

DoxyPEP

Info note

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DoxyPEP (Doxycycline post-exposure prophylaxis) involves **taking the antibiotic doxycycline after sex to prevent some bacterial sexually transmitted infections (STIs)**.

Doxycycline is the right antibiotic to take because it is relatively cheap, does not interact significantly with most other drugs, and has relatively few side effects. It is already used as a preventative drug against Lyme disease, acne, and malaria.

Studies show that it **prevents 70-90% of chlamydia and syphilis infections**. Its effectiveness against **gonorrhoea** is much more variable, ranging from **zero to 60%**.

How do I take DoxyPEP?

DoxyPEP as an idea was partly initiated by members of the affected community. Surveys among **gay men using STI services** in the UK, Belgium, Netherlands and Australia from 2019 to 2024 found **antibiotics being used as STI PEP by 8% to 10%** of respondents. However, a community survey in Spain conducted in summer 2024 found that 55% of 150 gay men already using HIV PrEP had also taken DoxyPEP.

To take DoxyPEP, you need to take a **200-milligram dose**, usually as two 100mg capsules. It can also be taken as **DoxyPrEP**, in other words daily dosing. This means taking a **single 100mg capsule every day**, though taking two capsules on the first day is advised. In three studies of DoxyPrEP, it appeared to be at least as effective as DoxyPEP, but these were all small studies.

You should preferably **take DoxyPEP within 24 hours of sex**, as an ‘STI morning after’ pill. But it is probably effective up to 72 hours after sex. This means that if you have an active weekend and have sex, say, Friday, Saturday and Sunday, you don’t have to take doxycycline every day: you can take your dose Sunday evening or Monday morning. This will save money if you are paying for it.

Does it work?

Four randomised studies of DoxyPEP have been conducted, with an average of 430 people in them, and **three smaller ones of DoxyPrEP**, with an average of 41 people in them.

Averaged across these seven studies, including an African study in women that showed no efficacy, **doxycycline stopped 76% of chlamydia and syphilis infections that would otherwise have happened**.

Efficacy **against gonorrhoea averaged 35%**, but was much more variable, ranging from zero to 68%.

There have been **two non-randomised studies**, in San Francisco and Milan, of the impact of DoxyPEP in a total of 3835 people attending sexual health clinics. The **reduction in syphilis** in DoxyPEP users in these studies was **79%**, and in **chlamydia** was **73%**. The efficacy against **gonorrhoea** was very different between the two, with **no significant reduction in San Francisco but a 74% reduction in Milan**. This was partly due to an experimental gonorrhoea vaccine, but the reduction due to doxycycline appeared to be about 50%.

How about in cis-women?

The only study of doxycycline STI prophylaxis that showed **efficacy in cisgender women was of DoxyPrEP among sex workers in Japan**. There was a study in African women of DoxyPEP that found it **did not work**, but that was probably due to low adherence.

At the moment, therefore, we have no proof DoxyPEP works in cisgender women. There's no reason to think it won't, but we need studies to prove it.

Is it safe?

Doxycycline, though safe, can have **side effects**, most commonly **feeling sick or getting an upset stomach**. To avoid this, take it with plenty of water and maybe with some food. But **do not take it with antacids, or with milk or other dairy products**, or within two hours of them, as these may interfere with absorption.

Doxycycline can increase your **skin's sensitivity to the sun**, so wear sunscreen and sit in the shade as much as possible if you're in a sunny place.

There is little evidence that prolonged use of doxycycline, especially intermittent, makes side effects worse. A four-week daily course is usually prescribed when doxycycline is taken as a treatment (e.g., for a skin condition) or as a daily preventative pill (e.g., for malaria).

Do **not** use **other antibiotics as STI PEP**. Some are less safe, such as amoxicillin, to which 10% of people are allergic. Others are still used to treat gonorrhoea and taking them could increase the problem of multi-drug-resistant gonorrhoea.

What about resistance?

The bacteria that cause chlamydia and syphilis almost **never develop resistance to doxycycline**.

Gonorrhoea is a different story. The bacterium that causes **gonorrhoea easily develops**

resistance to antibiotics, and since the 1940s has developed resistance to several different classes. The first case of gonorrhoea resistance to the tetracycline class, to which doxycycline belongs, was seen as early as 1962.

Not all gonorrhoea is resistant, and the **differences in DoxyPEP/PrEP's efficacy** against gonorrhoea in different studies are probably **due to local differences in resistance**. One European survey showed that the proportion of gonorrhoea resistant to tetracyclines ranged **from 12% in one country to 90% in another**.

Taking doxycycline PEP/PrEP is **unlikely to lead directly to increases** in the proportion of gonorrhoea **resistant** to standard treatment. This is because there is already so much resistance to doxycycline that it **stopped being used to treat gonorrhoea in the early 1990s**. Current gonorrhoea treatment uses antibiotics from different families such as **ceftriaxone, ciprofloxacin or azithromycin**, and this is why it is very important **not to use these antibiotics to prevent STIs**.

It is likely, however, that **widespread use of DoxyPEP** will lead to more **gonorrhoea that is resistant** to it and to continued falls in its efficacy for prevention. In the two largest randomised controlled studies, nearly **three times more people taking DoxyPEP** acquired **tetracycline-resistant gonorrhoea** than people who did not take it.

A vaccine against gonorrhoea is being developed. Studies of the meningitis B vaccine, which works against a bacterium similar to gonorrhoea, have showed **efficacy ranging from 22% - 46%**. **A vaccine specifically designed against gonorrhoea is currently under trial**, with results expected in May 2025.

More about the bacterial STIs

Gonorrhoea, chlamydia and syphilis are the three most common bacterial STIs. They are extremely common, and the incidence of gonorrhoea and syphilis is still increasing in Europe.

In **70% to 80% of gonorrhoea and chlamydia infections**, there are **no symptoms at all**.

When there are, they include inflammation and often a discharge in the urethra, rectum or (rarely) throat in men and from the cervix in women. Urethral gonorrhoea usually causes some symptoms. A particular strain of chlamydia can cause the more acute and painful infection Lymphogranuloma venereum (LGV), especially in gay men, though even this is not always symptomatic.

The body's natural immune reactions often lead to a **spontaneous cure** of chlamydia and gonorrhoea, within an average time of 10 weeks in gonorrhoea or 13 weeks in chlamydia. However, **we do not fully understand why some infections resolve and others do not.**

Left untreated, **chlamydia** can cause **pelvic inflammatory disease**, which can cause infertility in 10-20% of women. In men, **gonorrhoea** can occasionally lead to **inflammation in the scrotum and testicles**. Rarely, in 1-2% of cases, it can lead to **arthritis or heart valve disease**.

Syphilis is well known for its ability to cause a wide variety of **systemic problems** but acts slowly and is usually treated before it becomes serious. However, **it never spontaneously resolves**, and early symptoms, such as a rash, are sometimes missed. Early syphilis can cause serious symptoms such as meningitis, which in one US study occurred in 2.1% of HIV positive gay men with syphilis and 0.6% of HIV negative men.

All these STIs are therefore worth avoiding if possible.

The other common STIs such as **HIV, hepatitis B and C, herpes, Mpox, and HPV (genital warts)** are caused by **viruses** and **cannot be prevented with doxycycline or other antibiotics**, though HIV can be prevented by taking **antiviral drugs before sex (PrEP) or afterwards (PEP)**.

Guidelines and availability

While clinical studies have firmly established the effectiveness of DoxyPEP in preventing bacterial STIs, particularly syphilis and chlamydia, **there is no global consensus among public health experts on its widespread use** due to concerns

about the potential risk of increasing antimicrobial resistance.

In the **US**, the Centers for Disease Control (CDC) have now issued their recommendations, which say that **DoxyPEP “should be considered for gay, bisexual and other men who have sex with men and for transgender women who have had gonorrhoea, chlamydia or syphilis at least once during the past year.”**

Other countries have been more cautious. In **Australia**, ASHM says that **DoxyPEP “should be suggested for gay and bisexual men with a syphilis diagnosis in the previous six to 12 months or with two or more STIs other than syphilis in the same period”**.

So far, **European national associations** have largely **refrained from producing formal recommendations** and have **limited the use of DoxyPEP to high-risk individuals on a case-by-case basis**.

No guidelines currently recommend DoxyPrEP, because there have only been small studies of it. While there is no reason to think it would be less effective, we need better evidence.

What this means is that at the moment, doxycycline for STI prevention is **unlikely to be issued free of charge or as part of your entitlement** under your National Health Service by your local sexual health clinic or physician. If you have a sympathetic physician, they may provide a prescription for doxycycline if they consider you at high risk for STIs, but it is most likely to be a **private prescription that you will have to pay for**.

Otherwise, it may be possible to **buy doxycycline online**. It is not particularly expensive - one UK site offers it for the equivalent of €7.68 for 14 capsules - but whether you can do so legally depends on your national rules for buying and importing medicines, as it does for HIV PrEP.

Of note, searching for doxycycline prophylaxis also brings up adverts for ‘STI medicines’ that are not recommended, either as prevention or treatment, in current guidelines.

Do you have questions?
Contact us: office@eatg.org

Resources

Clinical guidelines and recommendations

International Organisations

IUSTI^[1] (June 2024)
https://iusti.org/wp-content/uploads/2024/06/DOXYPEP-Position-Statement-26_6_24-FINAL.pdf

EACS Guidelines (November 2024)
<https://eacs.sanfordguide.com/eacs-part1/art/eacs-pre-exposure-prophylaxis>

ECDC (June 2023 / meeting report)
<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2023.28.46.2300621>

National Guidelines

USA
CDC (June 2024)
<https://www.cdc.gov/mmwr/volumes/73/rr/rr7302a1.htm>

San Francisco Dept. of Public Health (September 2024)
<https://www.sf.gov/sites/default/files/2024-09/Update-Updated-Recommendations-Prescribing-Doxy-PEP-SFDPH-FINAL-9.12.24.pdf>

National Coalition of STD Directors
<https://www.ncsddc.org/resource/Doxy-and-sti-pep-sample-policies/> (sample policies)
<https://www.ncsddc.org/wp-content/uploads/2023/08/Doxycycline-as-STI-PEP-Toolkit-August-2023.pdf> (implementation toolkit)

National Network of STD Clinical Prevention Training Centers
https://courses.nnptc.org/DoxyPEP_Resources.html

New Zealand (April 2024)
[https://www.nzshs.org/site_files/38652/upload_files/AoNZfinalDoxyPEPstatement\(1\).pdf?dl=1](https://www.nzshs.org/site_files/38652/upload_files/AoNZfinalDoxyPEPstatement(1).pdf?dl=1)

Australia (April 2024)
<https://www.mja.com.au/journal/2024/220/7/australian-consensus-statement-Doxycycline-post-exposure-prophylaxis-Doxy-pep>

Ireland (July 2024)
<https://www.sexualwellbeing.ie/for-professionals/research/research-reports/hse-interim-guidance-on-Doxycycline-as-prophylaxis-for-sexually-transmitted-infections-july-2024.pdf>

Great Britain (2021)
https://www.bashh.org/resources/73/bashh_position_statement_on_Doxycycline_as_prophylaxis_for_sexually_transmitted_infections_2021_update

(2025) - new guidelines open for consultation until 11 March 2025
https://www.bashh.org/resources/130/deadline_2025_11th_march_Doxy_pep_guidelines_draft_out_for_consultation

Germany (September 2023)
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/ddg.15282>

Belgium (November 2023)
<https://breach-hiv.be/wp-content/uploads/2024/03/DoxyPEP-Breach-statement-AL.pdf>

Czechia (November 2024)
https://infektologie.cz/standardy2/DP_PrEP_PEP_24.pdf

France (January 2025)
https://www.has-sante.fr/jcms/p_3586490/fr/Doxycycline-en-prevention-des-infections-sexuellement-transmissibles-bacteriennes#ancreDocAss

[1] IUSTI = International Union Against Sexually Transmitted Infections EUROPE

Community guidelines and recommendations

AVAC (advocate guidelines / June 2024)
<https://avac.org/resource/advocates-guide-Doxycycline/>

Switzerland
(AIDS-Hilfe Schweiz)
<https://aids.ch/en/safer-sex/protection/Doxy-pep/>

Germany
(AIDSHilfe)
<https://www.aidshilfe-hamburg.de/informieren/aktuelles/Doxy-prep/-pep-was-ist-das>

(Every Health)
<https://www.everyhealth.me>

Italy
(DirittiSessuali)
<https://www.dirittisessuali.it/p/Doxy-pep-linee-guida>

(Plus Roma)
<https://www.plusroma.it/Doxy-pep/>

Great Britain
(Queer Health)
<https://www.queerhealth.info/lbgt/Doxy-pep>

Ireland
(HIV Ireland)
<https://mpower.hivireland.ie/Doxy-pep/>



Scan the QR Code
to access more
DoxyPEP resources

The European AIDS Treatment Group (EATG) is a patient-led NGO that advocates for the rights and interests of people living with or affected by HIV/ AIDS and related co-infections within the WHO Europe region. Founded in 1992, the EATG is a network of more than 150 members from 45 countries in Europe. Our members are people living with HIV and representatives of different communities affected by HIV/AIDS and co-infections. EATG represents the diversity of more than 2.3 million people living with HIV in Europe as well as those affected by HIV/AIDS and co-infections.