Breaking Down Barriers to STI Testing & Treatment TRICHOMONAS RAPID TEST MILLION CASES OF CHLAMYDIA MILLION CASES OF GONORRHEA MILLION CASES OF **TRICHOMONIASIS** MILLION CASES OF SYPHILIS

Trichomonas Insights The Importance of Testing for Trichomonas

Estimated global incidence of *Trichomonas vaginalis* compared to three other curable STIs (Chlamydia, Gonorrhea and Syphilis) according to WHO



Trichomonas Insights: The Importance of Testing for Trichomonas

<u>Trichomoniasis</u> is a common, curable, non-viral sexually transmitted infection caused by a motile protozoan parasite called *Trichomonas vaginalis*. Trichomonas (sometimes referred to as "Trich") infects the vagina and sometimes urethra and is transmitted during unprotected sex. It is roughly as big as a white blood cell, and it is thought to be responsible for approximately 15-20% of symptomatic vaginitis infections.

Both men and women can get a Trichomonas infection, but it is more commonly detected in women.

Formerly considered a nuisance infection, trichomoniasis is now recognized as a cause of serious health problems. Nevertheless, **it continues to be highly underdiagnosed and under-treated**.

Incidence

The World Health Organization estimates an incidence of 156 million new cases of *T vaginalis* each year. In the United States, the Centers for Disease Control and Prevention estimates that there were more than two million trichomoniasis infections in 2018. The incidence of trichomoniasis in Europe is similar to that in the United States. In Africa, the prevalence of trichomoniasis may be much higher. The prevalence of vaginal *T vaginalis* infection was estimated to be 11-25% among African study populations.









Symptoms

Only about 30% develop any symptoms of trichomoniasis. When symptoms do occur, they range from mild irritation to severe inflammation. Some people with symptoms get them within 5 to 28 days after being infected. Others do not develop symptoms until much later, and those symptoms can come and go. It is important to note that people without symptoms can still pass the infection on to others. Trichomonas symptoms in women can be differentiated from other common forms of vaginitis.

	Normal	Trichomoniasis	Bacterial Vaginosis	Candida	
Odor	Slightly salty to unnoticeable	Sometimes foul or fishy	Unpleasant, foul, fishy, or musty	None	
Discharge	Clear to slightly milky	Yellow-green-grey, frothy, or sticky	Thin, milk white or grey, usually increased	Thick, curdy, and white, like cottage cheese	
Discomfort	None	Sometimes itching, painful urination	Itching/burning sometimes present	Vaginal itching or burning is usually present	
Cause	Balance	Parasite	Bacteria	Candida albicans	
Sexually transmitted	N/A	Yes	Controvertial	No	

Men with trichomoniasis may notice:

- Itching or irritation inside the penis
- Burning after urination or ejaculation
- Discharge from the penis

Complications

<u>Trichomoniasis</u> can be treated with medication but left untreated it can last for months or even years and lead to serious complications.

For example, trichomoniasis can **cause genital inflammation**, which makes it easier to get infected with HIV or to **pass the HIV virus** on to a sex partner. Pregnant women with trichomoniasis are more likely to have their babies too early (preterm delivery). Also, babies born to infected mothers are more likely to have a low birth weight (less than 5.5 pounds).

A woman with untreated trichomoniasis has a greater chance of having an infected uterus and Fallopian tubes. This infection, called pelvic inflammatory disease, can cause belly pain, fever, and perhaps the inability to have children (infertility), a pregnancy outside the uterus (ectopic pregnancy), and chronic pelvic pain.



Treatment and Prevention

Since it is a STI, the best way to prevent Trichomonas is to have protected sex. Re-infections with Trichomoniasis are also possible. The best way to avoid re-infections is for the patient to avoid having sex for seven days after treatment has been administered.

Diagnosing trichomoniasis

STD testing, including a trichomoniasis test, may be recommended for people with certain risk factors, including sex without a condom, multiple sex partners, or a history of other sexually transmitted diseases. Because the majority of men are asymptomatic carriers, the diagnosis of *T vaginalis* is usually not made, and the male partner is identified and treated with metronidazole at the same time that the female partner is treated.

Method	<u>Sensitivity</u>	<u>Specificity</u>	Time to result	Equipment required	Specialized training required?	Setting required to perform test	Comments
Wet Mount	38%	100%	Minutes	Microscope	Yes	Lab	Low-cost, poor sensitivity, test and treat in Clinical setting
Culture	88%	100%	1-5 days	Extensive lab apparatus	Yes	Lab	Low-cost, long turn-around time
Molecular	92%	99.6%	Minutes - Hours	Thermal Cycler	Yes	Lab	Higher cost
POSITIVE NEGATIVE OSOM Trichomonas	92%	100%	10 minutes	None	No	Anywhere	Test and treat in one visit

OSOM® Trichomonas test

The OSOM Trichomonas rapid test has **high sensitivity and specificity**, and compares favorably to NAATs (nucleic amplification assay tests), with reported sensitivities of 83%–90%. Suitable for Laboratory and Point-of-Care (POC) setting:

- Offers 95% agreement with culture and wet mount combined
- A test-and-treat approach in one visit
- Detects the antigen; does not require live organism
- Yields results in 10 minutes or less
- Offers objective, easy-to-read two-color results
- Is the only CLIA-waived rapid test for the detection of trichomoniasis



Advantages of a Test and Treat Approach

- ✓ Prevent spread Quick diagnosis allows the clinician to provide appropriate and immediate treatment to prevent further spread of Trichomoniasis
- ✓ Patient compliance Ensures the patient starts medication immediately
- ✓ Convenience Patients have the ability to self-swab for sample collection (CE marked product only)
- ✓ Prevent inappropriate treatment Accurate diagnosis results in avoidance of syndromic management

Use of this assay as a standard point-of-care test for the detection of trichomoniasis in an emergency d epartment has been shown to prevent overtreatment of vaginal infections compared with historical controls before the introduction of the POC test, resulting in good antibiotic stewardship.

Gaydos et al. 2017

The OSOM assay is the only POC assay that is CLIA waived, meaning it does not need to be performed in a laboratory, and is the only one that does not require special instrumentation. Its high sensitivity (83%–90%) and excellent specificity make it an ideal assay for resource limited settings. The OSOM test has been successfully used in adolescent clinics, emergency departments...

Gaydos et al. 2017

Additional Publications / Related Reading

Gannon-Loew KE, Holland-Hall C. A review of current guidelines and research on the management of sexually transmitted infections in adolescents and young adults. Therapeutic Advances in Infectious Disease. 2020 Jan-Dec;7:2049936120960664. DOI: 10.1177/2049936120960664

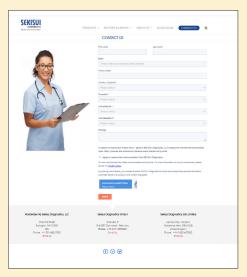
Caruso G, Giammanco A, Virruso R, Fasciana T. Current and Future Trends in the Laboratory Diagnosis of Sexually Transmitted Infections. International Journal of Environmental Research and Public Health. 2021 Jan; 18(3). DOI: 10.3390/ijerph18031038

Henriquez FL, Mooney R, Bandel T, et al. Paradigms of Protist/Bacteria Symbioses Affecting Human Health: Acanthamoeba species and *Trichomonas vaginalis*. Frontiers in Microbiology. 2020;11:616213. DOI: 10.3389/fmicb.2020.616213

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THE AMERICAS

SEKISUI Diagnostics, One Wall Street, Burlington, MA 01803 Phone: 800 332 1042 Fax: 800 762 6311 Email: questions@sekisui-dx.com

INTERNATIONAL

SEKISUI Diagnostics (UK) Limited, Liphook Way, Allington Maidstone, Kent, ME16 OLQ, UK Phone: +44 1622 607800 Fax: +44 1622 607801 Email: info@sekisui-dx.com



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