SCREENING FOR SEXUALLY TRANSMITTED DISEASES DURING THE DOMESTIC MEDICAL EXAMINATION FOR NEWLY ARRIVED REFUGEES

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Screening for Sexually Transmitted Diseases during the Domestic Medical Examination for Newly Arrived Refugees

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***UPDATES* posted 4/7/14-- from the 2011 STD guidance**

- Syphilis screening for all refugees ≥15 years of age if no overseas results available
- Removal of routine testing for non-syphilis *Treponema pallidum* infections in children

Background

Sexually transmitted diseases (STDs) are a major cause of acute illness and infertility worldwide. The World Health Organization (WHO) estimates that 499 million new cases of curable STDs occur annually worldwide in adults aged 15–49 years . The largest number of new infections occurs in the region of South and Southeast Asia, followed by

sub-Saharan Africa, Latin America, and the Caribbean. In low-income countries, STDs rank in the top 5 disease categories for which adults seek health care.

The prevalence of STDs in refugee populations is not well characterized and likely varies among populations. It is important to consider STDs in refugees in order to minimize or prevent acute and chronic sequelae, as well as prevent transmission to others.

Medical Screening

Overseas Pre-Departure Screening and Testing

For all refugees ≥15 years of age, clinical evaluation and treatment for identified infection are considered mandatory for the following STDs:

- Syphilis (laboratory testing required)
- Gonorrhea
- Chancroid
- Granuloma inguinale
- Lymphogranuloma venereum

The evaluation of all of the above listed STDs includes a medical history and physical examination. Syphilis is the only STD that is routinely screened with laboratory testing prior to departure. To test for syphilis serologic testing is done according to the CDC Technical Instructions for Syphilis for Panel Physicians. Further testing is performed as necessary to confirm a suspected syphilis diagnosis.

In January 2010, HIV was removed from the list of excludable infections and is no longer routinely tested for overseas (see Screening for HIV Infection During the Refugee Domestic Medical Examination). Refugees who are diagnosed with syphilis prior to departure are offered HIV testing.

Recommendations for Post-Arrival Screening and Evaluation

The following STDs should be considered during the new arrival medical examination:

- Syphilis
- Chlamydia
- Gonorrhea
- Chancroid
- Granuloma inguinale/donovanosis
- Lymphogranuloma venereum
- Genital herpes
- Genital warts
- Trichomoniasis
- HIV

A complete evaluation for all STDs includes a thorough medical history, physical examination, and, for specific infections, diagnostic testing.

The optimal medical history includes asking about sexual history including any contact with a person who has or had a known STD and asking about any history of signs or symptoms suggestive of an STD. Common signs and symptoms of infection include genital discharge; dysuria; rash; sores on the genital, anus, or mouth; or a rash on the palms or soles of the feet.

Pertinent elements of the physical examination for STDs include palpation of lymph nodes and an external anal and genital examination, including inspection for discharge, ulcers, or rashes. In previously traumatized refugees (e.g., sexual assault victims), the anal and genital examination may be postponed until the refugee establishes a trusting relationship with a provider.

The following summarizes the currently recommended testing:

- Syphilis: A nontreponemal test (e.g., Venereal Disease Research Laboratory [VDRL] or rapid plasma reagin [RPR]) should be used for screening refugees in the following categories:
    - All refugees $\geq$15 years of age, if no overseas results are available
    - Children <15 years of age who are at risk (i.e., mother who tests positive for syphilis) should be evaluated according to the Congenital Syphilis section of the CDC Sexually Transmitted Diseases Treatment Guidelines, 2010.

  Refugees with a positive nontreponemal screening test (e.g., VDRL or RPR) should have confirmatory treponemal testing (e.g., fluorescent treponemal antibody absorbed [FTA-ABS], *Treponema pallidum* passive particle agglutination assay [TP-PA], various enzyme-linked immunosorbent assays [EIAs], chemiluminescence immunoassays).

  Further evaluation, including evaluation for neurosyphilis, and treatment should be instituted according to the CDC Sexually Transmitted Diseases Treatment Guidelines, 2010.

- Chlamydia: Nucleic acid amplification tests
    - Females $\leq$25 years old who are sexually active or who have risk factors (e.g., new sex partner or multiple sex partners)
    - Refugees with symptoms or leukoesterase detected in a urine sample

- Gonorrhea: Nucleic acid amplification tests
    - Refugees who have symptoms or leukoesterase detected in a urine sample

NOTE: Consider testing any refugee who has a history of sexual assault for these STDs; management and evaluation of sexually assaulted children requires consultation with an expert (CDC Sexually Transmitted Diseases Treatment Guidelines).

HIV testing is also strongly encouraged in newly-arriving refugee populations according to current CDC Screening for HIV Infection During the Refugee Domestic Medical Examination guidelines. Testing for HIV is particularly important and encouraged for any refugee with a confirmed non-HIV STD.

The most current information on STDs, including treatment and laboratory guidelines, are available at:

- CDC STD website (http://www.cdc.gov/STD/)
- CDC STD Treatment website
- MMWR Sexually Transmitted Diseases Treatment Guidelines, 2010* (http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5912a1.htm?s_cid=rr5912a1_w)
- MMWR Update to CDC's Sexually Transmitted Disease Treatment Guidelines 2010: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

*Revised guidelines are in preparation at the time of this posting.

Clinical presentations and diagnostic testing for specific STDs

Clinical presentation, screening, and diagnostic aspects of STDs that may be encountered in refugees are discussed in this document. Treatment is not discussed in this document. HIV is discussed in a separate section of the domestic guidelines.

Syphilis

Clinical Presentation:

Syphilis, which is caused by the bacterium *Treponema pallidum*, has often been called the "great imitator" because so many of its signs and symptoms are indistinguishable from those of other diseases. Many refugees who are infected do not recall ever having symptoms. Asymptomatic latent infection is detected through serologic screening.

Typical signs and symptoms of syphilis, listed by stage, include the following:

- Primary stage (generally occurs 10–90 days after exposure):
  Ulcer or chancre at the infection site (usually the genitals, rectum, tongue, or lips)
- Secondary stage (generally occurs 2–10 weeks after the chancre appears):
  Skin rash marked by red or reddish-brown macules on the palms and soles or other parts of the body, mucocutaneous lesions, lymphadenopathy, anorexia, fever, headaches, weight loss, fatigue
- Latent stage (early latent and late latent; begins when primary and secondary symptoms disappear and may last for years):
  No signs and symptoms present

Note: Early latent syphilis can relapse to secondary syphilis and become infectious (again)

- Tertiary stage (generally occurs 10–20 years after infection):
  Cardiac or ocular manifestations (e.g., aortitis, optic atrophy, uveitis, gradual blindness), auditory abnormalities (e.g., asymmetric deafness, tinnitus), neurologic manifestations (e.g., tabes dorsalis, meningitis, dementia), gumma

Neurosyphilis:

Signs and symptoms of neurosyphilis include motor or sensory deficits; cranial nerve dysfunction; or symptoms and signs of meningitis, stroke, acute or chronic altered mental status, loss of vibration sense, and auditory or ophthalmic abnormalities. Neurosyphilis may occur at any stage of disease.

Congenital syphilis:

Congenital syphilis may present as nonimmune hydrops, jaundice, hepatosplenomegaly, rhinitis, skin rash, or pseudoparalysis of an extremity. In older children, signs of untreated congenital infection include interstitial keratitis (5–20 years of age), cranial nerve deafness (10–40 years of age), Hutchinson teeth (peg-shaped, notched central incisors), anterior bowing of the shins, frontal bossing, mulberry molars, saddle nose, rhagades (linear scars around the mouth), and Clutton joints (symmetric, painless swelling of the knees). Prevention and detection of congenital syphilis depends on identification of syphilis in pregnant women by serology. For specific guidelines on screening and identification of congenital syphilis, see the congenital syphilis section of the CDC syphilis treatment guidelines.

Syphilis Serology:

Serologic tests for syphilis include screening tests that use nonspecific cardiolipin antigens (nontreponemal tests) and confirmatory tests that use specific *T. pallidum* antigens (Table 1). A nontreponemal test such as Venereal Disease Research Laboratory (VDRL), rapid plasma reagin (RPR), or an equivalent test may be used for screening. Positive results on these nontreponemal tests should be confirmed by using a treponemal test (e.g., fluorescent treponemal antibody absorbed [FTA-ABS], *Treponema pallidum* passive particle agglutination assay [TP-PA] various enzyme-linked immunosorbent assays [EIAs], chemiluminescence immunoassays). The use of only one type of test is insufficient for diagnosis since all tests have limitations, including the possibility of false-positive test results. False-positive nontreponemal test results can be associated with various medical conditions unrelated to syphilis, including autoimmune disorders, older age, and injection drug use.

Screening tests such as the VDRL and RPR are relatively simple to perform and provide rapid results. Both VDRL and RPR quantitative titer usually correlate with disease activity and are used to monitor the effect of treatment. If treatment is successful, the antibody titer gradually declines. A fourfold change in titer (e.g., from 1:16 to 1:4) is necessary to demonstrate a clinically significant difference between two nontreponemal

tests. Sequential serologic tests in individuals should be performed by using the same testing method, because quantitative results from the two tests cannot be compared directly; RPR titers are frequently slightly higher than VDRL titers. The timing of follow-up testing is dictated by the clinical presentation and the stage of infection, as well as the HIV status of the refugee, and is detailed in the current treatment guidelines (1).

Unlike nontreponemal tests, treponemal tests (e.g., FTA) do not usually revert to nonreactivity after successful treatment of syphilis. Screening with treponemal tests is not recommended in high-prevalence settings, because these tests will be reactive in refugees with previous successful treatment as well as those with untreated or incompletely treated infection.

Cerebrospinal Fluid Examination:

Involvement of the central nervous system can occur during any stage of syphilis. Therefore, any person who has clinical evidence of neurologic involvement and a positive treponemal test should have a lumbar puncture performed to obtain cerebrospinal fluid (CSF). A reactive VDRL performed on a CSF sample, in combination with elevated CSF white blood cells ($\geq$10 wbc/mm^3) or protein, is suggestive of neurosyphilis. Because VDRL-CSF might be nonreactive even when neurosyphilis is present, an FTA-ABS test on CSF may be helpful if the result of the VDRL-CSF test is negative.

Neurosyphilis may be a difficult diagnosis, particularly in HIV-positive individuals. The treatment guidelines provide in-depth information on diagnosis and treatment, and expert consultation may be needed when deciding how to evaluate an individual or interpret testing (1).

Other Diagnostic Tests:

Syphilis infection must be correctly diagnosed to ensure that the refugee with syphilis receives appropriate treatment and to prevent further spread of the disease. When clinical findings are suggestive of primary syphilis but serologic tests are nonreactive or their interpretation is unclear, alternative tests should be considered (e.g., biopsy of a lesion, darkfield microscopy, or direct fluorescent antibody staining of lesion exudate or tissue).

Syphilis in children (either congenital or acquired) must be properly evaluated. The diagnosis of congenital syphilis is complicated by transplacental transfer of maternal nontreponemal and treponemal IgG antibodies to the fetus, making it difficult to interpret reactive serologic tests for syphilis in newborns born to mothers seropositive for syphilis. Pathologic examination of the placenta or umbilical cord by using specific fluorescent antitreponemal antibody staining is recommended. Darkfield microscopic examination or direct fluorescent antibody staining of suspicious lesions or body fluids (e.g., nasal discharge) should also be performed. Other tests (e.g., complete blood count with platelets, bone radiographs) may be performed to support a diagnosis of congenital syphilis.

Other Treponema pallidum infections

Infection with other *T. pallidum* subspecies (i.e., *T. pallidum* subsp. *pertenue, T. pallidum* subsp. *endemicum,* and *T. carateum*) is acquired through contact with infected skin; these may result in a simple rash but may progress and cause disfiguring skin lesions. Unlike syphilis, these infections are not considered sexually transmitted. Long-term infection can lead to deformations of bone and nasopharyngeal tissue. Infection with any of these subspecies can produce positive results for both treponemal and nontreponemal tests used for diagnosis of syphilis. Therefore, it is important to obtain a thorough history of both sexual and nonsexual exposures and consider where *T. pallidum* subspecies are endemic to enable differentiation between syphilis and other *T. pallidum* subspecies infections. Lesions should be evaluated for treponemes by darkfield or fluorescence microscopy. Note: Darkfield microscopy of oral lesions will not enable distinction between syphilitic and nonsyphilitic treponemes.

Chlamydia

Clinical Presentation:

The most frequently reported STD in the United States is caused by the bacterium *Chlamydia trachomatis,* with the highest prevalence in refugees 15–25 years of age. Asymptomatic infection is common and screening of sexually active refugee women ≤25 years old, or of women >25 years old with risk factors (e.g., new sex partner or multiple sex partners) is recommended in the United States according to existing CDC sexually transmitted diseases treatment guidelines. In women, untreated infection can cause pelvic inflammatory disease, ectopic pregnancy, and infertility. Rarely, genital chlamydia infection can cause arthritis that may be accompanied by skin lesions and inflammation of the eye and urethra (reactive arthritis or Reiter's syndrome). There are little published data regarding prevalence rates of chlamydia in refugee populations arriving in the United States, although one study of more than 2,500 refugees found a rate of 0.6%, which is substantially lower than US prevalence rates (2).

Women with symptoms may have an abnormal vaginal discharge or burning sensation when urinating. Other symptoms include abdominal pain, low back pain, nausea, fever, pain during intercourse (dyspareunia), or bleeding between menstrual periods. Men with signs or symptoms may have penile discharge, burning, and itching or burning sensation when urinating. Pain and swelling of the testicles occur but are uncommon. Autoinoculation may occur in men or women and can be associated with conjunctivitis.

Chlamydia trachomatis infection in infants most frequently presents as conjunctivitis that develops 5–12 days after birth. It can also cause an afebrile pneumonia with onset 1–3 months after birth. Signs of *C. trachomatis* pneumonia include a repetitive staccato cough with tachypnea and hyperinflation and bilateral diffuse infiltrates on chest radiograph.

Diagnostic Testing:

Diagnosis of *C. trachomatis* urogenital infection in women can be made by testing urine or cervical specimens. Urethral *C. trachomatis* infection in men can be diagnosed by testing urethral swab or urine specimens.

Nucleic acid amplification tests (NAATs) are the most sensitive tests available for detection of *C. trachomatis.* These tests can be performed on cervical, urethral, urine, or vaginal swab specimens. Direct immunofluorescent antibody test is used to detect *C. trachomatis* from nasopharyngeal specimens, tracheal aspirates, and lung biopsy tissue in infants. Further information on diagnostic testing can be obtained from CDC's sexually transmitted diseases website.

Gonorrhea

Clinical Presentation:

Gonorrhea, caused by the bacterium *Neisseria gonorrhoeae*, is the second most commonly reported bacterial STD in the United States. The majority of gonococcal urethral infections in men produce symptoms. However, among women, more than 30% of infections do not produce recognizable symptoms. Untreated infection can result in complications such as pelvic inflammatory disease (PID), infertility, and ectopic pregnancy. Similar to chlamydia, there are little published data regarding prevalence rates of gonococcal infection in refugee populations arriving in the United States. The single publication on reporting rates of STDs in newly arriving refugees found that 0.2% of more than 2,500 refugees were infected (2).

Signs and symptoms of gonorrhea may appear from 1-14 days after a person is exposed to an infected person.

In men, signs and symptoms may include

- Pain or burning sensation when urinating
- Penile discharge
- Painful or swollen testicles
- Rectal discharge, anal itching, soreness, bleeding, or painful bowel movements

In women, signs and symptoms may include:

- Pain or burning sensation when urinating
- Vaginal discharge
- Intermenstrual bleeding
- Rectal discharge, anal itching, soreness, bleeding, or painful bowel movements
- Lower abdominal pain and dyspareunia

Other sites of infection include the eyes (gonococcal conjunctivitis) and pharynx. Disseminated gonococcal infection is associated with arthritis, tenosynovitis, skin lesions, fever or a combination of these signs and symptoms. Skin changes range from maculopapular or pustular to hemorrhagic rashes and lesions. Arthritis and tenosynovitis most typically affect the wrists, knees, and ankles.

Gonococcal infection among infants usually results from exposure to infected cervical exudate at birth. Typically an acute illness develops 2–5 days after birth and may present as ophthalmia neonatorum which may be complicated by a perforation of the globe of the eye and result in blindness. Ophthalmic prophylaxis at birth is effective at preventing this complication. Other manifestations in infants are scalp abscesses, rhinitis, vaginitis, urethritis, arthritis, meningitis, and sepsis.

Diagnostic Testing:

Specific diagnostic testing for gonorrhea may be performed on endocervical, vaginal, male urethral, or urine specimens. For screening purposes, urine samples tested by nucleic acid amplification tests (NAAT) are highly sensitive and specific. A Gram stain of discharge or a urethral swab showing intracellular gram-negative diplococci supports the diagnosis and may be sufficient to confirm gonorrhea in symptomatic men.

Because nonculture-based tests do not permit antimicrobial susceptibility testing, in cases of persistent gonococcal infection following treatment, both bacterial culture and antimicrobial susceptibility testing should be assessed. Refugees infected with *N. gonorrhoeae* are frequently coinfected with *Chlamydia trachomatis*.

Chancroid

Clinical Presentation:

Chancroid is caused by the bacterium *Haemophilus ducreyi* and results in painful, superficial ulcers, often with regional lymphadenopathy. Chancroid still occurs in Asia, Africa, and the Caribbean, and an important cofactor of HIV transmission in countries severely affected by HIV.

Genital ulcers may be single or multiple Unlike a syphilitic chancre, which is painless, the chancroid ulcer is painful, tender, and nonindurated. Symptoms usually occur 4–10 days after exposure. The lesion at the site of infection is initially a pustule that breaks down to form a painful, soft, ulcer with a necrotic base with irregular borders. Multiple lesions and inguinal adenopathy often develop. With lymph node involvement, fever, chills, and malaise may also develop. Other symptoms of chancroid include painful urination, vaginal discharge, rectal bleeding, pain with bowel movements, and dyspareunia.

Diagnostic Testing:

The combination of a painful genital ulcer and tender suppurative inguinal adenopathy suggests the diagnosis of chancroid. A probable diagnosis of chancroid can be made if all the following criteria are met:

- One or more painful genital ulcers (regional lymphadenopathy is also typical)

- No evidence of *T. pallidum* infection by darkfield examination of ulcer exudate or by syphilis serologic testing performed at least 7 days after onset of ulcers
- Test for herpes simplex virus performed on the ulcer exudate is negative

A definitive diagnosis of chancroid requires the identification of *H. ducreyi* on special culture media that is not widely available from commercial sources. Nucleic acid amplification tests can be performed in clinical laboratories that have developed their own tests.

Granuloma Inguinale/Donovanosis

Clinical Presentation:

Granuloma inguinale is a chronic, relapsing, granulomatous anogenital infection caused by the bacterium *Calymmatobacterium (Donovania) granulomatis*, which is endemic in tropical and developing areas, including India, Guyana, New Guinea, central Australia, and southern Africa. Symptoms usually occur 1–12 weeks after infection. The infection begins with the appearance of relatively painless nodules that break down into shallow, sharply demarcated ulcers with a beefy-red friable base of granulation tissue. The lesions may occur on the skin, genitalia, or perineal areas and slowly spread to the lower abdomen and thighs. The lesions may develop secondary bacterial infection or may be coinfected with another sexually transmitted pathogen.

Diagnostic Testing:

Diagnosis requires visualization of Donovan bodies (numerous bacilli in the cytoplasm of macrophages demonstrated with Giemsa or Wright's stain) in smears of scrapings from the ulcer base or histologic sections. Culture of *C. granulomatis* is difficult to perform and not routinely available.

Lymphogranuloma Venereum

Clinical Presentation:

Lymphogranuloma venereum (LGV) is caused by three subtypes of *C. trachomatis*, serovars L1, L2, or L3. It is most often seen in tropical areas of Asia, Africa, South America, and the Caribbean. Symptoms appear 3–30 days after infection and usually present as a painless ulcer or papule at the site of inoculation. Inguinal and femoral lymphadenopathy may also occur. Rectal exposure can result in mucoid or hemorrhagic rectal discharge, painful bowel movement, and constipation. Late manifestations include rectal and perirectal inflammation that can lead to rectal strictures and rectovaginal and perianal fistulas. Constitutional symptoms such as fever may occur.

Diagnostic Testing:

Diagnosis is based on clinical suspicion, epidemiologic information, and *C. trachomatis* testing. Genital and lymph node specimens (e.g., lesion swab, aspirate) may be tested for

C. trachomatis by culture, direct immunofluorescence, or nucleic acid detection. To differentiate LGV from non-LGV *C. trachomatis*, special testing is generally necessary (e.g., genotyping) and may necessitate consultation with laboratory experts. Chlamydia serology (complement fixation titers >1:64) can support the diagnosis in the appropriate clinical context.

Genital Herpes

Clinical Presentation:

Genital herpes is a chronic, lifelong infection caused by herpes simplex virus (HSV) type 1 and type 2. Most cases of recurrent genital herpes are caused by HSV-2. Many refugees with HSV-1 or HSV-2 have mild or unrecognized infections but intermittently shed the virus in the genital tract. When genital ulcers do occur, they appear typically as one or more blisters on or around the genitals, rectum or mouth. The blisters break, leaving tender ulcers that may take 2–4 weeks to heal the first time they occur. Other symptoms, such as fever, headache, muscle aches, malaise, and swollen lymph glands, may occur before appearance of the lesions. After the first episode of genital herpes, symptoms usually recur, but they tend to be milder and briefer. After the lesions erupt, they typically heal in 6–10 days.

Neonatal herpes is a rare but serious condition occurring among infants exposed to HSV during birth. Although the disease may be limited to skin, eyes, or mucus membranes, disseminated disease involving the lungs, liver, adrenal glands, and central nervous system disease (e.g., encephalitis) may also occur and is associated with serious consequences.

Diagnostic Testing:

Both virologic and type-specific serologic tests for HSV are available for diagnosis. Isolation of HSV in cell culture is the preferred virologic test for genital lesions. However, the sensitivity of the culture is low, especially for recurrent lesions. Polymerase chain reaction (PCR) tests for HSV DNA are more sensitive (3). Viral culture isolates can be typed to determine if HSV-1 or HSV-2 is the cause of the infection.

Type-specific serologic tests (e.g., ELISA, immunoblot) may be useful

- in clinical diagnosis of genital herpes without laboratory confirmation
- for recurrent genital symptoms or atypical symptoms with negative HSV culture
- when a sex partner has known genital herpes.

Genital Warts

Clinical Presentation:

Genital warts are the most recognized sign of genital human papillomavirus (HPV) infection. HPV types 6 and 11 are usually associated with genital warts. Other HPV types that affect the anogenital region (i.e., types 16, 18, 31, 33, and 35) are associated with

cervical neoplasia.

Genital warts are usually flat, papular, or pedunculated growths on the genital mucosa and often occur in clusters. They can appear on the penis, vulva, vagina, cervix, groin, or thigh within weeks or months after sexual contact with an infected person.

Diagnostic Testing:

Diagnosis of genital warts is made by visual inspection. Biopsy may confirm the diagnosis but is generally needed only when the lesions do not respond to appropriate therapy or worsen during therapy.

Trichomoniasis

Clinical Presentation:

Trichomoniasis, caused by the protozoan *Trichomonas vaginalis*, is the most common curable STD in sexually active women. The most common sites of infection are the vagina in women and urethra in men.

Approximately 70% of people with trichomoniasis will have no symptoms. Diffuse, malodorous, yellow-green vaginal discharges with vulvar irritation are typical symptoms in women. In men, trichomoniasis is characterized by irritation inside the penis, mild discharge or burning after urination. Microscopic, punctate hemorrhages may be observed on the cervix, known as "strawberry cervix", however, this is observed in less the 5% of infected women.

Diagnostic Testing:

Diagnosis of vaginal trichomoniasis is commonly performed by microscopy of vaginal secretions, although this method has a sensitivity of only approximately 60-70% and requires evaluation of a wet preparation slide for optimal results. Other FDA-cleared tests for trichomoniasis in women include immunochromatographic capillary flow dipstick tests and nucleic acid amplification tests (NAATs). These tests have a higher sensitivity (>83%) and specificity (>97%), although false positives may occur, especially when used in populations, or individuals, with low prevalence or pre-test probability. Culture for *T. vaginalis* is also considered a sensitive and specific method of detection and is commonly used when microscopy is negative. An FDA-cleared PCR assay for detection has been modified for *T. vaginalis* detection in vaginal or endocervical swabs and in urine from men and women; sensitivity ranges from 88-97% and specificity is >97% (4). APTIMA *T. vaginalis* Analyte Specific Reagents (ASR; manufactured by Gen-Probe, Inc.) also can detect *T. vaginalis* RNA by transcription-mediated amplification using the same instrumentation platforms available for the FDA-cleared APTIMA Combo2 assay for diagnosis of gonorrhea and chlamydial infection; published validation studies of *T. vaginalis* ASR found sensitivity ranging from 74%–98% and specificity of 87%–98% (5).

Counseling and HIV testing

The health-care provider must counsel all refugees with STDs and their sex partners to reduce their risk of future STDs. Preventive measures should include using barrier protection methods such as condoms, reducing the number of sex partners, and knowing the health status and HIV infection status of partners. Refugees infected by STDs are at risk for HIV. Although HIV screening is recommended as a routine component of the new arrival refugee medical screening examination, it is particularly important to offer HIV testing to refugees found to have other STDs.

Further information on the prevention of STDs is available at the CDC Sexually Transmitted Diseases website.

References

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Table 1. Interpretation of Syphilis Serology Tests

Nontreponemal test (e.g., RPR, VDRL)	Treponemal (specific) test (e.g., FTA-ABS, TPPA)	Likely interpretations and comments

Nonreactive*	Not routinely done if screening is nonreactive	No evidence of syphilis
Reactive	Reactive	• Untreated syphilis OR • Previously treated late syphilis OR • Other spirochetal diseases
Reactive	Nonreactive	False positive seen in certain acute or chronic infections (e.g., tuberculosis, hepatitis, malaria, early HIV infection), autoimmune diseases (e.g., systemic lupus, rheumatoid arthritis), injection drug use, pregnancy, and following vaccination (e.g., smallpox, MMR).
Nonreactive*	Reactive	• Very early untreated syphilis OR • Previously treated syphilis OR • Very late untreated syphilis Note: After successful treatment, a positive nontreponemal test usually becomes negative, whereas the treponemal test remains positive for life.

***** Note: Nontreponemal testing may have a false-negative result during primary syphilis in the very early stages, tertiary syphilis in the very late stages, or syphilis with concomitant HIV infection. Suggest retesting or alternative testing if clinical suspicion is high. See CDC Sexually Transmitted Diseases Treatment Guidelines.