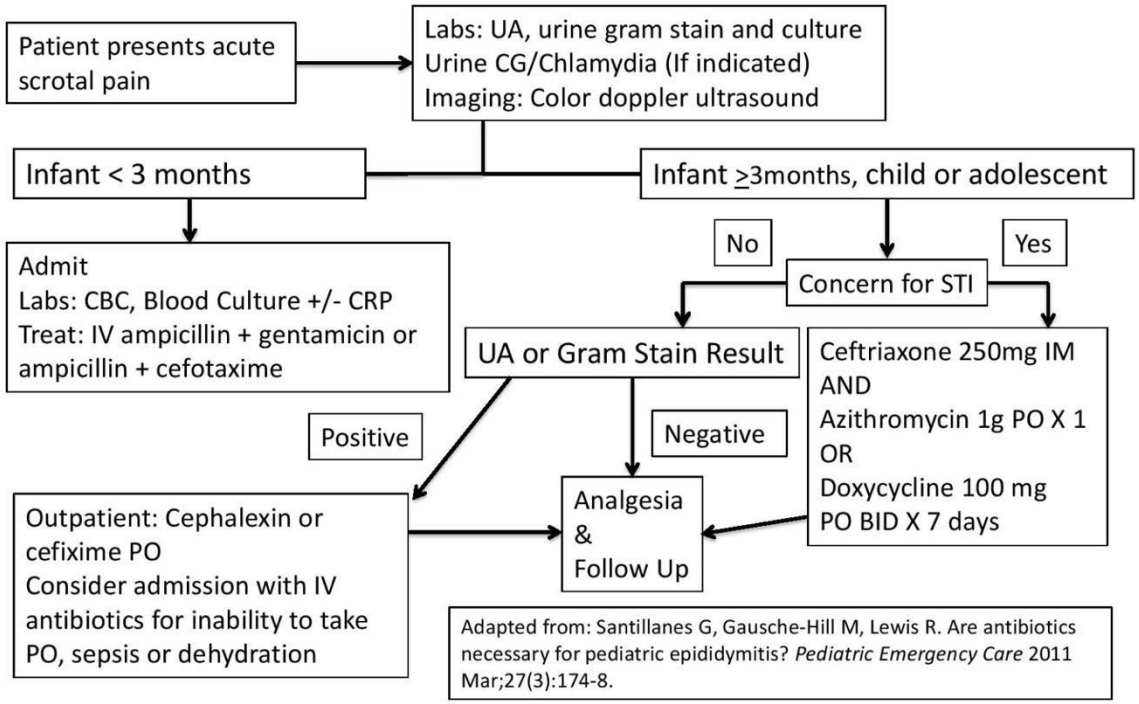
Abbreviations: azithromycin 3d=azithromycin 1 g, then 500 mg once daily for 2 days; doxycycline 7d=doxycycline 100 mg twice daily for 7 days; MG=*Mycoplasma genitalium*; moxifloxacin 10d=moxifloxacin 400 mg once daily for 10 days; MRAM=macrolide resistance-associated mutation; TOC=test of cure

[A] Azithromycin 3d should be started within 2 weeks of finishing doxycycline

[4]

Figure 4: Treatment Pathway for Men Presenting with Non-gonococcal Urethritis Who Subsequently Test Positive for M. Genitalium

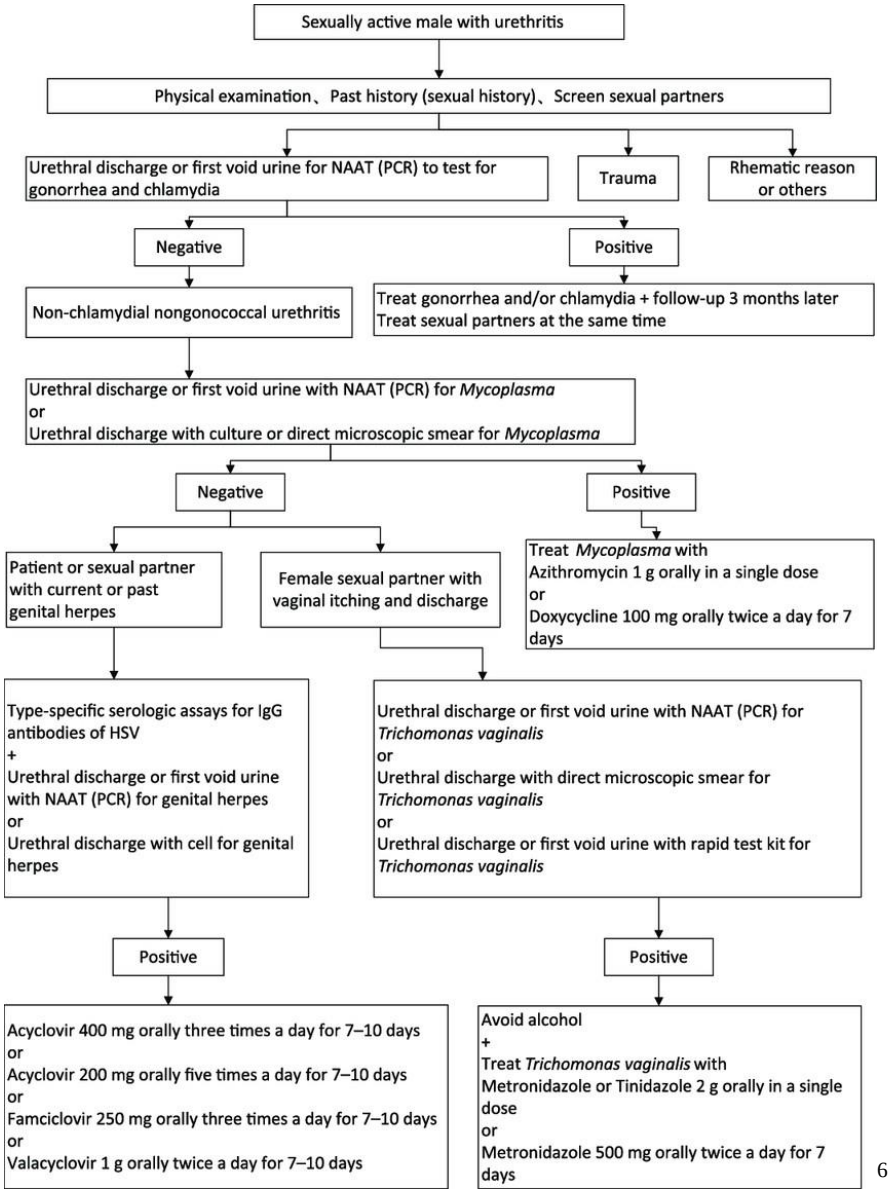
[4] National Guideline for the Management of Infection with Mycoplasma Genitalium. Accessed October 18, 2023. https://www.medscape.co.uk/viewarticle/national-guideline-management-infection-mycoplasma-2023a10001x8



[5]

Figure 5: Epididymitis treatment algorithm for infants, children and adolescents

[5] Epididymitis #Management #Peds #Epididymitis #Algorithm ... | GrepMed. Accessed October 18, 2023. https://www.grepmed.com/images/1441/epididymitis-management-pemsource-algorithm-peds



[6]

Figure 6: Treatment algorithm for Non-chlamydial nongonococcal urethritis in men

[6] Tsai CC, Li CC. Nonchlamydial nongonococcal urethritis in men. *Urol Sci*. 2013;24(3):73-77. doi:10.1016/J.UROLS.2013.06.001

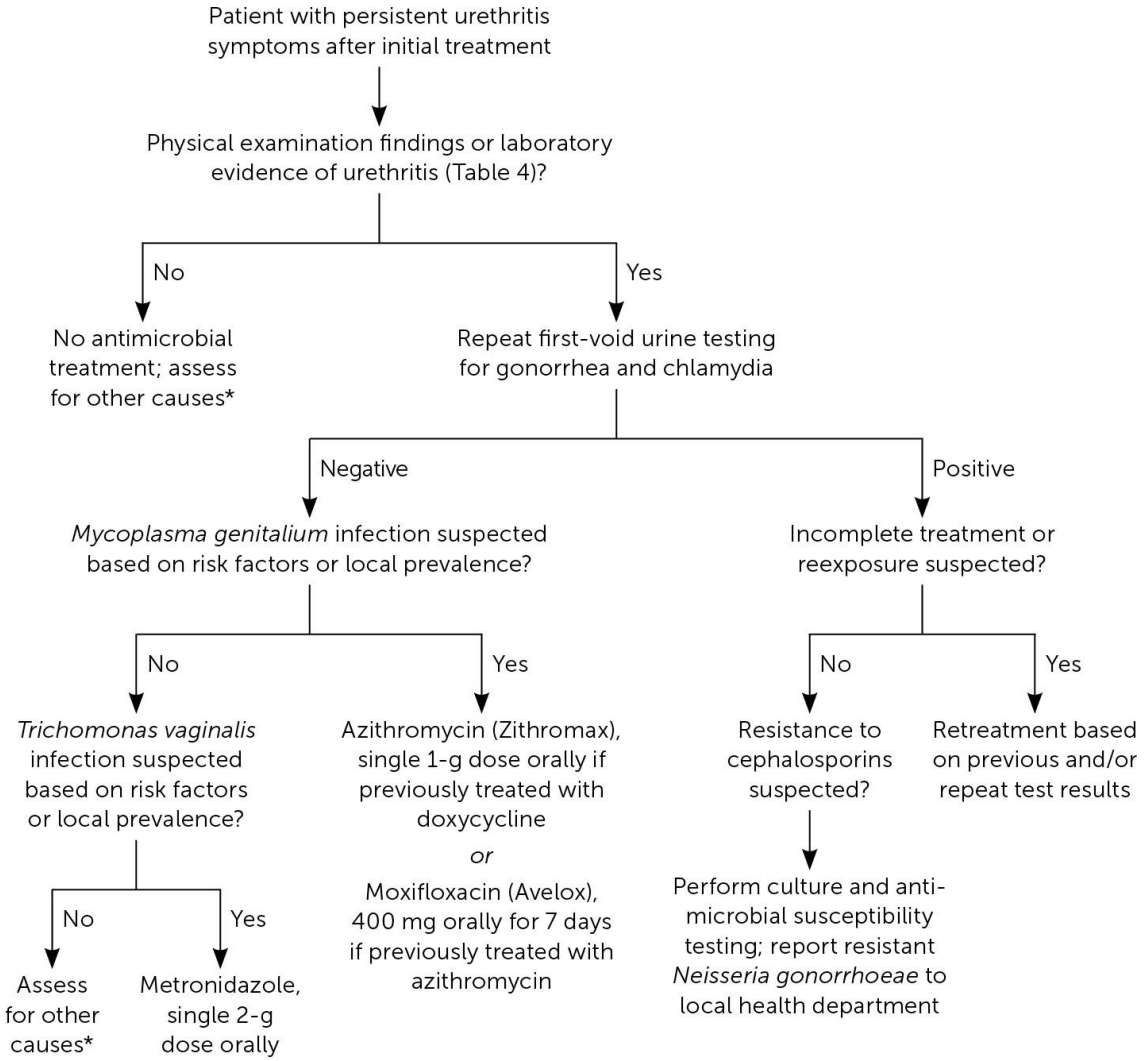


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Figure 7: Evaluation and treatment of patients with persistent urethritis symptoms after initial treatment

[7] Sell J, Nasir M, Courchesne C. Urethritis: Rapid Evidence Review. *Am Fam Physician*. 2021;103(9):553-558. Accessed October 18, 2023. https://www.aafp.org/pubs/afp/issues/2021/0501/p553.html

[8]

Figure 8: Management of syphilis

[8] BROWN DL, FRANK JE. Diagnosis and Management of Syphilis. *Am Fam Physician*. 2003;68(2):283-290. Accessed October 18, 2023. https://www.aafp.org/pubs/afp/issues/2003/0715/p283.html