



HIV serodiscordant couples

IS IT POSSIBLE FOR ME TO TEST NEGATIVE FOR HIV EVEN IF MY SEXUAL PARTNER HAS TESTED POSITIVE?

Yes, it is possible for you to be HIV negative and for your partner to be HIV positive. When the individuals in a couple have different HIV results, we refer to the couple as being serodiscordant. This can involve a couple in a long-term relationship or a single encounter between two partners.

HOW CAN I BE NEGATIVE IF MY SEXUAL PARTNER IS POSITIVE?

There are many factors that determine whether or not someone becomes infected with HIV. There may be one or multiple reasons why you have not been infected with HIV.

- **HIV viral load**
The amount of virus in your partner's blood (viral load) is very important for determining if you become infected or not. The higher the viral load, the greater the chance that you will become infected.
- **The type of virus**
The type of HIV that infects one person may be very different to the type that infects another. Some types are more likely to spread. Your partner may be infected with a type that spreads less easily.
- **Frequency of sexual intercourse**
The more often you have unprotected sex with someone who is HIV positive, the more likely you are to become infected.
- **Sexual practices**
Receptive anal sex carries the highest risk of infection. Women are more likely to become infected during vaginal sex than men.
- **Male circumcision**
Men who have been circumcised, i.e. the entire foreskin has been removed, are less likely to become infected with HIV than those who have not.

- **Presence of other sexually transmitted infections (STIs)**

If you have an STI other than HIV (e.g. herpes, gonorrhoea, chlamydia), you are more likely to become infected with HIV if you have unprotected sex with someone who is HIV positive. If your partner is HIV positive, s/he is more likely to infect you with HIV if s/he has another STI as well.

- **Genetic factors**

Everyone has a different genetic make-up. An individual's genes determine how likely he/she is to become infected and how his/her immune system will deal with the infection. Some people are more likely to become infected with HIV than others.

- Some people have certain genetic characteristics that may make them less or more likely to become infected with HIV. An example of this is the mutation called CCR5Δ32. People who have this mutation do not become infected with HIV.
- Some people have a very good immune response to HIV which prevents them from becoming infected. Compare this to the flu – every year some people get very sick with the flu while others never seem to be ill. In a similar way, some people have immune systems that are able to fight off infection with HIV.

IS IT COMMON FOR COUPLES TO BE SERODISCORDANT?

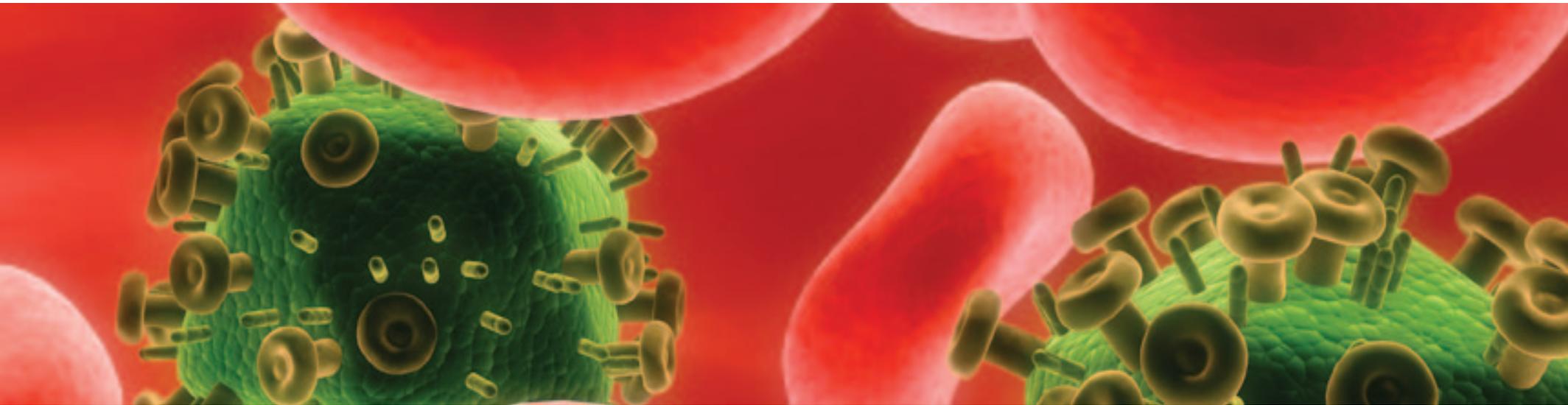
Yes. A study that was done in Eastern and Southern Africa showed that almost half of all couples testing for HIV were serodiscordant. We often do not realise that serodiscordant couples are so common because couples seldom come for HIV testing together. It is important for people to realise that their HIV status is not necessarily the same as their partner's. Just because your partner is HIV positive, do not assume you are also HIV positive. The only way to know if you are infected with HIV is to have yourself tested. Ideally, couples should come for counselling and testing together.

IF I HAVE NOT BECOME INFECTED YET, DOES THAT MEAN I WILL NEVER BECOME INFECTED?

No. Just because you are HIV negative does not mean that you won't become infected in the future. It has been shown that up to 22% of uninfected partners become infected each year if they continue to have unprotected sex. The factors that have protected you up until now are not guaranteed to always protect you.

MY PARTNER IS HIV POSITIVE AND I AM HIV NEGATIVE. WHAT NOW?

- Use a condom correctly and consistently. You may find this difficult to do if you have not been using condoms, but this is an effective way to ensure that you remain HIV negative.
- Test yourself for HIV on a regular basis. Have an HIV test 3-6 weeks after the last time you had unprotected sex, then every six months thereafter.
- Your partner who is HIV positive should be assessed by a health care practitioner for antiretroviral therapy (ART). ART, when taken exactly as prescribed, will result in a decrease in viral load. This is good for the health of your partner and will lower the chance of you becoming infected.
- Speak to your doctor about pre-exposure prophylaxis (PrEP). This refers to antiretrovirals that are taken by the HIV negative partner to prevent infection. It is important to note though that if you decide to use PrEP, it needs to be taken exactly as prescribed and you will be required to have regular blood tests.
- Serodiscordant couples can fall pregnant safely and have HIV negative children. It is important to talk to your doctor about what can be done to lower the risk of HIV passing to the uninfected partner and to the baby.



REFERENCES

1. Desgrées-du-Loû A, Orne-Gliemann J. Couple-centred Testing and Counselling for HIV Serodiscordant Heterosexual Couples in Sub-Saharan Africa. *Reprod Health Matters* 2008, 16; 32:151-161
2. Hughes JP, Baeten JM, Lingappa JR, AS Magaret, Wald A, de Bruyn G et al. Determinants of Per-Coital-Act HIV-1 Infectivity Among African HIV-1-Serodiscordant Couples. *J Infect Dis* 2012, 205; 3: 358-365.
3. Attia S, Eggera M, Muller M, Zwahlen M, Low N. Sexual transmission of HIV according to viral load and antiretroviral therapy: systematic review and meta-analysis. *AIDS* 2009, 23; 11: 1397-1404.
4. Vandermaelen A, Englert Y. Human immunodeficiency virus serodiscordant couples on highly active antiretroviral therapies with undetectable viral load: conception by unprotected sexual intercourse or by assisted reproduction techniques? *Human Reprod Matters* 2010, 25; 2:374-379.
5. Cohen MS. Transmission and Prevention of HIV: Missing Links in the AIDS Pandemic. *Adv Stud Med* 2006, 6; 3B:S157-S162
6. <http://www.cdc.gov/hiv/law/transmission.htm>, accessed 30 October 2012.
7. Baeten JM, Donnell D, Kapiga SH, Ronald A, John-Stewart G, Inambao M et al. Male Circumcision and Risk of Male-to-Female HIV-1 Transmission: A Multinational Prospective Study in African HIV-1 Serodiscordant Couples. *AIDS* 2010, 24; 5: 737-744
8. Cohen MS. HIV Prevention: Rethinking the Risk of Transmission. IAVI Report 2004, 8; 3
9. Fellay J, Shianna KV, Telenti A, Goldstein DB. Host Genetics and HIV-1: The Final Phase? *PLOS Pathogens* 2010, 6; 10: e1001033
10. Ritchie AJ, Campion SL, Kopycinski J, Moodie Z, Wang ZM, Pandya K. Differences in HIV-Specific T Cell Responses between HIV-Exposed and -Unexposed HIV-Seronegative Individuals. *J of Virol* 2011, 85; 7:3507-3516
11. Marmor M, Hertzmark K, Thomas SM, Halkitis PN, Vogler M. Resistance to HIV Infection. *Journal of Urban Health* 2006, 83; 1:5-17
12. Lingappa JR, Kahle E, Mugo N, Mujugira A, Magaret A, Baeten J et al. Characteristics of HIV-1 Discordant Couples Enrolled in a Trial of HSV-2 Suppression to Reduce HIV-1 Transmission: The Partners Study. *Plos One* 2009, 4; e5272:1-9
13. Guidance on couples HIV testing and counselling including antiretroviral therapy for treatment and prevention in serodiscordant couples: recommendations for a public health approach. World Health Organisation, 2012. http://apps.who.int/iris/bitstream/10665/44646/1/9789241501972_eng.pdf

HEAD OFFICE

Lancet Corner, Ground Floor, Cnr Menton and Stanley Road, Richmond, Johannesburg, (011) 358 0800
24-hour emergency service

PRETORIA MAIN LABORATORY

1st Floor Pencardia Building, 509 Pretorius Street, Arcadia, (012) 483 0100

DURBAN MAIN LABORATORY

102 Lancet Medical Centre, 74 Lorne Street, Durban, (031) 308 6500

www.lancet.co.za

