

# Viral Infections of the Urogenital Tract L8

## 1. Herpes Simplex Virus (HSV)

**Definition:** Double-stranded DNA virus causing genital herpes.

**Types:**

- **HSV-1:** Tropism for *oral epithelium* (common in childhood via saliva).
- **HSV-2:** Tropism for *genital epithelium* (spread via **sexual contact**).

### Etiology

- **Family:** *Herpesviridae*.
- **Structure:**
  - Enveloped, icosahedral nucleocapsid.

### Transmission

- Direct contact with mucosal secretions or skin lesions. HSV1----saliva transmission
- **HSV-2 detection in children:** Raises suspicion of **sexual abuse**.

### Pathophysiology

1. **Inoculation:** Enters through mucosal/skin breaks.
2. **Neurovirulence:** Replicates in nerve cells.
3. **Latency:** Dormant in ganglia:
  - *Trigeminal ganglion* (HSV-1).
  - *Sacral ganglion* (HSV-2).
4. **Reactivation:** Triggered by stress, trauma, or immunodeficiency.

### Clinical Features

- **Primary Infection:**
  - Prodromal symptoms: Tingling, pain, pruritus.
  - **Skin lesions:** Grouped **erythematous vesicles** → painful ulcers in anogenital area.
  - Systemic symptoms: Fever, lymphadenopathy.

- **Recurrent Infection:**
  - Prodromal : pain in genitals , legs , buttocks , hips
  - Unilateral lesions, shorter duration, milder symptoms

## Diagnosis & Treatment

- **Diagnosis:** Clinical
  - PCR or viral culture (confirmatory).
- **Treatment:**
  - **Acyclovir** (oral/topical): Reduces severity, duration, and viral shedding.
  - Cannot prevent recurrence.

## 2. Human Papillomavirus (HPV)

### High-Risk Serotypes for Cervical Cancer:

- HPV **16, 18, 31, 33** (responsible for 70% of cervical cancers).

## 3. Molluscum Contagiosum Virus (MCV)

**Definition:** Enveloped double-stranded DNA poxvirus , linear causing skin infection. \\ childhood <5year peak \\ tall incubation period (2-7) weeks

### Etiology

- **Family:** Poxviridae.
- **Transmission:**
  - Direct skin contact (e.g., contact sports, sexual contact).
  - Autoinoculation (scratching).
  - Fomites (towels, sponges).

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## Clinical Features

- **Appearance:**
  - Pearly, **nontender**, dome-shaped papules with **central umbilication**.
- **Distribution:**
  - *Children:* Face, trunk, extremities.
  - *Adults:* Genitalia, lower abdomen.

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## Diagnosis & Treatment

- **Diagnosis:** Clinical (distinctive lesions).
- **Treatment:** No treatment necessary
  - Self-limiting (resolves in ~1 year).
  - Options for cosmetic/transmission control:
    - **Cryotherapy**, curettage, topical cantharidin.

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## Infection Control

- Avoid scratching/sharing towels, bed linen.
- Cover lesions during contact sports/swimming.

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## Key

Virus	Key Features	Treatment
HSV	Latency in ganglia, recurrent ulcers	Acyclovir
HPV	High-risk: 16, 18, 31, 33 (cervical cancer)	
MCV	Umbilicated papules, self-limiting	Not necessary

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