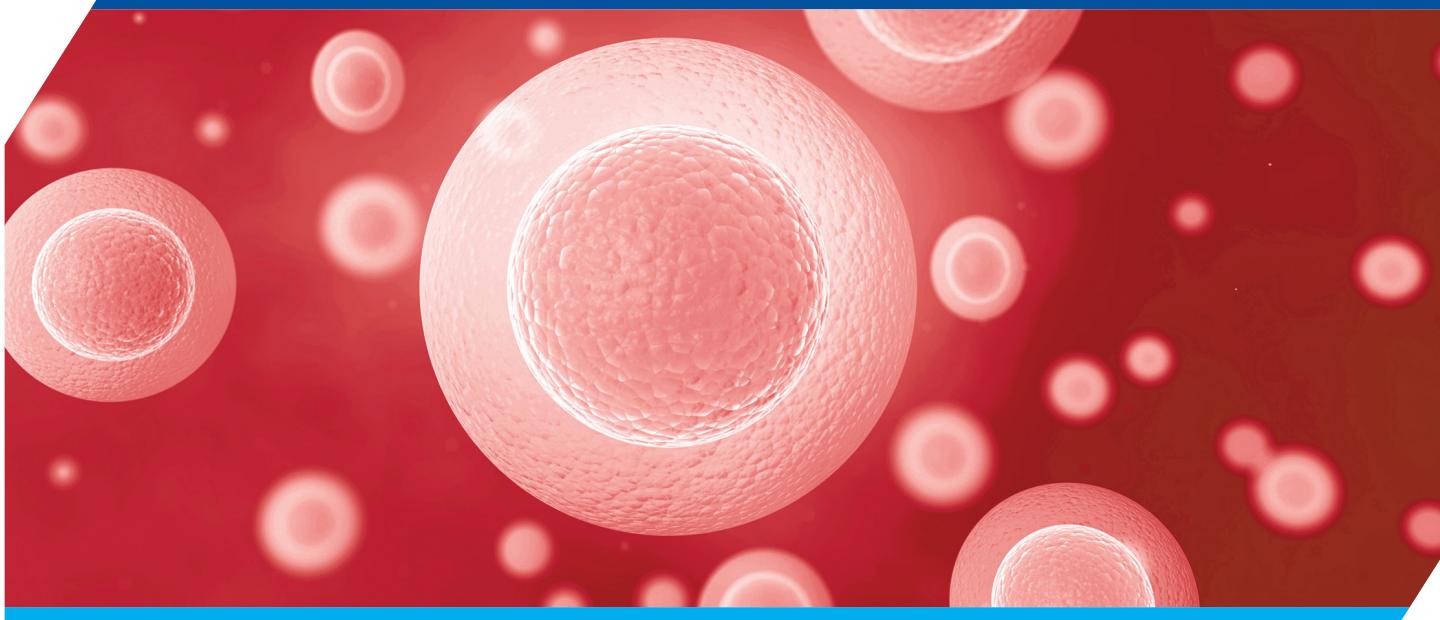




The  
Fertility Society  
of Australia

## Pre-Conception Health Special Interest Group



### Sexually transmitted infections (STIs)

Sexually transmitted infections (STIs) are prevalent across Australia and the incidence of some STIs is rising. STIs can impact fertility in both men and women, affect a woman's ability to carry a pregnancy, and influence child health outcomes. The STIs that can affect fertility and/or neonatal health include chlamydia, gonorrhoea, human immunodeficiency virus (HIV), genital herpes, syphilis and *Mycoplasma genitalium*.





# Sexually transmitted infections (STIs)

## Evidence review

### Chlamydia (*Chlamydia trachomatis*)

Chlamydia is the most commonly notified infectious disease in Australia [1] and worldwide [2]. In 2018 there were more than 104,000 notifications of chlamydia in Australia, which is an increase of 13 per cent since 2015 [1]. There was a larger increase in men (25 per cent) than in women (four per cent) between 2015 and 2017, although the rate in women was higher than in men in 2017 (441.8 vs 394.9 per 100 000) [1]. Infections are most common in the 20-29 year age-group, which accounts for 80 per cent of cases [1]. The risk of infection is higher for women than men and in those aged 20-24 years than in those who are older [1,3].

Chlamydia is often asymptomatic so people can have the infection for some time without being diagnosed or treated [4]. In women, undetected or multiple chlamydia infections can cause pelvic inflammatory disease (PID), which in turn can lead to ectopic pregnancy and tubal infertility [2-4]. In men, chlamydia can affect sperm quality and function and cause urethritis, prostatitis and epididymitis [4,5].

### Gonorrhoea (*Neisseria gonorrhoea*)

Gonorrhoea infection can cause similar adverse effects on fertility as chlamydia but is more commonly symptomatic. If left untreated it can lead to PID in women and infertility in both men and women. In 2018, infection rates for gonorrhoea were second only to chlamydia with almost 31,000 notifications [1]. More than half of the notifications were in people aged between 15 and 29 years and almost three quarters were in people residing in major cities [1].

While chlamydia is more common in females, gonorrhoea is more common in males [4]. The groups most commonly affected are men who have sex with men, Indigenous Australians in remote areas and people who have had heterosexual contact overseas [1].

### HIV (*human immunodeficiency virus*)

HIV can be transmitted through sexual intercourse and can also be transmitted to a baby during pregnancy and through breastfeeding. HIV cannot be cured and there is currently no vaccine to prevent it, but safer sex practices can prevent transmission. With effective antiviral medications, many people live relatively normal lives. HIV can impair female fertility [5]. Use of assisted reproductive technology can minimise the risk of transmission in HIV discordant couples wishing to have children [6-7].

HIV is most common in men who have sex with men. In 2019, there were just over 900 new cases of HIV in Australia [1].

### Genital herpes

Genital herpes, caused by the herpes simplex virus (HSV), is not a notifiable STI but is common among sexually active people. Genital symptoms include small, painful blisters, painful urination and vaginal discharge. Nearly 75 per cent of women with herpes can expect at least one flare-up during pregnancy. HSV can be transmitted to the baby through direct contact with the virus during birth. To reduce the risk of transmission, it is often recommended women with active lesions give birth by caesarean section [8].

### Syphilis (*Treponema pallidum*)

Syphilis can be transmitted from mother to fetus during pregnancy [9]. This is known as congenital syphilis and can result in health problems for the child at birth and later in life.

Notifications for syphilis in Australia have increased in recent years, mostly among men who have sex with men. However, notifications of congenital syphilis remain low. This is likely to be due to screening and treatment of pregnant women [1].

### *Mycoplasma genitalium*

*Mycoplasma genitalium* is an increasingly common bacterial STI which can result in vaginal discharge, urethritis, cervicitis and PID in women. PID can lead to other reproductive complications and infertility. Studies have shown a strong association between *Mycoplasma genitalium* and infertility [10].

## Summary

STIs such as chlamydia, gonorrhoea, HIV, genital herpes, syphilis and *Mycoplasma genitalium* can adversely affect fertility and/or neonatal health. Notifications of some STIs continue to rise. In particular, diagnoses of chlamydia and gonorrhoea are increasing.

## Recommendations

Screening is an important tool in preventing the spread of chlamydial infection. Opportunistic screening may decrease infection rates and increase detection rates, allowing for earlier treatment of the infection. Transmission of STIs can be reduced or even prevented by use of safer sex practices including the use of condoms. Screening of both men and women prior to pregnancy can detect STIs and allow for treatment before pregnancy occurs. This reduces the risk of transmission from mother to baby and prevent health problems in the unborn child.

The Australian Sexual Health Alliance have produced helpful STI symptoms and management tools for health professionals [4].

### Guidelines for testing of donors

In Australia, fertility clinics are required to minimise the risk of donor gametes transmitting STIs to recipients. Guidelines produced by the National Health and Medical Research Council state that clinics should not accept gamete donations from people at increased risk of transmissible infections and that potential donors should undergo testing for such conditions [11].

The Code of Practice for reproductive technology units issued by the Reproductive Technology Accreditation Committee of the Fertility Society of Australia also requires that clinics minimise the risk of “transmission of infectious agents” between gamete/embryo donors and recipients [12].

## For more information about pre-conception health visit



[www.yourfertility.org.au](http://www.yourfertility.org.au)

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## Sexually transmitted infections (STIs)

### References

1. Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report 2018. Sydney: Kirby Institute, UNSW Sydney; 2020, <https://data.kirby.unsw.edu.au>
2. Nwokolo NC, Dragovic B, et al. UK national guideline for the management of infection with Chlamydia trachomatis. Int J STD AIDS. 2015;27(4):251-67.
3. Carey A, Beagley K. Chlamydia trachomatis, a hidden epidemic: effects on female reproduction and options for treatment. Am J Reprod Immunology. 2010;63:576-586.
4. Australian STI management guidelines for use in primary care. <http://www.sti.guidelines.org.au>
5. an Leeuwen E, Prins J, et al. Reproduction and fertility in human immunodeficiency virus type-1 infection. Hum Reprod Update. 2007;13:197-206.
6. Ochsendorf F. Sexually transmitted infections: impact on male fertility. Andrologia. 2008;40L:72-75.
7. Savasi V, Mandia L, Laoretia A, Cetin I. Reproductive assistance in HIV serodiscordant couples. Hum Reprod Update. 2012;19:136-50.
8. Bhatta AK, Keyal U, Liu Y, Gellen E. Vertical transmission of herpes simplex virus: an update. JDDG. 2018;16:685-92.
9. Schmid G, Stoner B, et al. The need and plan for global elimination of congenital syphilis. Sex Transm Dis 2007;34:S5-10.
10. McGowin C, Anderson-Smits C. Mycoplasma genitalium: an emerging cause of sexually transmitted disease in women. PLoS Pathogens. 2011;7, doi: 10.1371/journal.ppat.1001324.
11. National Health and Medical Research Council. Ethical guidelines on the use of assisted reproductive technology in clinical practice and research. Canberra: National Health and Medical Research Council 2017, <https://www.nhmrc.gov.au/research-policy/ethics/ethical-guidelines-assisted-reproductive-technology>
12. Reproductive Technology Accreditation Committee, Code of practice for assisted reproductive technology units. 2017, <https://www.fertilitysociety.com.au/rtac-australia-new-zealand>