



Common skin infection

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- **PART 1: LECTURE**

- **Bacterial:**

Impetigo, Erysipelas, Cellulitis, Furuncle, Carbuncle, Folliculitis, Erythrasma

- **Viral:**

Warts, Molluscum contagiosum, H.simplex, H.zoster

- **Fungal:**

Candida, Dermatophyte inf., Pityriasis versicolor

- **Protozoal:** Leishmaniasis

- **Infestations:**

Scabies, Pediculosis capitis

- **PART 2: CLINICAL CASES & DISCUSSION**

Bacterial

Impetigo

- Acute superficial cut. Inf.
- Staph, gp A strept or both
- Children, Adult





Bullous Impetigo

Due to staph aureus. Phage group II

New born and old children

On face, hands

Bullae(thin,fragile) on grossly normal skin

Staphylococcus aureus:

Found on normal skin

Associated with nasal or perianal carriage



Non Bullous

more common form

Due to S.A ,Strept
pyogenes(GABHS),both
Transient vesicles or
pustules later

golden yellow crust

Predisposing factors:-

Warm, humid climate,
poor hygiene, trauma,
insect bites and
immunosuppression.



Prognosis:

Scarring is unusual, but postinflammatory
hyperpigmentation or hypopigmentation

Complications:

APSGN:

- @ Follows strept. infection (impetigo) > URTI
- @ Latent period : 10 days if associated with pharyngitis, 3 weeks if associated with pyoderma
- @ Nephritogenic pyoderma associated strains 49,55,57, 59
- @ Rare

Mx:

Swab :Gram, stain show gram positive cocci

Culture

Remove crust

Localized:Topical Abx (bactroban)

Severe , bullous or Strept (prevent post strept. Glomerulonephritis):

1st generation cephalosporin

semisynthetic Penicillin

7-10 d

Erysipelas

- Superficial infection with marked lymphatics involvement.
- Sharply demarcated unilateral, red oedematous.
- infants, young children, & elderly patients (most commonly)
- Face, leg
- Beta hemolytic gp A Strept.
- Minor abrasion / lymphatic dysfunction - sup. Lymph vessels
- Leucocytosis & fever



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Mx

Smear for gram stain and culture
(fluid, blood)

Cold compressor

Oral anti biotics or I.V. for severe
infection

Oral penicillin for 10 days

Erythromycin



Cellulitis

- Deeper involvement of the SC
- Raised, hot, tender, erythematous(leg)
- Strept. Pyogenes, staph.aureus
- Cut , abrasion or ulcer
- Palpable, tender LN
- Fever, leucocytosis
- Risk factors:
- DM, HTN, obesity, immunodef, venous stasis.
- Complicated by lymphedema if recurrent



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Mx

Swab + blood culture

acetaminophen

**IV penicillinase-resistant
penicillins**

1st generation cephalosporin

Furuncle (boil)

- Inflammation of deep portions of hair follicle
 - Deep seated nodule about hair follicle
- S. aureus**

MX

- **Swab : Culture and GS**
- Antibacterial soap
- **Antistaph antibiotics**



Carbuncle

Infection of multiple hair follicles

- Larger more deep seated
- Drainage through multiple points in the skin
- **S. Aureus**

Mx

- **Swab : Culture and GS**
- **Screen for carrier state**
- **Antistaph antibiotics**



Folliculitis

- Inflammation of hair follicle
- **S. aureus**
- face, scalp, thighs, axilla, & inguinal area.
- multiple small papules / pustule on an erythematous base
- Heals without scarring



Mx

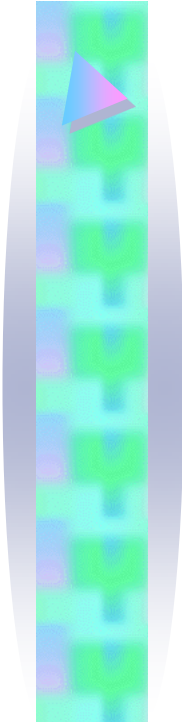
- Swab: culture, gram stain
- Antibacterial soap
- Topical and systemic Abx

Erythrasma

- **Corynebacterium minutissimum**
- Red, brown, asymptomatic, flexoral



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RISK FACTORS:

Excessive sweating, Obesity, DM, immunocompromised states

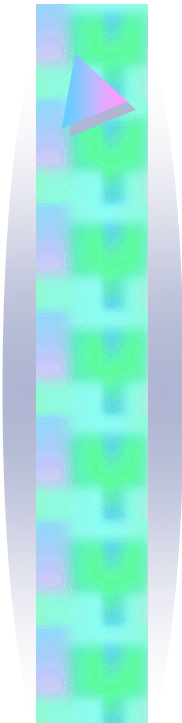
Mx

Swab

wood's lamp: coral-red fluorescence

Topical: imidazoles (miconazole) or erythromycin

Oral erythromycin X 7 d



Viral

Warts

HPV (DNA)

Common wart:

- Hand
- Children
- Koebner phenomenon



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Plane warts :
Face, back of hands



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Plantar wart:
sole, painful



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Mx :

Involute spontaneously

Cryotherapy

Topical: SA, TCA

Electrocautary, curettage

Laser

Genital wart:

- **Most common STD**
- **Condylomata accuminata**
- **Cauliflower like**
- **Penile, vulvar skin, mm, perianal area**
- **Sexual partner**
- **Child--- ?sexual abuse**
- **oncogenic:16, 18**



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Table 79.2 Management of anogenital warts with grading of recommendations. Grading of recommendation: (1), based on randomized, controlled trials of good quality and consistency; (2), well-conducted clinical studies but no randomized clinical trials⁶⁷.

MANAGEMENT OF ANOGENITAL WARTS WITH GRADING OF RECOMMENDATIONS	
Cytotoxic agent	
<ul style="list-style-type: none"> Podophyllotoxin 0.5% solution, 0.15% cream (1) 	
Physical destruction	
<ul style="list-style-type: none"> Cryotherapy (liquid nitrogen, cryoprobe) (1) Trichloroacetic acid (TCA) 80–90% solution (1) Electrosurgery (1) Scissors excision (1) Laser vaporization (2) 	
Immunomodulatory	
<ul style="list-style-type: none"> Imiquimod 5% cream (1) 	

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Table 79.1 Clinical manifestations and associated HPV types.

CLINICAL MANIFESTATIONS AND ASSOCIATED HPV TYPES		
	Frequently detected	Less frequently detected
Skin lesions		
<ul style="list-style-type: none"> Common, palmar, plantar, myrmecial and mosaic warts 	1, 2, 4	26, 27, 29, 41, 57, 60, 63, 65
<ul style="list-style-type: none"> Flat warts 	3, 10	28, 29
<ul style="list-style-type: none"> Butcher's warts 	7, 2	1, 3, 4, 10, 28
<ul style="list-style-type: none"> Digital squamous cell carcinoma and Bowen's disease 	16	34, 35
<ul style="list-style-type: none"> Epidermodysplasia verruciformis (EV) 	3, 5, 8	9, 12, 14, 15, 17, 19–25, 36–38, 46, 47, 49, 50, etc.
<ul style="list-style-type: none"> EV – squamous cell carcinoma 	5	8, 14, 17, 20, 47
Mucosal lesions		
<ul style="list-style-type: none"> Condylomata acuminata 	6, 11	42–44, 54, 55, 70
<ul style="list-style-type: none"> High-grade intraepithelial neoplasias (including cervical condylomata plana, bowenoid papulosis, erythroplasia of Queyrat) 	16	18, 31, 33–35, 39, 40, 51–59, 61, 62
<ul style="list-style-type: none"> Buschke–Löwenstein tumor 	6, 11	
<ul style="list-style-type: none"> Recurrent respiratory papillomatosis, conjunctival papillomas 	6, 11	
<ul style="list-style-type: none"> Heck's disease (focal epithelial hyperplasia) 	13, 32	

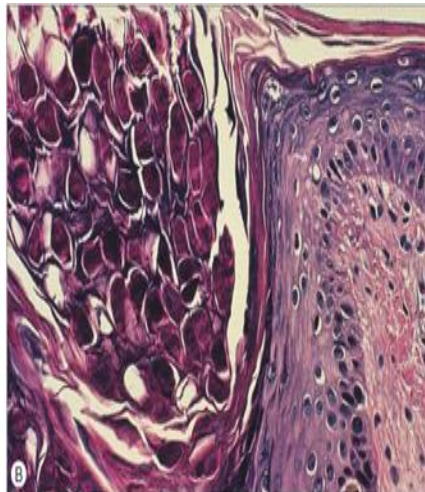
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Molluscum contagiosum

- Pox virus
- Children
- Face, neck
- Central punctum (umbilication)
- H/P: Henderson-patterson bodies

Mx:

Involute spontaneously
curettage, cryotherapy

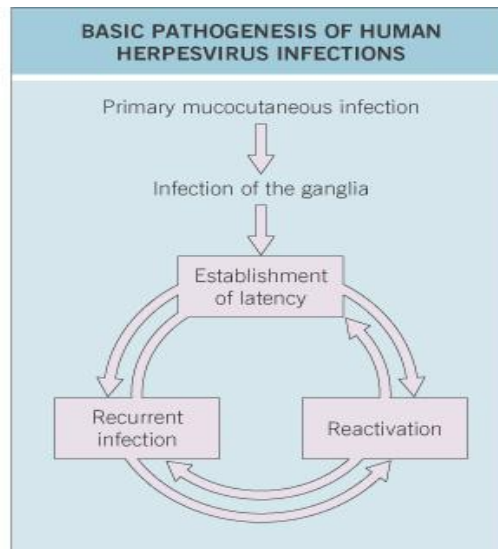


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Herpes simplex

- Group of small blister
- HSV-1(H. labialis)
- HSV-2(genital herpes)
- Herpetic whitlow
- Eczema herpeticum:

Infection with HSV in patients with previous skin disease (eg: atopic dermatitis, pemphigus, burns)



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**Mx:**

Tzanck Smear---viral particles

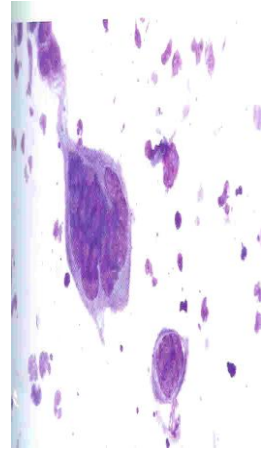
Serology (1gG, 1gM) antibodies

Direct fluorescent antibody(DFA)

Viral culture- most definitive

Oral / I V acyclovir

Genital, Recurrent, immune suppressed, neonatal, Ecz.H.



Herpes zoster

- *Chickenpox virus*
- **Adult**
- **Prodromal pain—dermatomal (blisters)—post-herpetic neuralgia**

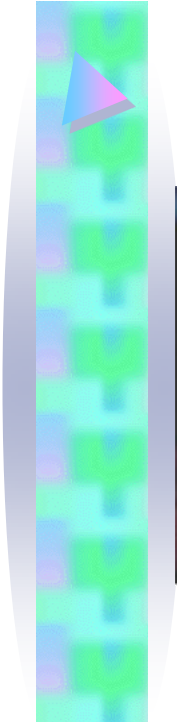
Mx:

Tzanck Smear---viral particles

Direct fluorescent antibody(DFA)

Analgesia, drying agent

Acyclovir: immune suppressed, wide spread



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Fungal

Superficial mycosis

Deep mycosis

Table 77.2 Superficial mycoses of the skin.

SUPERFICIAL MYCOSES OF THE SKIN		
	Cutaneous disorder	Pathogen(s)
Minimal, if any, inflammation	Pityriasis (tinea) versicolor Tinea nigra Black piedra White piedra	<i>Malassezia furfur</i> (<i>Pityrosporum ovale</i>) <i>Exophiala werneckii</i> <i>Piedraia hortae</i> <i>Trichosporon beigeli</i>
Inflammatory response common	Tinea capitis, barbae, faciei, corporis, cruris, manuum, pedis Cutaneous candidiasis	<i>Trichophyton</i> , <i>Microsporum</i> , <i>Epidermophyton</i> spp. <i>Candida albicans</i>

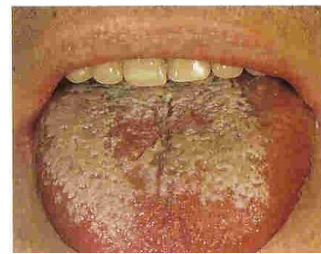
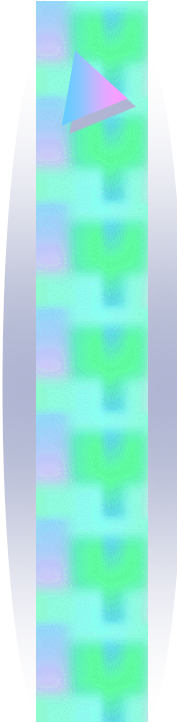
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Candidiasis

Candida albican (normal commensal of GIT)

- **Napkin candidosis & Intertrigo (satellite lesions)**
- **Paronychia**
- **mm---oral,urogenital and oesophagus.**

- **Vulvovaginitis---irritation, discharge**
- *Candida* folliculitis
- **Generalized Systemic inf**
- **Chronic mucocutaneous candidiasis**



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Mx:

Swab and KOH

Alter moist warm environment

Nystatin-containing cream

Imidazole (Daktarin, canastein)

**Oral antifungal (itraconazole):
immune suppressed, persistent
inf**



Dermatophyte infection

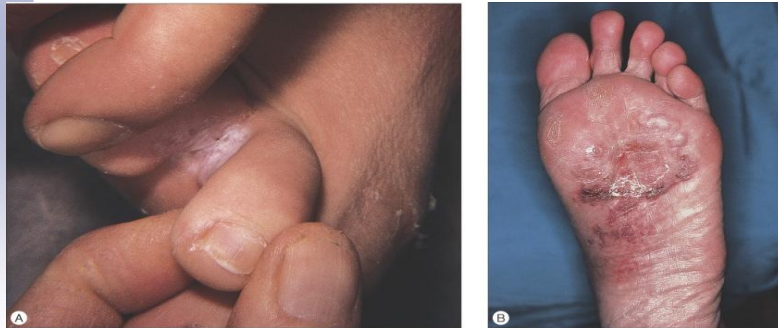
- **Skin**
- **Hair**
- **Nails**

Tinea pedis

Adult (athlete's)

Toe webs , instep

T.rubrum, T.mentagrophytes



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Table 77.9 The four major types of 'tinea pedis' (including dematiaceous and dermatomycoses). *Because of the thickness of stratum corneum on plantar surfaces and the inability of *T. rubrum* to elicit an immune response sufficient to eliminate the fungus¹⁶. †Often *Pseudomonas*, *Proteus* or *Staphylococcus aureus*. ‡Allergic reaction to fungal elements presenting as a dyshidrotic-like eruption on the fingers and palms (culture-negative for fungus). CMI, cell-mediated immunity.

THE FOUR MAJOR TYPES OF 'TINEA PEDIS' (INCLUDING DEMATIACEOUS AND DERMATOMYCOSES)			
Type	Causative organism	Clinical features	Treatment considerations
Moccasin	<i>T. rubrum</i> <i>E. floccosum</i>	Diffuse hyperkeratosis, erythema, scaling, and fissures on one or both plantar surfaces; frequently chronic and difficult to cure*; may be associated with fungal CMI deficiency	Topical antifungal plus product with urea or lactic acid; may also require oral antifungal therapy
	<i>S. hyalinum</i> <i>S. dimidiatum</i>		
Interdigital	<i>T. mentagrophytes</i> (var. interdigitale) <i>T. rubrum</i> <i>E. floccosum</i>	Most common type; erythema, scaling, fissures, and maceration occur in the web spaces; the two lateral web spaces are most commonly affected; associated with the 'dermatophytosis complex' (fungal infection followed by bacterial invasion [†]); pruritus common; may extend to dorsum and sole of foot	Topical antifungal; may require topical or oral antibiotic if superimposed bacterial infection
	<i>S. hyalinum</i> <i>S. dimidiatum</i> <i>Candida</i> spp.		
Inflammatory (vesicular)	<i>T. mentagrophytes</i> (var. <i>mentagrophytes</i>)	Vesicles and bullae on the medial foot; associated with the dermatophytid reaction [‡]	Topical antifungal usually sufficient
Ulcerative	<i>T. rubrum</i> <i>T. mentagrophytes</i> <i>E. floccosum</i>	Typically an exacerbation of interdigital tinea pedis; ulcers and erosions in the web spaces; commonly secondarily infected with bacteria; seen in immunocompromised and diabetic patients	Topical antifungal; may require topical or oral antibiotics if secondary bacterial infection

■ Dermatophytes ■ Non-dermatophytes

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T.ungum

T.rubrum, T.mentagrophytes

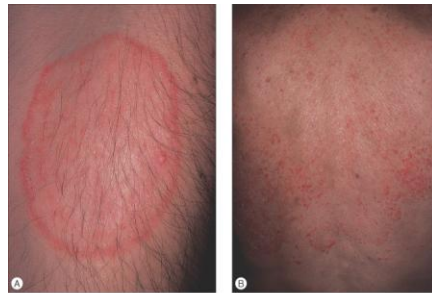


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Tinea corporis:

Trunk
Active edge
T.rubrum



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T.cruris



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T.manun

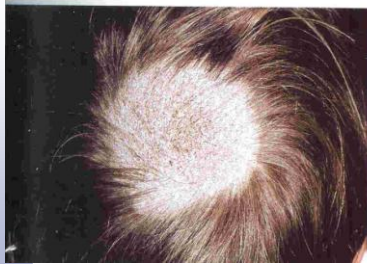


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Tinea capitis

Well circumscribed pruritic scaling area of hair loss

- Black dot (*T. tonsurans*)
- Gray patch (*M. audouinii*),
- Kerion (*T. verrucosum*)
- Favus (*T. schoenleinii*)



Mx:

Education

Scraping, hair plug, nail
clippings---KOH and culture

Wood's light ----

Topical (terbinafine, daktarin)

Oral (Griseofulvin, terbinafine,
itraconazole): extensive,
Hair, nail



Pityriasis versicolor

- *Malassezia furfur*
(hyphea)
- *Pityrosporum
orbiculare* (yeast)
- Trunk
- Asymptomatic
- Yellowish- brown(in
white skin)
- Hypopig. (in dark
skin)



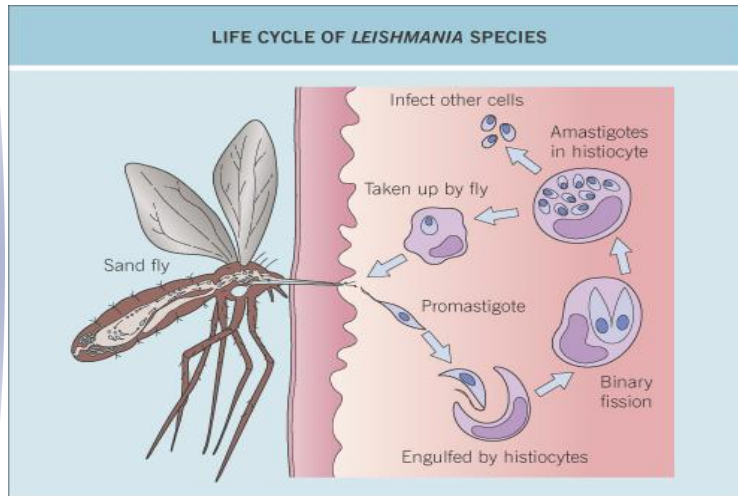


Mx:
**Wood's lamp(coppery-
orange fluorescence)**
Scraping
**Topical imidazole
(nizoral)**
Recurrence



Protozoal

Leishmaniasis



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- **Transmit:** sand fly
- **Painful papule/nodule—ulcer- scar**
- **Exposed site**



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Mx:

Leishmanin test, Bx

Pentavalent antimony local injection

Systemic pentavalent antimony

Cryotherapy



Scabies

- Mite: *Sarcoptes scabiei*
- Severe and persistent itch
- Worse after bathing and at night
- Sites: finger webs, flexor of the wrist, axillae, areolae, umbilicus, lower abdomen and scrotum
- Linear burrow
- 2nry inf(pustule crust)



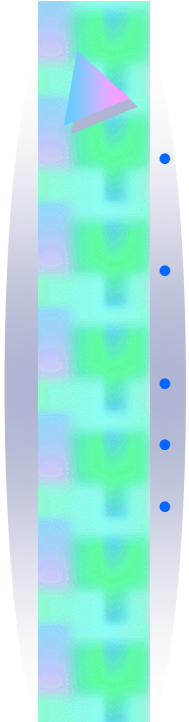
Mx:

- India ink or gentian violet then removed by alcohol to to identify the burrows
- A drop of mineral oil on the lesion then scraped away with a surgical blade
- Demonstration of the mite under the microscope

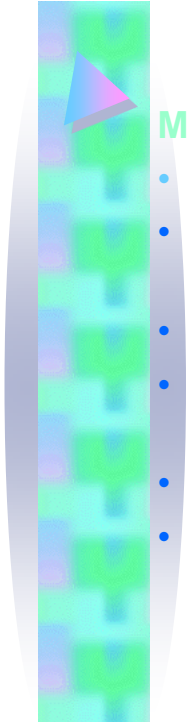


- Treatment of family members and contact even if asymptomatic!
- Washing clothing and bed linen
- Permethrin 5% cream
- Lindane(gamma benzene hexachloride)
- Crotamiton cream for 5 days
- Sulpher preparation

Pediculosis capitis

- 
- **Common in school children**
 - **Head louse(*pediculus humanus var capitis*)**
 - **Sever itching of the scalp**
 - **Post cervical LN**
 - **2nry impetigo, nits**

Mx:

- 
- **Identification of the nit or adult head louse**
 - **Examination of other family members and treated simultaneously**
 - **Combing with a metal nit comb**
 - **Permethrin cream 1% and 5% for 10 min then rinsed off**
 - **Malathion 0,5% lotion**
 - **Lindan(neurotoxicity)**