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GAVIN NEWSOM
Governor

April 28, 2023

Doxycycline Post-Exposure Prophylaxis (doxy-PEP) for the Prevention of Bacterial Sexually Transmitted Infections (STIs)

Dear Colleague,

The California Department of Public Health (CDPH) would like to inform all health care providers of a compelling new biomedical intervention to prevent bacterial STIs. Emerging evidence now suggests **doxycycline, when taken as doxy-PEP after condomless oral, anal, or vaginal sex, significantly reduces acquisition of chlamydia (CT), gonorrhea (GC), and syphilis.**¹ Given the high rates of these STIs in California², **CDPH recommends the following:**

1. **Recommend doxy-PEP** to men who have sex with men (MSM) or transgender women (TGW) who have had ≥ 1 bacterial STI in the past 12 months.
2. **Offer doxy-PEP using shared decision-making** to all non-pregnant individuals at increased risk for bacterial STIs and to those requesting doxy-PEP, even if these individuals have not been previously diagnosed with an STI or have not disclosed their risk status.¹
3. **Provide comprehensive preventative sexual health counseling and education** to all sexually-active individuals to include HIV/STI screening, doxy-PEP, HIV pre-exposure prophylaxis ([PrEP](#))/HIV post-exposure prophylaxis ([PEP](#)), [vaccinations](#) (e.g. Hepatitis A/B, [Human Papilloma Virus](#), [Mpox](#), [Meningococcal/MenACWY](#)), [expedited partner therapy](#), and/or [contraception](#) where warranted.

Evidence:

A [randomized controlled trial](#) (RCT) using a **single, oral dose of doxycycline 200mg within 72 hours after condomless oral, anal, or vaginal sex** in MSM and TGW, who were either persons living with HIV (PLWH) or taking HIV PrEP, showed **significant reductions in CT, GC, and syphilis** per quarter of study follow up. In persons on HIV PrEP, taking doxy-PEP reduced syphilis by 87 percent, CT by 88 percent, and GC by 55 percent while in PLWH doxy-PEP reduced syphilis by 77 percent, CT by 74 percent, and GC by 57 percent.¹

¹Doxy-PEP has not been studied in transgender men. In a recent randomized trial of 449 cisgender Kenyan women, doxy-PEP was not shown to be protective against STIs³, though pharmacologic studies suggest that doxycycline levels in vaginal fluid should be sufficient to provide such protection.⁴ Further studies – including assessments of adherence – are needed to better understand the reasons why doxy-PEP may have appeared ineffective among women in the Kenyan study.

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Safety:

Taking doxycycline is safe and well tolerated, with no reported doxycycline associated Grade 2 or higher adverse events (AEs) and no documented laboratory-related severe AEs in the doxy-PEP RCT. Long-term use of doxycycline has been prescribed safely for other medical indications (e.g. [acne treatment](#) or [malaria prophylaxis](#)).

Unknowns:

Data continue to be collected and reviewed for possible antimicrobial resistance among bacterial STIs, commensal *Neisseria* (as a potential reservoir for tetracycline resistant plasmids), and *Staphylococcus aureus*. The effects of doxy-PEP on the gut microbiome are also being studied.

Prescribing doxy-PEP:

Doxycycline is not FDA approved for STI PEP and there is no national organizational guidance for its use as STI prevention. However, Centers for Disease Control and Prevention (CDC) has released [considerations for doxy-PEP](#) as an STI preventative strategy⁵ and San Francisco Department of Public Health has released their own [guidance, including counseling messages](#).⁶

- i. **Prescribe 200 mg of doxycycline taken within 72 hours** (ideally within 24 hours or as soon as possible) **after condomless oral, anal, or vaginal sex**. Doxycycline can be taken daily depending on sexual activity, but no more than 200 mg every 24 hours.
- ii. **Screen for GC and CT at all anatomic sites of exposure** (urogenital, pharyngeal, and/or rectal), as well as test for **syphilis and HIV** (if not known PLWH) **at initiation of doxy-PEP and every three months**. If diagnosed with an STI, treat according to standard [CDPH](#) and [CDC](#) STI treatment guidelines.
- iii. Rule out and counsel persons who can become pregnant as doxycycline should not be taken during pregnancy.⁷
- iv. Consider hematopoietic, renal, and hepatic laboratory monitoring as clinically indicated in addition to counseling patients on standard precautions and warnings while taking doxy-PEP, as outlined in the [drug package insert](#) (e.g., sun sensitivity, pill esophagitis, and rarely intracranial hypertension).⁸

Please reach out to stdcb@cdph.ca.gov if you have any questions about this guidance.

Sincerely,



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References:

1. Luetkemeyer et al. [Postexposure Doxycycline to Prevent Bacterial Sexually Transmitted Infections](#). N Engl J Med. 2023;388(14):1296-1306. doi:10.1056/NEJMoa2211934
2. [CDPH 2020 STI Surveillance Report](#)
3. Stewart et al. “[Doxycycline Postexposure Prophylaxis for Prevention of STIs among Cisgender Women](#).” Oral Abstract 121 at: Conference on Retrovirology and Opportunistic Infections (CROI); 2023 Feb 19-22; Seattle, Washington
4. Haaland et al. “[Mucosal Pharmacology of Doxycycline for Bacterial STI Prevention in Men and Women](#).” Oral Abstract 118 at: Conference on Retrovirology and Opportunistic Infections (CROI); 2023 Feb 19-22; Seattle, Washington
5. CDC Considerations for Doxycycline as STI PEP: [Primary Prevention Methods \(cdc.gov\)](#)
6. San Francisco Department of Public Health, Health Update: [Doxycycline Post-Exposure Prophylaxis Reduces Incidence of STIs](#)
7. Doxycycline use by pregnant and lactating people: [Doxycycline Use by Pregnant and Lactating Women | FDA](#)
8. FDA. Package Insert for Doryx® (doxycycline hyclate) and Doryx® MPC Delayed-Release Tablets. February 2018. https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/050795s026lbl.pdf.

Additional Resources:

- CDPH [STD Control Branch Homepage](#)
 - [California STI Screening Recommendations](#)
 - [California STI Treatment Guidelines](#)
- CDC
 - [STI Screening Recommendations](#)
 - [2021 STI Treatment Guidelines](#)
 - [HIV Screening Guidelines](#)
 - [PrEP & non-occupational PEP](#) guidelines
- Expedited Partner Therapy: [CDC](#) & [CDPH](#) recommendations and [California SB306 regulations](#)
- [California Prevention Training Center](#) – Educational opportunities and training materials for STDs
- [STD Clinical Consultation Network](#) – Online consultation for questions about evaluation and management of STDs