# Skin rash and lesions – general

## Overview

- This guideline is not a comprehensive dermatological reference but an overview of possible differential diagnosis for general skin conditions that present that might be related to a sexually transmitted infection (STI).
- Infections are often transmitted via intimate skin-to-skin contact, or kissing, not only with genital and anal penetration.
- Several eye, mouth and joint conditions are related to STIs.
- Use this section and the section on Genital dermatology as a guide together.
- See DermNet NZ and UptoDate for further details.

## Possible Causes

- Syphilis
- Human immunodeficiency virus (HIV)
- Mpox
- Scabies, pubic lice
- Hepatitis A, B and C
- Molluscum contagiosum
- Human papillomavirus (HPV)
- Human herpes viruses (HHV)
- *Chlamydia trachomatis* including *lymphogranuloma venereum (LGV)*
- *Neisseria gonorrhoea*
- *Mycoplasma genitalium*

## Clinical presentation

| Symptoms | Considerations |
| --- | --- |
| Chlamydia / Mycoplasma genitalium (rare) | Sexually acquired reactive arthritis (SARA) following either *C. trachomatis* or *M. genitalium* may include skin involvement. Cutaneous signs include:<br>• Painless mouth ulcers<br>• Tender, thickened skin and scaly patches involving the soles of the feet and lower legs (keratoderma blenorrhagicum)<br>• Erythematous genital lesions and shallow ulcers affecting the glans penis (circinate balanitis)<br>• Erythema nodosum<br>• Nail changes including nail thickening and onycholysis. |

| Symptoms | Considerations |
| --- | --- |
| Gonorrhoea (rare) | • A rash is present in most patients with disseminated gonococcal infection. It affects the trunk, limbs, palms and soles, and usually spares the face, scalp and mouth.<br>• Lesions include micro-abscesses, macules, papules, pustules and vesicles.<br>• Haemorrhagic lesions, erythema nodosum, urticaria and erythema multiforme occur less frequently. |

| Symptoms | Considerations |
| --- | --- |
| Syphilis (common) | **Primary syphilis**<br>• At the site of inoculation, a papule might appear which soon ulcerates to produce a chancre, a 1 to 2-cm ulcer with a raised, indurated margin.<br>**Secondary syphilis**<br>• Cutaneous manifestations include rashes which can take any form and may resemble:<br>  ◦ Drug eruption<br>  ◦ Pityriasis rosea<br>  ◦ Psoriasis or dermatitis<br>  ◦ Involvement of the palms and soles (syphilids or copper spots).<br>• Mucosal surfaces:<br>  ◦ Mucous patches, whitish erosions on the oral mucosa or tongue, and split papules at the oral commissures<br>  ◦ Large, raised, grey-to-white lesions called condylomata lata may develop in warm, moist areas such as the mouth and perineum.<br>• Hair loss:<br>  ◦ Moth eaten alopecia<br>  ◦ Outer third aspect of eyebrow loss.<br>**Tertiary syphilis**<br>Gummatous syphilis: gummas may present as ulcers or heaped up |

| Symptoms | Considerations |
| --- | --- |
| | granulomatous lesions with a round, irregular or serpiginous shape. They range from small to very large and may be severe.<br><br>**Syphilis and HIV**<br><br>• HIV infection may modulate the cutaneous presentation of syphilis (e.g. atypical and florid skin rashes).<br>• The early stages of syphilis have been reported to overlap more frequently in people with HIV.<br>• Increased likelihood of chancres at the same time as symptoms of secondary syphilis.<br>• A severe ulcerative form of secondary syphilis termed lues maligna has also been described with severe immunosuppression.<br><br>**Treatment of syphilis**<br><br>• An existing rash may worsen with Jarisch-Herxheimer reaction (fever, headache, lymphadenopathy and rash) associated with penicillin use in primary and secondary syphilis. |

| Symptoms | Considerations |
| --- | --- |
| Mpox | • Painful lesions on skin and mucosal surfaces. Lesions evolve from macules, to papules, to vesicles, to pustules, to crusted scabs. Typically last 3 weeks, but can be longer.<br>• Proctitis, anal pain and/or anal bleeding.<br>• Prodromal symptoms: Generalised centrifugal rash, fever, lymphadenopathy, headache, muscle pain, joint pain, back pain. Typically last up to 5 days.<br>• Asymptomatic infection is rare.<br><br>**Complications**<br><br>• Secondary bacterial cellulitis of affected skin or mucosal surfaces (common)<br>• Severe pain from lesions. Anorectal pain may require management in hospital (uncommon)<br>• Dehydration due to vomiting, diarrhoea, and/or oral lesions preventing oral intake (uncommon)<br>• Sepsis (less common)<br>• Pneumonia (rare)<br>• Encephalitis (rare)<br>• Keratitis, leading to permanent vision loss (rare) |

| Symptoms | Considerations |
| --- | --- |
| HIV | **CD4 count > 500 cells/µL**<br>• Seroconversion rash<br>• Seborrheic dermatitis<br>• Tinea<br>• Fungal infection of the nails (onychomycosis)<br>• Bacterial skin sores (folliculitis, impetigo)<br>• Psoriasis<br>**CD4 count 200-500 cells/µL**<br>• Oral thrush (candidiasis)<br>• Herpes zoster virus (HZV) (shingles) involving multiple nerve pathways<br>• Herpes simplex virus (HSV) (cold sores) – persisting and extensive<br>• Psoriasis that's difficult to treat<br>• Warts – extensive, persistent, unusual<br>• Proximal onychomycosis<br>• Dry and itchy skin, mucous membranes, eyes (xerosis)<br>• Itchy raised lumps on the skin<br>• Oral hairy leucoplakia<br>**CD4 count 100-200 cells/µL**<br>• Disseminated HSV<br>• Eosinophilic folliculitis<br>• Facial molluscum contagiosum<br>• Kaposi sarcoma (HHV 8)<br>**CD4 count < 100 cells/µL** |

| Symptoms | Considerations |
| --- | --- |
| | • Crusted scabies<br>• Giant molluscum contagiosum<br>• Bacillary angiomatosis<br>• Cytomegalovirus (CMV) cutaneous ulcers (HHV-5)<br>• Disseminated CMV<br>• Cutaneous penicilliosis |
| Human Herpes Viruses (HHV) | • Type 1 HSV is mainly associated with oral and facial infections<br>• Type 2 HSV is mainly associated with genital and rectal infections<br>• Extra-genital manifestations of HSV<br>• Severe or prolonged HSV may occur with HIV<br>• Epstein-Barr Virus (EBV) – oral hairy leucoplakia, non-genital vesicles, ulcerations<br>• Recurrent HZV (shingles)<br>• HHV-8 – Kaposi sarcoma<br>• CMV – retinitis |
| | |

| Symptoms | Considerations |
| --- | --- |
| Viral hepatitis (Some) | **Acute viral hepatitis**<br>• Urticaria is commonly observed in patients with viral infections, including hepatitis A virus (HAV), hepatitis B virus (HBV) and hepatitis C virus (HCV).<br>• Urticaria associated with fever, headache and painful joints is known as serum sickness-like reaction and affects 20% to 30% of patients with acute HBV.<br>• HAV has been reported to cause an exanthem similar to scarlet fever (scarlatiniform eruption).<br>• Erythema multiforme – target-shaped lesions on hands and feet.<br>• Erythema nodosum – red lumps on shins.<br>**Chronic viral hepatitis**<br>• At least 20% of patients with chronic hepatitis due to HBV or HCV develop a skin disorder.<br>**HBV and HCV**<br>• Mixed cryoglobulinaemia (type 2)<br>• Cutaneous and systemic vasculitis<br>• Lichen planus<br>• Porphyria cutanea tarda<br>• Increased susceptibility to skin tumours including skin cancer. |

| Symptoms | Considerations |
| --- | --- |
| | Skin conditions more often associated with HBV<br>• Dermatomyositis<br>Skin condition more often associated with HCV<br>• Acral necrolytic erythema – scaly or blistered ring-shaped red or purple plaques on back of the hands, ankles and feet.<br>• Sjögren disease or sicca syndrome – dry eye and mouth due to loss of salivary glands.<br>• Mooren corneal ulceration – resulting in pain, tearing and loss of sight.<br>• Antiphospholipid syndrome – due to immunoglobulins binding to platelets, blood vessel wall and clotting factors. It results in vascular destruction or bleeding. |
| HPV (genital variants) | • Condylomata acuminata and squamous intraepithelial lesions and carcinoma of the vagina, vulva, cervix, anus or penis.<br>• HPV type 16 can infect the oral mucosa and has been associated with squamous cell carcinoma of the oral cavity. |
| | |

| Symptoms | Considerations |
| --- | --- |
| Scabies | • Intensely itchy skin, vesicles and burrows on the hands, buttocks, arms<br>• Itching is worse at night and when hot (e.g. in a hot shower). |
| Pubic lice | • Can be found in eye lashes and living in non-genital hair<br>• Can live off the body for several hours<br>• Becoming rare due to hair removal behaviour. |

## Diagnosis

| Infection | Site/Specimen | Test |
| --- | --- | --- |
| Chlamydia | Urine sample<br>Cervical, vaginal swab<br>Anal /rectal swab<br>Throat swab<br>Eye swab | NAAT/PCR |

| Infection | Site/Specimen | Test |
| --- | --- | --- |
| Gonorrhoea | Urine sample<br>Cervical, vaginal swab<br>Anal /rectal swab<br>Throat swab<br>Eye swab<br>Pustule/s swab<br>Joint aspirate | NAAT/PCR<br>plus<br>MC&S swab test from every site that is symptomatic |
| Syphilis | Blood<br>Moist lesion/s swab | Syphilis serology<br>NAAT/PCR |
| Mpox | Dry swab of lesion, skin biopsy, lesion fluid or rectal swab | NAAT |
| Lymphogranuloma venereum (LGV) | Rectal swab | NAAT/PCR<br>Write on request form *'NAAT/PCR. If chlamydia positive, please send for LGV testing.'* |
| HIV | Blood | Point-of-care test, HIV antigen/antibody |
| HSV/HZV | Swab from the lesions | NAAT |
| HPV | Biopsy from suspicious or chronic lesions | Histology |

NAAT – Nucleic acid amplification test; can also ask for a polymerase chain reaction (PCR) test depending on the local lab preference

MC&S – microscopy, culture and sensitivity

**Specimen collection guidance**

Clinician collected | Self-collection

**Investigations**

Always check for anogenital infection if chlamydia or gonorrhoea is found in conjunctival or throat swabs, joint aspirate or lesions.

**Special considerations**

- Syphilis has been described as the great mimic and should be considered in unusual presentations including rashes. Higher rates of syphilis occur in populations such as men having sex with men, Aboriginal and Torres Strait Islander people and travellers who have sex overseas and in some communities of injecting drug use
- Seek specialist advice for all patients who are pregnant, hypersensitive to penicillin or who are HIV positive when treating syphilis
- Treat the underlying infection which will usually lead to resolution of symptoms and signs of skin disease
- Provide symptomatic relief of itch with topical emollients and antihistamines if needed
- Moderate skin irritation may require topical steroid ointment and creams
- Ocular involvement requires review by an ophthalmologist.

**Treatment advice**

**See treatment for specific conditions if confirmed**

- Chlamydia
- Gonorrhoea
- Herpes

- Syphilis
- Mpox
- HIV
- Hepatitis A, B, C
- HPV

**Other immediate management**

- Advise no sexual contact for 7 days after treatment is administered.
- Advise no sex with partners from the last 6 months until the partners are tested and treated if necessary.

## Contact Tracing

Contact tracing for chlamydia, gonorrhoea, syphilis, mpox, HIV and lymphogranuloma venereum (LGV) is a high priority and should be performed in all patients with confirmed infection.

See Australasian Contract Tracing Manual for more information.

## Follow Up

If STI confirmed, follow-up provides an opportunity to:

- Confirm patient adherence with treatment and assess for symptom resolution.
- Confirm contact tracing procedures have been undertaken or offer more contact tracing support.
- Educate about condom use, contraception, HIV PrEP/PEP, safe injecting practices, consent, CST and vaccinations for HAV, HBV and HPV as indicated.

For **test of cure** and **retesting** advice see:

- Chlamydia
- Gonorrhoea

- Syphilis
- Lymphogranuloma venereum (LGV).

## Auditable Outcomes

Refer to the relevant STI:

- Chlamydia
- Gonorrhoea
- Syphilis
- Lymphogranuloma venereum (LGV).
- HIV

## Further reading

British Association for Sexual Health and HIV (BASHH). Available at: https://www.bashh.org/guidelines/ (last accessed 23 October 2021).