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POLICY STATEMENT

Screening for Nonviral Sexually Transmitted Infections in Adolescents and Young Adults

abstract

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Prevalence rates of many sexually transmitted infections (STIs) are highest among adolescents. If nonviral STIs are detected early, they can be treated, transmission to others can be eliminated, and sequelae can be averted. The US Preventive Services Task Force and the Centers for Disease Control and Prevention have published chlamydia, gonorrhea, and syphilis screening guidelines that recommend screening those at risk on the basis of epidemiologic and clinical outcomes data. This policy statement specifically focuses on these curable, nonviral STIs and reviews the evidence for nonviral STI screening in adolescents, communicates the value of screening, and outlines recommendations for routine nonviral STI screening of adolescents. *Pediatrics* 2014;134:e302–e311

COMMITTEE ON ADOLESCENCE and SOCIETY FOR ADOLESCENT HEALTH AND MEDICINE

KEY WORDS
sexually transmitted infections, nonviral STIs, chlamydia, gonorrhea, syphilis, screening

ABBREVIATIONS
AAP—American Academy of Pediatrics
CDC—Centers for Disease Control and Prevention
CLIA—Clinical Laboratory Improvement Amendment
FDA—Food and Drug Administration
MSM—males who have sex with males
NAAT—nucleic acid amplification test
PID—pelvic inflammatory disease
STI—sexually transmitted infection
USPSTF—US Preventive Services Task Force

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The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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www.pediatrics.org/cgi/doi/10.1542/peds.2014-1024

doi:10.1542/peds.2014-1024

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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EVIDENCE TO SUPPORT NONVIRAL STI SCREENING

The goal of sexually transmitted infection (STI) screening is to identify and treat individuals with treatable infections, reduce transmission to others, avoid or minimize long-term consequences, identify other exposed and potentially infected individuals, and decrease the prevalence of infection in a community. Healthy People 2020 objectives for sexually transmitted diseases[1] include items that address screening for chlamydia in sexually active females younger than 25 years and set targets for decreased rates of chlamydia, gonorrhea, and syphilis in specific populations. The US Preventive Services Task Force (USPSTF), an independent panel of prevention and evidence-based medicine experts, has published chlamydia,[2] gonorrhea,[3] and syphilis[4,5] screening guidelines that recommend screening those at risk on the basis of epidemiologic and clinical outcomes data. The Centers for Disease Control and Prevention (CDC) publishes evidence-based STI screening recommendations for specific at-risk populations that are not addressed by the USPSTF but that pose public health challenges for disease prevention and control.[6–8] Major professional medical organizations, including the American College of Obstetricians and Gynecologists and the American Academy of Family Physicians, have also published STI screening guidelines for specific populations.[7–10] The American Academy of Pediatrics' (AAP) Bright Futures guidelines for health supervision recommend chlamydia and gonorrhea screening as appropriate for the patient population and the clinical setting.[11] Recent AAP clinical reports addressing gynecologic examinations and male reproductive and sexual health care discuss clinic issues and provider

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skills that are relevant to office-based screening for nonviral STIs.[12,13] These clinical reports and CDC recommendations[6] describe the important elements of a sexual history. The goal of this policy statement is to review the evidence in support of nonviral STI screening in adolescents and to educate pediatricians about the value of screening as well as resources available to support this practice. Screening considerations from the CDC specific to pregnant and HIV-infected individuals should be reviewed (www.cdc.gov/std/treatment).[6] Guidance about how to incorporate chlamydia screening into the office setting including addressing confidentiality, billing, and explanation of benefits statements can be found at the National Chlamydia Coalition Web site (http://ncc.prevent.org/info/healthcare-providers). This site provides a link to up-to-date resources and a monograph titled *Why Screen for Chlamydia; An Implementation Guide for Healthcare Providers*. The AAP policy statement addressing standards for Health Information Technology to ensure adolescent privacy may be useful in the establishment of practice procedures and help anticipate questions regarding confidentiality.[14]

CHLAMYDIA

Importance

Chlamydia trachomatis is the most common reportable communicable disease in the United States, with the highest case rates occurring in female 20- to 24-year-olds followed closely by rates in female 15- to 19-year-olds.[8] Chlamydia is common among all races and ethnic groups; however, large racial disparities in chlamydial burden exist, and young women and men of color are disproportionately affected.[8,15] Among sexually active female 15- to 19-year-olds, chlamydia prevalence among non-Hispanic African Americans is more than 5 times the prevalence among non-Hispanic whites (7719/100 000 population vs 1458/100 000).[8] In male 15- to 19-year-olds, in whom the rates have increased every year since 2006, the rate of chlamydia infection among non-Hispanic African Americans is 10 times the rate in non-Hispanic whites (2334/100 000 population vs 236/100 000).[8] Rates for American Indian/Alaskan Native and Hispanic populations are between the rates for African American and white populations.

Most chlamydia infections are asymptomatic and may persist if left untreated. Previous infection does not confer any clinically reliable protective immunity.[16] Vaccines are not available for chlamydia or for any of the subsequently discussed nonviral STIs. Chlamydia can manifest as cervicitis, urethritis, proctitis, and uncommonly, pharyngitis. Complications and sequelae may include pelvic inflammatory disease (PID), tubal-factor infertility, ectopic pregnancy,[6,17] chronic pelvic pain,[18] increased HIV transmission,[19–23] adverse pregnancy and infant outcomes,[24] neonatal infections,[25] epididymitis,[26] and reactive arthritis.[16,27]

Background

The USPSTF, AAP, and American Academy of Family Physicians recommend annual chlamydia screening of all sexually experienced females younger than 25 years. The CDC and American College of Obstetricians and Gynecologists recommend annual routine screening of sexually experienced females through the age of 25 years. The National Commission on Prevention Priorities ranked chlamydia screening of young women as 1 of the 10 most beneficial and cost-effective preventive services but also among the most underutilized.[28]

The USPSTF found insufficient evidence to recommend for or against routine chlamydia screening of young men. Because the risk of complications or long-term reproductive sequelae for chlamydia-infected males is low, screening asymptomatic males does not offer substantial secondary prevention for them. In addition, male older adolescents/young adults are less likely than their female counterparts to use health care services and thus may be difficult to reach with a chlamydia screening program.[29] However, the CDC recommends considering screening young men in clinical settings with high chlamydia prevalence rates, such as jails or juvenile corrections facilities, national job training programs, and STD, high school, or adolescent clinics, when resources permit.[6,30] Males in these settings with a history of multiple partners are at greatest risk of asymptomatic chlamydia infection.[31–33] The CDC also recommends chlamydia screening of males who have sex with males (MSM) at least annually for urethral and rectal infection on the basis of reported sexual practices and every 3 to 6 months if considered high risk because of multiple or anonymous partners, sex in conjunction with illicit drug use, or having sex partners who participate in these activities.[6] Sex partners of chlamydia-infected individuals during the 60 days before the diagnosis should also be targeted for testing and treatment because of their high likelihood of infection.[6]

Laboratory Testing

Detection of genitourinary chlamydia infections has substantially improved over the past 2 decades. Nucleic acid amplification tests (NAATs) are preferred for *C trachomatis* detection in adolescents and young adults, regardless of symptoms.[34] *C trachomatis* NAATs are sensitive and specific and licensed for use with urine, urethral, vaginal, and cervical specimens. Many of the chlamydia NAATs are approved by the Food and Drug Administration

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(FDA) to test patient-collected vaginal swabs in the clinical setting and liquid cytology specimens.[34,35] Among all of the aforementioned specimens, female vaginal swab specimens and male first-void urine are considered the optimal specimen types.[34] Female urine remains an acceptable chlamydia NAAT specimen but may have slightly reduced performance compared with cervical or vaginal swab specimens.[34] The CDC recommends at least an annual urine chlamydial NAAT for urethral infection for MSM who have had insertive anal intercourse and an annual rectal swab chlamydial NAAT for those who have had receptive anal intercourse.[6] Although chlamydia NAATs are not approved by the FDA for rectal swab specimen testing, laboratories that have met Clinical Laboratory Improvement Amendment (CLIA) and other regulatory requirements and validated chlamydia NAAT performance on rectal swab specimens may perform these tests.[6,34,36] In the evaluation of the sexual assault victim, NAATs may be used for female vaginal swab and urine specimens. Some jurisdictions may prefer *C. trachomatis* culture from all sites in lower-prevalence populations because of greater specificity, although sensitivity may be compromised.[6]

Disease-Specific Benefits and Risks of Screening

In randomized clinical trials, screening asymptomatic sexually active young women for chlamydia and treating those identified with infection reduced the risk of subsequent PID.[37,38] Other studies, summarized by Haggerty et al, support the association of repeated chlamydia infection with increased reproductive sequelae.[18]

Clinical Considerations

Because reinfection is common, providers should rescreen all male and female patients treated for chlamydia approximately 3 months after treatment. If retesting at 3 months is not possible, retest whenever patients next present for health care services in the 12 months after the initial treatment. A systems-based approach of collecting a noninvasive specimen on all females before they are seen by the health care provider, such as during nursing triage, enhances the proportion of sexually active females who are screened.[39–41] The National Chlamydia Coalition produces resources for health care providers to facilitate office-based chlamydia screening.[42] Internet-based interventions to promote chlamydia screening with self-collected vaginal swab specimens in various nonclinical settings are also being evaluated.[43,44]

GONORRHEA

Importance

Gonorrhea is the second most common reportable communicable disease in the United States; female 20- to 24-year-olds have the highest and female 15- to 19-year-olds the second highest reported gonorrhea case rates compared with any other age or gender.[8] Substantial racial disparity exits for gonorrhea. The 2012 reported rates among male and female non-Hispanic African American 15- to 19-year-olds are 26 times and 15 times those of male and female non-Hispanic white 15- to 19-year-olds, respectively.[8] A recent study has shown that residential segregation of black populations contributes to the large racial disparity for youth by creating distinct social networks that perpetuate the persistence of their endemically high gonorrhea rates.[45] Rates for American Indian/Alaskan native and Hispanic populations are between the rates for non-Hispanic African American and non-Hispanic white populations.

As with *C trachomatis*, many infections are asymptomatic, and *Neisseria gonorrheae* can cause cervicitis, urethritis, proctitis, and pharyngitis. On occasion, gonorrhea may also lead to conjunctivitis.[46] Uncomplicated gonorrhea infection can spread to the upper genital tract, causing PID and associated longer-term complications, such as ectopic pregnancy, infertility, and chronic pelvic pain in females and epididymitis in males, and hematogenous spread can cause disseminated gonococcal infection. Gonorrhea infection is also associated with increased HIV transmission.[47] In pregnancy, gonorrhea is associated with chorioamnionitis, premature rupture of membranes, and preterm labor. Perinatal transmission can lead to ophthalmia neonatorum. Rarely, newborn infants develop life-threatening systemic disease from gonorrhea acquired during delivery through an infected birth canal.[25]

Background

The USPSTF recommends annual gonorrhea screening of all at-risk, sexually active females.[3] Populations at highest risk of gonorrhea infection include females and males younger than 25 years and individuals with a history of previous gonorrhea infection, other STIs, new or multiple sex partners, inconsistent condom use, or who engage in sex work or drug use. The USPSTF found insufficient evidence to recommend for or against routine gonorrhea screening of asymptomatic males because of the low prevalence rates and the lower rates of morbidity related to untreated gonorrhea infection in males and because asymptomatic infection is less common in males than in females.

The CDC recommends urethral, rectal, and oropharyngeal gonorrhea testing at least annually for MSM who engage in receptive anal or oral intercourse, respectively, as well as urine-based

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testing at least annually for MSM engaging in insertive anal or oral intercourse.[6,34,48] The CDC also recommends gonorrhea screening every 3 to 6 months for MSM who are at higher risk because of multiple or anonymous partners, sex in conjunction with illicit drug use (especially methamphetamines), or partners who participate in these activities.[6,49,50]

Sex partners of gonorrhea-infected individuals during the 60 days before gonorrhea diagnosis should be targeted for testing and treatment because of their high likelihood of infection.[6] Because gonorrhea rates vary widely by communities and population, health care providers should consider local gonorrhea epidemiology to determine if gonorrhea screening in male adolescents is appropriate in their patient population.

Laboratory Testing

Recent shifts have occurred in *N gonorrheae* screening options. NAATs are recommended for detection of genitourinary gonococcal infections in males and females, regardless of symptoms.[6,34] Gonorrhea and chlamydia NAATs are usually available as combination tests from a single specimen. Like those for chlamydia, *N gonorrheae* NAATs have high sensitivity and specificity. Most are approved by the FDA for use with urine and urethral, vaginal, and cervical swab specimens in the clinical setting. Some gonorrhea NAATs are also licensed to test patient-collected vaginal swab specimens in a clinical setting and liquid cytology specimens. Among all specimens, female vaginal swab specimens and male urine are the optimal specimen types.[34]

Although gonorrhea NAATs are not approved by the FDA for extragenital sites, many laboratories have met CLIA and other regulatory requirements and validated gonorrhea NAAT testing on rectal and pharyngeal specimens.[34,36,51] NAATs cannot be used to determine gonorrhea antimicrobial resistance; thus, culture must be obtained to identify antibiotic-resistant gonorrhea strains,[8,34] although it has lower sensitivity especially at extragenital sites compared with NAATs. Ideally, gonorrhea culture is needed for evaluating suspected cases of treatment failure, for test of cure for patients who were treated with an alternative regimen, and for investigating suspected childhood sexual abuse or assault.[6]

Disease-Specific Benefits and Risks of Screening

Identification of gonorrhea infection allows for treatment, prevention of sequelae, and identification of exposed partners; reduces further transmission to others; and may be a marker or risk factor for HIV transmission.

Clinical Considerations

Providers should rescreen all male and female patients treated for gonorrhea approximately 3 months after treatment at the anatomic site of infection because reinfection is common. Gonorrhea treatment is challenging because of the organism's ability to readily develop antimicrobial resistance.[6,8,52,53] The possibility of emerging cephalosporin-resistant *N gonorrheae* is a growing concern.[48] The CDC's Gonococcal Isolate Surveillance Project has documented recent trends of decreasing cephalosporin susceptibility among *N gonorrheae*.[52] Cases of suspected gonorrhea treatment failures should be reported to local or state health departments, and a gonococcal culture of specimens from exposed sites, preferably with simultaneous NAAT and antimicrobial-susceptibility testing, should be performed if *N gonorrheae* is isolated.[6] Patients with a diagnosis of uncomplicated urogenital or rectal gonorrhea who are treated with any of the recommended or alternative regimens do not need a test-of-cure.[6] However, patients with pharyngeal gonorrhea who are treated with an alternative regimen should return 14 days after treatment of a test-of-cure, using either culture or NAAT.[6] If the NAAT is positive, every effort should be made to perform a confirmatory culture.

TRICHOMONIASIS

Importance

Trichomonas vaginalis infection is not a nationally reportable communicable disease; however, *T vaginalis* genital tract infection is believed to be the most common nonviral STI on the basis of population studies.[54] Unlike chlamydia and gonorrhea infections, which are most common among female adolescents and young adults, trichomoniasis is also common among older females. In adolescent female samples, *T vaginalis* prevalence rates have ranged from 2.1% to 14.4%.[54–57] Although this infection is commonly asymptomatic in females, *T vaginalis* infection has been associated with vaginitis and PID.[25,58,59] In some cases, it may cause preterm labor[60–62] and may increase HIV transmission.[63,64] The majority of infections (approximately 80%) are also asymptomatic in males, although *T vaginalis* can cause urethritis, epididymitis, and prostatitis.[65–67] Similar to other STIs, a substantial racial disparity exists, with prevalence rates 10 times higher among female non-Hispanic African Americans compared with their non-Hispanic white and Mexican American counterparts.[54]

Background

Although the USPSTF has not published *T vaginalis* screening recommendations, CDC recommends screening HIV-infected females for *T vaginalis* annually and suggests that screening can be considered in females at high risk of infection, including those with new or multiple

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partners, those with a history of STIs, and those who exchange sex for payment or inject drugs.[6]

Laboratory Testing

T vaginalis is often identified through microscopic examination of vaginal secretions on a slide preparation (ie, "wet mount"). This method requires immediate viewing for optimal results and has poor sensitivity (approximately 60%–70%).[64,68,69] Consequently, false-negative results are common with microscopic identification, and true infections may be underrecognized and undertreated.[68,70,71] Clinical laboratory tests with greater sensitivity compared with wet mount include trichomonas culture in Diamond media or other trichomoniasis-specific culture systems (eg, InPouch, BioMed Diagnostics, White City, OR); a CLIA-waived, antigen-detection, point-of-care test (OSOM, Sekisui Diagnostics, Exton, PA); and a nucleic acid probe test (Affirm VPIII, Becton, Dickinson and Company, Franklin Lakes, NJ) for *T vaginalis*, *Gardnerella vaginalis*, and *Candida albicans*. A NAAT for *T vaginalis* (APTIMA; GenProbe, San Diego, CA) is available and licensed for use with female cervical or vaginal swab, urine, and PreservCyt Solution specimens. A routine Papanicolaou test should not be used to diagnose *T vaginalis* infection because of poor sensitivity and specificity.[6] The *T vaginalis* NAAT has also demonstrated superior sensitivity for trichomonas diagnosis in men, but it is not licensed for male specimens.[64,72] Laboratories that have met CLIA and other regulatory requirements and validated their *T vaginalis* NAAT performance on male specimens may perform this test.[6,34]

Disease-Specific Benefits and Risks of Screening

Benefits of routine *T vaginalis* screening have not been established. The potential benefits of screening high-risk individuals for *T vaginalis* are to identify infections and initiate treatment of individuals and their partner(s).[6]

Clinical Considerations

Rescreening for *T vaginalis* at 3 months after treatment can be considered for females, especially HIV-infected females.[73] Studies that address this rescreening question for males are not in the literature.

SYPHILIS

Importance

Syphilis, nearly eliminated at the start of the new millennium, has reemerged as a public health threat, primarily among MSM. CDC data demonstrate a significant increase in syphilis among young non-Hispanic black MSM.[8] During 2008–2012, rates for males increased most significantly among 20- to 24-year-olds. In 2006, the highest reported syphilis rates were among men aged 35 to 39 years; now rates are highest among 20- to 24-year-olds. In 2012, syphilis rates among females decreased overall compared with 2010, although rates remain highest among females aged 20 to 24 years. In 2012, the primary and secondary syphilis rate male-to-female ratio was 10.3:1.[8] In 2012, 75% of primary and secondary syphilis cases in 49 states and the District of Columbia that provided information about gender of sex partners were among MSM.[8]

Syphilis is a treatable systemic STI caused by the spirochete *Treponema pallidum*. *T pallidum* is transmitted by exposure to the organism, most commonly through sexual contact with infected lesions, such as chancres, or in the blood of a pregnant woman through the placenta to the fetus. The most serious complications of untreated syphilis are neurosyphilis in the adult and congenital syphilis in the offspring of the pregnant female. Congenital syphilis causes a range of multisystem problems in affected infants, including intrauterine death.[25]

Background

The USPSTF recommends syphilis screening for individuals of both genders who at increased risk of syphilis infection, such as MSM, adults in corrections facilities, commercial sex workers, people who exchange sex for drugs, contacts of people with infectious syphilis, and pregnant females at the first prenatal visit.[4,5] Universal syphilis screening is not recommended for nonpregnant females or heterosexual males.[6] Providers should consult with their local health department regarding local syphilis prevalence and epidemiology, which may influence who they should screen beyond pregnant adolescents and adolescent MSM.[6,73] The CDC recommends that a syphilis serologic screening test be performed at least annually for sexually active MSM.[6]

Laboratory Testing

Syphilis serologic tests are available to screen for syphilis. A single positive serologic syphilis test result is not diagnostic.[6,34] A diagnosis of syphilis requires both treponemal and nontreponemal test results, along with a comprehensive clinical evaluation.[6,34] In the United States, the traditional syphilis laboratory screening strategy is to perform a nontreponemal test, such as a rapid plasma reagin or Venereal Disease Research Laboratory test, followed by a treponemal test, such as a *T pallidum* particle agglutination (TP-PA), enzyme immunoassay, or chemiluminescent immunoassay for confirmation. Alternatively, some clinical laboratories offer the reverse sequence syphilis screening algorithm with treponemal enzyme immunoassay or chemiluminescent immunoassay and confirm active disease with quantitative nontreponemal tests.[8,34] Additional details on this syphilis testing

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algorithm are available from the Association of Public Health Laboratories.[6,25,74]

Disease-Specific Benefits and Risks of Screening

Benefits of syphilis detection and treatment include the elimination of a potentially serious multisystem disease and prevention of cases of congenital syphilis. Syphilis screening can produce false-positive test results, which require further evaluation.

Clinical Considerations

A recent evidence-based review supports syphilis screening and treatment during pregnancy to prevent congenital syphilis.[75] People who have symptomatic syphilis might seek treatment of new onset of genital ulcers, lymphadenopathy or cutaneous or mucosal rashes, hair loss, or neurologic symptoms consistent with syphilis[6,25] and should be tested for it. Follow-up testing is critical to confirm treatment effectiveness.[6]

CLINICAL IMPLICATIONS AND CONCLUSIONS

Female and male adolescents and young adults have high STI prevalence rates compared with other age groups. Certain adolescent populations bear a higher STI burden, such as youth of color and MSM.[8] A comprehensive sexual history sensitive to ethnic, racial, and cultural factors, including those of sexual minority youth, and a sexual behavior risk assessment (vaginal, oral, and anal sex) should guide sites of specimen collection on the basis of sexual behavior. Clinicians should inquire about same- and opposite-gender sexual partners, regardless of reported sexual orientation. There are few available national data regarding STIs in transgender youth, although older transgender populations are at high risk of STIs, including HIV.[76,77]

Detection of infection creates the opportunity to treat asymptomatic disease, prevent adverse sequelae, prevent further transmission to others, identify likely infected partners for testing and treatment, and reduce the burden of disease. Risks associated with screening include false-positive results, especially in low-prevalence populations, and false-negative results, which may leave diseases undetected and untreated. A positive screening result for any STI may be associated with self-blame and stigma for some individuals, which may have emotional, behavioral, and relationship repercussions.[78–81] The presence of any STI puts an individual at greater risk of other STIs, and an evaluation for other STIs, including HIV should be considered. Pediatricians can take an active role in reducing disease prevalence and adverse sequelae by identifying and treating undiagnosed infections in addition to prevention counseling, promotion of condom use and safe sex practices, rescreening infected patients after treatment, and offering expedited partner therapy, where legally permissible and recommended,[82,83] to prevent new and recurrent infections.[84]

RECOMMENDATIONS

The American Academy of Pediatrics (AAP) recommends the following:

1. Routine laboratory screening for nonviral STIs as per the following published screening recommendations for sexually active adolescents. The following screening recommendations summarize published federal agency and medical professional organizations' clinical guidance for all sexually active adolescents:
   a. Chlamydia
      i. Routinely screen all sexually active female adolescents and young adults (≤25 years) for *C trachomatis* annually.
      ii. Routinely screen sexually active adolescent and young adult MSM for rectal and urethral chlamydia annually if they engage in receptive anal or insertive intercourse, respectively. Screen every 3 to 6 months if high risk because of multiple or anonymous partners, sex in conjunction with illicit drug use, or having sex partners who participate in these activities.
      iii. Screen adolescents and young adults exposed to chlamydia in the past 60 days from an infected partner.
      iv. Consider screening sexually active males annually in settings with high prevalence rates, such as jails or juvenile corrections facilities, national job training programs, STD clinics, high school clinics, and adolescent clinics for patients who have a history of multiple partners.
   b. Gonorrhea
      i. Routinely screen all sexually active female adolescents and young adults (<25 years) for *N gonorrheae* annually.
      ii. Routinely screen sexually active adolescent and young adult MSM for pharyngeal, rectal, and urethral gonorrhea infection annually if engaging in receptive oral or anal intercourse or insertive intercourse, respectively. Screen every 3 to 6 months if high risk because of multiple or anonymous partners, sex in conjunction with illicit drug use, or having sex partners who participate in these activities.
      iii. Screen adolescents and young adults exposed to gonorrhea

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in the past 60 days from an infected partner.

iv. Consider screening other sexually active and young adult males annually on the basis of individual and population-based risk factors, as discussed in the body of the text. For information on local prevalence rates, contact the local or state health departments. CDC gonorrhea surveillance data at state and county levels are available at www.cdc.gov/std/stats/default.htm.

c. Trichomoniasis

Routine *T vaginalis* screening of asymptomatic adolescents is not recommended. However, individual and population-based risk factors, including new or multiple partners, a history of STIs, exchanging sex for payment, or injecting drugs, may put females at higher risk of infection, and they may require a more thorough STI evaluation, including screening for *T vaginalis*.

d. Syphilis

The routine screening of nonpregnant, heterosexual adolescents is not recommended. However, screening is recommended for all sexually active adolescent and young adult MSM annually or every 3 to 6 months if high risk and can be considered for youth whose behaviors put them at higher risk. Providers should consult with their local health department regarding local syphilis prevalence and associated risks that may influence practice decisions.

2. Rescreen all adolescents infected with chlamydia or gonorrhea 3 months after treatment, regardless of whether they believe that their sex partners were treated. Providers should consider rescreening females previously diagnosed with trichomoniasis 3 months after treatment. If retesting at 3 months is not possible, retest whenever patients next present for health care services in the 12 months after initial treatment.
3. Develop clinical procedures using prepared resources to incorporate STI risk assessments, screening and treatment, and prevention counseling into routine health care for sexually active adolescents, which include the following:
   a. Providing education and training opportunities to staff on procedures and related issues, including consent, confidentiality, and billing.
   b. Developing competence with noninvasive NAAT screening.
4. Advocate to minimize barriers to STI screening without breaches of confidentiality and to minimize other barriers, including access and stigma.

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Pediatrics 2014;134;e302
DOI: 10.1542/peds.2014-1024 originally published online June 30, 2014;

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