HERPES

This *Making it Count* briefing sheet provides an overview on herpes for sexual health promoters working with gay men, bisexual men and other men that have sex with men (MSM). Herpes is a viral sexually transmitted infection (STI) that is uclerative, like syphilis and LGV (lymphogranuloma venereum). Before the emergence of HIV, herpes was an especially feared STI because it is incurable and therefore a life-long infection.

WHAT CAUSES HERPES?

Herpes is caused by two variants of the herpes simplex virus, known as HSV-1 and HSV-2. Once a person is infected with either of these viruses it will remain in their body for life, usually without symptoms, but occasionally causing skin ulcerations (also known as lesions or blisters) and shedding of transmissible virus.

The two herpes simplex viruses are identical in their modes of transmission and symptoms. Both cause ulcerations of moist mucous membranes. This may occur around the genitals, anus or mouth. Ulcers around the mouth, the symptom of oral herpes, are commonly called 'cold sores'.

HSV-2 is most commonly associated with genital herpes. However, both viruses can cause either genital or oral herpes.

HOW COMMON IS HERPES?

Herpes simplex viruses can be easily transmitted, including during childhood and through non-sexual contact. As a result, prevalence of this lifelong infection is high in the general population, although this is somewhat hidden because the virus is usually dormant, or because symptoms are mild enough to go unnoticed.

Rates of HSV-1 and HSV-2 infection are highest among people with high numbers of sexual partners, such as GUM clinic attendees and gay men. Among MSM attending sexual health clinics, 72% have HSV-1 (around half the general population have it). When it comes to HSV-2, the rates differ according to HIV status: 55% of MSM with diagnosed HIV have it, compared to around 17% of HIV-negative MSM. In the general population, up to 10% have HSV-2.

In 2009 around 750 MSM were seen in sexual health clinics in England with their first episode of genital herpes (with thousands more experiencing recurrences but not seeking medical attention). Among MSM, new diagnoses of herpes have gradually risen throughout the last ten years.

WHAT ARE THE SYMPTOMS OF HERPES?

Most people with herpes do not realise they have it as the symptoms are so mild. These include reddened skin, a tiny pimple or a break in the skin resembling a paper cut.

It is possible for someone to have their first noticeable outbreak of symptoms many years after becoming infected which can cause partners to wrongly assume recent infidelity.

The classic symptoms of the primary episode of herpes appear two to ten days (or longer) after infection. Where the virus first enters the skin it causes reddening and possibly an itching, burning or tingling sensation. The glands nearest the site of infection may swell, possibly accompanied by aching, tiredness or headache. There may be pains in the leg, groin or lower back.

Reddening or tingling of the skin often precede the arrival of blisters (these are known as prodromal symptoms). This is followed by small pimples, either on their own or in clusters which grow and fill with a clear, highly infectious liquid. Eventually these blisters burst, then scab over and heal (usually without scarring) within two to four weeks.

Blisters appear on and around moist mucous membranes, including:

- the lips, but also sometimes inside the mouth, throat or nose;
- the head of the penis, the foreskin, shaft or on the testicles;
- the entrance to or inside the anus.

Genital and anal blisters can be painful. Especially in people with HIV, genital herpes may be accompanied by fever, headache, muscle ache and a general feeling of being unwell. Moreover, blisters on the shaft of the penis, on the urethra or in or around the anus can make going to the toilet painful.

Although the immune system is able to shut down replication of the virus and bring an episode to an end, it cannot totally eradicate the virus, which will persist in a latent state.

The symptoms are usually worse during the primary episode than in subsequent episodes. This is because the body has not yet mounted a defence (antibodies) against the virus, allowing it to multiply unchecked. The primary episode may cause more pain, and the blisters may take longer to heal.

Antibodies are produced four to six weeks after the primary infection. Although these antibodies are specific to HSV-1 or HSV-2, they may provide a degree of protection against the other variant of HSV, for example making symptoms milder.

For a minority of people infection with herpes will never lead to symptoms. However most will have one or more episodes of symptoms (sometimes so mild that they are overlooked). For some people there will be noticeable, recurrent episodes of blisters, usually appearing in the same part of the body. Recurrences tend to decrease over time.

Herpes can occasionally affect the fingers, hand, throat, stomach, liver, eye or lung. A rare complication is herpes encephalitis: inflammation of the brain, causing headache, nausea, mental changes, loss of co-ordination and seizures.

HERPES AND STIGMA

A herpes diagnosis can have a psychological impact disproportionate to the condition's severity. The media have helped create the impression that herpes is worse than it is and ignore the fact that around half the general population are infected with one or both herpes simplex viruses.

The fact that herpes can be sexually acquired, is incurable and is recurrent can make the infection the source of anxiety and depression. The following points may be useful in reassuring and allaying fears:

- Being infected with a herpes simplex virus is the norm for adults in the UK.
- Stigma towards those with genital herpes is irrational given both oral and genital herpes cause clinically indistinguishable infections, yet little or no stigma is directed at those with oral herpes.
- The primary episode will usually be the worst – recurrences are less severe and symptoms are treatable.
- Many people do not get recurrences and, if they do, they become more infrequent over time.
- Support is available around disclosing to sexual partners and other issues, for example from The Herpes Viruses Association (phone 0845 123 23 05; www.herpes.org.uk).

HOW IS HERPES DIAGNOSED?

Many people are infected with a herpes simplex virus without realising it. Most of the time the virus causes no symptoms.

HSV should be diagnosed by polymerase chain reaction (PCR), using a swab sample taken from a lesion. This method is recommended by the British Association for Sexual Health and HIV (BASHH). Alternatively it can be diagnosed by growing (culturing) the virus from a swab sample.

Blood tests, which detect antibodies to the virus, should have the advantage of identifying infection in people who have no lesions, but false positive rates are too high for them to be widely used. They can however distinguish HSV-1 infection from HSV-2.

WHAT TREATMENT IS AVAILABLE?

As the virus cannot be eradicated from the body, treatment involves suppressing outbreaks, shortening their severity and duration, and reducing viral shedding.

The mainstays of therapy are the anti-viral drugs Aciclovir, Famciclovir and Valaciclovir. These work best the sooner they are taken and are usually prescribed for a few days at a time. Over-the-counter cold sore creams do not contain high enough concentrations of Aciclovir to be effective against genital or anal herpes.

If a person has recurrent herpes, they may be given anti-viral drugs, with instructions to start treatment as soon as symptoms begin. This is known as 'episodic' therapy and aims to reduce the severity and duration of symptoms. Alternatively, they may be given drugs to take on an ongoing basis. This approach is called 'suppressive' therapy and aims to reduce the frequency of recurrences.

SYMPTOM MANAGEMENT

BASHH recommends:

- gently bathing the area using cottonwool and a warm salt water solution (1tsp to 1pt water);
- pain-killing creams or sprays (such as Lignocaine);
- pain relief medication.

To reduce discomfort, others recommend:

- Applying an ice pack (ice cubes in a plastic bag which is wrapped in a tea towel). Ice should not be put directly onto the skin.
- Putting cold, wet tea bags on the sores.
- Taking a cool shower.
- If urination is painful, doing so in a warm bath or shower.
- Drinking extra fluids to dilute the strength of urine.
- Wearing loose clothing.

MAKING IT COUNT

Making it Count is the strategic planning framework that guides HIV prevention with MSM men across the CHAPS partnership. The framework recognises that herpes (and some other STIs) make a significant contribution to HIV incidence among MSM in England. It promotes the diagnosis, treatment and management of STIs as a central part of our HIV prevention programmes. Therefore one of the aims of *Making it Count* is to increase STI screening, particularly among men who change sexual partner more frequently.

The number of sexual partners men have in between STI screens influences the rate at which STIs and HIV are passed on. Reducing the average number of partners between STI screens could be achieved by increasing the frequency of screening, by reducing the rate of partner change, or both.

HOW IS HERPES PASSED ON?

The herpes virus enters the body during skin-to-skin contact through minute abrasions or breaks in the skin (usually moist mucous membranes). This takes place when the virus is being 'shed' from an infected person. This shedding is most extensive when blisters are present (from the first signs of reddening or tingling until after the blister has healed) but can occur when no symptoms are present. The clear fluid inside the blister carries a lot of virus.

Crucially around two thirds of infections are estimated to be acquired from people who have no visible blisters – because virus can still be shed. This may occur on around 5-10% of asymptomatic days in the year. Shedding decreases as time passes since primary infection, as do the number of recurrences.

Herpes can be passed on during any activities that involve contact with skin that has blisters. In terms of sexual activity all the following activities have potential to transmit HSV from one person to another: kissing; mutual masturbation; oral sex; anal and vaginal intercourse; rimming; fingering; fisting; sharing sex toys (without covering with a condom or washing). Sharing razor blades also has potential to cause transmission especially if shaving the genital area. The virus can also be present in the saliva of someone with a 'cold sore' and, if the saliva is used as a lubricant, it carries the risk of transmitting the virus. The herpes viruses cannot be spread through toilet seats, swimming pools or sharing cutlery.

Individuals can be reinfected (pick up the same strain of HSV that they have already); super-infected (contract HSV-1 when they already have HSV-2 or vice versa) or auto-inoculated (cross-infect themselves by virus being moved from the initial site of infection to a different part of their body).

HOW IS HERPES TRANSMISSION AVOIDED?

The majority of transmission occurs from people who are unaware that they are infected or who are asymptomatic at the time.

To prevent the spread of herpes:

- Sex should be avoided from the onset of the prodromal stage until the blisters have fully healed.
- Condoms provide a degree of protection if they cover the infected body part.
- To avoid spreading the infection to a new part of the body, hands should be washed after touching blisters, especially if touching the eyes, and care should be taken with flannels and towels.
- Sex toys used on more than one person should be covered by a fresh condom or washed for each new sexual partner.
- Suppressive therapy with antiviral drugs reduces the risk of transmission.

There has been research into a vaccine, but results have been disappointing.

HERPES AND HIV

In people with HIV, especially those with weakened immune systems, herpes symptoms can be more aggressive, more widespread and longer lasting. As a result people with diagnosed HIV are more likely to be given suppressive therapy to prevent or reduce herpes episodes.

Herpes infection makes HIV transmission more likely if sexual exposure occurs. People with HIV and herpes are more able to pass on HIV; HIV-negative individuals with herpes blisters are more vulnerable to picking up HIV.

Four mechanisms account for this:

- Herpes increases HIV viral load. High viral load is linked to increased likelihood that HIV is passed on when sero-discordant sex occurs.

FIVE KEY POINTS

- Infections may be caused by one of two viruses: herpes simplex virus 1 (HSV-1) or herpes simplex virus 2 (HSV-2).
- The main symptoms of herpes are ulcers or blisters around the genitals, anus or mouth.
- Herpes infections are characterised by periods with symptoms (ulcers), interspersed with periods with no symptoms. Infection is life-long.
- Herpes transmission is more likely when ulcers are present, but can still occur through skin-to-skin contact when there are no symptoms.
- Herpes infection makes HIV transmission more likely during HIV sero-discordant sex.

- In infected individuals HIV is present in their herpes blisters, allowing contact between HIV and an uninfected person. Blisters may also bleed, allowing contact with blood.
- In individuals without HIV, herpes blisters provide breaks in the skin through which HIV can enter the bloodstream.
- To fight the herpes virus, CD4 receptor cells concentrate around broken mucous membranes. HIV attaches itself to CD4 cells, so the increased presence of such cells in the herpes blisters of uninfected people further enhances their risk of HIV transmission if exposure occurs.

FURTHER READING

FPA, Genital herpes (leaflet)

Herpes Viruses Association – www.herpes.org.uk – info@herpes.org.uk

Hill C, McKinney E, Lowndes CM *et al.* (2009) Epidemiology of herpes simplex virus types 2 and 1 amongst men who have sex with men attending sexual health clinics in England and Wales: implications for HIV prevention and management. *Euro Surveillance*, 14(47):pii=19418.

Kinghorn G, Barton S, Bickford J *et al.* (2007) National guideline for the management of genital herpes. British Association for Sexual Health and HIV, London.

Malkin JE (2004) Epidemiology of genital herpes simplex virus infection in developed countries. *Herpes*, 11 (1):2A-23A.

Patel R, Alderson S, Geretti A, Nilsen A *et al.* (2010) European guideline for the management of genital herpes. International Union against Sexually Transmitted Infections.

Ward H & Rönn M (2010) Contribution of sexually transmitted infections to the sexual transmission of HIV. *Current Opinion in HIV & AIDS*, 5: 305-310.

Author: Roger Pebody, NAM • **Series editor:** Peter Weatherburn, Sigma Research at LSHTM

This briefing sheet is an update of a CHAPS Sector Summary Report written by Richard Scholey and published by Terrence Higgins Trust in November 2005. Thanks to the following people for helpful comments on earlier drafts: Adam Bourne (Sigma Research); Catherine Dodds (Sigma Research); Tom Doyle (Yorkshire Mesmac); Ford Hickson (Sigma Research); David Hiles (Terrence Higgins Trust); George Kinghorn (Royal Hallamshire Hospital); Rajul Patel (Royal South Hants Hospital); Richard Scholey (Terrence Higgins Trust); and Patrick Stoakes (THT Brighton).

This briefing sheet was commissioned by Terrence Higgins Trust (THT) on behalf of CHAPS, a national HIV prevention partnership funded by the Department of Health for England. CHAPS is a partnership of community-based organisations carrying out HIV prevention and sexual health promotion with gay men, bisexual men and other MSM in England. Alongside THT it includes The Eddystone Trust (South West England), GMFA (London), Healthy Gay Life (Birmingham), The Lesbian & Gay Foundation (Manchester), The Metro Centre (London), TRADE (Leicester), and Yorkshire MESMAC.

Published: January 2011

ISSN 2045-4309