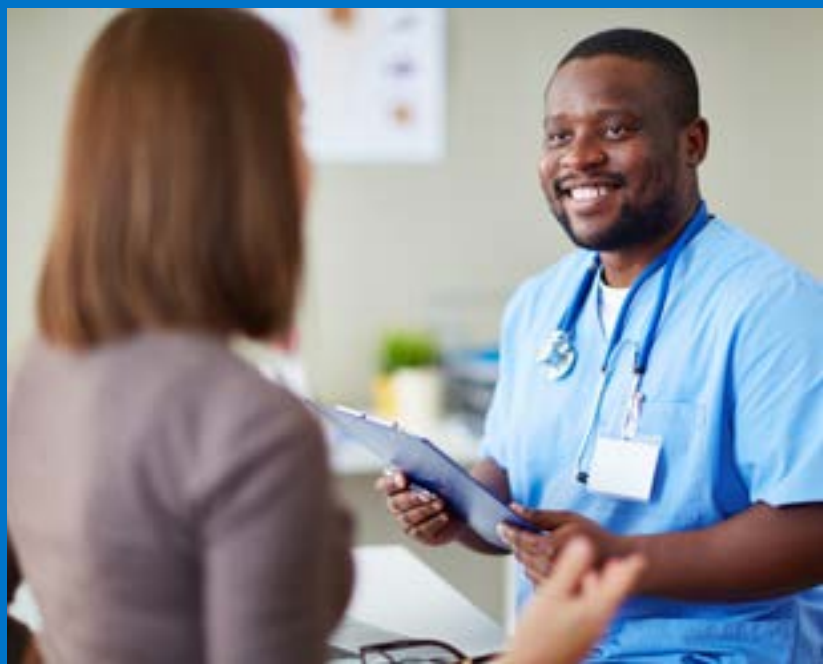
Extragenital Screening: Rationale and Evidence by Population Groups



NEW YORK CITY
STI HIV PREVENTION TRAINING CENTER

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Background: STI rates have continued to rise across the United States. Chlamydia (CT) and gonorrhea (GC) infections commonly occur asymptomatically at extragenital sites; therefore, those seeking sexual health services should be offered three-site (oropharyngeal, rectal, and urogenital) STI screening. When testing at extragenital sites, as opposed to solely urogenital, positivity rates are higher across many populations groups, including men who have sex with men, young people, those living with HIV, and others. Please refer to the CDC STI Treatment Guidelines for more information.

This document includes a selection of peer-reviewed articles describing the benefits of extragenital screening among different populations. While we split out the evidence below by population group, the overall takeaways for each group are the same—extragenital screening is important, and failure to test at extragenital sites leads to missed infections and increases community burden of disease. Additionally, studies have shown patient comfort with extragenital testing. A recent study looked specifically at adolescent and young adult cisgender women; among this population the researchers found that both self- and clinician-collected rectal samples were acceptable.[1]

[1] Preferences for Rectal STI Sample Collection and Sexual Behaviors among Adolescent and Young Adult Women Accessing Primary Care Services

Taking a Sexual History: Resources

A well-implemented extragenital testing program includes comprehensive sexual history taking to enhance the identification of individuals who may benefit from extragenital screening. While a comprehensive sexual history is important, it should be noted that among certain populations, such as cisgender women, positive findings of STIs have been identified in individuals who deny extragenital sexual contact.

1. Online course by New York City STI/HIV Prevention Training Center, "Everyone Should Be Doing It: Taking a Sexual History"
    a. Free online course, accredited for CME/CNE/CEU
2. National Coalition for Sexual Health
    a. Tools for healthcare providers
    b. Sexual Health Questions to Ask All Patients
    c. Sexual Health and Your Patients: A Provider's Guide
3. NYSDOH AIDS Institute: GOALS Framework
4. CDC: A Guide to Taking a Sexual History
5. Fenway: Taking Routine Histories of Sexual Health: A System-Wide Approach for Health Centers

Men Who Have Sex with Men (MSM)

MSM are a population often thought of when considering extragenital testing. Multiple studies have supported that implementing extragenital testing in this population leads to finding more infections than would otherwise be identified. Data from 42 STI clinics from a one-year period (7/2011–6/2012) looked at MSM patients who were tested and positive for extragenital GC/CT. The researchers found that more than 70% of extragenital GC infections and 85% of extragenital CT infections were associated with negative urethral tests at the same visit. That means the vast majority of infections would not have been detected with urethral screening alone.[2] Another study found that implementing extragenital testing among MSM overall led to:

1. GC positivity increasing from 3.2% to 8.5%, and
2. CT positivity increasing from 3.9% to 8.3%.

Approximately 50% of the GC/CT infections diagnosed were detected by oral and rectal tests.[3] These results have been replicated in a number of studies,[4] and modeling studies have shown that if 100% of MSM who received urogenital screening also received extragenital screening, then site-specific (urogenital, pharyngeal, and rectal) STI prevalence would be reduced by an average of 42% for Black MSM and 50% for White MSM.[5]

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[2] Extragenital Gonorrhea and Chlamydia Testing and Infection among Men Who Have Sex with Men—STD Surveillance Network, United States, 2010–2012

[3] Extragenital Testing for Neisseria gonorrhoeae and Chlamydia trachomatis in a Large HIV Clinic in the US South: Implementation and Epidemiology

[4] Extragenital Screening in Men Who Have Sex with Men Diagnoses More Chlamydia and Gonorrhea Cases Than Urine Testing Alone

[5] Population-Level Benefits of Extragenital Gonorrhea Screening among Men Who Have Sex with Men: An Exploratory Modeling Analysis




Transgender Populations

Among transgender populations, the research also shows that a lack of extragenital screening leads to many missed infections. Data from 26 publicly funded STI clinics in six US cities was analyzed over a 3.5-year period, looking at transgender men and women. They found that most transgender women (86% and 80.9%, respectively) and more than a quarter of transgender men (28.6% and 28.6%, respectively) with an extragenital CT or GC infection had a negative urogenital test at the same visit.[6] Other studies have supported that there is a high prevalence of extragenital STIs in these populations, demonstrating the importance of extragenital screening.[7,8]

People Living with HIV

For people living with HIV who are in care, STI screening should be a routine part of their healthcare. Studies have shown that among people living with HIV, extragenital screening is important to identify infections that would otherwise be missed. This is true for MSM living with HIV, as well as others. In one study focused on MSM living with HIV, expanding screening methods to include extragenital sites improved GC detection rates from 6% to 24%, and CT detection rates from 5% to 17%.[9] Another study, looking predominantly at a heterosexual population living with HIV, found higher positivity rates among pharyngeal and rectal specimens

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[6] Chlamydia, Gonorrhea, and Human Immunodeficiency Virus Infection among Transgender Women and Transgender Men Attending Clinics That Provide Sexually Transmitted Disease Services in Six US Cities: Results from the Sexually Transmitted Disease Surveillance

[7] Prevalence of and Factors Associated with Genital and Extragenital Chlamydia and Gonorrhea among Transgender Women in HIV Care in the United States, 2005 to 2016

[8] Trans-inclusive Sexual Health Questionnaire to Improve Human Immunodeficiency Virus/Sexually Transmitted Infection (STI) Care for Transgender Patients: Anatomic Site-Specific STI Prevalence and Screening

[9] Evaluation of Self-Collection as a Method of Extragenital STI Screening

compared to urogenital specimens alone.[10] A third study looked at an intervention to increase extragenital screening at a clinic, something that was not previously routine there. It found that one-third of all bacterial STIs and half of the total GC/CT positive tests were from extragenital sites.[11]

Adolescents and Young Adults

Adolescents and young adults are a population that traditionally has high rates of STIs, though often not screened at extragenital sites; however, numerous studies support that extragenital testing should be routine for this population. One clinic that implemented extragenital testing among young people found that five out of nine extragenital GC and CT infections would have been missed with urogenital screening alone.[12] Another study looked at retrospective data from over 600 young people (2–17 years old). They concluded that extragenital screening was important to detect infections, particularly among the adolescents (14–17 years old). The highest positivity was found for rectal infections for both GC and CT.[13] Another study looking specifically at youth involved in the carceral legal system found that a quarter of the youth who were positive for an extragenital infection had a negative urine test, again emphasizing the importance of three-site testing.[14]

Cisgender Women

Cisgender women are often overlooked when considering extragenital testing; however, a number of studies indicate the importance of ordering extragenital testing with this population. One study looking at cisgender men and women found that the observed prevalence of pharyngeal and rectal GC (3.8% and 4.8%, respectively) among women who have sex with men was larger than other observed prevalences. They found that a third of extragenital infections among women would have been missed if extragenital testing was not performed.[15] A second study found similar results. In that study, 18.2% of CT and 16.7% of GC infections among female patients were detected only in the pharynx or rectum. They found that relying only on urogenital screening misses more than 15% of infections among cisgender women who reported receptive anal intercourse.[16]

Another study looking at cisgender women found that over half (53.9%) of GC cases and over a quarter (25.5%) of CT cases were identified exclusively through extragenital screening. Importantly, this study found that reported anal sex with last partner with a penis was not predictive of a rectal infection. This may be due to autoinoculation, where you can transfer bacteria from one body site to another, and may explain why some women develop rectal infections even if they are not engaging in anal sex.[17]

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[10] Comprehensive Sexually Transmitted Infection Screening and Testing Interventions in a Predominantly Heterosexual Population with HIV at a Health Center

[11] Automated Sexual History and Self-Collection of Extragenital Chlamydia and Gonorrhea Improve Detection of Bacterial Sexually Transmitted Infections in People with HIV

[12] Extragenital Screening for Chlamydia and Gonorrhea among Adolescents and Young Adults at a Sexual Health Clinic

[13] Extragenital Screening Is Essential for Comprehensive Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in the Pediatric Population

[14] Prevalence of Extragenital Gonorrhea and Chlamydia among Youth Involved in the Juvenile Justice System

[15] Extragenital Gonorrhea and Chlamydia among Men and Women According to Type of Sexual Exposure

[16] Patterns of Extragenital Chlamydia and Gonorrhea in Women and Men Who Have Sex with Men Reporting a History of Receptive Anal Intercourse

[17] What Explains Anorectal Chlamydia Infection in Women? Implications of a Mathematical Model for Test and Treatment Strategies

- Of those with rectal CT, 91.3% did not report any anal sex with their last sexual partner with a penis, and 87% did not report condomless anal sex.
- Of those with rectal GC, 76.3% did not report any anal sex with their last sexual partner with a penis, and 78.9% did not report condomless anal sex.[18]

Patients may be uncomfortable disclosing certain behaviors, or there could be other avenues for contracting an STI that may not be asked about (e.g., sex without penetration, coerced sex), demonstrating the possible utility of routinizing extragenital testing rather than basing its offer on reported behaviors.

Cisgender Men Who Have Sex with Women

Cisgender men who have sex with women (MSW) are a population not often considered for extragenital testing, and extragenital infections among MSW have in the past been reported as rare.[19] Studies in the last 10 years, however, have demonstrated a higher than expected rate of extragenital GC and CT infection among this population. One study performed three-site testing on over 4,000 MSW and found 356 GC infections. Of the 356 patients with GC infections, 35% had pharyngeal infections, and 36% of those patients would have been missed if pharyngeal screening had not been performed.[20] Another study looked at four clinics that implemented extragenital screening, screening over 56,000 patients over a three-year period.[21] For MSW, pharyngeal positivity was 1.1% for CT and 4.6% for GC, representing a total of 276 infections. Urogenital only-screening would have missed 175 infections among MSW.

[18] Evidence Supporting the Standardisation of Extragenital Gonorrhoea and Chlamydia Screenings for Women
[19] Extragenital Gonorrhea and Chlamydia among Men and Women According to Type of Sexual Exposure
[20] Ibid.
[21] Extragenital Sexually Transmitted Infection Testing among Louisiana Parish Health Units, 2016–2019


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