State of Illinois
Illinois Department of Public Health

Expedited Partner Therapy for *Chlamydia Trachomatis* and *Neisseria Gonorrhoeae:* Guidance for Health Care Professionals in Illinois

Illinois Department of Public Health (IDPH)
Sexually Transmitted Diseases Section*

INTRODUCTION

As of January 1, 2010, Illinois health care professionals have a new option for ensuring effective partner treatment for the sex partners of patients diagnosed with *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. On August 24, 2009, Governor Pat Quinn signed Senate Bill 212 into law (PA 96-613) authorizing the use of expedited partner therapy (EPT). PA 96-613 amended Sections 3 and 6 of the Illinois Sexually Transmissible Disease Control Act (410 ILCS 325/3) from Ch. 111 ½, par. 7403) and (410 ILCS 325/6) (from Ch. 111 ½, par. 7406), added Section 64 to the Medical Practice Act of 1987 (225 ILCS 60/64 new), amended the Nurse Practice Act by adding Section 70-170 (225 ILCS 65/70 – 170 new), and amended the Physician Assistant Practice Act of 1987 by adding Section 25 (225 ILCS 05/25 new). EPT is the general term for the practice of treating sexual partners of patients diagnosed with chlamydia and/or gonorrhea without an intervening medical evaluation. EPT is an alternative strategy for ensuring that sex partners get needed medication thus reducing the likelihood of re-infection and potential further dissemination of these diseases within the community.

PA 96-613 allows health care professionals, including licensed physicians, physician assistants, and advanced practice nurses to dispense antibiotic therapy for the sex partners of individuals infected with *Chlamydia trachomatis* and *Neisseria gonorrhoeae*, even if they have not been able to perform an exam of the patient's sex partner(s).

The following guidelines concerning EPT provide information on the most appropriate patients, medications, and counseling procedures recommended to maximize patient and public health benefit while minimizing risk.

*The guidance was developed in collaboration with the Chicago Department of Public Health and in consultation with the Minnesota Department of Health and California Department of Public Health Sexually Transmitted Diseases Control Branch who allowed Illinois Department of Public Health to use their EPT guidances.

Summary Guidance for Expedited Partner Therapy (EPT)

- **EPT Eligible Patients**: Persons with a clinical diagnosis of *Chlamydia trachomatis* or *Neisseria gonorrhoeae*, preferably confirmed with a laboratory test.
- **EPT Eligible Partners:** Sex partners of patients treated for chlamydia and/or gonorrhea who were exposed within the previous 60 days (or most recent sex partner if none in the previous 60 days), and who are unable or unlikely to seek medical care. (See page 6 for additional recommendations)
- **First-choice Partner Management Strategy**: Attempt to refer partners in for complete clinical evaluation, STD/HIV testing, counseling, and treatment.
- **Recommended Drug Regimens for Sex Partners Receiving EPT:**
  - Patients diagnosed with chlamydia, but not gonorrhea:
    - Azithromycin (Zithromax*) 1 gram (500 mg tablets x 2) orally once
  - Patients diagnosed with gonorrhea but not chlamydia:
    - Cefixime (Suprax*) 400 mg orally once, PLUS
    - Azithromycin (Zithromax*) 1 gram (500 mg tablets x 2) orally once
  - Patients diagnosed with both gonorrhea and chlamydia:
    - Cefixime (Suprax*) 400 mg orally once, PLUS
    - Azithromycin (Zithromax*) 1 gram (500 mg tablets x 2) orally once
- **Informational Materials:** Health care professionals must provide patients participating in EPT with counseling and written materials (developed by the Illinois Department of Public Health) for their sex partners, including:
  - A warning about administering EPT to pregnant partners;
  - Information about the antibiotic and dosage provided or prescribed;
  - Information about the treatment and prevention of STDs;
  - Requirement of abstinence until a period of time after treatment;
  - Notification of the importance of sex partners to receive testing for HIV and other STDs;
  - Notification of the risk to self, others, and the public health if the STD is not completely treated;
  - The responsibility of the sex partner to inform his/her sex partners of the risk of STDs and importance of examination and treatment; and
  - Other information deemed necessary by the Department.
- **Patient Re-testing:** Patients treated for chlamydia and/or gonorrhea should be re-tested three months after treatment to identify possible re-infection.
- **Liability**: Illinois EPT legislation protects health care professionals providing EPT from civil and professional liability, except for willful and wanton misconduct. The same protection applies to health care professionals choosing not to provide EPTand to pharmacists or pharmacies that do not fill an EPT prescription which violates any provision of the Illinois Pharmacy Practice Act.

* Use of trade names is for identification only and does not imply endorsement.

BACKGROUND AND RATIONALE

Public Health Importance of Chlamydia and Gonorrhea

Sexually transmitted chlamydia and gonorrhea infections are significant public health problems. More than 60,000 cases of chlamydia and 15,000 cases of gonorrhea were reported in Illinois in 2010 [1], making them the top two most common reportable communicable infections. Genital infections can lead to pelvic inflammatory disease (PID), chronic pelvic pain, ectopic pregnancy, and preventable infertility in women [2]. Patients with these infections are also at increased risk of acquiring sexually transmitted HIV [3]. Repeat gonorrhea infections, which increase the risk of complications, occur in up to 11 percent of women and men within six months after treatment [4, 5]. Repeat chlamydia infections occur in up to 13 percent of patients in this same time period [6]. To prevent repeat infections, reduce complications in individuals, and reduce further transmission of infection in the community, sex partners of infected patients must be provided timely and appropriate antibiotic treatment.

Barriers to Effective Partner Management

Currently, there are considerable challenges to effective partner management. Public health efforts to notify and treat sex partners have proven successful and are considered a cornerstone of syphilis control [7]. However, because of the high burden of infection and limited public health resources for partner notification activities, it is difficult for local health departments to provide investigation and partner notification for cases of gonorrhea and chlamydia [8]. Thus, the standard of care for partner management for gonorrhea and chlamydia cases has become patient referral, whereby health care providers counsel patients about the need for partner treatment and that the responsibility for notifying partners rests with the patient.

The effectiveness of patient referral is limited by the patient's choice in notifying the partner, as well as the partner's choice in seeking treatment. Asymptomatic partners often fail to seek care because they have no signs or symptoms of infection, and they incorrectly assume they are not infected. Additionally, some partners may be uninsured and have limited access to medical care. These limitations to the effectiveness of partner referral demonstrate the need for additional strategies to ensure sex partner treatment such as expedited partner therapy.

Expedited Partner Therapy

Expedited partner therapy (EPT) for sexually transmitted disease is an alternative strategy for ensuring that sex partners get needed medication. EPT is the general term for the practice of treating sex partners of patients diagnosed with an STD without an intervening medical evaluation. Patients deliver either the medication or prescriptions for medication to their sex partner(s).

Evidence for the Effectiveness of EPT for Chlamydia and Gonorrhea

Several research studies, including randomized clinical trials, have demonstrated that EPT is effective in facilitating partner notification and reducing recurrent chlamydia and gonorrhea infection among index cases. A recent meta-analysis that included five clinical trials showed an overall reduced risk (summary risk ratio 0.73, 95 percent confidence interval (CI) 0.57 to 0.93) of recurrent infection in patients with chlamydia or gonorrhea who received EPT, compared with those who received standard partner treatment methods [9].

One randomized trial demonstrated that partner management strategies that included EPT as an option, compared with conventional strategies, significantly reduced recurrent gonorrhea or chlamydial infection among heterosexual men and women [10]. In this study, EPT was more effective than standard referral in reducing recurrent infection among patients with gonorrhea (3 percent versus 11 percent, $p = 0.01$), compared with those with chlamydial infection (11 percent versus 13 percent, $p = 0.17$).

In a separate study, of men with urethritis, EPT, compared with patient referral, reduced recurrent infection rates by half, from 43 percent to 23 percent [11]. In another study, of women with chlamydia, EPT reduced recurrent infection rates from 15 percent to 12 percent ($p = .10$) [12].

A report published by the U.S. Centers for Disease Control and Prevention (CDC) in 2006 provided a thorough review of the research literature, a discussion of programmatic issues related to EPT, and guidance for public health programs and clinicians [13].

Implementation and Use of EPT

In a national physician survey conducted in 2000, researchers at CDC found that the practice of EPT for chlamydia and gonorrhea was not uncommon [14, 15]. Currently, 20 states including Illinois have legalized EPT.

In 2006, the Centers for Disease Control and Prevention (CDC) issued *Expedited Partner Therapy in the Management of Sexually Transmitted Diseases; Review and Guidance*. This document recommends the use of EPT as an option to facilitate partner management in heterosexual men and women infected with chlamydia and/or gonorrhea. This document is available at the CDC Website, www.cdc.gov/std/ept.

Considerations in Using EPT

There are several concerns about EPT. First, the medication could cause a serious adverse reaction, including allergy. However, adverse reactions to recommended EPT medications, beyond mild side effects, are rare. Second, EPT may compromise the quality of care provided to sex partners, particularly if it is used as a first-line approach for partners who would otherwise seek clinical services. Appropriate care for sex

partners to persons with chlamydia and gonorrhea infections includes testing for other STDs and HIV, physical examination to rule out a complicated infection, and risk-reduction counseling. Ideally, partners who receive EPT will still access these clinical services. Despite these concerns, the benefits of EPT outweigh the risks, since doing nothing for these partners is more harmful. Further, these risks may be mitigated through patient education and written materials for partners that provide warnings and encourage visiting a health care provider.

Additional concerns about EPT include misuse of the medication, waste if the medication is not delivered or not taken, and contribution to antibiotic resistance at the population level. Currently, there is no evidence that EPT is misused or leads to increasing antimicrobial resistance.

EPT in Illinois

In the spring, Senate Bill 212 was introduced, subsequently passed overwhelmingly in both legislative houses and was signed into law by Governor Quinn on August 24, 2009 with an effective date of January 1, 2010. A copy of this legislation is available at www.idph.state.il.us/health/std/096_0613.pdf. The Illinois law allows health care professionals (physicians, physician assistants, and advanced practice nurses) to dispense antibiotic therapy for the male and female sex partners of individuals infected with *Chlamydia trachomatis* or *Neisseria gonorrhoeae*, even if they have not been able to perform an exam of the patient's partner(s). This new law provides an important means to combat a serious public health problem and prevent adverse reproductive health outcomes.

This option allowing health care professionals to use EPT is not intended as the first and optimal choice of treatment for partners of individuals diagnosed with gonorrhea and chlamydia. However, this strategy can serve as a useful alternative when the partner is unable or unlikely to seek care. Providers should use their best judgment to determine whether partners will or will not come in for an examination and treatment, and to decide whether or not to dispense or prescribe additional medication for the index patient to give to his/her sexual partner(s).

Liability Issues

Illinois EPT legislation protects health care professionals (HCPs) providing prescription antibiotics to sex partners (EPT) without fee or compensation from civil and professional liability, except in cases of willful and wanton misconduct. HCPs must provide the index patient with counseling and written materials (developed by the Illinois Department of Public Health) for his/her sex partner(s). The same protection applies to health care professionals choosing not to provide EPT and to pharmacists or pharmacies that do not fill an EPT prescription which violates any provision of the Illinois Pharmacy Practice Act.

Selecting Appropriate Patients for EPT

Appropriate patients are those with a clinical diagnosis of sexually transmitted chlamydia or gonorrhea infection, preferably with laboratory confirmation. Laboratory confirmation of the diagnosis may include a gram stain of male urethral exudate showing gram negative intracellular diplococci indicative of gonorrhea; a positive culture test for chlamydia or gonorrhea; or a positive nucleic acid amplification test (NAAT) for chlamydia or gonorrhea (e.g., GenProbe Aptima, Becton Dickinson ProbeTec, Roche polymerase chain reaction (PCR) Amplicor). Because of their high sensitivity, NAATs are the tests of choice for chlamydia and gonorrhea screening and testing.

Providing EPT without laboratory confirmation should only be considered when the provider has a high clinical suspicion for chlamydia or gonorrhea infection in the index case and there is concern about loss of follow-up.

Clinicians should attempt to motivate patients to refer their partners for comprehensive health care, including evaluation, testing and treatment. Clinical services provide the opportunity to ensure treatment; confirm the diagnosis; examine the patient; test for other STDs, HIV and pregnancy; provide needed vaccinations; and offer risk-reduction counseling and community referrals. These services constitute the standard of care for all partners of patients infected with a sexually transmitted infection.

Thus, patients most appropriate for EPT are those with partners who are unable or unlikely to seek prompt clinical services. Factors to consider in the patient's report are that the partner is uninsured, lacks a primary care provider, faces significant barriers to accessing clinical services, or will be unwilling to seek care. Providers also should assess the acceptability of EPT to both the patient and the partners receiving it. Even if EPT is provided, the partner should still be encouraged to seek follow-up care as soon as possible.

Providers should assess the partner's symptom status, particularly symptoms indicative of a complicated infection; pregnancy status; and risk for severe medication allergies. If the partner is pregnant, every effort should be made to contact her for referral to pregnancy services and/or prenatal care. The local health department may be of assistance in notifying and referring pregnant partners for these special situations. For partners with known severe allergies to antibiotics, EPT should not be used.

Illinois law permits EPT regardless of the patient's gender or sexual orientation. However, the use of EPT to treat certain partners [e.g., females, and men who have sex with men (MSM)] may increase the risk of under-treating a complicated infection or missing a concurrent STD/HIV infection in the partner. Further, EPT is not appropriate for patients co-infected with STDs not covered by EPT medication; cases of suspected child abuse or sexual assault; or a situation in which the patient's safety is in doubt.

Sex Partner Treatment

Illinois law does not mandate a specific antibiotic. Recommended antibiotic regimens for EPT are listed in the table below.

Infection Diagnosed in Index Patient	Recommended Medication for EPT
Chlamydia only	▪ Azithromycin (Zithromax*) tablets 1 gram (500 mg tablets x 2) orally once
Gonorrhea only	▪ Cefixime (Suprax) 400 mg orally once, PLUS ▪ Azithromycin (Zithromax*) tablets 1 gram (500 mg tablets x 2) orally once
Gonorrhea and chlamydia (Includes situations in which the chlamydia and/or gonorrhea test results are not yet available in a patient with clinical signs of gonorrhea/chlamydia.)	▪ Cefixime (Suprax) 400 mg orally once, PLUS ▪ Azithromycin (Zithromax*) tablets 1 gram (500 mg tablets x 2) orally once

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On April 13, 2007, CDC released data showing an increasing and high prevalence of fluoroquinolone-resistant *Neisseria gonorrhoeae* in the United States, and recommended that fluoroquinolones (ciprofloxacin, ofloxacin, levofloxacin) no longer be used to treat gonorrhea. Few oral cephalosporins have been studied and found to be effective against gonorrhea. Cefixime remains a recommended regimen to treat uncomplicated infections of the cervix, urethra or rectum. A single dose of cefixime 400 mg and 1 gram of azithromycin is appropriate medication for EPT for gonorrhea infections [16].

In general, oral cephalosporins are less effective in eradicating pharyngeal gonorrheal infection. Providers who are concerned that the partner is at risk for pharyngeal infection, specifically if the partner has been exposed to a male urethral infection at this site, should discuss with the patient that oral treatment may not cure pharyngeal gonorrhea in all patients and that the partner should still seek care.

Patients infected with gonorrhea have high rates (35 percent to 50 percent) of co-infection with chlamydia [17]. Because of the high sensitivity of NAATs for chlamydial infection, a patient's negative chlamydial NAAT result precludes the need for the patient or partner(s) to be treated for chlamydia. However, if chlamydial test results are not available or if a non-NAAT was negative for chlamydia, the patient and partner(s) should be treated for both gonorrhea and chlamydia [18]. For EPT, unless chlamydia infection is ruled out with the use of a NAAT, azithromycin treatment is necessary for the presumptive treatment of chlamydia in patients diagnosed with gonorrhea.

Azithromycin two grams orally should not be used for EPT. Although small studies have shown that this regimen is effective against uncomplicated gonococcal infections, it causes significant gastrointestinal distress, and may be expensive. In addition, some concerns that widespread use may lead to the emergence of antimicrobial resistance have been raised.

Options for Delivery of Antibiotics to Partners

1. Dispense medication directly to the patient for delivery to partner(s).
    a) The patient should be given enough doses to treat each sex partner in the past 60 days whom the patient feels confident contacting, and who are unable or unlikely to seek medical care. If the patient reports no sex partners in the past 60 days, provide one dose for the most recent sex partner if the partner is unable or unlikely to seek medical care.
    b) The law does not specify how many partners may be treated through EPT.
    c) Medication packets should contain drugs described above in "Recommended Treatment Regimens."
    d) Labeling of medication packets should adhere to Illinois Pharmacy Practice Act stipulations.

2. Dispense prescription to the patient to be delivered to partner(s) who is unable or unlikely to seek medical care. Partner(s) presents the prescription to a pharmacy of his/her choice to be filled.
    a) The patient should be given one prescription for each sex partner in the past 60 days whom the patient feels confident contacting and who is unable or unlikely to seek medical care. If the patient reports no sex partners in the past 60 days, provide one prescription for the most recent sex partner who is unable or unlikely to seek medical care.

    A combination of partner strategies also may be used, for example, a patient with several partners may refer one partner to a health care professional but take EPT for other partners.

Risk of Adverse Reactions to Medications

Adverse reactions to single-dose cefixime and azithromycin, beyond mild to moderate side effects, are rare. As of December 2009, there have been no reports of adverse events related to EPT in California, since its implementation in 2001. This risk of allergy and adverse drug reactions may be best mitigated through educational materials that accompany the medication, which include explicit warnings and instructions for partners who may be allergic to penicillin, cephalosporins, or macrolides, to seek medical advice before taking the medication. Examples of partner therapy instructions and information are available in English and Spanish at www.idph.state.il.us/health/std/ept_cg.htm.

All known adverse reactions should be reported to the Illinois Department of Public Health, STD Section by telephone: 217-782-2747. Known adverse reactions to cefixime and azithromycin are as follows:

- Cefixime

  Cefixime is generally well tolerated. The most common side effects in patients receiving a single-dose regimen of 400 mg are loss of appetite, nausea, diarrhea and vomiting.

  Approximately 1 percent to 3 percent of patients have a primary hypersensitivity to cephalosporins; however, rates and cross-reactivity vary, depending on the molecular structure [18]. The risk of anaphylaxis with cephalosporin in the general population is 0.0001 percent to 0.1 percent [19-21]. However, patients with IgE-mediated allergy to penicillin are at increased risk for severe allergic reactions to cephalosporins. Evidence of IgE-mediated allergy include anaphylaxis, hypotension, laryngeal edema, wheezing, angioedema, and/or uticaria.

  Approximately 10 percent of patients report penicillin allergy; however, more than 90 percent of them are found not to be allergic and are able to tolerate the drug [22]. Cephalosporins are less allergenic than penicillin. The risk of cephalosporin reaction among patients with penicillin allergy is 5 percent to 17 percent for first-generation cephalosporins, 4 percent for second-generation, and only 1 percent to 3 percent for third- and fourth-generation cephalosporins [23]. Cefixime, and other cephalosporins recommended for the treatment of gonorrhea are all third-generation cephalosporins.

  In a retrospective cohort study of patients receiving penicillin and a subsequent cephalosporin, the risk of an allergic event was about 10-fold higher among those who had had a prior allergic reaction to penicillin; however, the absolute risk of anaphylaxis was very small: one in 100,000 [24]. Further, because the risk was similarly elevated among those subsequently given a sulfonamide antibiotic, cross-reactivity may not be an adequate explanation for the increased risk.

  The American Academy of Pediatrics guidelines, which establish a medicolegal standard of care, state that third-generation cephalosporins can be used to treat penicillin-allergic patients as long as the penicillin reaction is not severe (i.e., not IgE-mediated) [19, 20]. Skin testing for penicillin allergy is recommended for patients if the allergic reaction was consistent with IgE-mediated mechanism or if the history is unclear [25]. Such partners should be brought in for treatment for gonorrhea exposure.

- Azithromycin

  Azithromycin is generally well tolerated [26]. The most common side effects in patients receiving a single-dose regimen of one gram of azithromycin are related to the gastrointestinal system: diarrhea/loose stools (7 percent), nausea (5 percent), abdominal pain (5 percent), vomiting (2 percent), and dyspepsia (1 percent). Vaginitis occurs in about 1 percent of women taking azithromycin. No other side effects have been documented with a frequency greater than one percent. Anaphylaxis or severe allergy to macrolides generally, and to azithromycin specifically, is very rare. Two grams of azithromycin are not recommended as EPT for gonorrhea.

Risk of Under-treating Complicated Infections and Missing Concurrent STD/HIV

Another risk of EPT is missing concurrent STD and HIV infections. There is particular concern related to using EPT in men who have sex with men (MSM) because of the risk of missing an undiagnosed HIV infection. In a multi-site study of STD/HIV co-infection among STD patients who presented as contacts to infection, 6.3 percent of MSM had newly diagnosed HIV infection [27]. The risk of missing new HIV infections may be less in areas with ready access to HIV screening. Thus far, research on the effectiveness of EPT in reducing repeat infection has been limited to heterosexual populations.

Risks can be mitigated through educational materials that clearly instruct all EPT recipients that they should seek care for STD and HIV testing, regardless of whether or not they take the medication. In particular, those with specific symptoms such as pelvic pain or testicular pain should seek medical care; pregnant women should seek regular prenatal care and receive a test-of-cure; and MSM should seek HIV testing. Examples of partner therapy instructions and information are available in English and Spanish online at www.idph.state.il.us/health/std/ept_cg.htm. Assistance from the local health department also may be available for these challenging partner situations.

EPT and Pregnancy

Although EPT is not contraindicated when a patient reports that his female partner may be pregnant, every effort should be made to contact the pregnant partner and ensure that she is referred for appropriate medical care. EPT for pregnant partners only should be considered as a last resort. The local health department may be of assistance in notifying and referring pregnant partners for these special situations. The need for a test-of-cure for chlamydia and gonorrhea in pregnancy in three weeks should be emphasized. Both recommended EPT regimens are safe in pregnancy.

Required Education and Counseling

According to Illinois EPT law, health care professionals must provide patients infected with chlamydia and/or gonorrhea counseling and written materials* (developed by the Illinois Department of Public Health) for their partners who will receive EPT either as a prescription to be filled or medication to be taken.

Required patient counseling and written materials for EPT partners include:

- A warning about administering EPT to pregnant partners;
- Information about the antibiotic and dosage provided or prescribed;
- Information about the treatment and prevention of STDs;
- Requirement of abstinence for seven days after treatment;
- Notification of the importance of sex partners to receive testing for HIV and other STDs;
- Notification of the risk to self, others, and the public health if the STD is not completely treated;
- The responsibility of the sex partner to inform his/her sex partners of the risk of STDs and importance of an examination and treatment; and
- Other information deemed necessary by IDPH.

Although not required by EPT law, health care professionals should advise patients that if their partners have symptoms of a more serious infection (e.g., pelvic pain in women, testicular pain in men, fever in men or women) the partners should not take the EPT medications and should seek care as soon as possible.

*See Appendices A – F for partner written materials (Treatment Fact Sheets) in English and Spanish. The same are available at www.idph.state.il.us/health/std/ept_cg.htm.

Persons Repeatedly Infected With STDs

Health care professionals should counsel, as well as provide, written materials to patients who have a history of two or more sexually transmitted diseases concerning the increased risks related to re-infection and subsequent complications such as pelvic inflammatory disease, ectopic pregnancy, etc., and increased risk of HIV acquisition/transmission. A fact sheet for patients with repeat infections is provided in Appendix G and is available at www.idph.state.il.us/health/std/ept_cg.htm.

Patient Follow-up and Re-testing at Three Months

To ensure the effectiveness of EPT, providers should schedule both male and female patients to return for re-testing for gonorrhea and chlamydia three months after treatment. It also is recommended that sex partners who receive EPT be re-tested for chlamydia and gonorrhea three months after treatment.

RESOURCES

Illinois EPT Resources:

- EPT partner information materials are available at www.idph.state.il.us/health/std/ept_cg.htm. Materials are available in English and Spanish, and include instructions for chlamydia treatment, gonorrhea treatment, and combination treatment (both chlamydia and gonorrhea).
- Adverse reaction reporting by telephone at 217-782-2747.
- Illinois EPT legislation is available at www.idph.state.il.us/health/std/096_0613.pdf.
- For information on local chlamydia and gonorrhea control efforts, please call your local health department STD control program, visit the Illinois Department of Public Health Web site at www.idph.state.il.us, or call the Illinois Department of Public Health STD Section at (217)782-2747.

CDC STD Practice Guidelines

- STD Treatment Guidelines 2010. Available online at www.cdc.gov/std/treatment
- Expedited Partner Therapy in the Management of Sexually Transmitted Diseases. 2006. Available online: www.cdc.gov/std/EPT

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