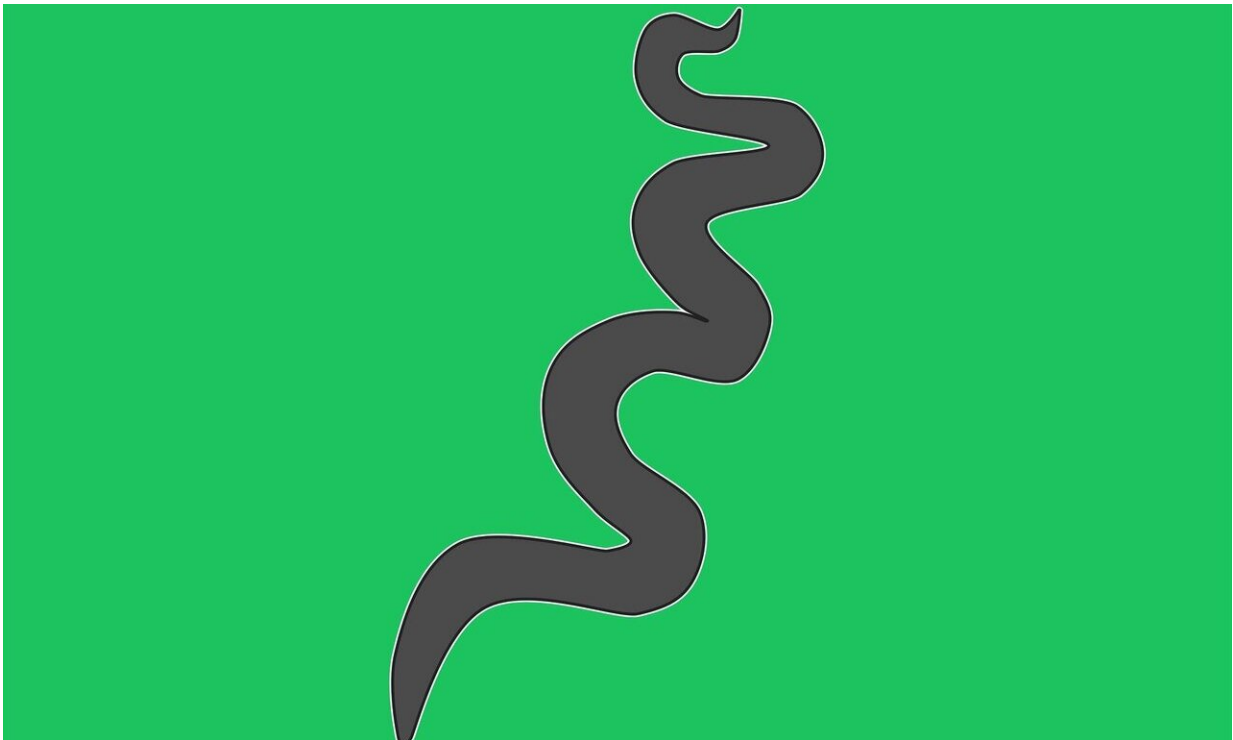


# A new era is dawning in diagnosing sexually transmitted infections in men

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According to the World Health Organization, the global prevalence estimates of sexually transmitted infections for men in 2016 were 2.7% for chlamydia, 0.7% for gonorrhoea, and 0.6% for trichomoniasis. In men, these and other sexually transmitted infections may lead to urethritis, an inflammation of the urethra.

There are several methods for detecting these infections. In recent years, new technologies have emerged in the field of urinalysis methodology, offering quick and standardized opportunities in everyday clinical practice. One of the authors of the study, teaching physician at the Men's Clinic of Tartu University Hospital and doctoral student at the University of Tartu Faculty of Medicine Stanislav Tjagur said that one of such innovative diagnosing methods is [flow cytometry](#): "Compared with other methods, this technique is simple to perform, automated, provides results rapidly, and is not invasive."

However, there is only [limited information](#) about how to use flow cytometry in diagnosing male urethritis. Therefore, medical researchers of the University of Tartu and andrologists of Tartu University Hospital conducted a study to evaluate the performance of flow cytometry on first-voided urine in males with infectious urethritis. "We aimed to find the optimal cut-off levels for a faster and more precise diagnosing of sexually transmitted infections associated with urethritis to improve the cost-effectiveness of the management of infectious urethritis in men in a busy outpatient clinic," described Tjagur.

Patients who had come to the Men's Clinic of Tartu University Hospital either after a case of high-risk sexual behavior, for fertility check, or for prophylactic health control were involved in the study. Cases included 306 patients aged 18 to 50 years with chlamydia, gonorrhea, Mycoplasma genitalium [infection](#) and/or trichomoniasis. The [control group](#) consisted of 192 patients of the same age group without urogenital complaints and negative for the listed infections.

The study indicated that among men who consulted with an andrologist, the most prevalent sexually transmitted infection was chlamydia (64.1%), followed by Mycoplasma genitalium infection (20.9%), gonorrhea (7.8%) and trichomoniasis (1.6%). The total proportion of different combined infections was 5.6%. "The results measured by flow

cytometry showed that gonorrhoea caused the highest inflammatory reaction and the highest bacterial count in first-voided urine," described Tjagur, who considers this finding one of the greatest values of the study, in addition to providing a good overview of the prevalence of sexually transmitted infections and the efficiency of diagnostics.

Tjagur concluded that flow cytometry can be considered a rapid and objective screening method in case of suspected male infectious urethritis, although further studies are needed to confirm the initial findings.

**More information:** Stanislav Tjagur et al, Profile of sexually transmitted infections causing urethritis and a related inflammatory reaction in urine among heterosexual males: A flow-cytometry study, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0242227](https://doi.org/10.1371/journal.pone.0242227)

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