Skin Infections

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Skin & soft tissue infections

FUNGAL

- Tinea Capitis
- Tinea Corporis/Cruris/Pedis
- Candidal Intertrigo
- Candidal Diaper Dermatitis
- Pityriasis (Tinea) Versicolor
- Sporotrichosis

VIRAL

- Herpes Simplex Virus
- Varicella-Zoster Virus
- Molluscum Contagiosum
- Warts

BACTERIAL

- Impetigo
- Erysipelas
- Cellulitis
- Folliculitis
- Furuncles/Carbuncles
- Necrotizing Fasciitis

Fungal Skin Infections

- Tinea Capitis
- Tinea Corporis/Cruris/Pedis
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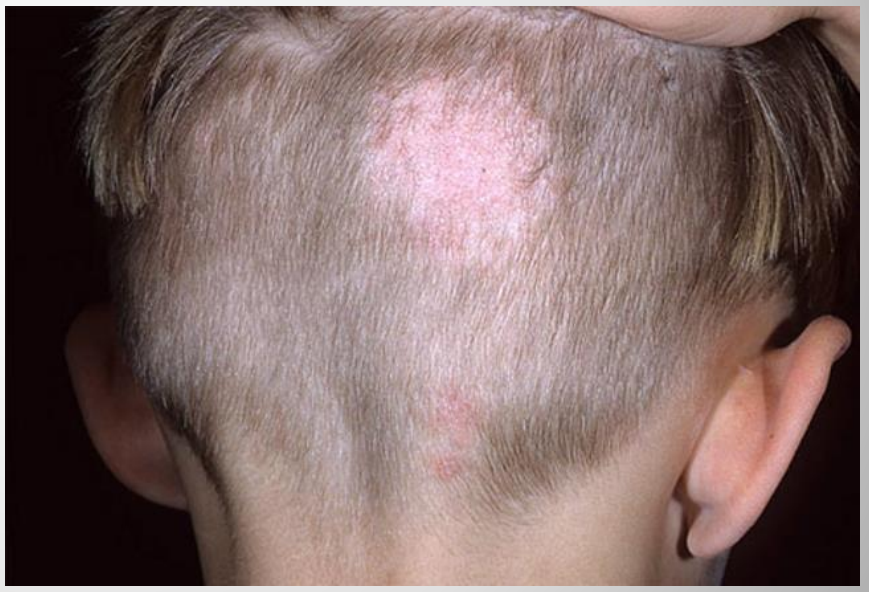
Tinea Capitis

- Infection of **hair follicles on the scalp & the surrounding skin** caused by a dermatophyte, usually **Microsporum or Trichophyton**.
- Usually affects **children 3-7 years old**; scale and **hair loss** on the scalp

- **Differential Diagnosis**
  - **Psoriasis**
  - **Seborrheic dermatitis**

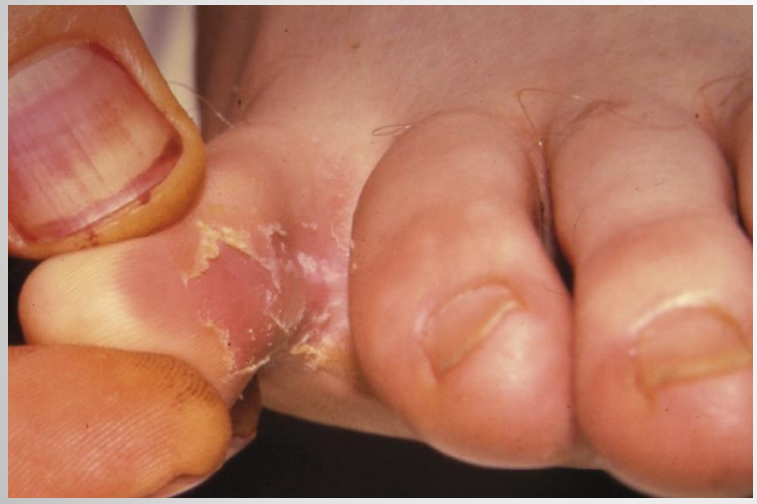


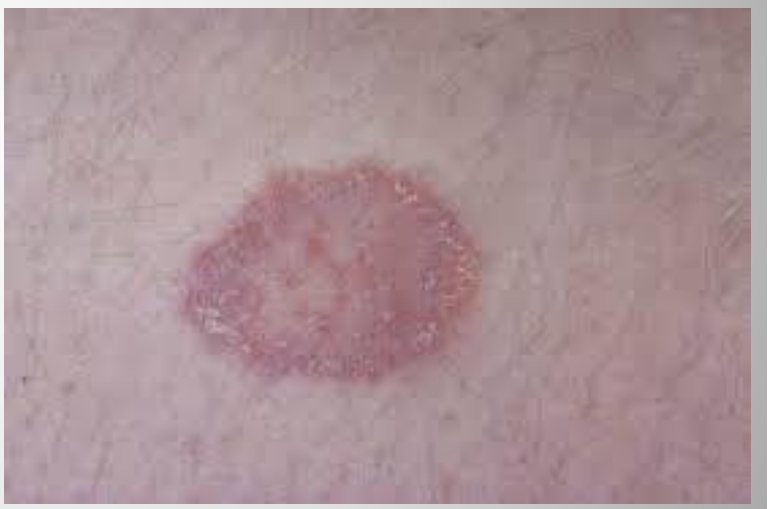
Treatment:

- **Topical therapy alone is not recommended.**
- **Griseofulvin:** 10-15 mg/kg per day for 4-6 weeks
- **Terbinafine:** 125-250 mg daily for 4-6 weeks
- Fluconazole: 6 mg/kg per day for 4-6 weeks

Tinea Corporis/Pedis

- **Tinea corporis**
  - Trunk, extremities, or face
- **Tinea pedis (athlete's foot)**





Treatment

Topical antifungal medication: First choice

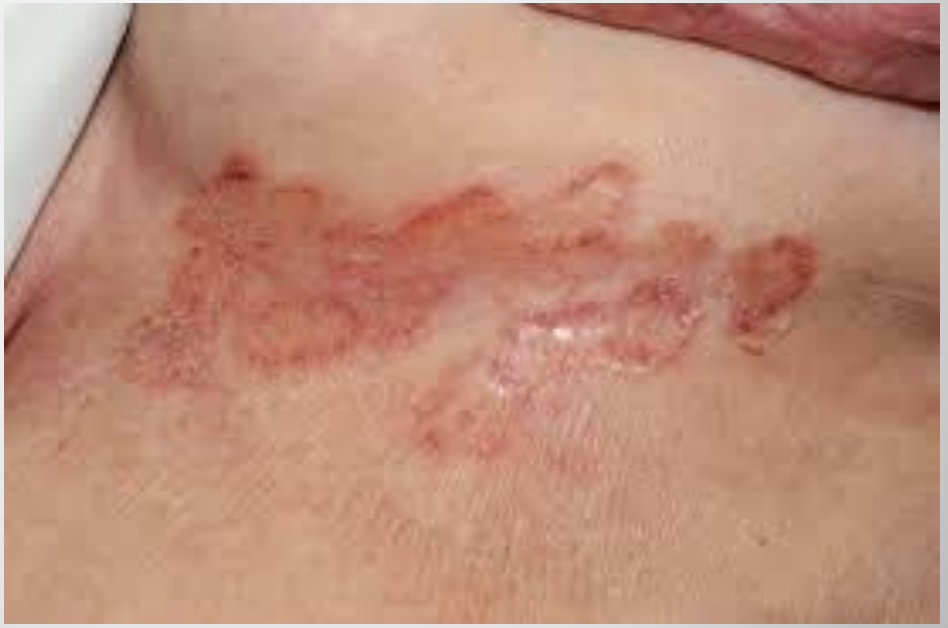
- **Terbinafine, Clotrimazole, Ketoconazole, Miconazole**
- Applied twice daily until resolution; usually 1-2 weeks.

Extensive or resistant tinea infections:

- Oral terbinafine or itraconazole

Candidal Intertrigo

- Infection of **hair-bearing skin.**
- Erythematous plaques & erosions with fine peripheral scaling & erythematous satellite lesions.
- The plaques are often pruritic & occasionally painful.



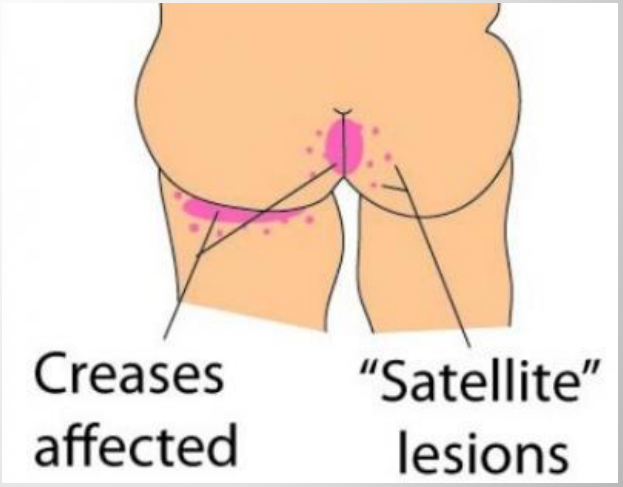
Treatment:

- **Topical antifungals: Clotrimazole, Ketoconazole, Miconazole**
  - Applied twice daily until resolution; usually 2-4 weeks.
- **Severe or resistant cases: Systemic antifungal medication**
  - Adults: Fluconazole 50-100 mg daily or 150 mg weekly
  - Children: fluconazole 6 mg/kg once, then 3 mg/kg per day or itraconazole 5-10 mg/kg per day divided in 2 doses

- **Low-potency topical corticosteroids** may be used in conjunction with antifungal therapy to treat pruritus & discomfort.

Candidal Diaper Dermatitis

- It classically presents with beefy red plaques, satellite papules, & superficial pustules that leave a scale once ruptured.
- Candidal infections **involve the skin folds**
- Irritant diaper dermatitis omits the skin folds

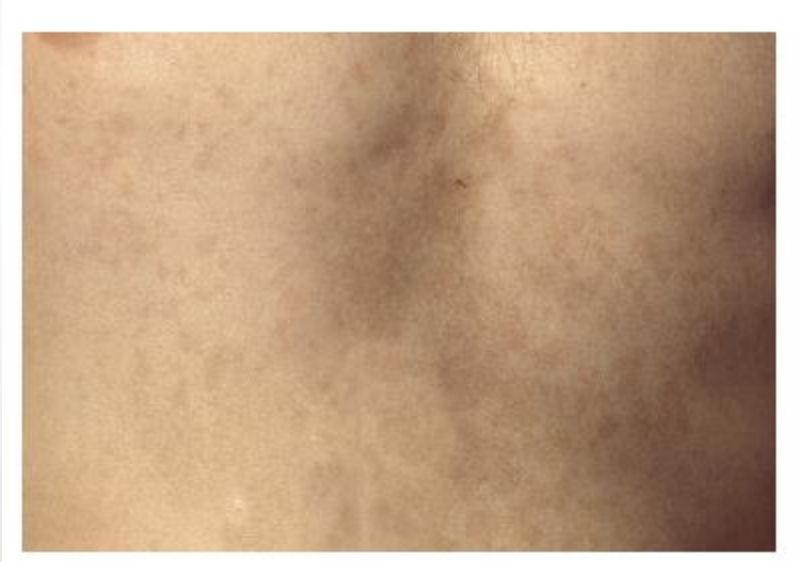


Treatment:

- Frequent diaper changes
- Air exposure
- Gentle cleansing
- Use of topical barrier preparations
- **Topical antifungals: nystatin, clotrimazole, miconazole, ketoconazole, sertaconazole**

Tinea Versicolor

- Caused by **Malassezia species,** which is part of the normal skin flora.
- Typically present **with pigmentation skin changes** involving the trunk, back, abdomen, & proximal extremities.
- Occasionally, **mild pruritus occurs**.



Treatment

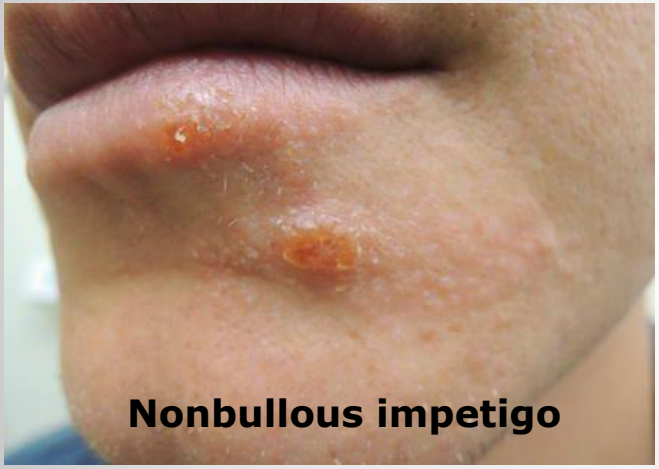
- **Topical treatment**
  - **Ketoconazole**: choice (possesses strongest in vitro activity against Malassezia)
  - **Zinc Pyrithione, Ketoconazole, Terbinafine**
- **Severe or recalcitrant:**
  - Oral itraconazole: the drug of choice
  - Oral fluconazole: alternative

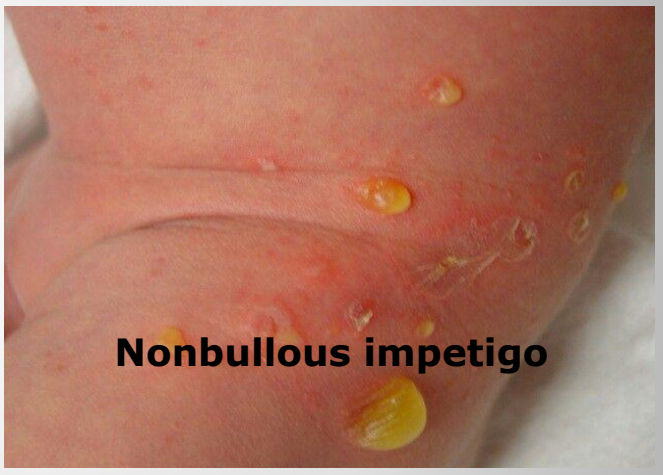
Bacterial Skin Infections

- Impetigo
- Cellulitis
- Folliculitis
- Furuncles/Carbuncles/Other Skin Abscess

Impetigo

- Caused by **Staphylococcus aureus**, **group A beta-hemolytic Streptococcus pyogenes**
- It most commonly affects children aged 2-5.



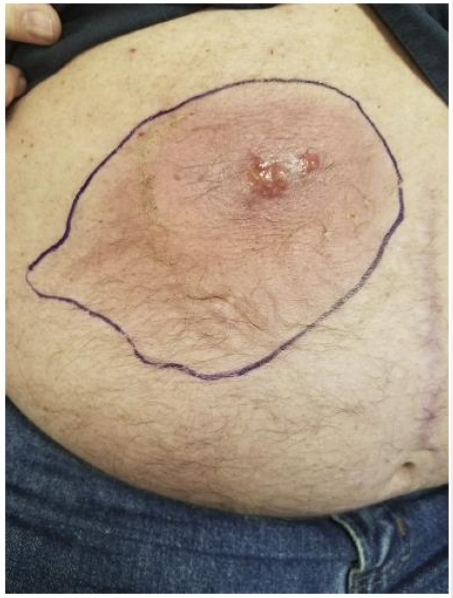


Treatment

- **Nonbullous impetigo:**
  - **Topical antibiotics**; where the disease is not extensive
    - **Mupirocin cream**, Fusidic acid cream
  - **Systemic antibiotics;** if there are numerous lesions, or ecthyma
    - Beta-lactamase–resistant penicillins (cloxacillin)
    - Broad-spectrum penicillins (ampicillin, amoxicillin with clavulanic acid)
    - Cephalosporins
    - Macrolides
- **Bullous impetigo**
  - **Cloxacillin & cephalexin**

Cellulitis

- Involves the subcutaneous tissue & **<u>may extend to the dermis of the skin.</u>**
- It presents as a rapidly spreading, painful indurated area of subcutaneous tissue with overlying warmth & erythema.
- The borders of the cellulitis lesion are not distinct.



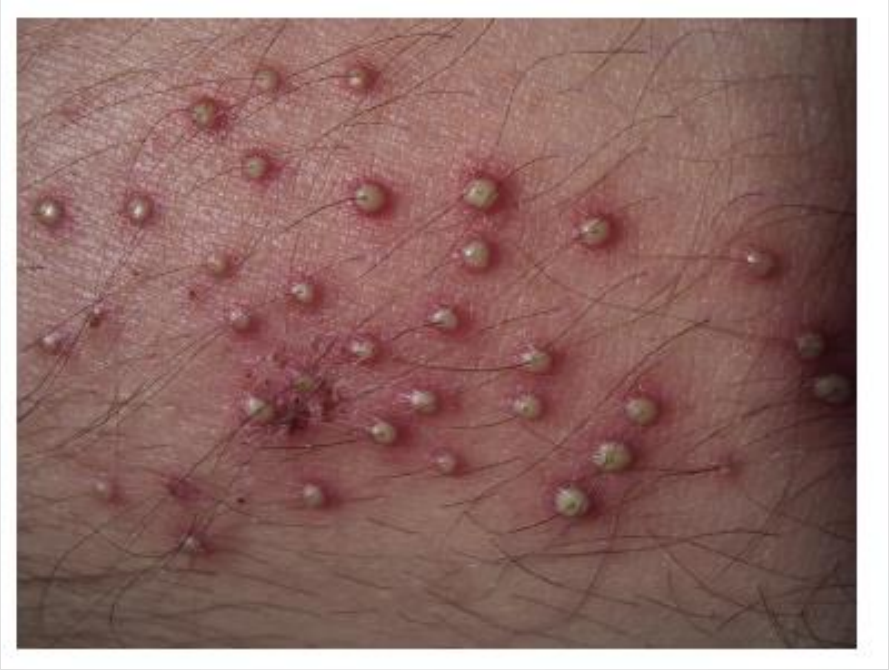
Abscess with surrounding cellulitis

Treatment:

- **Group A beta-hemolytic Streptococcus** & **S aureus** are the 2 most common causes of cellulitis.
  - **For patients without suspicion for MRSA:** B-Lactam antibiotics (eg, cephalexin, cloxacillin)
  - **In patients with suspected MRSA:** SMX-TMP, clindamycin, doxycycline, minocycline

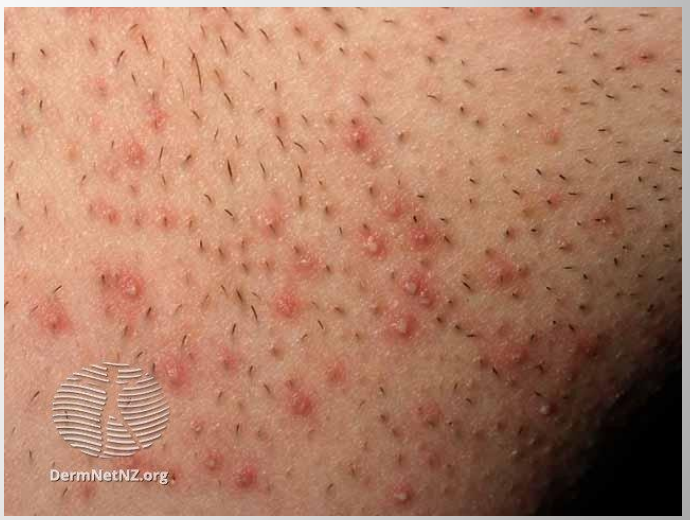
Folliculitis

- characterized by superficial inflammation of hair follicles with perifollicular papules or pustules on an erythematous base.



- It may be caused by infection, chemicals, or physical injury.
  - **Bacterial folliculitis**: **S aureus;** more common in men due to beard area & shaving.
  - **Fungal folliculitis**: Malassezia; more frequent in adolescents & men, associated with travel to tropical climates, **often presents on chest or back**

- **Pseudofolliculitis barbae:**
  - Chronic, inflammatory reaction to shaving



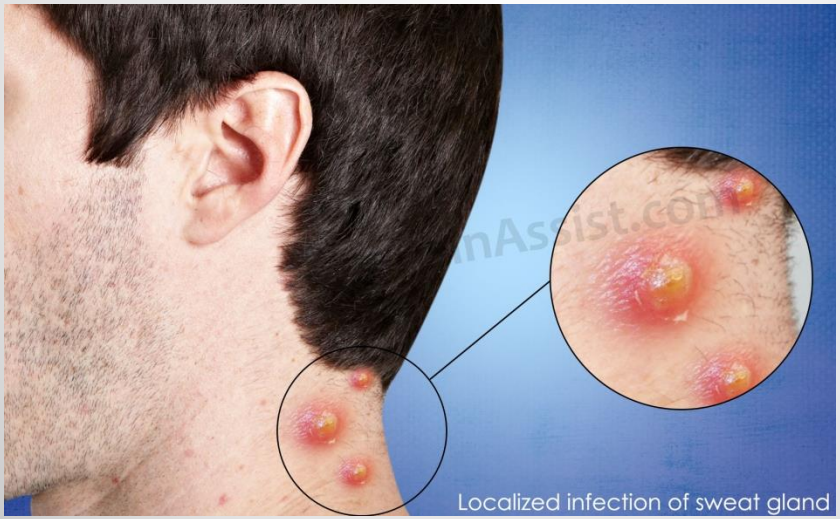
Treatment

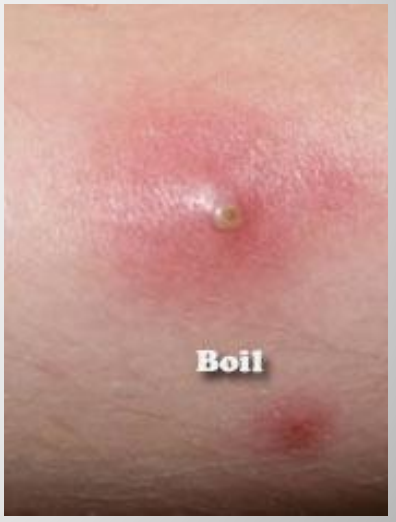
- Treating the underlying cause
- **Topical therapy:** Mupirocin or fusidic acid ointment, Benzoyl peroxide
- **Systemic Therapy:** cephalosporins or cloxacillin for 7 day
- **For fungal folliculitis:** Itraconazole

- **P barbae:** treated by not shaving the affected area **<u>for at least 4 weeks.</u>**

Furuncles/Carbuncles

- **Furuncle (boil):** is an infection of the hair follicle with purulent extension into the adjacent subcutaneous tissue leading to abscess formation.
- **Carbuncle:** collection of furuncles that converge & drain through a follicular opening.
- Most commonly furuncles, carbuncles, & abscesses are caused by **S aureus.**





Treatment:

- **Incision & drainage:** Mainstay of therapy for simple cutaneous abscesses
- **Antibiotics:** in the case of multiple lesions, gangrene, immunocompromised patients, surrounding cellulitis, or systemic signs of infection.
  - **If MSSA: 5-14 days of cloxacillin or cephalexin**.
  - **If MRSA**: TMP-SMX, clindamycin, doxycycline, minocycline.

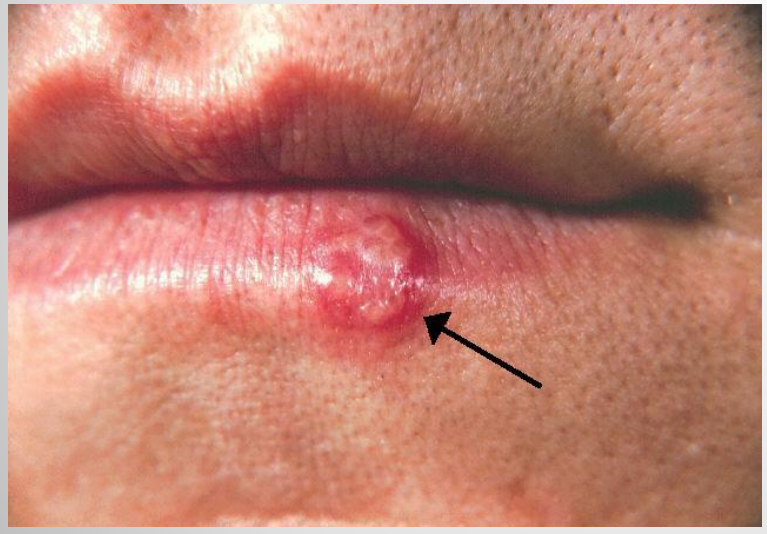
Viral Skin Infections

- Herpes Simplex Virus Infections
- Varicella-Zoster Virus
- Molluscum Contagiosum
- Warts

HSV Infections

- **Orofacial herpes simplex (herpes labialis or cold sores)**
- **Genital herpes simplex infections**

- Diagnosis of HSV is often based on **clinical presentation.**



- **Antiviral medications can prevent or shorten outbreaks.**

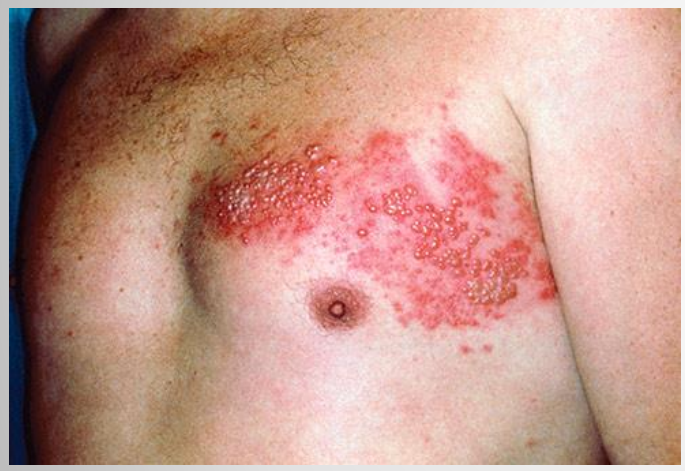
- **Treatment of genital herpes**
  - **Acyclovir:** 800 mg TDS for 2 days; or 800 mg BID for 5 days; or 400 mg TDS for 5 days.
  - **Valacyclovir:** 500 mg BID for 3 days or 1000 mg once daily for 5 days.

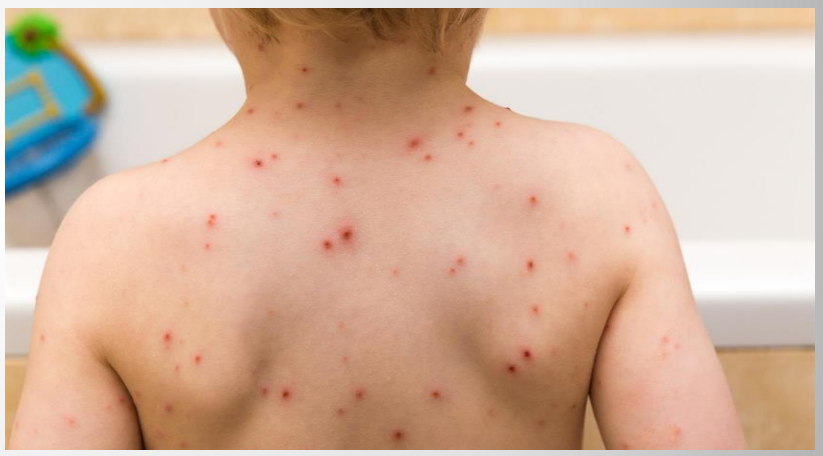
Treatment of herpes labialis

- **Lidocaine & prilocaine cream**; reduced symptom & eruption duration
- **Topical acyclovir (5 times daily for 5 days):** may reduce episode duration, but does not improve pain.
- **Oral antiviral medications:** reduce symptom duration & resolution time
  - **Acyclovir** 400 mg TDS or 200 mg 5 times a day for 7 days
  - **Valacyclovir** 1000 mg BID for 7 days

Varicella-Zoster Virus

- Causes 2 clinically distinct forms of disease:
  - **Varicella (chickenpox):** primary infection (more common in children)
  - **Shingles (zoster):** reactivation (more frequent in adults older than 60)





Varicella:

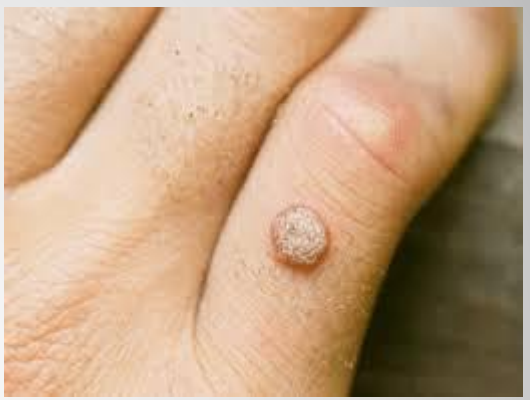
- Most healthy children **have self-limited infection**.
  - Antihistamines for the pruritic rash
  - NSAIDs or acetaminophen for fever.
- Antiviral treatment with **acyclovir or valacyclovir** should be initiated for **high-risk groups** (adolescents, adults, pregnant women, immunocompromised hosts)

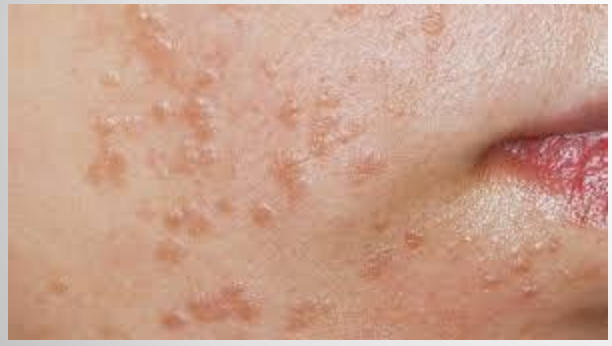
Zoster

- **Oral antiviral therapy** hastens resolution of lesions & pain, **<u>if initiated within 72 h of symptoms.</u>**
  - **Acyclovir** 800 mg 5 times a day for 7 days
  - **Valacyclovir** 1000 mg TDS for 7 days
    - **Mild to moderate pain:** NSAIDs, acetaminophen, tramadol
    - **Severe pain:** oxycodone (opioid analgesics)
- **Gabapentin, TCAs, glucocorticoids do not have role in acute zoster treatment.**

Warts (Verrucae)

- Benign skin growths caused by human papillomaviruses (HPV) virus.
- **Cutaneous warts**
  - Common warts (verruca vulgaris)
  - Plantar warts (verruca plantaris)
  - Flat (plane) warts (verruca plana)



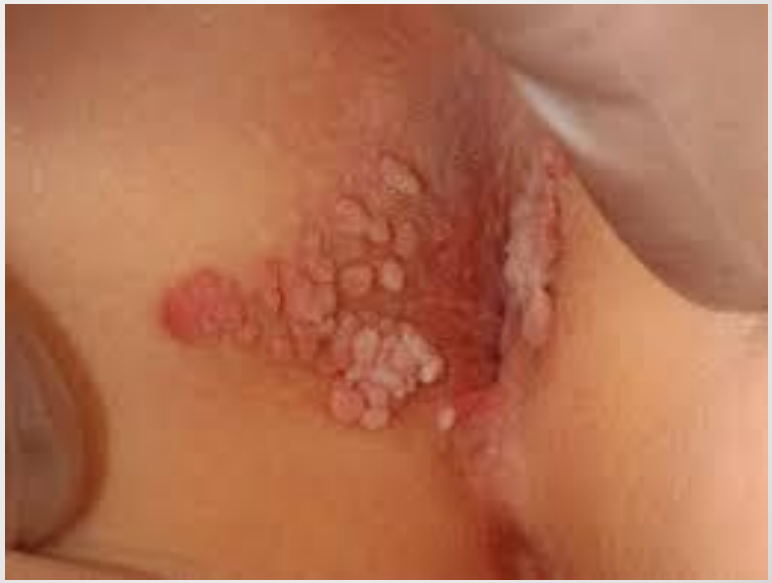


Treatment of cutaneous warts

- Topical salicylic acid
- Cryotherapy with liquid nitrogen
- trichloroacetic acid
- Surgery
- Imiquimod
- 5-fluorouracil

Condyloma acuminatum (anogenital warts)

- Symptoms begin 2- 3 months after initial contact
- 90% of anogenital warts are related to **HPV types 6 and 11**



Treatment of anogenital warts

- **Surgical removal;** remains the treatment of choice
- Cryotherapy
- Trichloroacetic acid
- Podophyllin
- Imiquimod

END