Putting Prevention Into Practice

An Evidence-Based Approach

Screening for Syphilis in Nonpregnant Adolescents and Adults

Brandy Peaker, MD, MPH, Medical Officer, U.S. Preventive Services Task Force Program, Agency for Healthcare Research and Quality

Cara Dooley, MD, Preventive Medicine Resident, University of Maryland School of Medicine, Baltimore, Maryland

Case Study

A 42-year-old man presents as a new patient. He reports low back pain that has been radiating down his right leg for one week. Medical history is significant, with a recent gonorrhea infection treated with ceftriaxone. Family history includes diabetes mellitus, hypertension, and a parent with hepatitis C. The patient does not smoke or use drugs but sometimes has two to four beers per week. He is currently unemployed and living out of his car. He is sexually active with a new male partner and has inconsistent condom use. Review of systems is negative. Physical examination is consistent with a diagnosis of sciatic neuritis.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF) recommendation statement, this patient may be at increased risk of acquiring syphilis due to which of the following factors?

- ☐ A. He is sexually active with a new male partner and has inconsistent condom use.
- ☐ B. He has had a recent sexually transmitted infection.
- ☐ C. He drinks an excessive amount of alcohol.
- ☐ D. He has a parent with hepatitis C.

See related USPSTF Clinical Summary in the online version of this issue.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (https://www.uspreventiveservicestaskforce.org). The practice recommendations in this activity are available at https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/syphilis-infection-nonpregnant-adults-adolescents-screening.

This series is coordinated by Joanna Drowos, DO, contributing editor.

A collection of Putting Prevention into Practice published in *AFP* is available at https://www.aafp.org/afp/ppip.

CME This clinical content conforms to AAFP criteria for CME. See CME Quiz on page 13.

Author disclosure: No relevant financial relationships.

2. Based on the USPSTF recommendation and the patient's history and physical examination, which one of the following should be recommended for this patient?

- ☐ A. Screening for syphilis at this visit because he has symptoms of the infection.
- ☐ B. Screening for syphilis at this visit because he is at increased risk and has a new sex partner.
- ☐ C. Screening for syphilis at least once every two years.
- ☐ D. Not screening for syphilis, because he does not have symptoms of the infection.
- ☐ E. Not screening for syphilis, because his partner does not have any symptoms of the infection.

3. The patient agrees to be screened for syphilis but wonders whether his friends should also be screened. Because it is an easy blood test, he asks why the USPSTF does not recommend screening for all people. Which one of the following reasons accurately addresses his question?

- ☐ A. Rates of syphilis are trending downward, so transmission is less likely.
- ☐ B. It is not cost-effective to screen everyone.
- ☐ C. Complications from syphilis are minor and do not cause serious harm when untreated in most people.
- ☐ D. The antibiotic used to treat syphilis can cause serious harm, so only those at high risk should be screened.
- ☐ E. Screening those who are not at high risk may increase the chance of a false-positive test result when the person does not actually have syphilis, which could cause emotional stress and overtreatment.

Answers appear on the following page.

Answers

1. The correct answers are A and B. The prevalence of syphilis is higher in men, men who have sex with men, people with HIV infection, young adults, and people with a history of incarceration, sex work, or military service. This patient is a young male having sex with a new male partner, increasing his risk of acquiring syphilis. Additionally, his history of sexually transmitted infection and inconsistent use of condoms increase his infection risk. His alcohol intake is not excessive and would not be considered a risk factor.[1] Family history of a different infectious disease does not indicate increased risk. It should also be noted that primary and secondary syphilis rates are higher in people who are Black, Hispanic, Native American/Alaska Native, or Native Hawaiian/Pacific Islander. These disparities are primarily driven by social determinants of health, such as differences in income level, education level, and access to coverage and care, which make it harder to maintain sexual health.

2. The correct answer is B. The USPSTF recommends screening for syphilis in people who are at increased risk of infection. This is a grade A recommendation. It applies to asymptomatic, nonpregnant adolescents and adults who have ever been sexually active and are at increased risk of syphilis. The USPSTF has a separate recommendation for screening for syphilis infection in pregnant people. Although this patient does not have symptoms consistent with syphilis, he has several risk factors and should be screened at this visit to receive treatment and prevent complications and transmission to others if positive. Men who have sex with men may benefit from screening at least annually or more often (e.g., every three to six months) if they continue to be at high risk.[2,3]

3. The correct answer is E. The USPSTF recommends screening only when evidence clearly shows that the benefits outweigh any potential harms. Potential harms of universal screening include false-positive results, which require clinical evaluation and unnecessary anxiety to the patient. After reviewing the evidence, the USPSTF concluded with high certainty that the net benefit of screening for syphilis in asymptomatic, nonpregnant people who are at increased risk is substantial.[2,4] After reaching a record low in 2000, rates of syphilis have been increasing over the past 20 years. Without treatment, syphilis can cause serious damage to the brain, nerves, eyes, and cardiovascular system. Penicillin G benzathine, the antibiotic used to treat syphilis, is effective with minimal potential harms. The USPSTF does not evaluate cost-effectiveness in its reviews.[2,5]

The views expressed in this work are those of the authors and do not reflect the official policy or position of the University of Maryland School of Medicine or U.S. government.

References

1. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Excessive alcohol use. Accessed November 20, 2023. https://www.cdc.gov/chronicdisease/resources/publications/factsheets/alcohol.htm
2. Mangione CM, Barry MJ, Nicholson WK, et al. Screening for syphilis infection in nonpregnant adolescents and adults: US Preventive Services Task Force reaffirmation recommendation statement. *JAMA*. 2022;328(12):1243-1249.
3. Workowski KA, Bachmann LH, Chan PA, et al. Sexually transmitted infections treatment guidelines, 2021. *MMWR Recomm Rep*. 2021;70(4):1-187.
4. Henninger ML, Bean SI, Lin JS. Screening for syphilis infection in nonpregnant adults and adolescents: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2022;328(12):1250-1252.
5. U.S. Preventive Services Task Force. Procedure manual. Accessed November 20, 2023. https://uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/procedure-manual ■