



# Genital Ulcer PCR Panel

Compiled by: Microbiology and Virology Pathologists

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Genital ulcers present as painful or painless sores in the genital area. Accurate diagnosis is important for effective management, prevention of transmission, and addressing potential complications. The Genital Ulcer PCR panel tests for several pathogens that may cause genital ulcer disease:

- **Herpes Simplex virus (HSV)**
  - **Clinical Presentation:** Painful vesicular or ulcerative lesions in those that present with symptoms.
  - **Importance:** Most common cause of genital ulcers. Early diagnosis helps manage the severity and duration of symptoms, and reduce transmission.
  - **First-line Treatment:** Valacyclovir
- ***Treponema pallidum* (Syphilis)**
  - **Clinical Presentation:** Painless chancre during the primary stage.
  - **Importance:** Early diagnosis prevents progression to secondary and tertiary syphilis, which have significant systemic implications.
  - **Treatment:** Benzathine penicillin G. Alternative: Doxycycline is considered an alternative treatment for non-neurological syphilis, or when first line treatment is not available or contraindicated.
- ***Chlamydia trachomatis* serovar L (*Lymphogranuloma venereum*)**
  - **Clinical Presentation:** Painless ulcer, followed by painful inguinal lymphadenopathy.
  - **Importance:** Accurate diagnosis and treatment are crucial to prevent complications like chronic lymphatic obstruction.
  - **Treatment:** Doxycycline or azithromycin
- ***Haemophilus ducreyi* (Chancroid)**
  - **Clinical Presentation:** Painful, necrotic ulcers with regional lymphadenopathy. This organism has become an uncommon cause of genital ulcers in South Africa.
  - **Importance:** Accurate diagnosis helps in differentiating from other causes and preventing spread in endemic areas.
  - **Treatment:** Azithromycin, ceftriaxone, or ciprofloxacin
- **Cytomegalovirus (CMV)**
  - **Clinical Presentation:** Rare cause of genital ulcers, usually in immunocompromised patients.
  - **Importance:** Early detection can prevent systemic complications, especially in immunocompromised individuals.
  - **Treatment:** Ganciclovir or valganciclovir, particularly in immunocompromised patients.
- **Varicella-Zoster virus (VZV)**
  - **Clinical Presentation:** Painful, vesicular rash in a dermatomal distribution.
  - **Importance:** Important to distinguish from other causes, particularly in immunocompromised or elderly patients.
  - **Treatment:** Valacyclovir

## PLEASE NOTE:

- If mpox (previously known as monkeypox) infection is suspected, a separate monkeypox virus PCR should be requested.
- If infection with *Klebsiella granulomatis* (granuloma inguinale) is suspected, a biopsy sample from the ulcer should be submitted to histology for detection of Donovan bodies.

## Importance of Accurate Diagnosis

1. **Targeted Treatment:** Each pathogen requires specific antimicrobial or antiviral therapy. Misdiagnosis can lead to inappropriate treatment, prolonging patient discomfort, and increasing the risk of complications. Lessening broad spectrum antibiotic exposure also reduces the risk for the emergence of multi-drug resistant bacteria.
2. **Preventing Transmission:** Early and accurate diagnosis reduces the risk of genital ulcer disease transmission to sexual partners. Genital ulcer disease is also known to increase the risk of acquiring HIV.
3. **Public Health Implications:** Proper identification and treatment contribute to controlling outbreaks, particularly in communities with higher prevalence rates.

The Genital Ulcer PCR panel is an important tool in the diagnostic armamentarium for sexually transmitted infections. By enabling precise identification of the causative organism, it ensures timely, appropriate, and effective treatment, ultimately improving patient outcomes.

**Sample type:** Swab of ulcer (dry swab) or cervical LBC (liquid-based cytology) sample.

**Turnaround time:** 24 hrs following receipt in the molecular laboratory.

**PLEASE NOTE:** HIV testing is recommended for all patients presenting with genital ulcer disease.

## References

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- Peters RPH, Nel JS, Sadiq E, et al. Southern African HIV Clinicians Society Guideline for the clinical management of syphilis. South Afr J HIV Med 2024; 25(1): 1577. doi:10.4102/sajhivmed.v25i1.1577

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