

Trichomoniasis

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Lesson 28: [Trichomoniasis](#)

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References

- Adamski A, Clark RA, Mena L, et al. The influence of ART on the treatment of *Trichomonas vaginalis* among HIV-infected women. *Clin Infect Dis.* 2014;59:883-7.
[\[PubMed Abstract\]](#) -
- Aggarwal A, Shier RM. Recalcitrant *Trichomonas vaginalis* infections successfully treated with vaginal acidification. *J Obstet Gynaecol Can.* 2008;30:55-8.
[\[PubMed Abstract\]](#) -
- Alcaide ML, Feaster DJ, Duan R, et al. The incidence of *Trichomonas vaginalis* infection in women attending nine sexually transmitted diseases clinics in the USA. *Sex Transm Infect.* 2016;92:58-62.
[\[PubMed Abstract\]](#) -
- Andrea SB, Chapin KC. Comparison of Aptima *Trichomonas vaginalis* transcription-mediated amplification assay and BD affirm VPIII for detection of *T. vaginalis* in symptomatic women: performance parameters and epidemiological implications. *J Clin Microbiol.* 2011;49:866-9.
[\[PubMed Abstract\]](#) -
- Bachmann LH, Hobbs MM, Seña AC, et al. *Trichomonas vaginalis* genital infections: progress and challenges. *Clin Infect Dis.* 2011;53 Suppl 3:S160-72.
[\[PubMed Abstract\]](#) -
- Badman SG, Causer LM, Guy R, et al. A preliminary evaluation of a new GeneXpert (Gx) molecular point-of-care test for the detection of *Trichomonas vaginalis*. *Sex Transm Infect.* 2016;92:350-2.
[\[PubMed Abstract\]](#) -
- Balkus JE, Richardson BA, Mochache V, et al. A prospective cohort study comparing the effect of single-dose 2 g metronidazole on *Trichomonas vaginalis* infection in HIV-seropositive versus HIV-seronegative women. *Sex Transm Dis.* 2013;40:499-505.
[\[PubMed Abstract\]](#) -
- Bosselman EA, Helms DJ, Mosure DJ, Secor WE, Workowski KA. Utility of antimicrobial susceptibility testing in *Trichomonas vaginalis*-infected women with clinical treatment failure. *Sex Transm Dis.* 2011;38:983-7.
[\[PubMed Abstract\]](#) -

- Brown HL, Fuller DD, Jasper LT, Davis TE, Wright JD. Clinical evaluation of affirm VPIII in the detection and identification of *Trichomonas vaginalis*, *Gardnerella vaginalis*, and *Candida* species in vaginitis/vaginosis. *Infect Dis Obstet Gynecol.* 2004;12:17-21.
[\[PubMed Abstract\]](#) -
- Brown HL, Fuller DD, Jasper LT, Davis TE, Wright JD. Clinical evaluation of affirm VPIII in the detection and identification of *Trichomonas vaginalis*, *Gardnerella vaginalis*, and *Candida* species in vaginitis/vaginosis. *Infect Dis Obstet Gynecol.* 2004;12:17-21.
[\[PubMed Abstract\]](#) -
- Campbell L, Woods V, Lloyd T, Elsayed S, Church DL. Evaluation of the OSOM Trichomonas rapid test versus wet preparation examination for detection of *Trichomonas vaginalis* vaginitis in specimens from women with a low prevalence of infection. *J Clin Microbiol.* 2008;46:3467-9.
[\[PubMed Abstract\]](#) -
- Carter JE, Whithaus KC. Neonatal respiratory tract involvement by *Trichomonas vaginalis*: a case report and review of the literature. *Am J Trop Med Hyg.* 2008;78:17-9.
[\[PubMed Abstract\]](#) -
- Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2015. Other sexually transmitted diseases. Atlanta: U.S. Department of Health and Human Services; 2016.
[\[CDC\]](#) -
- Chernes TL, Wiesenfeld HC, Melan MA, et al. The associations between pelvic inflammatory disease, *Trichomonas vaginalis* infection, and positive herpes simplex virus type 2 serology. *Sex Transm Dis.* 2006;33:747-52.
[\[PubMed Abstract\]](#) -
- Cotch MF, Pastorek JG 2nd, Nugent RP, et al. *Trichomonas vaginalis* associated with low birth weight and preterm delivery. The Vaginal Infections and Prematurity Study Group. *Sex Transm Dis.* 1997;24:353-60.
[\[PubMed Abstract\]](#) -
- Crowell AL, Sanders-Lewis KA, Secor WE. In vitro metronidazole and tinidazole activities against metronidazole-resistant strains of *Trichomonas vaginalis*. *Antimicrob Agents Chemother.* 2003;47:1407-9.
[\[PubMed Abstract\]](#) -
- Davis A, Dasgupta A, Goddard-Eckrich D, El-Bassel N. *Trichomonas vaginalis* and Human Immunodeficiency Virus Coinfection Among Women Under Community Supervision: A Call for Expanded *T. vaginalis* Screening. *Sex Transm Dis.* 2016;43:617-22.
[\[PubMed Abstract\]](#) -
- Dize L, Barnes P Jr, Barnes M, et al. Performance of self-collected penile-meatal swabs compared to clinician-collected urethral swabs for the detection of *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and *Mycoplasma genitalium* by nucleic acid amplification assays. *Diagn Microbiol Infect Dis.* 2016;86:131-5.
[\[PubMed Abstract\]](#) -
- Fastring DR, Amedee A, Gatski M, et al. Co-occurrence of *Trichomonas vaginalis* and bacterial vaginosis and vaginal shedding of HIV-1 RNA. *Sex Transm Dis.* 2014;41:173-9.
[\[PubMed Abstract\]](#) -
- Fouts AC, Kraus SJ. *Trichomonas vaginalis*: reevaluation of its clinical presentation and laboratory

diagnosis. J Infect Dis. 1980;141:137-143.

[PubMed Abstract] -

- Francis SC, Kent CK, Klausner JD, et al. Prevalence of rectal *Trichomonas vaginalis* and *Mycoplasma genitalium* in male patients at the San Francisco STD clinic, 2005-2006. Sex Transm Dis. 2008;35:797-800.
[\[PubMed Abstract\]](#) -
- Freeman AH, Katz KA, Pandori MW, et al. Prevalence and correlates of *Trichomonas vaginalis* among incarcerated persons assessed using a highly sensitive molecular assay. Sex Transm Dis. 2010;37:165-8.
[\[PubMed Abstract\]](#) -
- Gatski M, Kissinger P. Observation of probable persistent, undetected *Trichomonas vaginalis* infection among HIV-positive women. Clin Infect Dis. 2010;51:114-5.
[\[PubMed Abstract\]](#) -
- Gatski M, Martin DH, Clark RA, Harville E, Schmidt N, Kissinger P. Co-occurrence of *Trichomonas vaginalis* and bacterial vaginosis among HIV-positive women. Sex Transm Dis. 2011;38:163-6.
[\[PubMed Abstract\]](#) -
- Ginocchio CC, Chapin K, Smith JS, et al. Prevalence of *Trichomonas vaginalis* and coinfection with *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in the United States as determined by the Aptima *Trichomonas vaginalis* nucleic acid amplification assay. J Clin Microbiol. 2012;50:2601-8.
[\[PubMed Abstract\]](#) -
- Helms DJ, Mosure DJ, Metcalf CA, et al. Risk factors for prevalent and incident *Trichomonas vaginalis* among women attending three sexually transmitted disease clinics. Sex Transm Dis. 2008;35:484-8.
[\[PubMed Abstract\]](#) -
- Helms DJ, Mosure DJ, Secor WE, Workowski KA. Management of *Trichomonas vaginalis* in women with suspected metronidazole hypersensitivity. Am J Obstet Gynecol. 2008;198:370.e1-7.
[\[PubMed Abstract\]](#) -
- Herbst de Cortina S, Bristow CC, Joseph Davey D, Klausner JD. A Systematic Review of Point of Care Testing for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, and *Trichomonas vaginalis*. Infect Dis Obstet Gynecol. 2016;2016:4386127.
[\[PubMed Abstract\]](#) -
- Hollman D, Coupey SM, Fox AS, Herold BC. Screening for *Trichomonas vaginalis* in high-risk adolescent females with a new transcription-mediated nucleic acid amplification test (NAAT): associations with ethnicity, symptoms, and prior and current STIs. J Pediatr Adolesc Gynecol. 2010;23:312-6.
[\[PubMed Abstract\]](#) -
- Hoots BE, Peterman TA, Torrone EA, Weinstock H, Meites E, Bolan GA. A Trich-y question: should *Trichomonas vaginalis* infection be reportable? Sex Transm Dis. 2013;40:113-6.
[\[PubMed Abstract\]](#) -
- Howe K, Kissinger PJ. Single-dose compared with multidose metronidazole for the treatment of trichomoniasis in women: a meta-analysis. Sex Transm Dis. 2017;44:29-34.
[\[PubMed Abstract\]](#) -
- Huppert JS, Mortensen JE, Reed JL, et al. Rapid antigen testing compares favorably with transcription-mediated amplification assay for the detection of *Trichomonas vaginalis* in young women. Clin Infect

Dis. 2007;45:194-8.

[\[PubMed Abstract\]](#) -

- Kelley CF, Rosenberg ES, O'Hara BM, Sanchez T, del Rio C, Sullivan PS. Prevalence of urethral *Trichomonas vaginalis* in black and white men who have sex with men. *Sex Transm Dis.* 2012;39:739.
[\[PubMed Abstract\]](#) -
- Kigozi GG, Brahmbhatt H, Wabwire-Mangen F, et al. Treatment of Trichomonas in pregnancy and adverse outcomes of pregnancy: a subanalysis of a randomized trial in Rakai, Uganda. *Am J Obstet Gynecol.* 2003;189:1398-400.
[\[PubMed Abstract\]](#) -
- Kingston MA, Bansal D, Carlin EM. 'Shelf life' of *Trichomonas vaginalis*. *Int J STD AIDS.* 2003;14:28-9.
[\[PubMed Abstract\]](#) -
- Kirkcaldy RD, Augostini P, Asbel LE, et al. *Trichomonas vaginalis* antimicrobial drug resistance in 6 US cities, STD Surveillance Network, 2009-2010. *Emerg Infect Dis.* 2012;18:939-43.
[\[PubMed Abstract\]](#) -
- Kissinger P, Adamski A, Clark RA, Mena L, Levison J, Martin DH. Does antiretroviral therapy interfere with the treatment of *Trichomonas vaginalis* among HIV+ women? *Sex Transm Dis.* 2013;40:506-7.
[\[PubMed Abstract\]](#) -
- Kissinger P, Amedee A, Clark RA, et al. *Trichomonas vaginalis* treatment reduces vaginal HIV-1 shedding. *Sex Transm Dis.* 2009;36:11-6.
[\[PubMed Abstract\]](#) -
- Kissinger P, Mena L, Levison J, et al. A randomized treatment trial: single versus 7-day dose of metronidazole for the treatment of *Trichomonas vaginalis* among HIV-infected women. *J Acquir Immune Defic Syndr.* 2010;55:565-71.
[\[PubMed Abstract\]](#) -
- Kissinger P. *Trichomonas vaginalis*: a review of epidemiologic, clinical and treatment issues. *BMC Infect Dis.* 2015;15:307.
[\[PubMed Abstract\]](#) -
- Kissinger P. Epidemiology and treatment of trichomoniasis. *Curr Infect Dis Rep.* 2015;17:484.
[\[PubMed Abstract\]](#) -
- Klebanoff MA, Carey JC, Hauth JC, et al. Failure of metronidazole to prevent preterm delivery among pregnant women with asymptomatic *Trichomonas vaginalis* infection. *N Engl J Med.* 2001;345:487-93.
[\[PubMed Abstract\]](#) -
- Leitsch D. Recent Advances in the *Trichomonas vaginalis* Field. *F1000Res.* 2016 Feb 11;5:.
[\[PubMed Abstract\]](#) -
- Lord E, Newnham T, Dorrell L, et al. Detecting asymptomatic *Trichomonas vaginalis* in females using the BD ProbeTec™ *Trichomonas vaginalis* Qx nucleic acid amplification test. *Int J STD AIDS.* 2016;8:357-61.
[\[PubMed Abstract\]](#) -
- McClelland RS, Sangare L, Hassan WM, et al. Infection with *Trichomonas vaginalis* increases the risk of HIV-1 acquisition. *J Infect Dis.* 2007;195:698-702.
[\[PubMed Abstract\]](#) -

- Meites E, Gaydos CA, Hobbs MM, et al. A Review of evidence-based care of symptomatic Trichomoniasis and asymptomatic *Trichomonas vaginalis* infections. Clin Infect Dis. 2015;61 Suppl 8:S837-48.
[\[PubMed Abstract\]](#) -
- Meites E, Gaydos CA, Hobbs MM, et al. A review of evidence-based care of symptomatic Trichomoniasis and asymptomatic *Trichomonas vaginalis* infections. Clin Infect Dis. 2015;61 Suppl 8:S837-48.
[\[PubMed Abstract\]](#) -
- Meites E, Llata E, Braxton J, et al. *Trichomonas vaginalis* in selected U.S. sexually transmitted disease clinics: testing, screening, and prevalence. Sex Transm Dis. 2013;40:865-9.
[\[PubMed Abstract\]](#) -
- Miller M, Liao Y, Gomez AM, Gaydos CA, D'Mellow D. Factors associated with the prevalence and incidence of *Trichomonas vaginalis* infection among African American women in New York city who use drugs. J Infect Dis. 2008;197:503-9.
[\[PubMed Abstract\]](#) -
- Mohamed OA, Cohen CR, Kungu D, et al. Urine proves a poor specimen for culture of *Trichomonas vaginalis* in women. Sex Transm Infect. 2001;77:78-9.
[\[PubMed Abstract\]](#) -
- Moodley P, Wilkinson D, Connolly C, Moodley J, Sturm AW. *Trichomonas vaginalis* is associated with pelvic inflammatory disease in women infected with human immunodeficiency virus. Clin Infect Dis. 2002;34:519-22.
[\[PubMed Abstract\]](#) -
- Muzny C, Barnes A, Mena L. Symptomatic *Trichomonas vaginalis* infection in the setting of severe nitroimidazole allergy: successful treatment with boric acid. Sex Health. 2012;9:389-91.
[\[PubMed Abstract\]](#) -
- Muzny CA, Blackburn RJ, Sinsky RJ, Austin EL, Schwebke JR. Added benefit of nucleic acid amplification testing for the diagnosis of *Trichomonas vaginalis* among men and women attending a sexually transmitted diseases clinic. Clin Infect Dis. 2014;59:834-41.
[\[PubMed Abstract\]](#) -
- Muzny CA, Rivers CA, Mena LA, Schwebke JR. Genotypic characterization of *Trichomonas vaginalis* isolates among women who have sex with women in sexual partnerships. Sex Transm Dis. 2012;39:556-8.
[\[PubMed Abstract\]](#) -
- Nijhawan AE, DeLong AK, Celentano DD, et al. The association between Trichomonas infection and incarceration in HIV-seropositive and at-risk HIV-seronegative women. Sex Transm Dis. 2011;38:1094-100.
[\[PubMed Abstract\]](#) -
- Nye MB, Schwebke JR, Body BA. Comparison of APTIMA *Trichomonas vaginalis* transcription-mediated amplification to wet mount microscopy, culture, and polymerase chain reaction for diagnosis of trichomoniasis in men and women. Am J Obstet Gynecol. 2009;200:188.e1-7.
[\[PubMed Abstract\]](#) -
- Peterman TA, Tian LH, Metcalf CA, Malotte CK, Paul SM, Douglas JM Jr. Persistent, undetected

Trichomonas vaginalis infections? Clin Infect Dis. 2009;48:259-60.

[[PubMed Abstract](#)] -

- Petrin D, Delgaty K, Bhatt R, Garber G. Clinical and microbiological aspects of *Trichomonas vaginalis*. Clin Microbiol Rev. 1998;11:300-17.
[\[PubMed Abstract\]](#) -
- Roth AM, Williams JA, Ly R, et al. Changing sexually transmitted infection screening protocol will result in improved case finding for *Trichomonas vaginalis* among high-risk female populations. Sex Transm Dis. 2011;38:398-400.
[\[PubMed Abstract\]](#) -
- Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Transm Dis. 2013;40:187-93.
[\[PubMed Abstract\]](#) -
- Schwebke JR, Barrientes FJ. Prevalence of *Trichomonas vaginalis* isolates with resistance to metronidazole and tinidazole. Antimicrob Agents Chemother. 2006;50:4209-10.
[\[PubMed Abstract\]](#) -
- Schwebke JR, Hobbs MM, Taylor SN, et al. Molecular testing for *Trichomonas vaginalis* in women: results from a prospective U.S. clinical trial. J Clin Microbiol. 2011;49:4106-11.
[\[PubMed Abstract\]](#) -
- Seña AC, Bachmann LH, Hobbs MM. Persistent and recurrent *Trichomonas vaginalis* infections: epidemiology, treatment and management considerations. Expert Rev Anti Infect Ther. 2014;12:673-85.
[\[PubMed Abstract\]](#) -
- Seña AC, Miller WC, Hobbs MM, et al. *Trichomonas vaginalis* infection in male sexual partners: implications for diagnosis, treatment, and prevention. Clin Infect Dis. 2007;44:13-22.
[\[PubMed Abstract\]](#) -
- Stoner KA, Rabe LK, Meyn LA, Hillier SL. Survival of *Trichomonas vaginalis* in wet preparation and on wet mount. Sex Transm Infect. 2013;89:485-8.
[\[PubMed Abstract\]](#) -
- Sutcliffe S, Newman SB, Hardick A, Gaydos CA. Prevalence and correlates of *Trichomonas vaginalis* infection among female US federal prison inmates. Sex Transm Dis. 2010;37:585-90.
[\[PubMed Abstract\]](#) -
- Sutton M, Sternberg M, Koumans EH, McQuillan G, Berman S, Markowitz L. The prevalence of *Trichomonas vaginalis* infection among reproductive-age women in the United States, 2001-2004. Clin Infect Dis. 2007;45:1319-26.
[\[PubMed Abstract\]](#) -
- Swartzendruber A, Sales JM, Brown JL, Diclemente RJ, Rose ES. Correlates of incident *Trichomonas vaginalis* infections among African American female adolescents. Sex Transm Dis. 2014;41:240-5.
[\[PubMed Abstract\]](#) -
- Tayal SC, Ochogwu SA, Bunce H. Paromomycin treatment of recalcitrant *Trichomonas vaginalis*. Int J STD AIDS. 2010;21:217-8.
[\[PubMed Abstract\]](#) -

- Trintis J, Epie N, Boss R, Riedel S. Neonatal *Trichomonas vaginalis* infection: a case report and review of literature. *Int J STD AIDS.* 2010;21:606-7.
[\[PubMed Abstract\]](#) -
- Van Der Pol B, Kraft CS, Williams JA. Use of an adaptation of a commercially available PCR assay aimed at diagnosis of chlamydia and gonorrhea to detect *Trichomonas vaginalis* in urogenital specimens. *J Clin Microbiol.* 2006;44:366-73.
[\[PubMed Abstract\]](#) -
- Van Der Pol B, Kwok C, Pierre-Louis B, et al. *Trichomonas vaginalis* infection and human immunodeficiency virus acquisition in African women. *J Infect Dis.* 2008;197:548-54.
[\[PubMed Abstract\]](#) -
- Van Der Pol B, Williams JA, Fuller D, Taylor SN, Hook EW 3rd. Combined Testing for Chlamydia, Gonorrhea, and Trichomonas by Use of the BD Max CT/GC/TV Assay with Genitourinary Specimen Types. *J Clin Microbiol.* 2017;55:155-64.
[\[PubMed Abstract\]](#) -
- Van Der Pol B, Williams JA, Orr DP, Batteiger BE, Fortenberry JD. Prevalence, incidence, natural history, and response to treatment of *Trichomonas vaginalis* infection among adolescent women. *J Infect Dis.* 2005;192:2039-44.
[\[PubMed Abstract\]](#) -
- Van Der Pol B. Clinical and Laboratory Testing for *Trichomonas vaginalis* Infection. *J Clin Microbiol.* 2016;54:7-12.
[\[PubMed Abstract\]](#) -