# Detecting Trichomonas Vaginalis

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**Julie McDowell:**

Trichomoniasis is the most common non-viral, sexually transmitted infection. Pathologists providing laboratory testing for this infection should understand the advantages and disadvantages of the commercially available, FDA approved cleared methods explains Mayo Clinic pathologist Dr. Bobbi Pritt in this CAPcast. Dr. Pritt led the development of the clinical pathology improvement program for CPIP offering on this topic.

Dr. Pritt, thank you for discussing this topic. In your opinion, just how great of a concern is Trichomonas Vaginalis as a parasitic infection?

**Dr. Bobbi Pritt:**

Well, yeah, that's a great question. It's a significant problem, and not just in the United States, but worldwide. Trichomoniasis which is infection with Trichomonas Vaginalis remains the most common non-viral, sexually transmitted disease in the world, and the Centers for Disease Control and Prevention or CDC as we commonly call them, has identified it as a priority for public health action in the United States.

I can share some data with you to just emphasize why this is an important problem. The CDC just updated their data on this parasite in January 2021 based on information that they received from the National Health and Nutrition Examination survey. And from these data, they estimate that approximately 2.1 million people in the United States are infected at any one time, with Trichomonas Vaginalis and that 6.9 million people were infected in 2018.

So that's a significant number of people. Now, here are a few facts about who is getting infected. First, it's important to note that both men and women can get infected even though women are more likely to be symptomatic. Also, risk factors that we know for infection include having multiple sexual partners, being an older woman, a black woman, having a limited education, and also low socioeconomic status.

**Julie McDowell:**

So how does this parasitic infection manifest itself?

**Dr. Bobbi Pritt:**

Well, most people with infection about 70% don't have any signs or symptoms, and therefore the infection commonly goes unnoticed. Unfortunately, a lack of symptoms doesn't mean the parasite isn't doing damage to the body.

The trophozoites, the active feeding form of Trichomonas Vaginalis destroy epithelial cells by releasing cytotoxic substances, and then that results in breaks in the genital mucosa. And then this increases the risk of getting or spreading other sexually transmitted pathogens such as HIV. It can also cause preterm delivery in pregnant women.

Now when present symptoms are more common in women than in men and would include things such as vulvar irritation, malodorous, yellow-green discharge, dyspareunia, dysuria and abdominal discomfort.

**Julie McDowell:**

Now, I understand there are several ways to detect Trichomonas Vaginalis. How common is misinterpretation of test results related to this infection?

**Dr. Bobbi Pritt:**

Well, it depends on the method used for testing. And as you mentioned, there are several different ways to detect the parasite. There are the relatively insensitive microscopy-based methods. There's highly sensitive and specific nucleic acid amplification tests, and then there's some options in between that use things such as antigen detection methods or DNA probes to detect the organisms.

There's also conventional culture, which can have high sensitivity and specificity, but takes up to seven days to provide a result. Now, in general, the microscopy-based tests have the highest risk of misinterpretation because they involve subjective evaluation of morphologic features in clinical specimens such as unstained wet mounts, and Papanicolaou cervical smears.

Now, this microscopic diagnosis can be quite straightforward for highly experienced microscopists, but it can be quite challenging for those with less experience in these techniques. Also, pathologists and other providers need to realize that microscopy will miss about half of all cases, and therefore the sensitivity is relatively low compared to other methods. So microscopy is great for providing a rapid positive diagnosis, especially when performed at the point of care setting, but negative results will not exclude infection.

**Julie McDowell:**

Are there serious complications that arise when this infection is not treated in a timely manner?

**Dr. Bobbi Pritt:**

Yes, as I mentioned, the complications of untreated infection include an increased risk of HIV acquisition and preterm delivery during pregnancy. Also, untreated infection can result in pelvic inflammatory disease and even infertility.

**Julie McDowell:**

Finally, Dr. Pritt, any parting thoughts you'd like to share?

**Dr. Bobbi Pritt:**

Yes, I'd like to remind everyone that sexually transmitted infections commonly called STIs are on the rise in the United States, and that new data from the CDC indicate that one in five people have an STI, which is stunning data. Also, about half of new STIs are in young people ages 15 to 24. So as medical professionals, we need to raise awareness about the risks and means of prevention of STIs and ensure that we have robust laboratory tests and testing algorithms to provide sensitive and specific detection for sexually transmitted pathogens.

**Julie McDowell:**

Thank you, Dr. Pritt. As mentioned at the beginning of this episode, Dr. Pritt helped lead the development of a clinical pathology improvement program or CPIP case on this topic entitled Detecting Trichomonas Vaginalis. For more information on the CPIP case, please visit estore.cap.org and search for CPIP and the course title.

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