

**EVIDENCE-STATEMENT:****SEXUALLY TRANSMITTED INFECTIONS  
(Screening and Counseling)****Gonorrhea (Screening)****Clinical Preventive Service Recommendations****U.S. Preventive  
Services Task Force  
Recommendation**

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians screen all sexually active women, including those who are pregnant, for gonorrhea infection if they are at increased risk for infection (that is, if they are young or have other individual or population risk factors).<sup>1</sup>

**Evidence Rating: B  
(Recommended/  
At Least Fair  
Evidence)**

The U.S. Preventive Services Task Force found at least fair evidence that screening tests can accurately detect gonorrhea infection and good evidence that antibiotics can cure gonorrhea infection. There is at least fair evidence that screening pregnant women at high risk for gonorrhea, including women at high risk because of younger age, may prevent other complications associated with gonococcal infection during pregnancy, such as preterm delivery and chorioamnionitis.<sup>1</sup>

**Information Sources**

The recommendations and supporting information contained in this document came from several sources, including the:

- Centers for Disease Control and Prevention (CDC)
- Peer-reviewed research
- U.S. Preventive services Task Force (USPSTF)

The background and supporting information contained in this document is a compilation of research findings. All information presented in this document should be attributed to its referenced source and should not be considered a reflection of other organizations cited in the text.

**Condition/Disease Specific Information****Epidemiology of  
Condition/Disease**

Approximately 335,000 cases of gonorrhea were reported by state health departments in the United States in 2004, a slight decrease when compared to 2003 data.<sup>2</sup>

Complications of gonorrhea for women include pelvic pain, pelvic inflammatory disease (PID), ectopic pregnancy, and infertility. Pregnant women infected with gonorrhea are at an increased risk for pregnancy complications such as chorioamnionitis, premature rupture of membranes, preterm labor, and stillbirth.<sup>3</sup> Infected women may also pass the disease to their infants during pregnancy, labor, and delivery. Gonococcal ophthalmia can cause conjunctivitis leading to corneal scarring and blindness.

In men, gonorrhea can cause urethritis or epididymitis, but few serious or long-term complications.

Gonorrhea also increases both men and women's susceptibility to other STIs, including HIV.

**Condition/Disease  
Risk Factors**

Risky sexual behavior is the major risk factor for gonorrhea. As with most STIs, younger populations are at highest risk. The highest reported rates of gonorrhea are among female adolescents 15 to 19 years of age and adult males and females 20 to 24 years of age.<sup>1</sup> The rate of gonorrhea among African-Americans is 20 times higher than the rate among whites.<sup>1</sup> Persons with other types of STIs (e.g., chlamydia) may be more susceptible to contracting gonorrhea.

**Value of Prevention**

**Economic Burden of  
Condition/Disease**

The *lifetime* medical care cost of gonorrhea has been estimated at \$53 per case for men and \$266 per case for women (in year 2000 dollars).<sup>4</sup>

**Workplace Burden of  
Condition/Disease**

In addition medical and disability-related costs, the workplace burden of the disease includes:

- Productivity losses among gonorrhea-infected employees;
- Direct medical costs for infected adolescents who are covered by their parent’s insurance plan; and
- Productivity losses associated with the time employee caregivers dedicate to attending to sick dependents (i.e., children or spouses).

**Economic Benefit  
of Preventive  
Intervention**

Because screening for gonorrhea allows for the early recognition of disease and leads to earlier treatment, it may prevent the costly complications of late-stage disease such as PID. The average lifetime cost of PID has been estimated to range from \$1,060 to \$3,626 in year 2000 dollars.<sup>4</sup> The average lifetime cost for women who develop major complications of PID is \$6,350 for chronic pelvic pain, \$6,840 for an ectopic pregnancy, and \$1,270 for infertility; 79% of these costs have been found to occur within 5 years of the precipitating infection.<sup>5</sup>

**Estimated Cost of  
Preventive  
Intervention**

In 2004, the private-sector cost of screening for gonorrhea screening averaged \$17; approximately 95% of paid claims fell within the range of \$0 to \$63.<sup>6</sup>

**Estimated Cost of  
Treatment**

The cost of treatment for gonorrhea will vary depending on the type of antibiotic chosen.

**Cost-Effectiveness  
and/or Cost-Benefit  
Analysis of  
Preventive  
Intervention**

A recent study that focused on gonorrhea screening in urban emergency departments found that screening women between 15 and 29 years of age using urine-based nucleic acid amplification tests (NAAT) saved \$177 (in year 2002 dollars) per patient compared to no screening.<sup>7</sup>

**Preventive Intervention Information**

**Preventive  
Intervention:  
Purpose of Screening**

Screening for gonorrhea allows clinicians to identify affected patients and begin treatment earlier in the course of disease, thus potentially improving outcomes and avoiding the health and economic consequences of latent disease. Screening is particularly important for women because many women who are infected with gonorrhea have no symptoms and are thus unaware of their condition.<sup>8</sup>

<p><b>Benefits and Risks of Intervention</b></p>	<p>The benefits of screening for gonorrhea are substantial. Screening allows for early recognition and treatment, dramatically reducing complications, other long-term effects, and the transmission of the infection to others. Few studies have documented the risks associated with screening for gonorrhea. Possible risks include partner discord, stigma, opportunity costs (in terms of time and resources) for both the clinician and the patient, and side effects of treatment. As with all types of screening, the risk of false-positive results may cause undue anxiety or unnecessary treatment. The USPSTF found that the benefits of screening outweigh the risks associated with screening.<sup>1</sup></p>
<p><b>Initiation, Cessation, and Interval of Screening</b></p>	<p>Routine screening for gonorrhea is recommended for all women under the age of 25 and women over the age of 25 who are at risk of infection, especially women who are in one or more of the following established high-risk groups: commercial sex workers, women with a prior history of gonorrhea, and women who live in regions where infection rates are high.</p> <p>The frequency of screening is left to the discretion of the provider and should be based on the individuals' risk factors and previous history of STIs.</p> <p>All pregnant women at risk for gonorrhea should be screened during the first trimester, ideally during the first prenatal care visit. Pregnant women at continued risk of infection should be re-screened again during the third trimester.<sup>1</sup></p>
<p><b>Intervention Process</b></p>	<p>Several effective methods of screening for gonorrhea are currently available<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>• Culture of swab specimens from exposed sites (urethra [male], endocervix, throat or rectum [male]).</li> <li>• Nucleic acid amplification assays such as polymerase chain reaction (PCR), strand displacement assay (SDA), and transcription-mediated amplification (TMA) on genital swab or urine specimens.</li> <li>• Microscopic examination of Gram-stained urethral or cervical specimen.</li> <li>• Non-amplified nucleic acid hybridization tests on genital swab specimens.</li> <li>• Point-of-care antigen detection tests on genital swab specimens and urine dipstick for leukocyte esterase (LE).</li> </ul>
<p><b>Treatment Information</b></p>	<p>Gonorrhea can be effectively treated with antibiotics. Health benefits should include provisions for diagnostic, follow-up, and treatment services.</p>

**Strength of Evidence for the Clinical Preventive Service**

The level of evidence supporting the recommendation in this section is described below.

***Evidence-Based Research:***

U.S. Preventive Services Task Force (USPSTF)

Strength of Evidence: B (Recommended/At Least Fair Evidence)

- The U.S. Preventive Services Task Force found at least fair evidence that screening tests can accurately detect gonorrhea infection and good evidence that antibiotics can cure gonorrhea infection. There is at least fair evidence that screening pregnant women at high risk for gonorrhea, including women at high risk because of younger age, may prevent other complications associated with gonococcal infection during pregnancy, such as preterm delivery and chorioamnionitis.<sup>1</sup>

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Campbell KP, Lentine D. Sexually transmitted infections (STIs) evidence-statement: screening and counseling. In: Campbell KP, Lanza A, Dixon R, Chattopadhyay S, Molinari N, Finch RA, editors. *A Purchaser's Guide to Clinical Preventive Services: Moving Science into Coverage*. Washington, DC: National Business Group on Health; 2006.

**References:**

**Gonorrhea (Screening)**

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7. Aledort JE, Hook III EW, Weinstein MC, Goldie SJ. The cost-effectiveness of gonorrhea screening in urban emergency departments. *Sex Transm Dis* 2005;32(7):425-436).
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