Indian Health Service
National Pharmacy and Therapeutics Committee
Medication Update

June 4, 2024

CDC Issues Guidelines for Doxycycline Use in the Prevention of Bacterial Sexually Transmitted Infections (doxy PEP)

On June 4, 2024, the U.S. Centers for Disease Control and Prevention issued clinical guidelines for the use of doxycycline post-exposure prophylaxis (doxy PEP) for bacterial sexually transmitted infection (STI) prevention.[1] Because of increasing rates of bacterial STIs and the reported high efficacy for the reduction of STIs in the reviewed clinical trials, the potential benefits of doxy PEP are notable. Systematic reviews of potential harms appear low in the short-term and unknown but potentially concerning in the long-term. Overall, the intervention appears feasible and acceptable and will require a focused effort for equitable implementation.

Summary:[1]

No vaccines and few chemoprophylaxis options exist for the prevention of bacterial STIs (specifically syphilis, chlamydia, and gonorrhea). These infections have increased in the United States and disproportionately affect gay, bisexual, and other men who have sex with men (MSM) and transgender women (TGW). In three large randomized controlled trials, **200 mg of doxycycline taken within 72 hours after sex** has been shown to reduce syphilis and chlamydia infections by >70% and gonococcal infections by approximately 50%.

The CDC Morbidity and Mortality Weekly Report outlines recommendations for the use of doxy PEP, a novel, ongoing, patient-managed biomedical STI prevention strategy for a selected population. The CDC recommends that MSM and TGW who have had a bacterial STI (specifically syphilis, chlamydia, or gonorrhea) diagnosed in the past 12 months should receive counseling that doxy PEP can be used as postexposure prophylaxis to prevent these infections. **Following shared decision-making with their provider, the CDC recommends that providers offer persons in this group a prescription for doxy PEP to be self-administered within 72 hours after having oral, vaginal, or anal sex.** The recommended dose of doxy PEP is 200 mg and should not exceed a maximum dose of 200 mg every 24 hours.

Doxy PEP, when offered, should be implemented in the context of a comprehensive sexual health approach, including risk reduction counseling, STI screening and treatment, recommended vaccination and linkage to HIV PrEP, HIV care, or other services as appropriate. Persons who are prescribed doxy PEP should undergo bacterial STI testing at anatomic sites of exposure at baseline and every 3–6 months thereafter. Ongoing need for doxy PEP should be assessed every 3–6 months as well. HIV screening should be performed for HIV-negative MSM and TGW according to current recommendations.

BOX 1. CDC recommendations for use of doxycycline as postexposure prophylaxis for bacterial sexually transmitted infections prevention Return

Recommendation*	Strength of recommendation and quality of evidence†
• Providers should counsel all gay, bisexual, and other men who have sex with men (MSM) and transgender women (TGW) with a history of at least one bacterial sexually transmitted infection (STI) (specifically, syphilis, chlamydia or gonorrhea) during the past 12 months about the benefits and harms of using doxycycline (any formulation) 200 mg once within 72 hours (not to exceed 200 mg per 24 hours) of oral, vaginal, or anal sex and should offer doxycycline postexposure prophylaxis (doxy PEP) through shared decision-making. Ongoing need for doxy PEP should be assessed every 3–6 months.	AI High-quality evidence supports this strong recommendation to counsel MSM and TGW and offer doxy PEP.
• No recommendation can be given at this time on the use of doxy PEP for cisgender women, cisgender heterosexual men, transgender men, and other queer and nonbinary persons.	Evidence is insufficient to assess the balance of benefits and harms of the use of doxy PEP

BOX 2. Considerations for ancillary clinical services to provide to persons receiving doxycycline postexposure prophylaxis for the prevention of syphilis, chlamydia, and gonorrhea

At initial postexposure prophylaxis (PEP) visit

- Screen and treat as indicated for sexually transmitted infections (STIs) (obtain nucleic acid amplification test for gonorrhea and chlamydia at anatomic sites of exposure and serologic testing for syphilis). For persons without HIV infection receiving HIV pre-exposure prophylaxis (PrEP), screen per CDC HIV PrEP guidelines (https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf). For persons without HIV infection not receiving HIV PrEP, consider screening for HIV infection every 3–6 months.
- Counsel on use of prevention strategies including condom use, consideration of reducing the number of partners, and accessing HIV PEP, PrEP or HIV treatment as indicated.
- Counseling should include:
  - A discussion of the benefits and potential harms of doxycycline PEP including known side effects such as photosensitivity, esophagitis and esophageal discomfort, gastrointestinal intolerance (nausea, vomiting, and diarrhea), and the potential for the development of antimicrobial resistance in other pathogens and commensal organisms and changes in the microbiome and the unknown long-term effects that might cause.
  - Guidance on actions to take to mitigate potential side effects including taking doxycycline on a full stomach with a full glass of liquid and avoiding lying down for 1 hour after taking doxycycline to prevent esophagitis.
  - The need to take doxycycline exactly as individually prescribed and only for its intended purpose. Patients should not take more than 200 mg of doxycycline per 24 hours; doses should be taken as soon after sex as possible, but no later than 72 hours.
  - Counsel on potential drug interactions including the importance of separating the doxycycline dose by at least 2 hours from dairy products, antacids, and supplements that contain calcium, iron, magnesium, or sodium bicarbonate. No clinically relevant interactions between doxycycline and gender-affirming hormonal therapy are likely.
- Because doxycycline interacts with other drugs, providers should review patient's medication list, including over the counter medications, to assess for possible drug interactions.
- Provide enough doses of doxycycline to last until the next follow-up visit, based on individual behavioral assessment through shared-decision making.

At follow-up visits

- Screen for gonorrhea and chlamydia at anatomic sites of exposure and syphilis every 3–6 months per CDC STI treatment guidelines recommendations for screening men who have sex with men and transgender women.
- For persons without HIV receiving HIV PrEP, screen per CDC HIV PrEP guidelines (https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf). For persons without HIV infection not receiving HIV PrEP, consider screening for STIs and HIV infection every 3–6 months. Assess for the need for HIV PEP and encourage the use of HIV PrEP.
- Confirm or encourage linkage to HIV care for persons living with HIV infection.
- Assess for side effects from doxycycline.
- Provide risk reduction counseling and condoms.
- Re-assess continued need for doxy PEP.
- Provide enough doses of doxycycline until next follow-up visit, based on individual behavioral assessment through shared-decision making.

Additional services to consider

- Screen for hepatitis B and C infection; vaccinate against hepatitis B if susceptible. Administer other vaccines as indicated (mpox, hepatitis A, and human papillomavirus).
- Refer for comprehensive primary care, mental health services, substance use treatment, and other services as appropriate.

Conclusion:[1]

Doxy PEP has demonstrated benefit in reducing incident syphilis, chlamydia, and gonorrhea in certain populations and represents a new approach to addressing STI prevention in MSM and TGW at increased risk for these infections. Certain ongoing studies are evaluating doxy PEP and PrEP, including the risk for the development of antimicrobial resistance. The available evidence in the context of increased national incidence of syphilis, chlamydia, and gonorrhea supports consideration of this approach for MSM and TGW at substantial risk for acquiring bacterial STIs. These guidelines will be updated as additional data become available

References:
1. U.S. Centers for Disease Control and Prevention. MMWR. CDC CDC Clinical Guidelines on the Use of Doxycycline Postexposure Prophylaxis for Bacterial Sexually Transmitted Infection Prevention, United States, 2024. *Recommendations and Reports* / June 6, 2024 / 73(2);1–8.