

SEXUALLY TRANSMITTED DISEASES MULTIPLEX PCR (STD PCR)

More than one million sexually transmitted infections (STIs) occur worldwide on a daily basis, most of which are asymptomatic.¹ Sexually transmitted infections not only lead to embarrassing symptoms, but people with STIs are more likely to acquire and transmit human immunodeficiency virus (HIV). Sexually transmitted infections can also lead to infertility, chronic pelvic pain, ectopic pregnancies, miscarriages, and congenital and neonatal infections.² The proper diagnosis, management and prevention of these infections is therefore of vital importance. The South African STI guidelines recommend a syndromic management approach to STIs, which discourages the routine use of diagnostic assays.³ These guidelines simplify the management, allow for treatment at the same visit, cut out laboratory costs and allow management of mixed infections. However, this approach has many pitfalls – often leading to misdiagnosis and inappropriate management.

Current treatment recommendations are sub-optimal for the management of bacterial vaginosis, *Trichomonas vaginalis* and *Mycoplasma genitalium* infections. Diagnostic testing enables targeted treatment, increases therapeutic compliance and facilitates better management of recurring cases. Where resources are available, a rational, cost-effective approach to the diagnosis of STIs should be taken,⁴ focusing especially on problem cases such as recurrent vaginal or urethral discharge.

The results of the STDPCR performed at Ampath Laboratories were reviewed over a period of five years (Figure 1). Thirteen percent of the samples received tested positive for one or more of the following pathogens: *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, *Mycoplasma genitalium* and *Trichomonas vaginalis*. Of the total samples that tested positive, 10% were mixed infections.

Bacterial vaginosis and vulvovaginal candidiasis still remain the most common causes of a vaginal discharge and can be tested for by means of a vaginal swab MCS or bacterial vaginosis PCR (BVPCR) if clinically indicated.

Table 1 summarises the details of the STDPCR panel offered at Ampath Laboratories. In addition, a comprehensive sexual health assessment includes testing for HIV, hepatitis B and C, syphilis and cervical cancer screening.

TABLE 1: TEST DETAILS OF THE STD PCR PANEL

Pathogens detected	<ul style="list-style-type: none"> • <i>Neisseria gonorrhoeae</i> • <i>Chlamydia trachomatis</i> • <i>Mycoplasma genitalium</i> • <i>Trichomonas vaginalis</i> <p>Other genital mycoplasmas: <i>Ureaplasma urealyticum</i>, <i>Ureaplasma parvum</i>, <i>Mycoplasma hominis</i> – these organisms are usually part of the normal commensal flora and of doubtful clinical significance. These organisms may be important in pregnant females, as they have been associated with adverse pregnancy outcomes.⁵</p>
Specimen type	Urine, urethral swab, vaginal swab, liquid-based cytology
Who should be tested?	<ul style="list-style-type: none"> • A patient with recurrent vaginal or urethral discharge • A pregnant female with discharge • A pregnant female with sexual exposure to a male with genital discharge of unknown aetiology • Any patient with a genital discharge who wishes to be tested
Mnemonic	STDPCR
Turnaround time	48 hours (from being received in the laboratory)

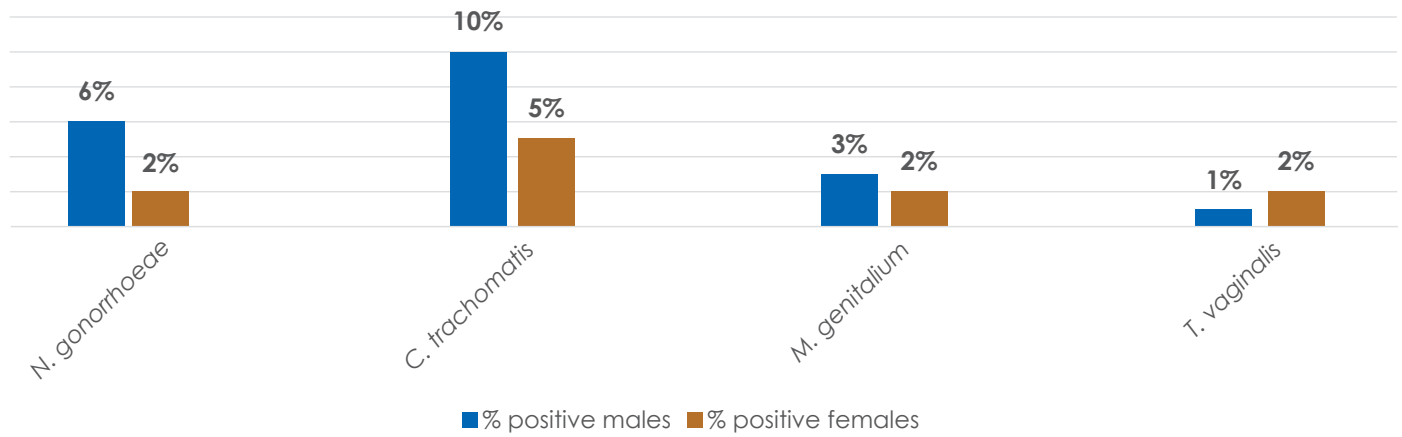


FIGURE 1: POSITIVITY RATES OF SEXUALLY TRANSMITTED PATHOGENS ASSOCIATED WITH GENITAL DISCHARGE

REFERENCES

1. Sexually transmitted infections. World Health Organization fact sheet. November 2021. Available online: [www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-\(stis\)](http://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)).
2. Tuddenham S, Hamill MM, Ghanem KG. Diagnosis and treatment of sexually transmitted infections: A review. *Jama* 2022; 327(2):161–172.
3. South African sexually transmitted infections guideline 2018. Available online: www.health.gov.za/wp-content/uploads/2020/11/sti-guidelines-27-08-19.pdf.
4. Peters RP, Garrett N, Chandiwana N, Kularatne R, Brink AJ, Cohen K, Gill K, Chidarikire T, Wattrus C, Nel JS, Moosa MY. Southern African HIV Clinicians Society 2022 guideline for the management of sexually transmitted infections: Moving towards best practice. *Southern African Journal of HIV Medicine*. 2022; 23(1):12.
5. Sweeney EL, Dando SJ, Kallapur SG, Knox CL. The human *Ureaplasma* species as causative agents of chorioamnionitis. *Clinical Microbiology Reviews* 2017; 30(1):349–379.