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## Case Challenge

# Adolescent Sexual Health: “Partners” in Prevention

Ragan Johnson, DNP, FNP-BC, Krysta Blanton, BSN, RN



## A B S T R A C T

### Keywords:

adolescent  
expedited partner therapy  
lower abdominal pain  
primary care management  
sexually transmitted infection

Chlamydia is the most common sexually transmitted infection in the United States. Expedited partner therapy is the practice of prescribing antibiotic therapy to the sexual partner(s) of a patient infected with a sexually transmitted infection, without an evaluation by a provider. Primary care providers often encourage partner notification, but research suggests that is not sufficient in ensuring successful partner treatment or reducing patient reinfection. All primary care providers must be comfortable prescribing expedited partner therapy to at-risk populations. This case study highlights a 17-year-old with a 1-week history of lower abdominal pain.

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Adequate assessment of a patient’s sexual health history is crucial in preventing the spread and reinfection of sexually transmitted infections (STIs). It is a sensitive conversation for patients and providers and therefore often underused in the primary care office. Including a patient’s partner in the education and treatment plan can further serve to decrease the spread of communicable diseases and comorbid conditions that accompany them.

## Case Presentation

A 17-year-old female presents to the primary care clinic with a 1-week history of intermenstrual bleeding with changes in vaginal discharge.

### History of Present Illness

The patient reports vague symptoms of intermittent vaginal bleeding, or spotting, after her menstrual cycle ended 1 week ago and a gradual onset of a white vaginal discharge that is slightly more than what she typically notices between cycles. She reports being treated for the same symptoms 3 months ago in an urgent care clinic. She states that she received an oral antibiotic and completed the course of medication as prescribed.

### Past Medical History

The patient has a history of chlamydia, which was diagnosed 3 months ago, treated, and resolved. There are no other chronic conditions in her medical history. She denies any past surgical history or hospitalizations. There is no recent travel outside of the

United States. All immunizations are up-to-date, and she received the complete human papillomavirus vaccine series.

### Medications

The patient reports no allergies to medications or food. She is currently taking the oral contraceptive norethindrone acetate and ethinyl estradiol 1/20.

### Social and Family History

The patient denies tobacco, illicit drugs, and alcohol use. There is no pertinent family history. She is planning to attend college next year on a volleyball scholarship.

### Sexual Health History

The patient acknowledges having 3 sexual partners in the past year. This includes an ex-boyfriend of 2 years, a 1-time encounter shortly after, and her current partner of 5 months. She reports sexual activity with men only, including oral and vaginal sex practices, and inconsistent use of condoms. She reports being tested for STIs 3 months ago because of similar symptoms and being diagnosed with chlamydia. She has not informed any of her previous or current partners about her STI results because she “was too embarrassed to tell them.” She completed the prescribed course of antibiotics and did not have sex with her partner again until about a month ago. Since resuming sexual activity, she has not used condoms consistently with her current partner. Her human immunodeficiency virus (HIV) test at that time was negative.

Pregnancy is not desired at this time. The patient reports feeling safe in her current relationship.

### Review of Systems

The results of the review of the patient's systems are as follows:

1. General: the patient denies recent fever, fatigue, or weight loss/gain.
2. Lymph: the patient denies feeling any swollen nodes in the cervical, inguinal, and femoral regions.
3. Skin: the patient denies the presence of a rash.
4. Mouth/throat: the patient denies any lesions around the mouth. No sore or swollen throat is reported.
5. Abdominal: the patient denies abdominal pain, excessive belching, nausea, vomiting, and heartburn. The patient reports regular once-a-day stools that are soft and formed.
6. Genitourinary: the patient reports increased urinary frequency but denies dysuria and blood in the urine. She reports nonodorous thin, milky white discharge that is more than what she typically sees between cycles. She denies vaginal itching or sores. She also reports intermittent minimal intermenstrual bleeding with this latest cycle that ended a week ago.

### Physical Examination

The physical examination findings are as follows:

1. Vital signs: oral temperature of 98.5°F, blood pressure of 118/75 beats/min, heart rate of 70 beats/min, 16 respirations/min, weight

of 135 lb, 5'4" height, and body mass index of 23.2 kg/m<sup>2</sup>; her pulse oximetry reading is 100% on room air.

2. General: alert and oriented times 4, pleasant, well nourished, and appropriate hygiene
3. Skin: no rash present on trunk, abdomen, palms, or soles
4. Lymph: no lymphadenopathy
5. Gastrointestinal: abdomen flat, nontender, and soft with normoactive bowel sounds in all quadrants, no organomegaly, no rebound tenderness, and negative Murphy sign
6. Genitourinary/pelvic: external genitalia is without lesions. Speculum examination reveals a cervix that is midline and friable, with mucopurulent discharge. A cervical nucleic acid amplification test (NAAT) is obtained during the examination to detect gonorrhea and/or chlamydia. Her bimanual examination is without uterine or adnexal tenderness, cervical motion tenderness, or mass.

### Questions to Consider

1. What is the most likely diagnosis and why?
2. What are the clinical effects of delay in treatment for this patient?
3. What treatment should be prescribed?
4. What patient education would you offer?

If you believe you know the answers to the following questions, then test yourself and refer to page e23 for the answers.

## Case Challenge

## Adolescent Sexual Health: “Partners” in Prevention

(continued from page e22)

## Case Challenge Questions and Answers

## 1. What Is Most Likely the Diagnosis and Why?

This patient most likely has chlamydial reinfection. Diagnosing chlamydia in the primary care setting poses challenges for both the practitioner and the patient.<sup>1,2</sup> Many women present with few, nonspecific symptoms and/or with asymptomatic signs.<sup>3</sup> The health care provider, and patient alike, often fail to recognize these nonspecific symptoms as an STI, which results in a delay of treatment. This further potentiates the spread of an STI among sexually active individuals and communities.

Diagnostic criteria help to mitigate this in clinical practice. In the case presented, it is reasonable to assume and treat for chlamydia in a sexually active female presenting with a prior history of chlamydia infection and cervical friability upon examination.<sup>1,2</sup> The presence of mucopurulent discharge helps to support the diagnosis.

Differential diagnoses appropriate in this population include candidal vulvovaginitis, bacterial vaginosis, trichomonas vaginitis, *Neisseria gonorrhoea*, herpes simplex virus, pelvic inflammatory disease (PID), intrauterine or ectopic pregnancy, cystitis, endometriosis, urinary tract infection, miscarriage, and malignancy.<sup>4</sup> It is appropriate for the provider to implement the physical assessment outlined in the case challenge along with diagnostics such as NAAT screenings, a pregnancy test, a wet prep, potassium hydroxide prep, urinalysis, and urine culture.<sup>4</sup> It is also reasonable to recommend syphilis and HIV screening. Although the standard of care requires ruling out the differentials, empirically treating the patient for chlamydia is not likely to worsen any of these conditions, and, therefore, is a recommended practice.<sup>4</sup>

## 2. What Are the Clinical Effects of Delay in Treatment for This Patient Population?

Chronic pelvic pain, pelvic inflammatory disease, infertility, and ectopic pregnancy pose the biggest risk from untreated chlamydial infections. The number of recurrences heightens the likelihood of these complications. Other complications such as perihepatitis and chlamydia-induced reactive arthritis are emerging in literature as underdiagnosed, yet prevalent comorbidities to repeated chlamydial infections.<sup>1</sup>

Chlamydia, a “silent” bacterium, causes few, if any, symptoms. Thus, it poses a greater risk for reinfections if the patient and his or her sexual partners are not treated concomitantly. Complications for this patient’s male partner(s) include infertility related to epididymo-orchitis, perihepatitis, reactive arthritis, and “other site” chlamydial infections (ie, eyes or lymph nodes).<sup>1</sup>

## 3. What Treatment Should Be Prescribed?

This patient should be treated presumptively to cover chlamydia and gonorrhea. The Centers for Disease Control and Prevention (CDC) recommends a single dose of on-site ceftriaxone 250 mg administered intramuscularly and azithromycin 1 g orally to maximize adherence.<sup>3,5</sup> If oral medication is not available on-site, studies have shown that a single dose of azithromycin 1 g or a 7-day course of doxycycline 100 mg twice a day have 97% and 98%

efficacy, respectively.<sup>3</sup> In addition, this patient should also receive either a patient-delivered dose of azithromycin or a prescription for her partner.

Comprehensive treatment of STIs includes testing and treating the patient as well as providing services for their sexual partners.<sup>6</sup> Expedited partner therapy (EPT) is the practice of providing antibiotic therapy to the sexual partner of a patient infected with an STI without an evaluation by a clinician.<sup>7,8</sup> In 2006, the CDC recommended EPT as an option for women and heterosexual partners infected with gonorrhea or chlamydia.<sup>6–8</sup> The use of EPT in men who have sex with men requires further research because of the risk of missing coinfections such as HIV or syphilis and is therefore not recommended.<sup>6,7,9</sup> Although providers often encourage partner notification, research suggests this alone does not result in the treatment of partners.<sup>7,8</sup>

EPT is most commonly completed by patient delivery of either a prescription or medication dispensed from the provider’s office. EPT is beneficial in decreasing patient reinfection while increasing the likelihood of more of their partners being treated.<sup>8</sup> EPT is effective, given compliance, in both chlamydia and gonorrhea. However, the current treatment regimen for gonorrhea with an intramuscular injection makes EPT less feasible.<sup>8</sup> However, the CDC continues to recommend EPT in heterosexual partners of patients diagnosed with gonorrhea if partners are unlikely to obtain an evaluation and treatment in a timely manner.<sup>10</sup> Studies indicate providers are open to the practice of EPT but cite liability concerns, fear of potential adverse patient outcomes, lack of reimbursement, and an inability to properly counsel and examine the partner as barriers.<sup>6–8</sup> One strategy clinicians can use is to write an order on the prescription requesting for the pharmacist to screen the partner for drug allergies before dispensing the medication.<sup>7</sup> Providers can also choose to call patients’ partners to address the concern about not counseling the partners appropriately.<sup>7</sup> Electronic health records are an additional barrier to prescribing EPT. Prescribing a medication to a person who is not registered in a provider’s electronic health record system is a challenge.<sup>6</sup> Providers and organizations should devise an EPT policy to address this. Although the legal status of EPT varies by state, the use of EPT is permissible in 44 states and the District of Columbia.<sup>7,11,12</sup> Only South Carolina and the Commonwealth of the Northern Mariana Islands prohibit the use of EPT. Alabama, Kansas, New Jersey, Oklahoma, South Dakota, Puerto Rico, and Guam have provisions that potentially allow EPT. Information on the US Virgin Islands and Samoa is not available at this time. The CDC maintains a website (<https://www.cdc.gov/std/EPT/legal/default.htm>) where primary care providers can research state laws regarding EPT.

Barriers for patients to receive EPT include a lack of awareness of EPT; patients may not ask because they do not know their health care provider can offer this for their partners. There are also potential costs associated with EPT, and partners may not purchase or take the medication despite it being prescribed. Confidentiality of protected health information for consenting minors also creates a barrier to EPT.<sup>13</sup> Patients may fear parental/guardian access to their health information because their parents likely insure them. The American Academy of Pediatrics recommends that providers consider using discrete coding practices and making protected health information inaccessible to parents once a solid working relationship is established.<sup>13</sup> Furthermore, in the case of minors in

sexual relationships with older adults, state law might require reporting such relationships as statutory rape.<sup>14</sup> Thus, patients may be unwilling to name their partners. Child sexual abuse, sexual assault, sex trafficking, and intimate partner violence also create a threat to personal safety and may prevent patients from reporting their partners for treatment.<sup>15</sup> In face-to-face visits in which EPT is not permitted by statute or the provider has concerns about treatment adherence, confidentiality, or inability to verify medication safety, referring partners to clinical agencies that receive Title X funding is an option. The Title X Family Planning Program, created in 1970, provides funding for low-income women, men, and teens to have access to reproductive and sexual health care at reduced or no cost.<sup>16</sup>

#### 4. What Patient Education Would You Offer?

STIs increase the risk of acquiring HIV by 3 to 5 times.<sup>17</sup> Therefore, the provider should discuss safe sex practices for the prevention of STIs and HIV with the patient, including correct and consistent condom use, reducing the number of sex partners, mutual monogamy, and abstinence.<sup>18</sup> The patient should be offered a repeat HIV test as well as screening for gonorrhea and syphilis at this visit. The patient should be educated on the increased risk of reinfection and potential long-term sequelae. To minimize transmission, the patient should be advised to abstain from sexual intercourse for 7 days after single-dose therapy or until completion of a 7-day regimen.<sup>3,5</sup> The patient should also be advised to abstain from sexual intercourse until all of her sexual partners have been treated to minimize reinfection.<sup>3,5</sup>

The patient should be educated to inform her partner of the need to fill his prescription at the pharmacy and inform the pharmacist of any medication allergies. The provider should advise the patient to inform her partner of his need to be tested for additional STIs and HIV. Providers need to be sensitive to patients who may be too reluctant, embarrassed, or at risk of harm to disclose their status to their partners. In such cases, there are websites such as <https://www.stdcheck.com/anonymous-notification.php> that allow patients to send an anonymous partner notification by phone or e-mail. Although this is not ideal, it is an available resource.

Health care providers are required to report select communicable diseases for ongoing surveillance purposes. Because chlamydia is a reportable disease, the provider should also make the patient aware that if her test were positive for chlamydia a report would be sent to the local health department.

A follow-up for test of cure screening is not warranted unless the patient is noncompliant to treatment, symptoms persist, or reinfection is suspected.<sup>3,5</sup> However, posttreatment infections are typically a result of reinfection. Men and women should be retested 3 months after treatment, regardless of whether or not their partners have been treated.<sup>3,5</sup> Patients should be counseled that someone will contact them to remind them of the appointment and reschedule if they do not show. If reinfection is a concern, providers should avoid using the NAAT test less than 3 weeks after medication completion because there is an increased risk of false positives.

#### Conclusion

Gonorrhea and chlamydia are common curable STIs. The CDC reports that youth 15 to 24 years old account for half of the new STIs in the US each year.<sup>3</sup> Chlamydia remains the most common notifiable STI.<sup>19</sup> In the past 4 years, there has been an increase in reported cases.<sup>19</sup> In 2017, there were more than 1.7 million cases reported, and women accounted for twice as many cases as men.<sup>18</sup> Females, 15 to 19 years of age, reported the most infections. Reinfection rates of chlamydia within 1 year of the initial infection are

12% to 20% among women and more common in adolescent females because of higher susceptibility and continued sexual contact with infected partners.<sup>7</sup> This places women at increased risk of long-term sequelae, such as pelvic inflammatory disease and infertility. Untreated gonorrhea and chlamydia also place patients at increased risk of contracting HIV.<sup>17</sup> EPT has been shown to increase partner treatment and decrease rates of reinfection.<sup>7</sup> The CDC suggests the use of EPT for women and heterosexual men with gonorrhea or chlamydia.<sup>6</sup> Providing EPT at the time of a presumptive diagnosis could result in unnecessary treatment, requiring providers to balance the risk of overuse of EPT with possible missed opportunities to treat infected partners.<sup>6</sup> Adolescent females are also at increased risk for victimization either from childhood sexual abuse, teen dating violence, or domestic sex trafficking, which also places them at increased risk for STIs.<sup>14</sup> EPT is not recommended in cases in which a patient's safety is in question.

Health care providers routinely suggest that patients treated for STIs notify their partners, but they cannot be sure patients will follow through. EPT can be effective when patients and their partners present for treatment at the same time or when patients deliver prescriptions to their partner. EPT has a low risk of adverse effects and can be cost-effective,<sup>11</sup> and partners can be treated presumptively at the same time as patients to lower the risk of reinfection.<sup>6</sup> Because communicable disease reporting is an important step in reducing transmission, reinfection, and consequences of STIs, providers must make every effort to ensure accurate partner information. The responsibility for case reporting, case finding, patient and partner education, and ensuring follow-up with patient reminder calls can be shared among all clinic staff to increase success.

Health care providers with the most knowledge of and comfort with using EPT are often in Federally Qualified Health Centers, health departments, or STI clinics.<sup>20</sup> However, 31.6% of women diagnosed with chlamydia were reported by private health care providers.<sup>19</sup> These providers must increase their comfort levels and expand clinic policies to include the use of EPT to reduce the incidence and reinfection of chlamydia and gonorrhea.

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Ragan Johnson, DNP, FNP-BC, is an assistant professor at Duke University School of Nursing, Durham, NC. She can be reached at [ragan.johnson@duke.edu](mailto:ragan.johnson@duke.edu). Krysta Blanton, BSN, RN, is a family nurse practitioner student at Duke University, Durham, NC. [kb321@duke.edu](mailto:kb321@duke.edu)

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