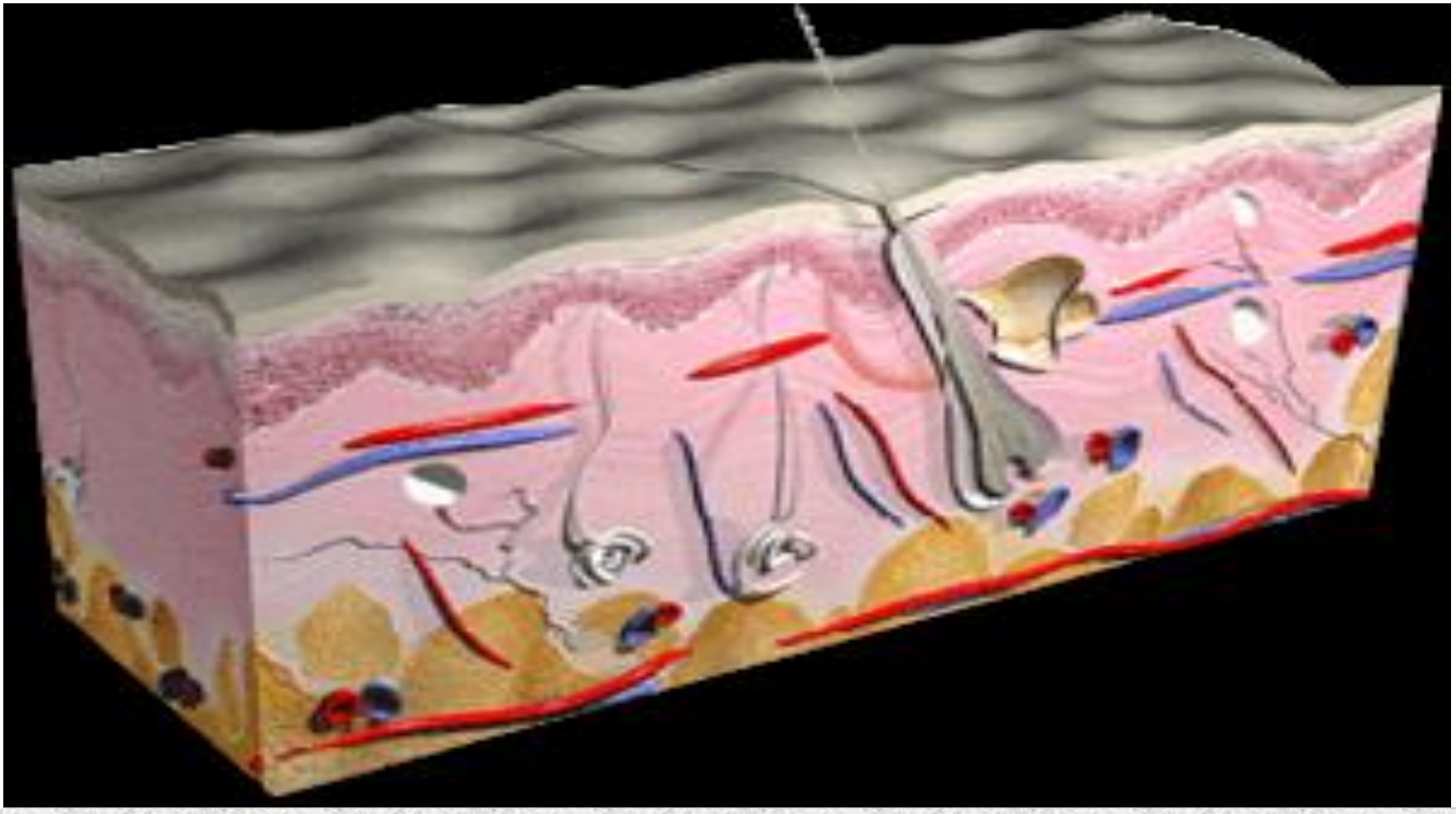

بسم الله الرحمن الرحيم



# Dermatology Course

## By

## Dr khaled sobhy


**requirements**

expectations

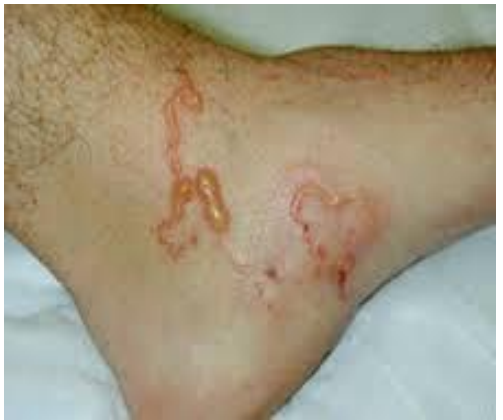
# Basic concept about skin disorders

1-Skin disorders are visible and if not treated, they may lead to psychiatric disorders as anxiety, depression, low self-confidence:

Ex: severe acne disorder may lead to depression and withdrawal from college

2-Skin disorders may act as window for internal disorders (indicate the presence of internal disorders)

Ex: worm infection like hookworm infection may cause dermatitis by invading skin



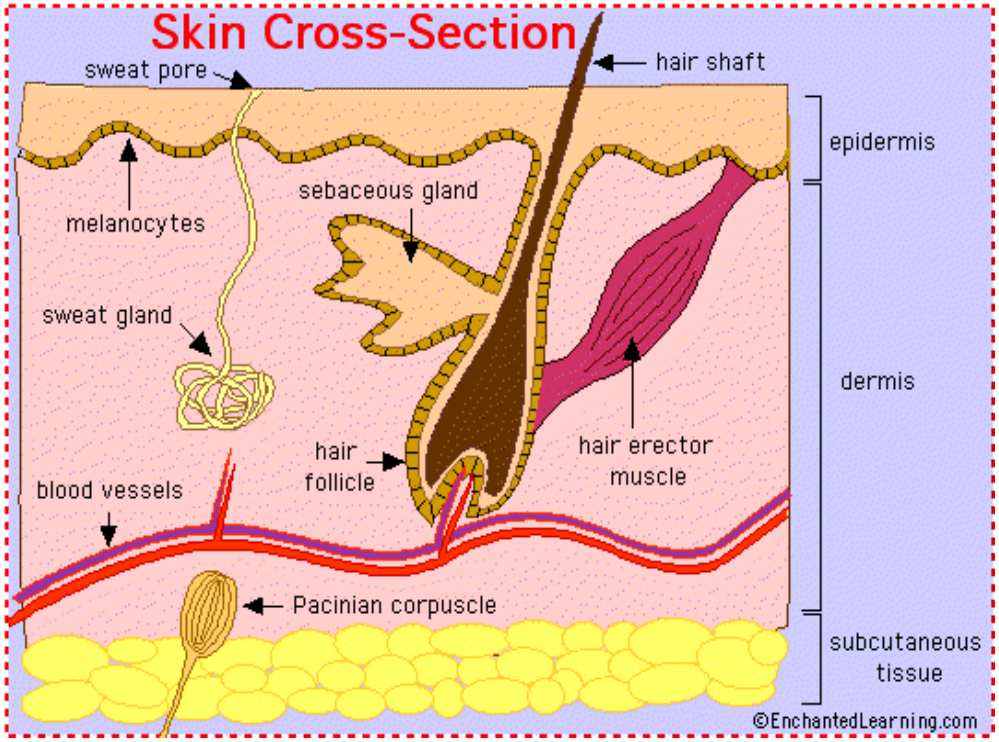
# Basic concept about skin disorders

3-Treatment for skin disorders may be through the use of **OTC or prescription drug** according to the disorder type.

So pharmacist has a big role in treating skin disorder and he should know when to use OTC and when to refer patient to physician. This will depend on proper diagnosis through knowing the basic key elements for diagnosis

# Skin Structure

The skin is composed of two layers, the epidermis and the dermis. The epidermis is the outer layer. The dermis is the inner layer and has appendages (hair, follicle, sebaceous glands and sweat glands) and subcutaneous layer (hypodermis)



# Function of the skin

1- It protects the body against the entry of toxic environmental chemicals, as well as from damage from UV radiation.

2- It regulates the body temperature.

3- It contributes to the body supply of vitamin D.

(formed from 7-dehydrocholesterol in skin by sunlight)

4- Excretory function through sweating to get rid of urea and other waste products.

5- It is a sensory organ contain nerve endings for all modalities of sensation including heat , cold and pain.

# Diagnosis of dermatologic disorders

**1- Site Affected**

It includes: the first site affected, pattern of spread

**2- Clinical presentation:**

1- The patient must be undressed, and examined under good light.

2- Identification of the initial lesion, itching,

3- The distribution of the lesions.

**3- Others:**

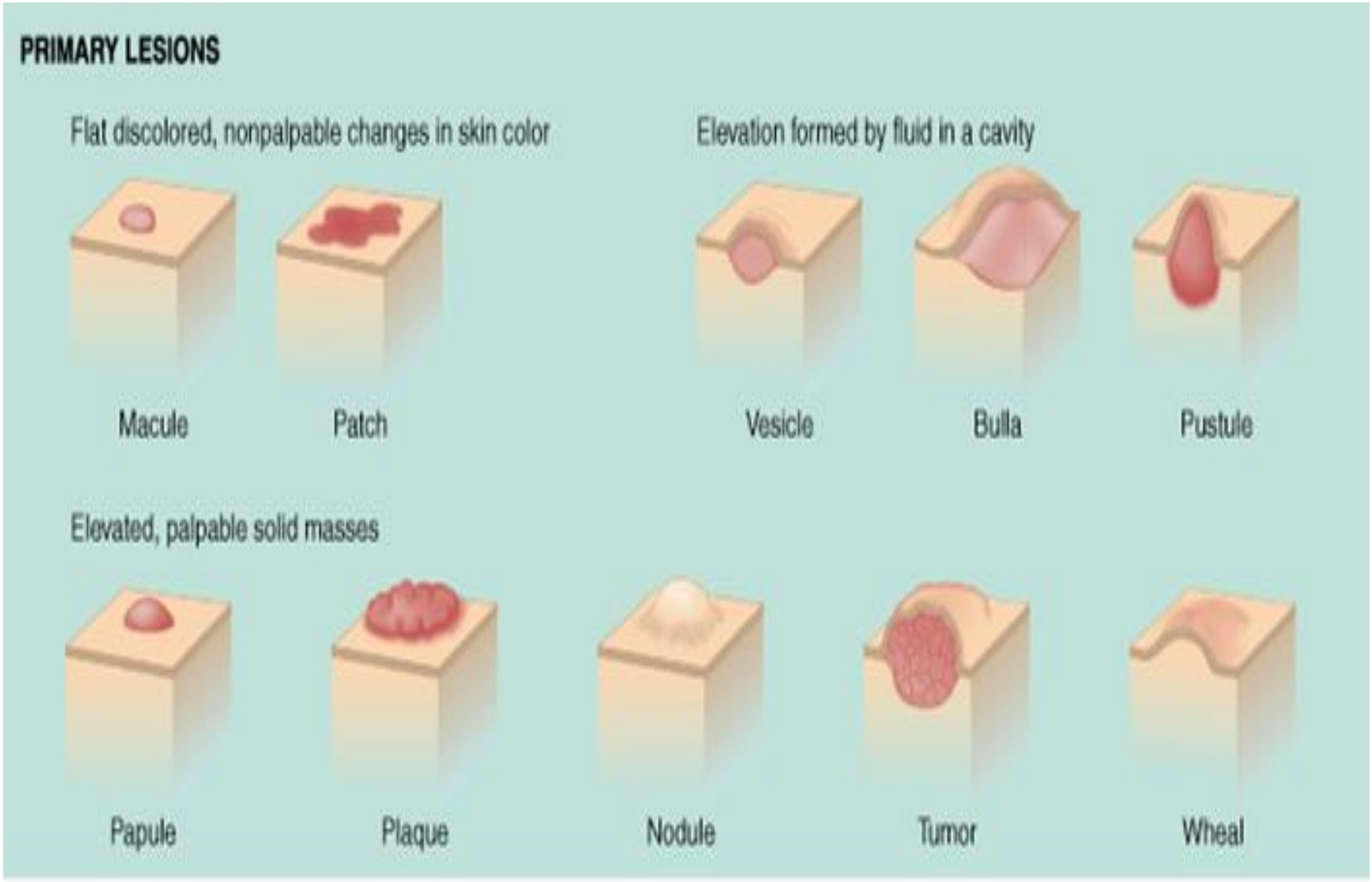
1-Precipitating factors, age, gender, the duration of the disease

2--Investigation test - Blood tests, Skin biopsy (histopathological examination)

# Skin Pathologic Disorders

**Nodule**
**Pustule**
**Vesicle**
**Macule**
**Scare**
**Crust**
**Blister**
**Burrow**
**Papule**
**Cyst**
**Wheel**
**Scale**
**plaque**
**bulla**
**erythema**

# Skin Pathologic Disorders



# Locations for Dermatological lesions

- Face
- Trunk & abdomen
- Mouth
- Groin
- Scalp
- Foot
- Hands
- Limb
- Genitalia
- Axilla


Mouth Skin disorder

# 1-Herpes simplex (cold sore) (fever blister)

It is an infection by HSV virus, primary infection occur usually between 6months – 3years . Once the infection occur, it cannot be cured because the virus invade mouth epithelium tissue and migrate to trigeminal nerve ganglia where it remain for long life as dormant virus

-diagnosis depend on (location, presentation, and precipitating factors)

# Clinical presentation

-It appear after virus activation by **cold, fever, fatigue, sun exposure, emotional stress, injury, immunosuppression, or menstrual cycle**

-Symptoms: blister formation is the characteristic feature it occur on face near the mouth around the lip.

-before blister formation, patient may suffer from **swelling and burning** in the mouth lips.

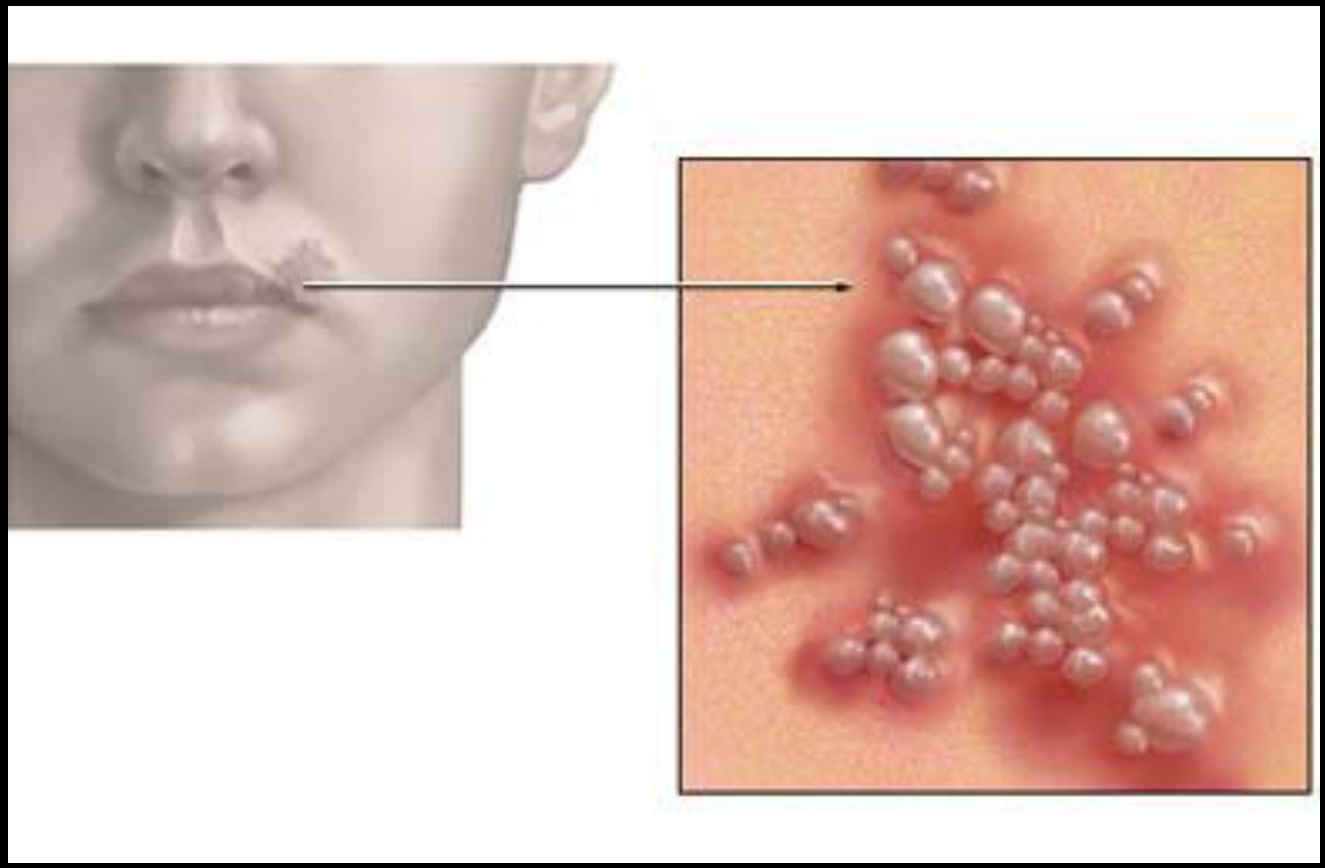
# Clinical presentation

Blister are painful on eating or talking. When blister are ruptured it may lad to skin cracking and crust formation

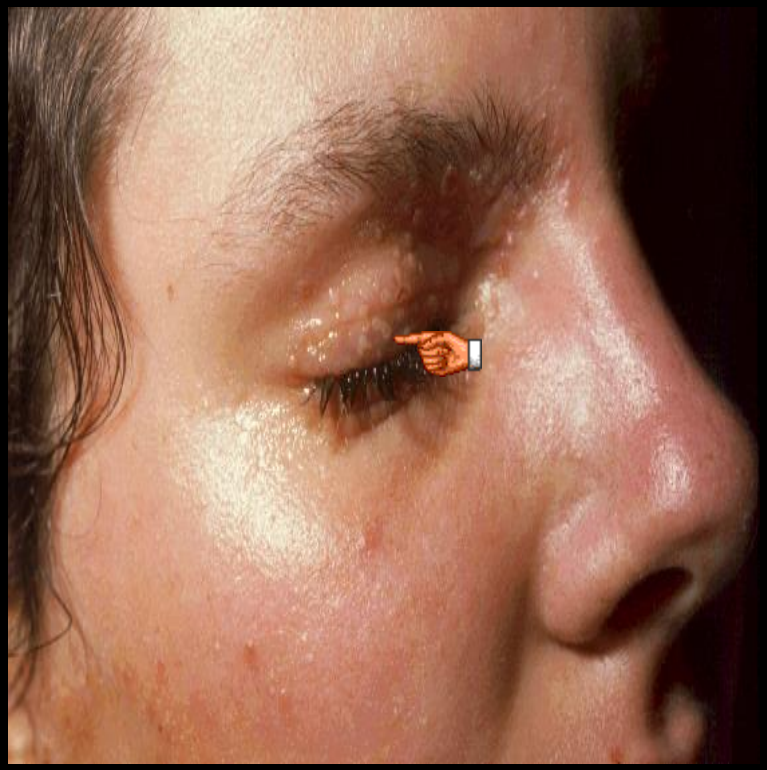
The lesion is self limited, heal without scaring in about 14 days without any treatment

If the lesion persist more than 14 days or if irritation and pain worsen with time, refer to physician

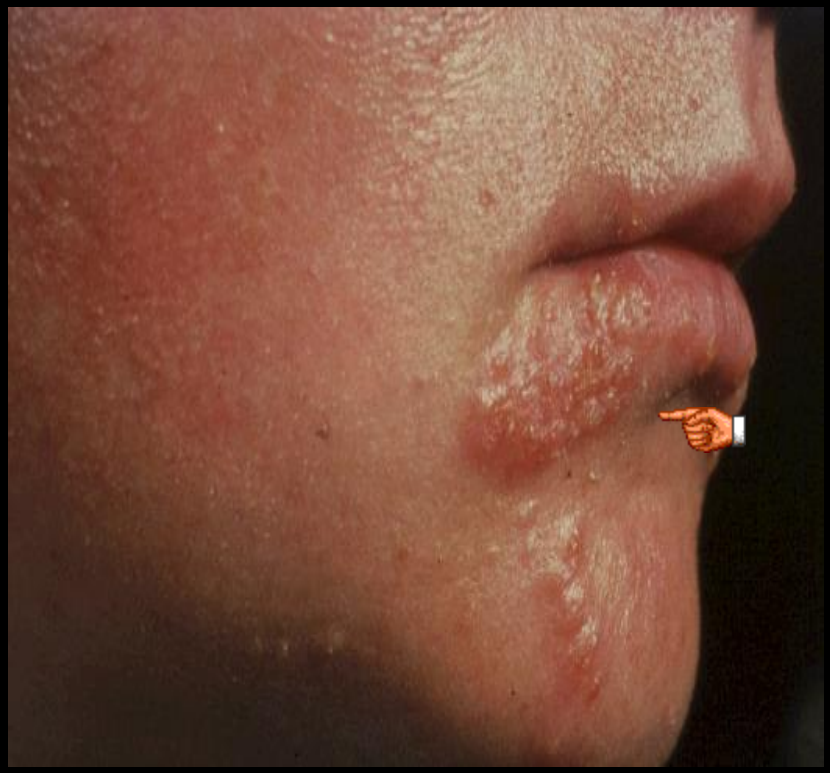
# Herpes simplex presentation



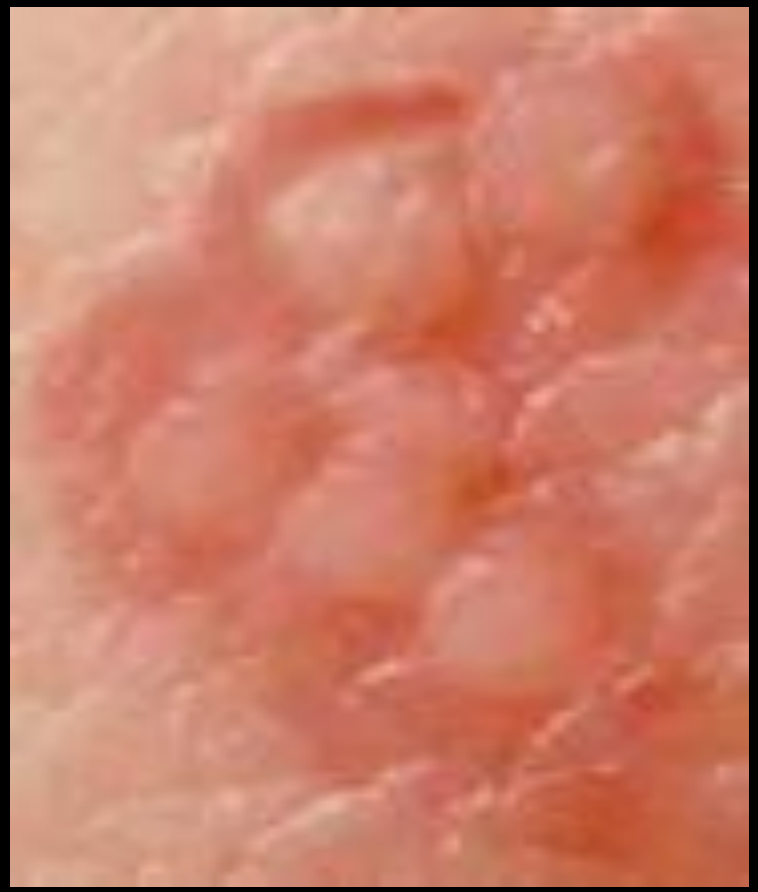
# Blister on eye



# Blister on lower lip

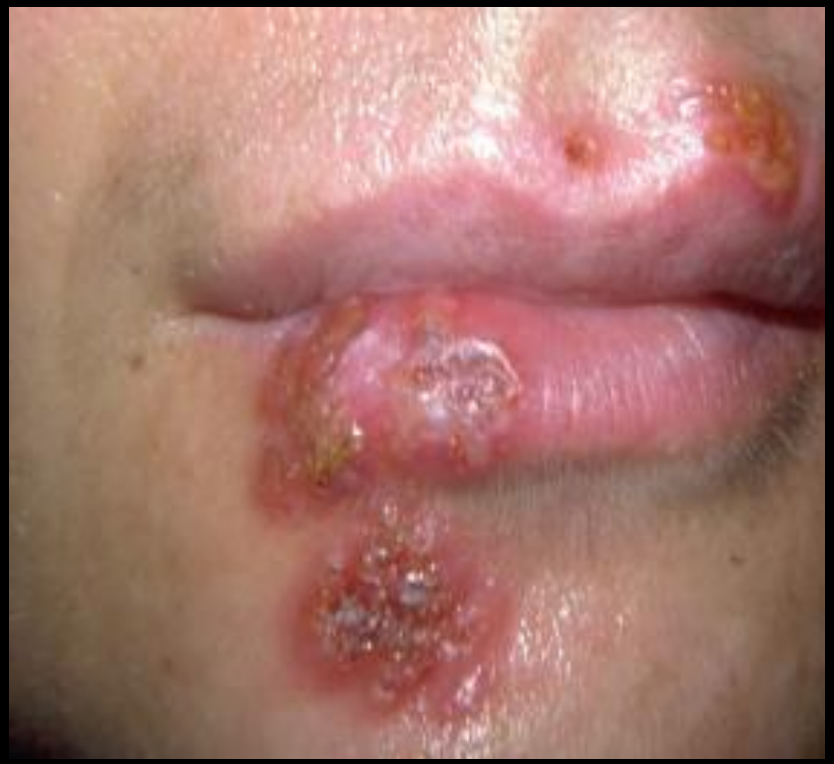


# Blister shape

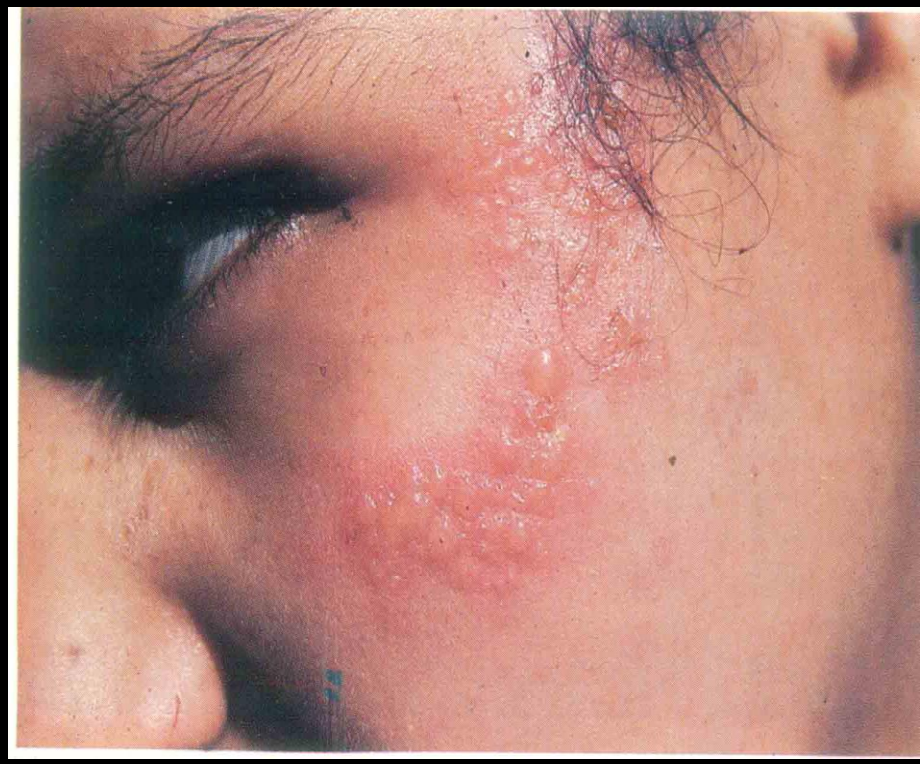


# large blister after magnification

## Blisters with crust



## Blister on face



# Treatment(OTC)

1- antiviral :

A- acyclovir: widely used but recent report by FDA does not recommend its use due to virus resistance

B- Docosanol 10% cream: approved by FDA. It prevent the fusion between virus particle and cell membrane, so reduce cell injury and prevent replication of virus so rapidly shorten the infection duration

C- Penciclovir is new drug for herpes like acycolvir but **more selective and more potent**

# Treatment

2- topical analgesic:

Lidocaine, menthol, benzocaine for controlling pain

3-Drying agents as gentian violet 1% also has antiviral activities but not recommended due to disfiguring problems

4- topical protectant: zinc oxide, panthenol, cocoa butter for softening skin preventing cracking and Dryness

5-the application of **an ice-cube** to the site for up to 5 minutes every hour for the first 12 hours is soothing


Zovirax™ 10 g
Cream
GlaxoWellcome
Zovirax is a trade mark of the Glaxo Wellcome Operations.
زوفيراكس ١٠ جم
كريم


Lovir
Acyclovir Dispersible Tablets
400 mg
RANBAXY
5 Tablets

# Acyclovir


10 GM. CREAM
ACYCLOVIR 5%
ANTIVIRAL
MADE IN EGYPT
أسيكلوفير ٥٪
مضاد للفيروسات


Indications & dosage:
See enclosed leaflet
Store between 15- 25 oC.
Keep out of the reach of children
M.H.Reg. No.:17475/92
Novirus™
200 mg
Each capsule contains 200 mg
Acyclovir
5 Capsules
GlaxoWellcome


#1
Pharmacist Recommended
abreva
Cold Sore Treatment
Only
non-prescription cold sore medicine
approved by the FDA
to shorten healing time
abreva
DOCOSANOL 10% CREAM
COLD SORE/FEVER BLISTER TREATMENT
NET WT
2.0g (.07 oz)

**Docosanol**

# penciclovir

# Prevention

- avoid precipitating agents
- avoid acidic food (citrus or tomato) irritate skin
- donot rupture the blister to avoid infection spread
-avoid contacting the lesion of infected people with **children to prevent primary infection** (avoid children kissing, sharing toothbrushes)
- avoid contacting infected hand with **eye**
- In people with frequent attack, apply **15+** sun protection **lip balm**

# 2- Canker sore (Aphthous ulcer )

Painful sore of the inner oral epithelium appear as a oval sore with red margin with interior white covering “usually in the gums between the lower lip and teeth”

Etiology: due to **bite, trauma, infection or low vitamin level (iron, vitamin B12), immune problems, food hypersensitivity (**citrus fruits, salted nuts, acid foods and chocolate )**, and premenstural tension**

# 2- Canker sore (Aphthous ulcer )

Diagnosis depend on presentation, location, causes

Choice of therapy dependent upon severity of symptoms and frequency of recurrence.

*- topical anaesthetics and analgesic

(**Salvix**®): lignocain, anthraquinone, salisylate

*- cleansing agent(**tetracycline** “local after capsule emptying”, cholorohexidine)

*-The **teabag method**: Apply a wet, squeezed out, black teabag directly to the ulcer 3-4 times daily. The tannic acid promotes healing.

# Treatment and prevention(OTC)

**prognosis**

*- Lesions resolve in 1–2 week

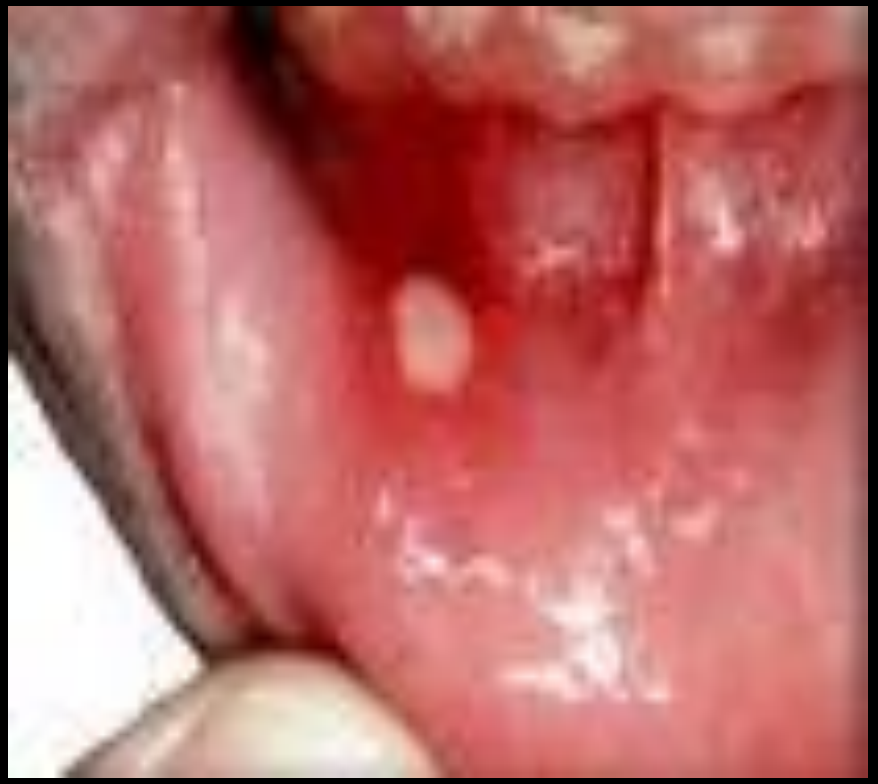
**Prevention:**

*- avoid spicy or citrus foods

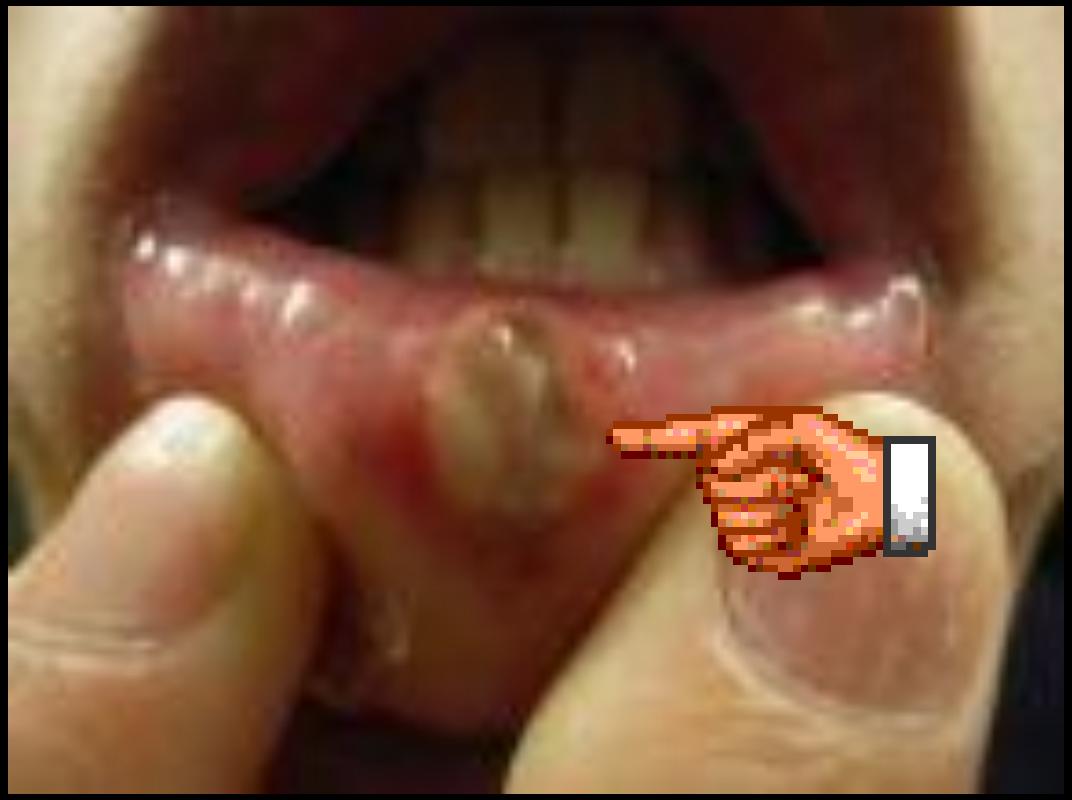
*-Drink plenty of fluids and eat soft foods such as **yoghurt, ice-cream**

*-Recurrent attacks of ulcers are quite common in some people. Continuous recurrence episodes (not OTC): oral or topical steroids, colchicine 0.6 mg po bid to tid

# Canker sore



# Canker sore



# Canker sore


Salivex - L
10 ml Paint


Oracure
Gel
For The
Treatment
Of
Oral Lesions
15 gm.


B.B.C.
Spray
Antiseptic,antiinflammatory,
analgesic & local anesthetic
for mouth & throat

# 3- mouth thrush (oral candidiasis)

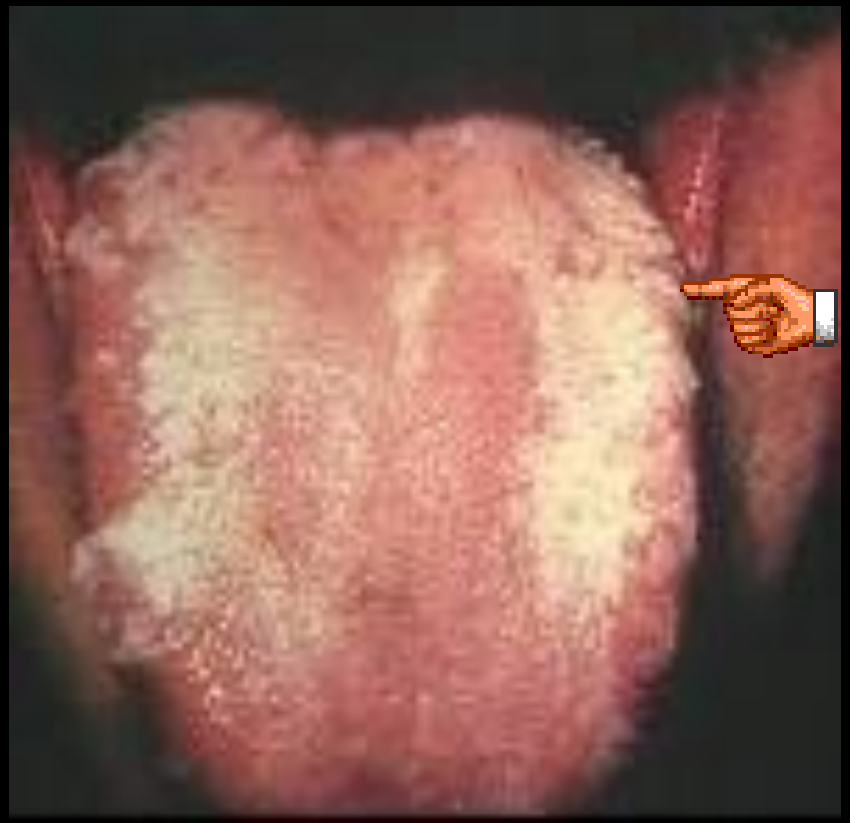
White patch on mouth and tongue due to fungal infection (candida)usually due to over use of antibiotic (children), immunosuppressive agents or corticosteroid(adults)

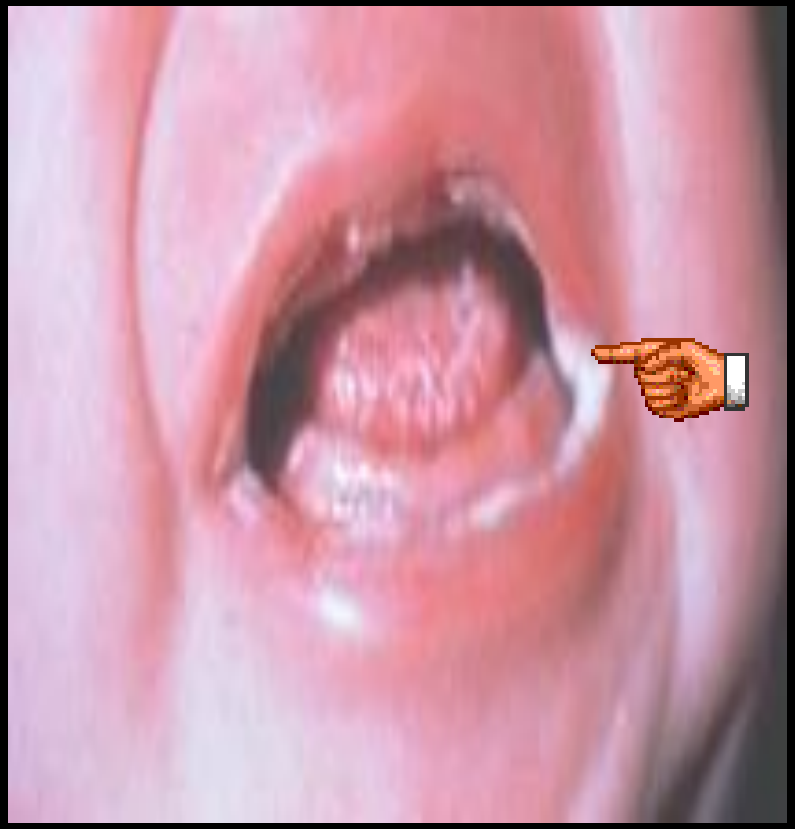
**lesions may be removed by scraping, yielding an erythematous base**

Diagnosis depend on location, site, causes

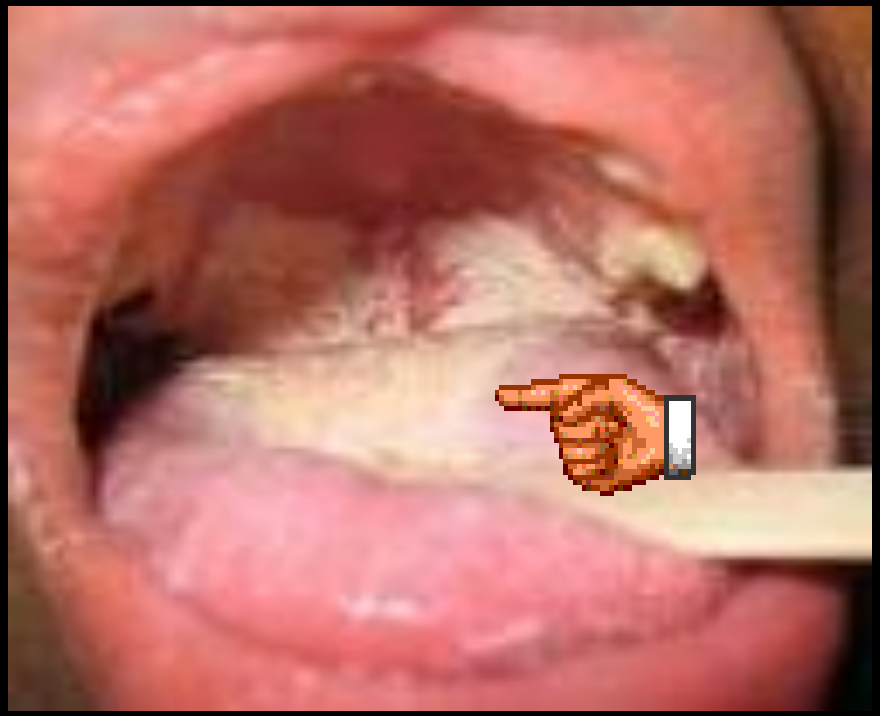
Confirmatory test(rarely needed): KOH microscopy of scrapings from lesions reveals mycelium & spores.

# Mouth thrush





# Mouth thrush



# Treatment (OTC):

Oral local antifungal preparation.

*- miconazole oral gel (Miconaz ® or Daktarin ®)

*- Nystatin (Fungistatin ® or mycostatin ® oral drop)

Identify and control underlying diseases, e.g., antibiotic use, corticosteroid use

# Mouth thrush


# 4-Angular Cheilitis

Inflammatory moist breakdown of skin  radiating down and out from the lip; may observe: atrophy, fissures or maceration

Often chronic; discomfort and burning and redness at **corners of mouth**.

**Etiology:** Mechanical irritation (by dentures), nutritional (e.g., iron or riboflavin deficiency), More common in elderly.

Diagnosis depend on location, site, causes

# Angular cheilitis

# Treatment (not OTC)

Improving dentures

Combination **cortisone (mainly)**, antibacterial, anticandidal ointment often beneficial

Injectable fillers by specialized physician


Bacterial infection

# 1-Cellulitis

-Cellulitis is considered a serious disease because of the probability of the infection to spread through Soft tissue infection and to the bloodstream.

-Responsible for about 10% of all patients hospitalization (emergency unit) in USA

-Caused by By Streptococcus pyogenes or Staphylococcus aureus. The organism gain entry into the skin via minor abrasion.

- The legs are the common site for cellulitis, but other parts of the body including the face and arms may be affected.

# Clinical Feature

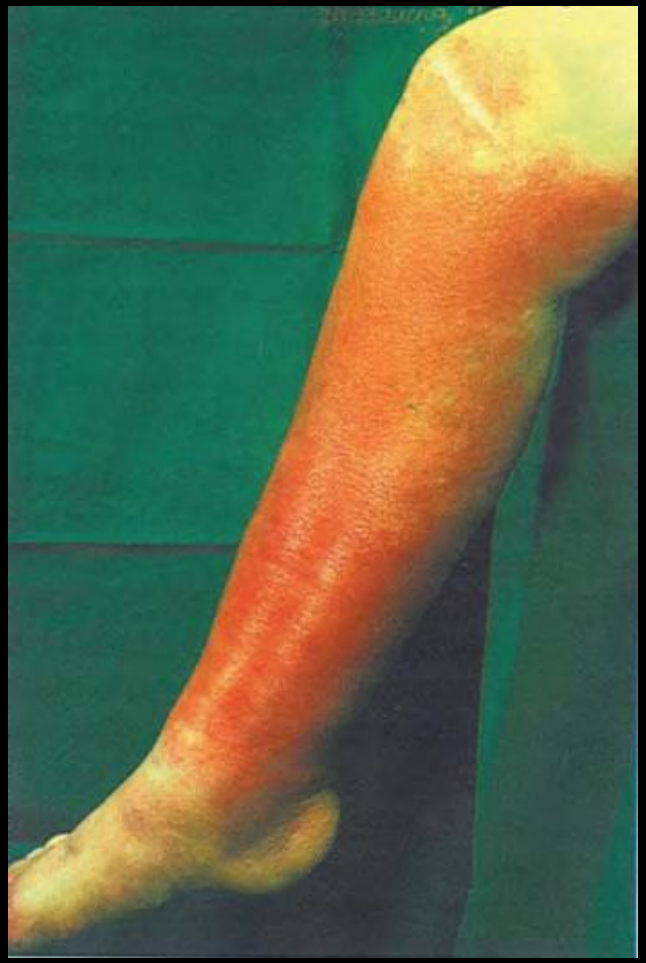
**Area of spreading erythema**, warmth, swollen, tenderness, pitting; associated with fever and an elevated white blood cell count.

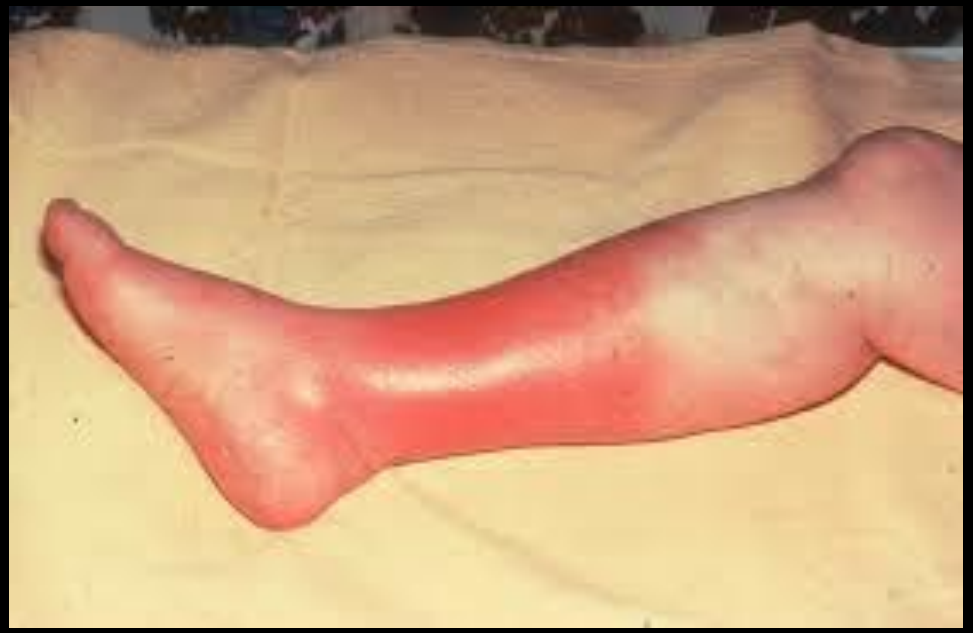
Common Local trauma, diabetes, abrasions, and dermatoses (e.g., tinea pedis); drug use (IV drug abuse, keraotlytic) can be predisposing factors.

-it affects the epidermis and dermis and may spread subsequently within the superficial fascia. Also, Lesions are non-elevated and have poorly defined margins (differ from erysipelas)

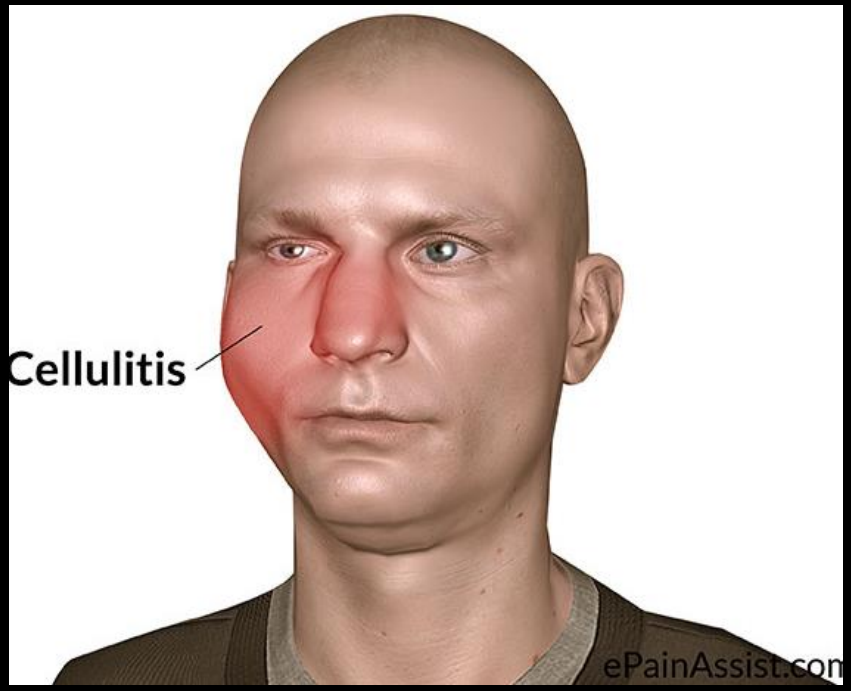
Diagnosis Depend on presentation (mainly) in addition to location and precipitating factors.

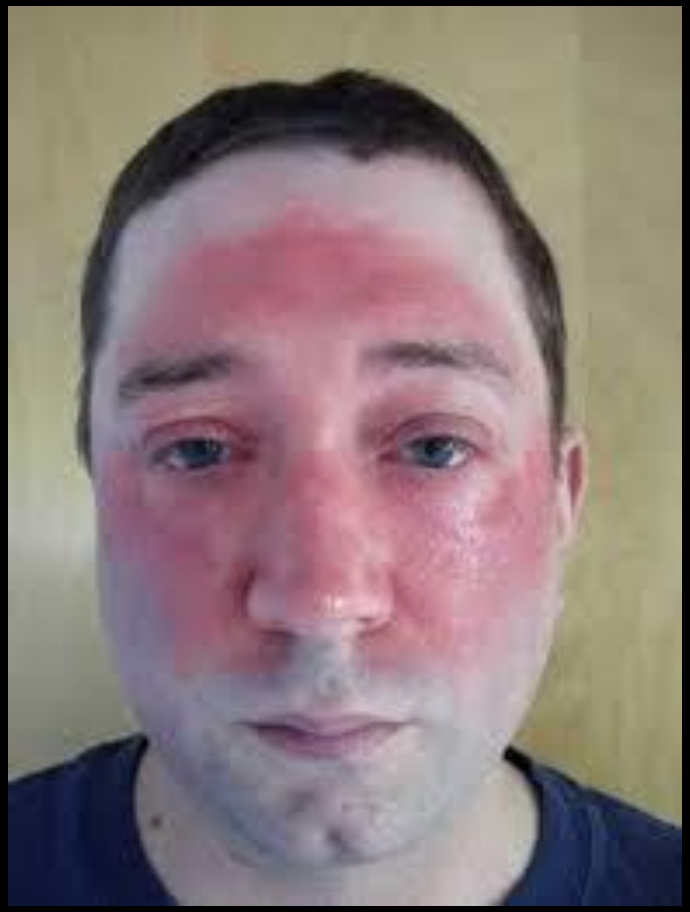
# Cellulitis in leg



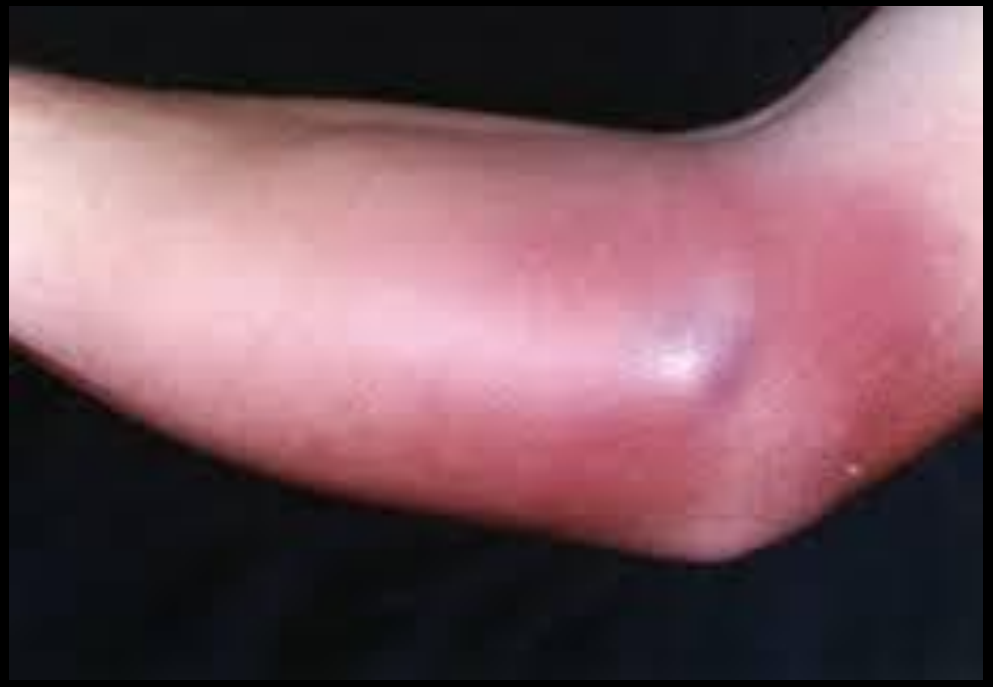


# Cellulitis in face



# Cellulitis in arm

# Non-Pharmacological Treatment

Strict bed rest

elevation and immobilization of the involved area to decrease swelling.

**Cool sterile saline dressings** may decrease pain and can be **followed later with moist heat** to aid in localization of the cellulitis

Blood glucose levels in known diabetics should be regularly monitored and managed.

# Treatment

- give penicillin, cephalosporin, erythromycin, or ciprofloxacin, Vancomycin (in sever purulenyt cases but Narrow therapeutic index require plasma monitoring). e.g.

cefaclor 500 mg po every 8 hrs

amoxicillin/clavullinic acid 1 gm mg po bid **x 14 d**.

**-analgesics to control your pain may be added (diclofenac).**

ciprofloxacin are contraindicated (cartilage erosion) in pregnant.

Intravenous antibiotics (Cefotax IV) in severe disease, facial cellulitis (common with dental diseases), patients with underlying medical problems.

# Follow up for Cellulitis

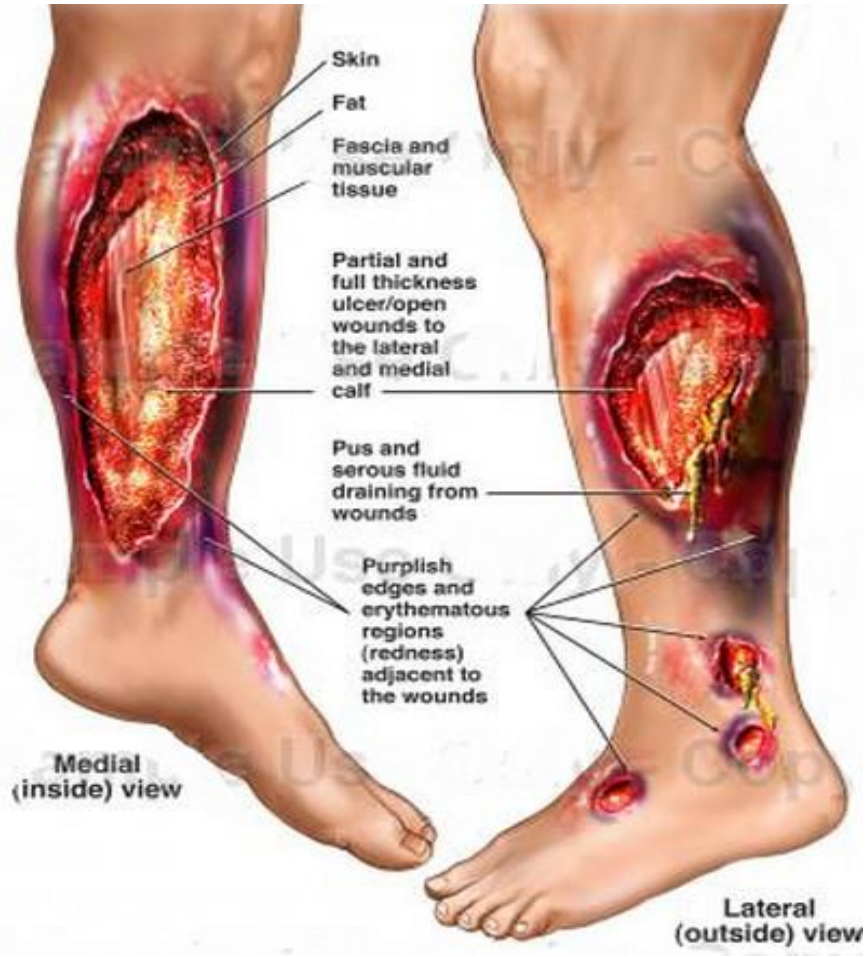
If treated promptly with appropriate antibiotics, the majority of patients with cellulitis are cured rapidly.

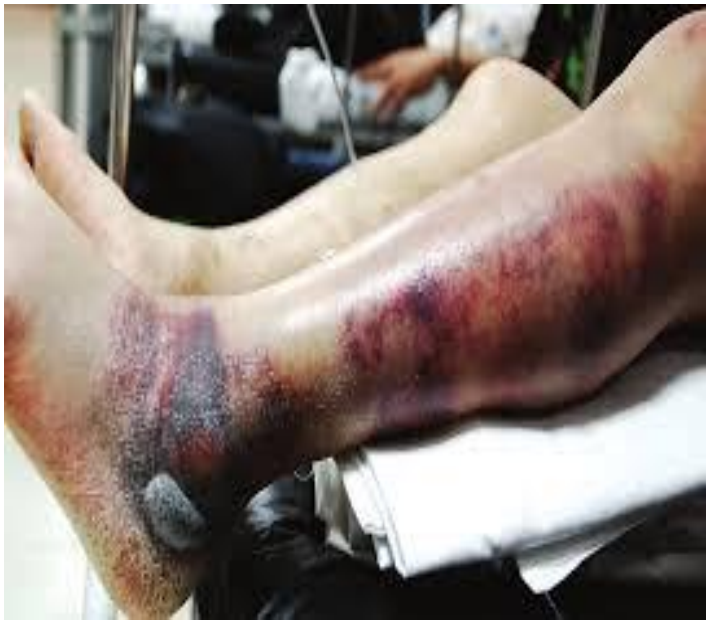
If no response, Culture and sensitivity results should be evaluated carefully for both the adequacy of culture organism and the presence of resistant organisms.

Consultation with physician is recommended if necrotizing fascitis or an abscess is suspected, or if cellulitis occurs in the orbit of the eye

Necrotizing fasciitis, commonly known as "flesh-eating" bacterial infection, is a potentially deadly exacerbation of the infection if it spreads to deeper tissue.

# Necrotizing fasciitis



# 2-Erysipelas

Distinct form of cellulitis involving the **more superficial layers** of the skin (not include lower dermis) and **cutaneous lymphatics**

caused by *β*-hemolytic streptococci, with the organisms gaining access via small breaks in the skin

Lower extremities are the most common sites then the face.

This disease is most common among **the elderly, infants, and children**. People with immune deficiency, diabetes, skin ulceration, and fungal infections, are also at increased risk.

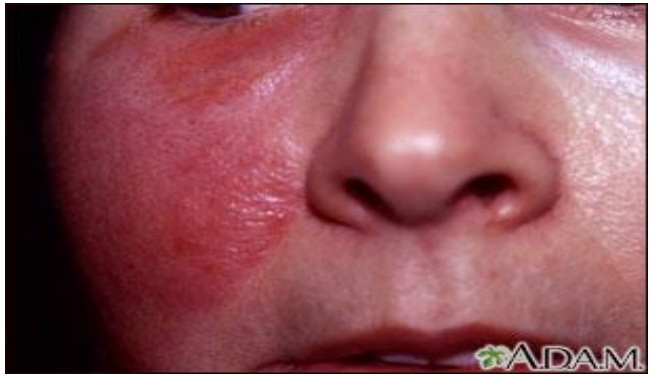
# 2-Erysipelas

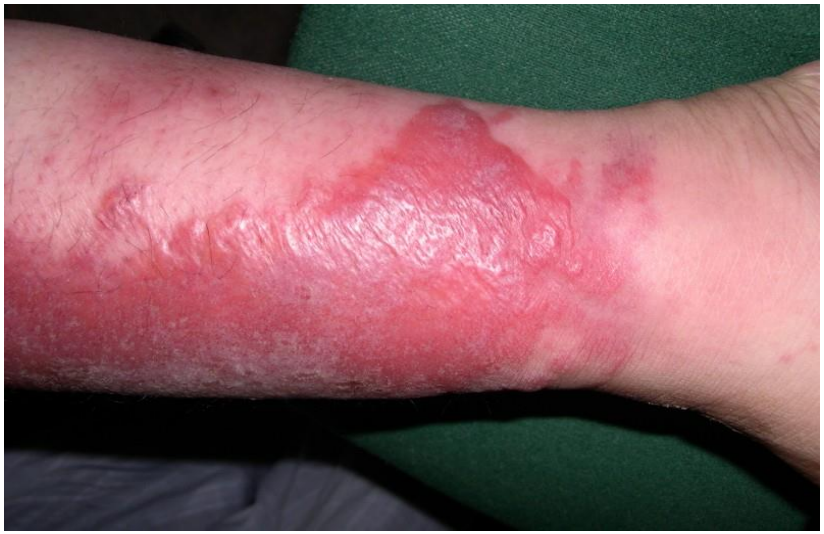
Diagnosis is made on the basis of the characteristic lesion (mainly presentation) and precipitating factor, **age,** and location.

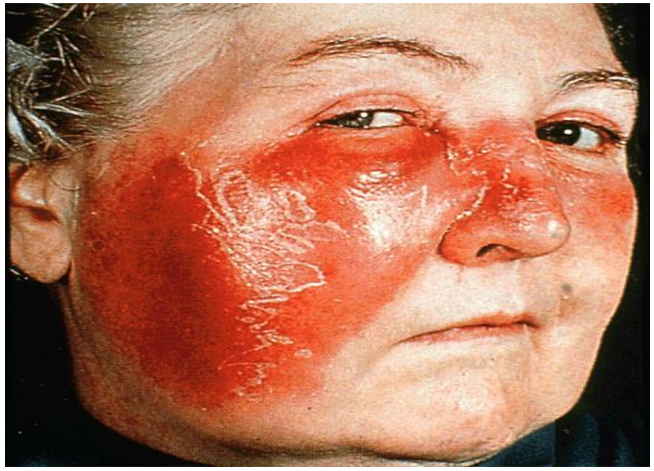
intense erythema and edema with **sharp elevated margin (demarkated skin)** and burning pain.

**Flu-like symptoms** (fever, chills, malaise) common prior to the appearance of the lesion with in 48 of skin presentation

# 2-Erysipelas





# Erysipelas

-treatment involves either oral or intravenous antibiotics according to severity, using penicillins, **clindamycin**, or erythromycin for 7 to 10 days

-While **illness symptoms resolve in a day or two**, the skin may take weeks to return to normal. So, the patient often may be switched to oral drugs to complete the course of therapy.

Amoxicillin/clavulanate 1gm twice daily for 7-10 days

Cefaclor 500 mg every 8 hr

Clindamycin 300 mg every 8 hr (for penicillin allergic patients)

# 3- Impetigo

It is bacterial infection by hemolytic *Staphylococcus aureus or may be* streptococci.

impetigo include two main types: impetigo contagiosa (non bullous) or bullous impetigo

Organism cannot invade intact skin so skin abrasion, insect bite or scratch from dermatitis may be the cause for impetigo development

most common during **hot, humid weather**, which facilitates microbial colonization of the skin

# Diagnosis

Depend on (location, age, presentation and precipitating factors)

Location: sun exposed areas ( leg, arm, face “most common”)

Age: most frequently on children and early young

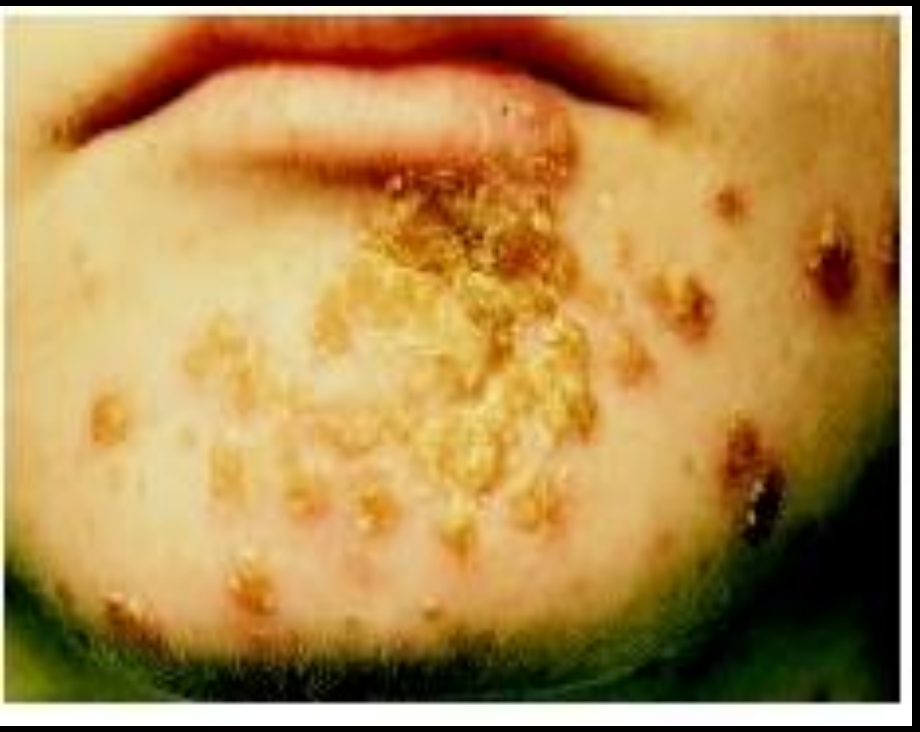
Presentation: appear as papule→ vesicle → pastules → rupture leaving **crust (honey colored crust) (golden yellow crust)**

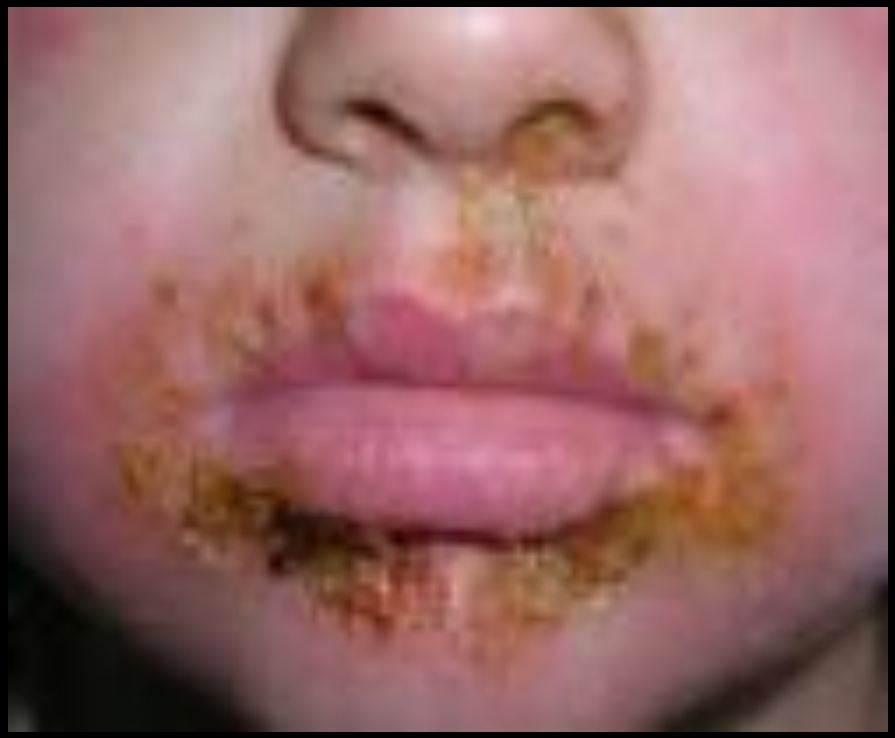
**Itching is common so avoid scratch to avoid spread of infection**

**Bollous form is common in neonate with fever and diarrhea where vesicle develop into bulla**

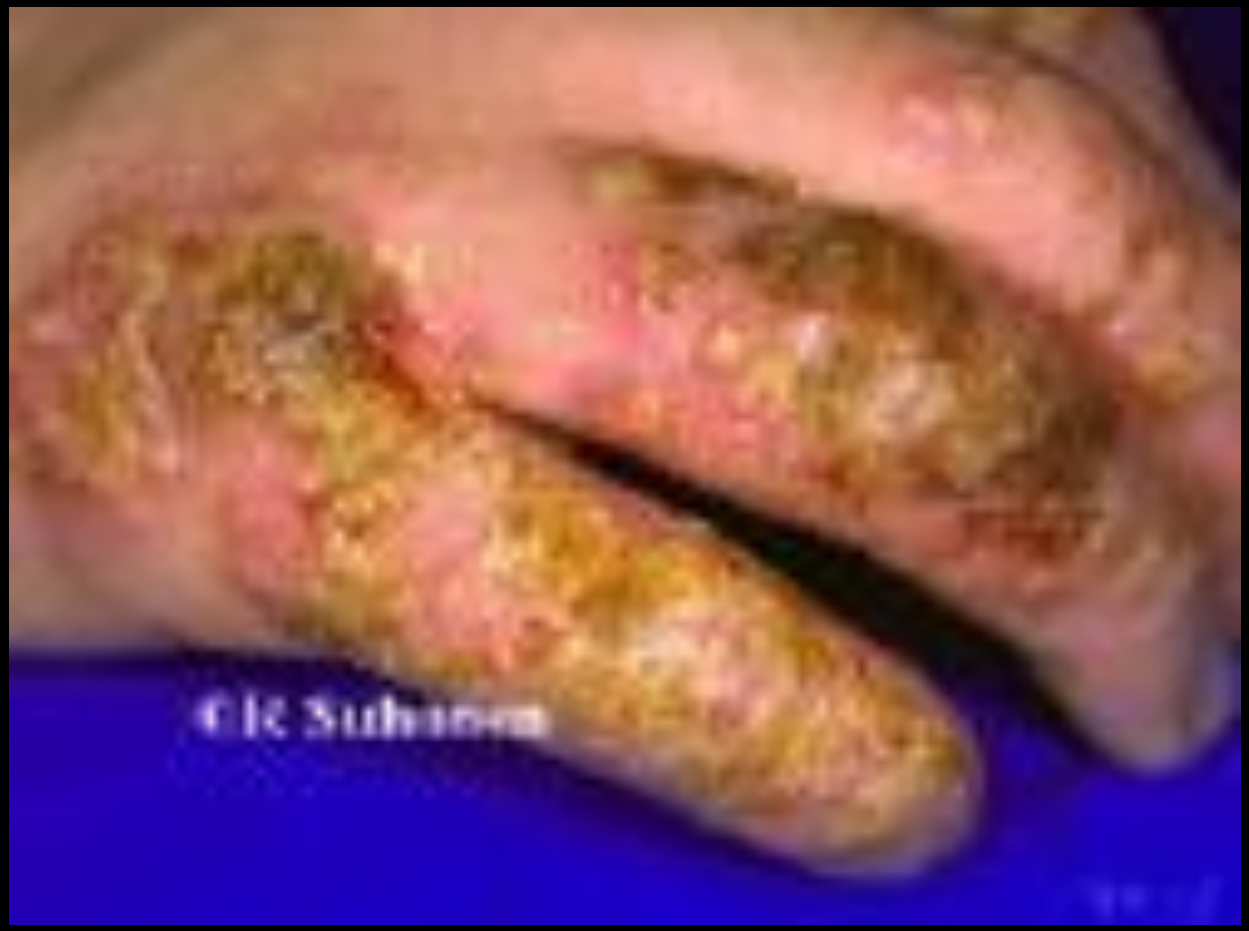
Precipitating factor: insect bite or skin scratching

# Honey colored crust near mouth

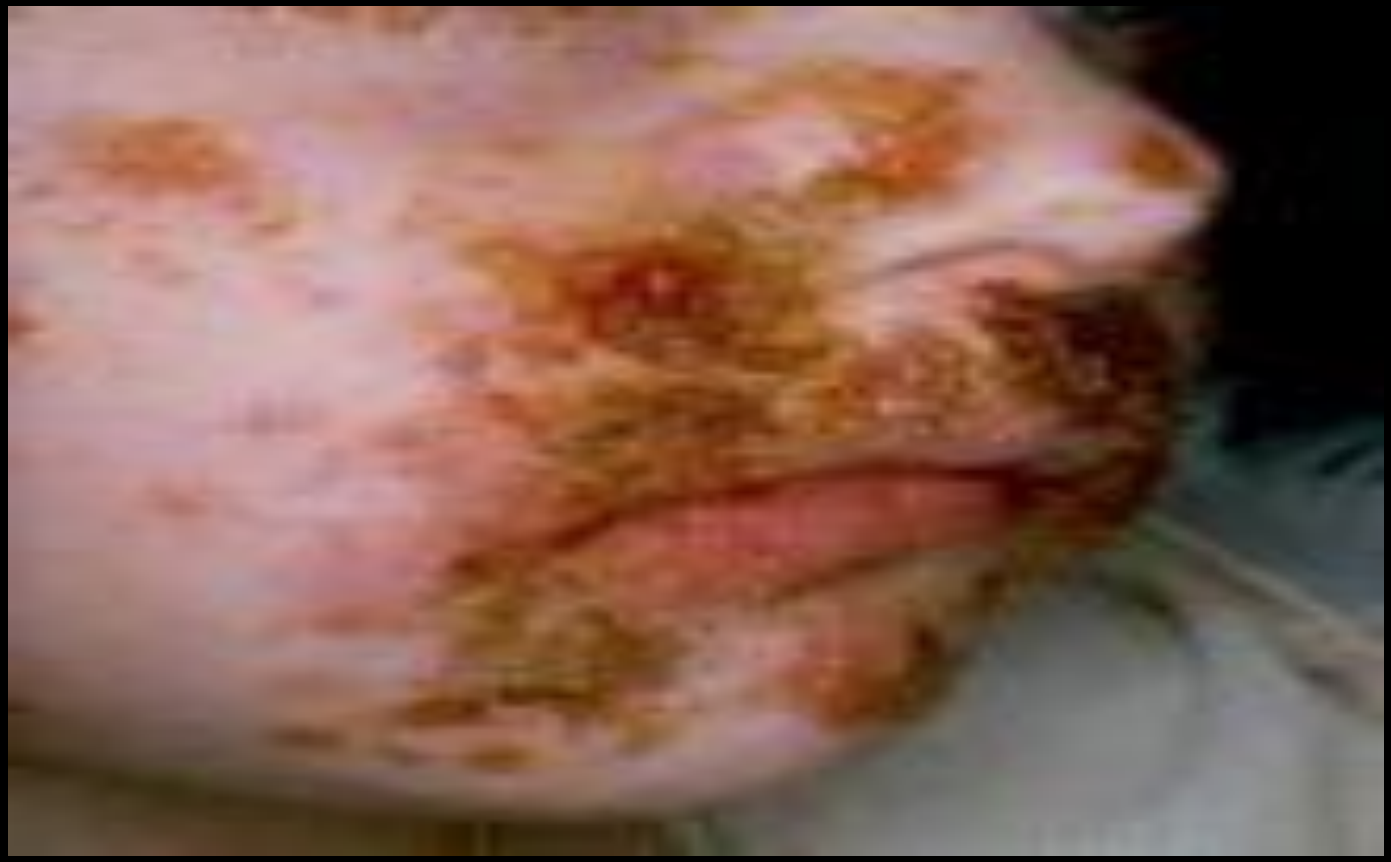




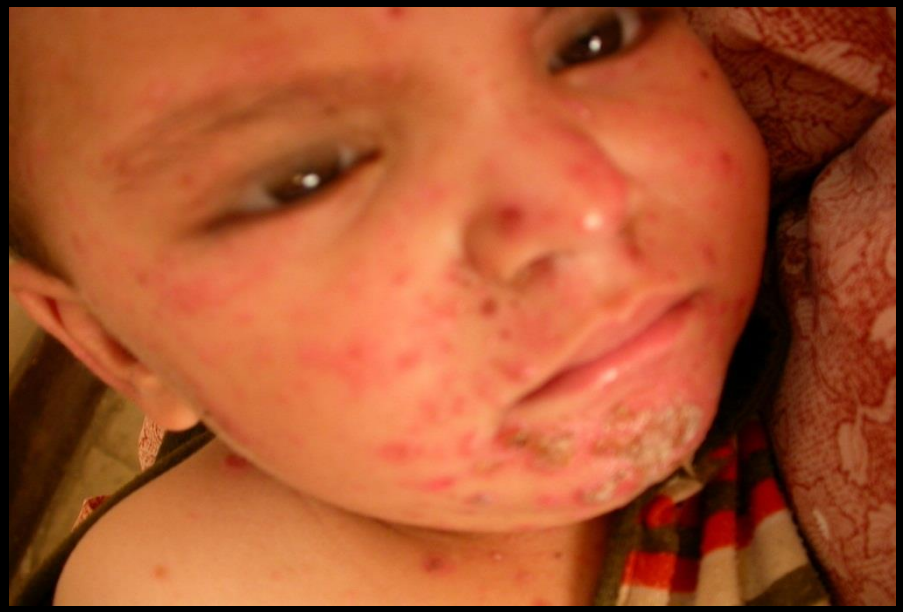
# Honey colored crust on hand

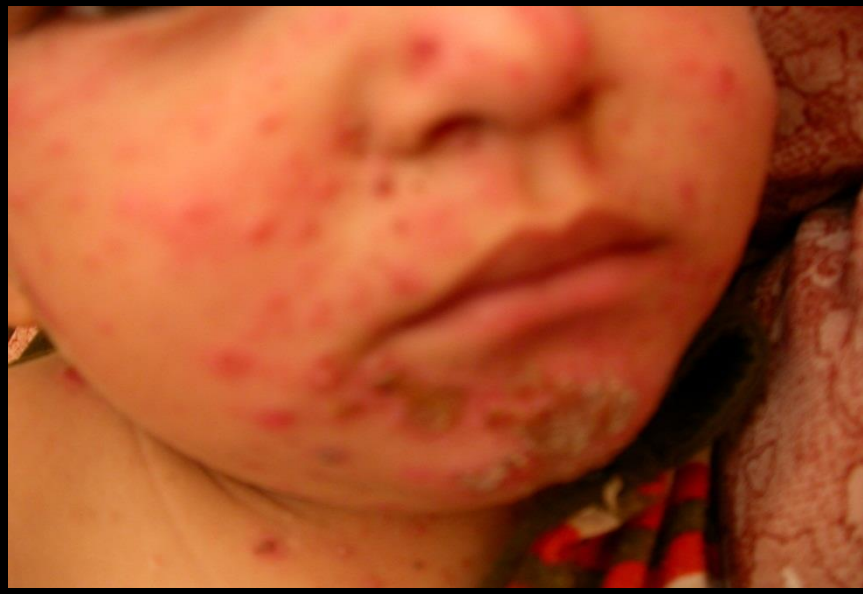


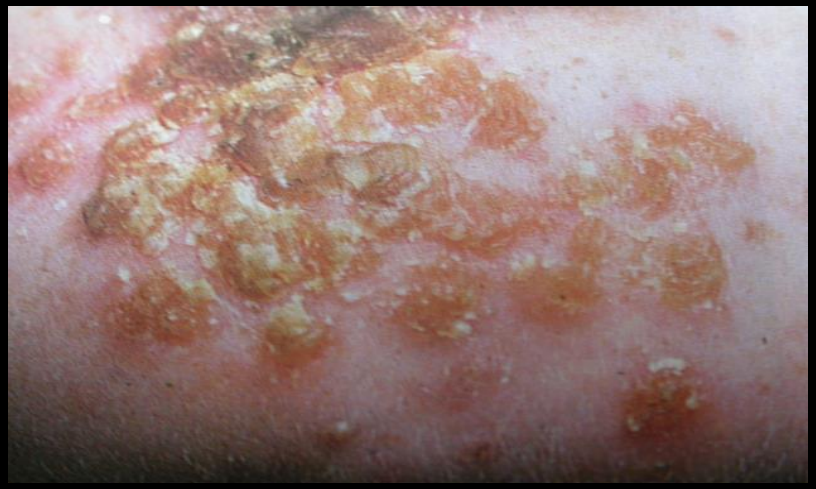
# Honey colored crust on face



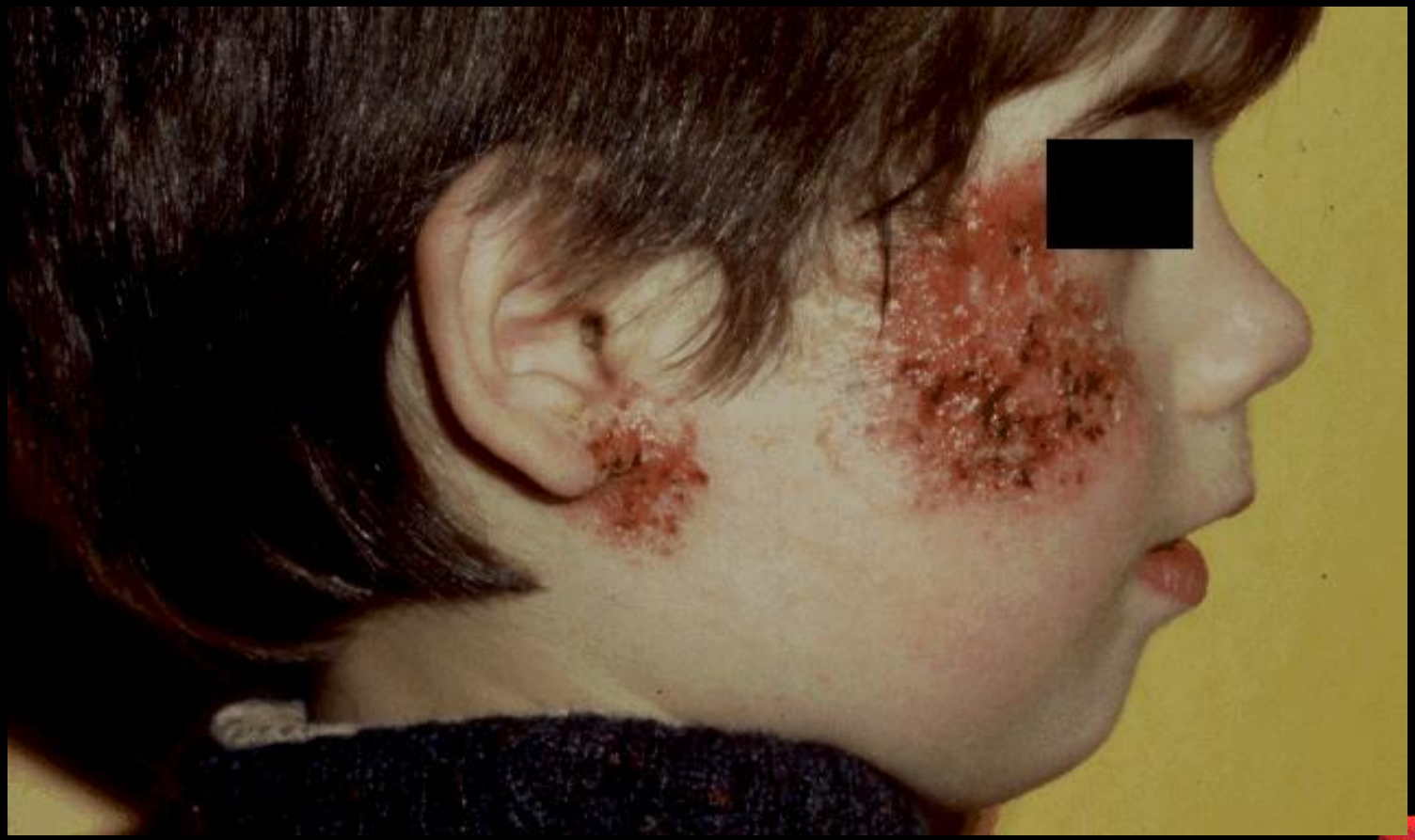
# Honey colored crust on face



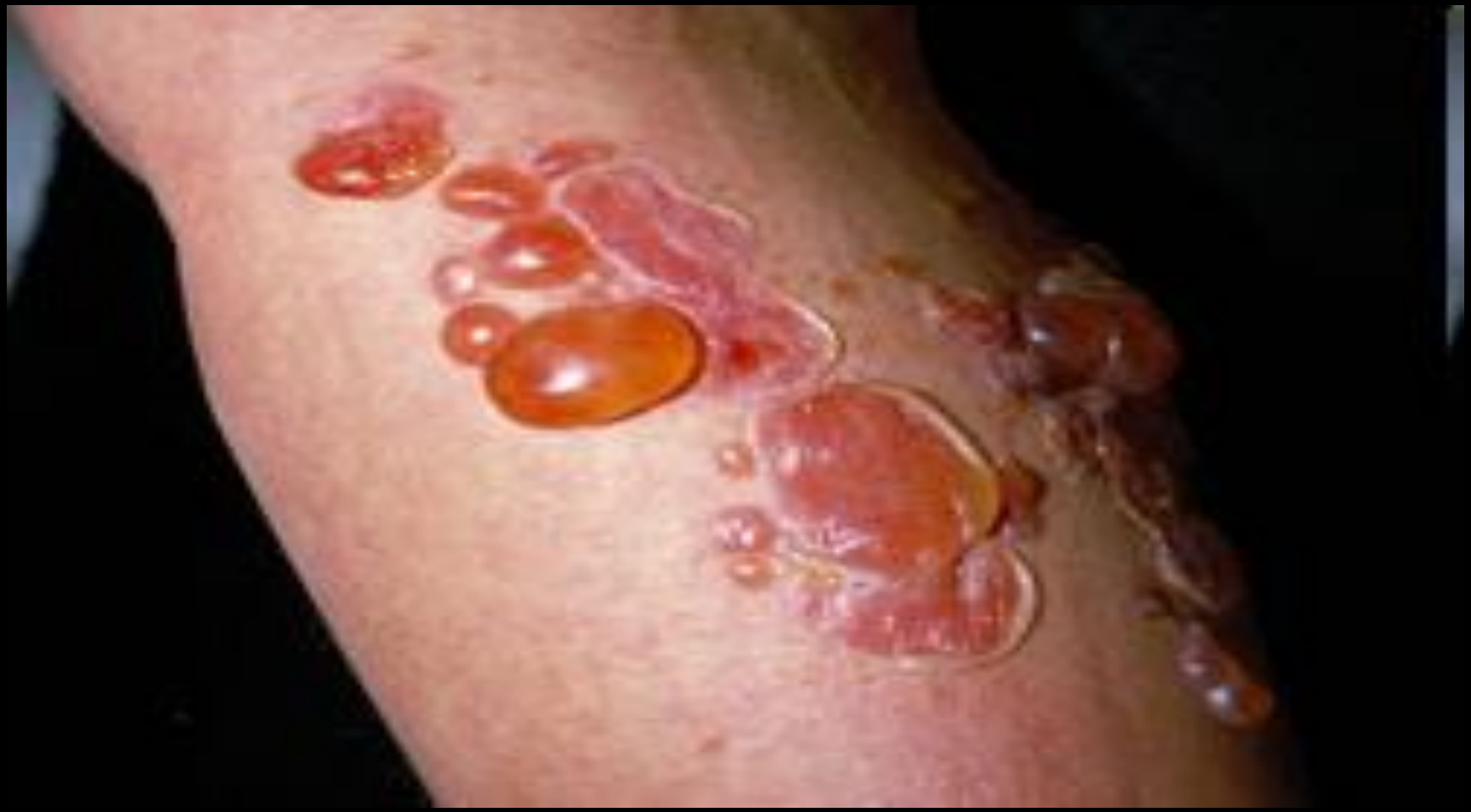




# Honey colored crust near eye



# Bullous impetigo



# Treatment (not OTC)

**1-Mainly systemic antibiotic for at least 10 days**

-Cephalosporin (Keflex®) Cephalexin (250 -500 mg/6hr for 10 days)

- penicillin ( Emox)® amoxicillin (250 -500 mg/6hr for 10 days)

-amoxicillin/clavulinic acid combination (Augmentin®)

-erythromycin ex: Erythromycin (250 mg/6 hr for 10 days)

2- topical antibiotic may be added to systemic therapy: fusidic acid or tetracycline

3- **Removal of the crust using antiseptic solution** as potassium permanganate solution.

-if no imrpovement in 7 days, culture of exudates should be collected for culture and sensitivity test, with treatment modified accordingly

# 4-Folliculitis

- It is an infection of the superficial part of the hair follicle with **Staph. aureus** in areas subject to friction and perspiration.

- It produce **pruritic papule that turn to small pustule on an erythematous base**, centered on the hair follicle in any site in body.

-diagnosis depend on **presentation and pericipitating factor**

**Differentiated from acne in that folliculitis has hair growing in the center in areas of friction**

**Precipitating factors include skin abrasion( ex razors)**

# Folliculitis

**Treatment (OTC for mild cases)**

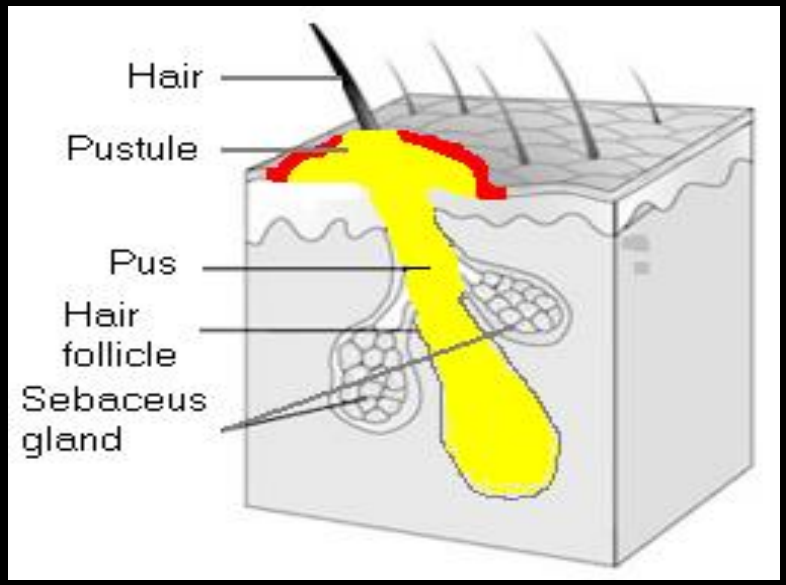
- It can be treated with topical antibacterial agent like (fusidic acid " fucidin cream® or eryhtromycin cream for 7 days

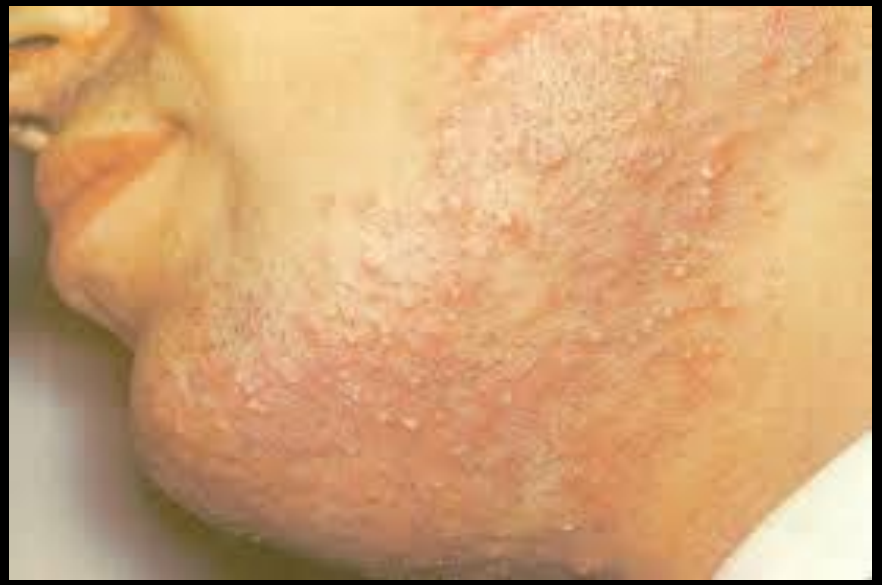
- **warm moist compresses** is recommended

- Lesions should be incised if they do not respond to a few days of moist heat and nonprescription topical agents.

- **Prevention:**
- Decrease the frequency of shaving and apply antibacterial agents with corticosteroid after shaving in recurrent cases

# Folliculitis



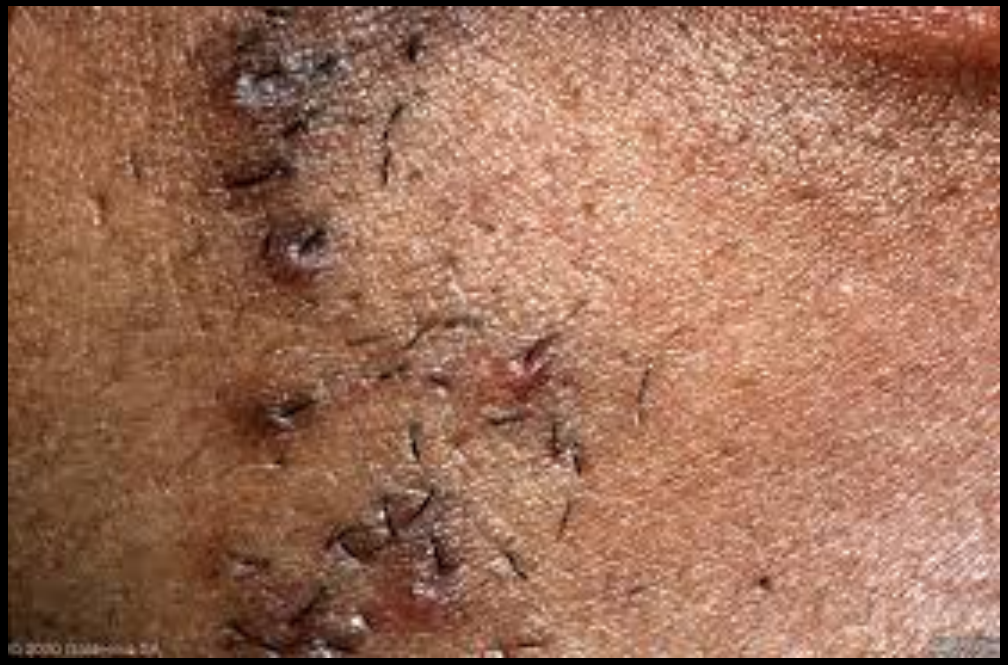




# 6-Pseudofolliculitis barbae

- Pseudofolliculitis barbae (razor bumps) is a common condition of the beard area occurring in men.

- If curly beard hairs are **cut too short**, they may curve back into the skin and cause **inflammation** or may be due to **ingrown hair**.

# Pseudofolliculitis barbae



# Treatment

- Existing razor bumps can often be treated by removal of the ingrown hair
- Medications are also prescribed to speed healing of the skin:

1. glycolic acid-based peels to be an effective
2. Allantoin is a natural soothing skin protectant and moisturizer that increases the water content to provide structure support to skin cells
3. Prescription antibiotic gels (fucidic acid alone or with cortisone) or oral antibiotics (are also used in sever cases which may require physician contact)

# Prevention

- Totally avoiding shaving for three to four weeks allows all lesions to subside, and most extrafollicular hairs will resolve themselves in about 10 days

- Use electric razors to control PFB

- Shaving in the direction of hair growth every other day, rather than daily (decrease frequency)

- If one must use a blade, **softening the beard first with a hot, wet washcloth for five minutes**

# Treatment


ISIS
PHARMA
UNITONE 4
White
ISIS
PHARMA
UNITONE 4
White


Fucidin
Fucidin


Contractubex
20g
Contractubex
20g gelé/gela/gelo

# Furuncle and carbuncle

A **boil**, also called a **furuncle**, is a deep folliculitis (involve hair follicle) which is hard red nodule which is tender and painful may be with fever. Later, it discharge pus with central core. Its diameter is about 1 cm. common in skin abrasion area

The cluster of several boils in a single area of skin infection is a carbuncle.

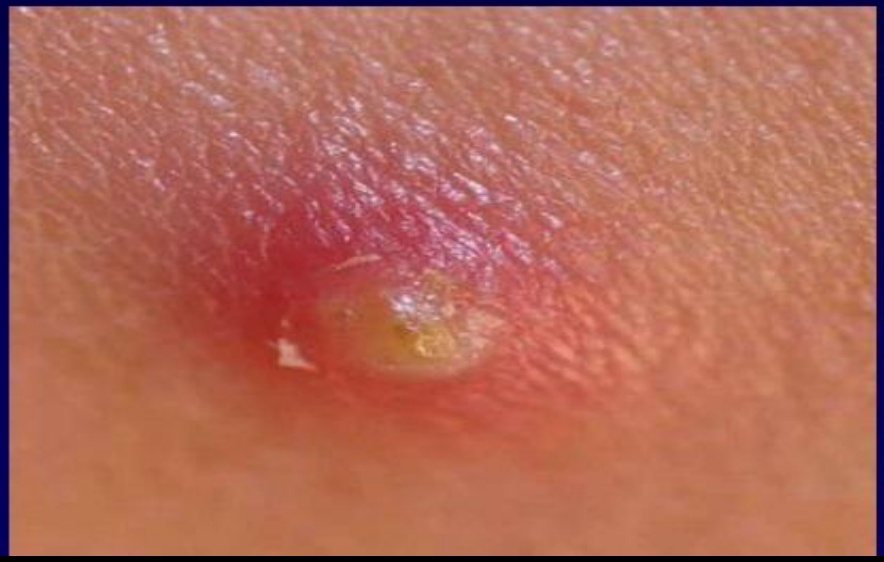
A **carbuncle** is larger than a boil and It is swollen painful area usually has one or more openings draining pus onto the skin.

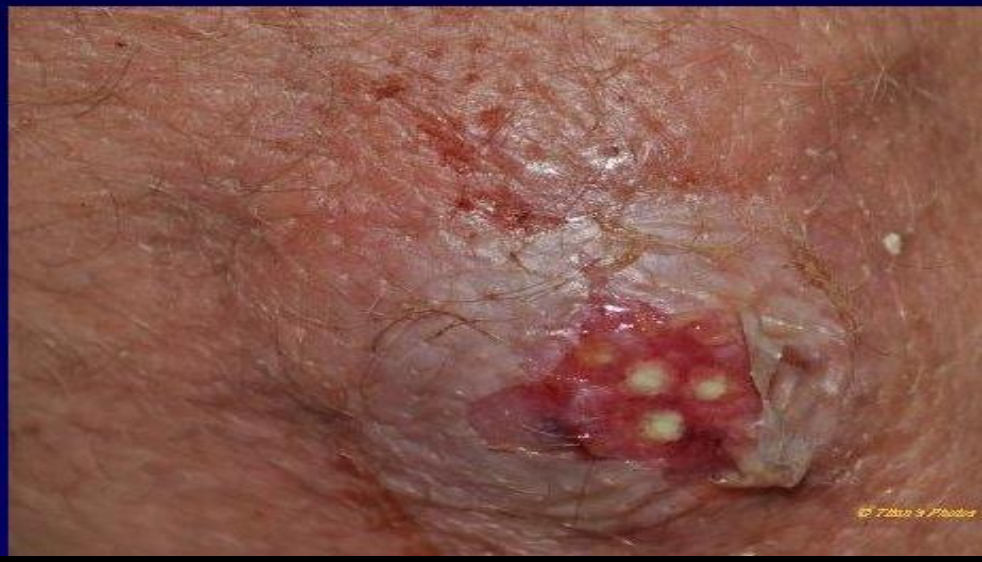
**Several Cm in diameter.**

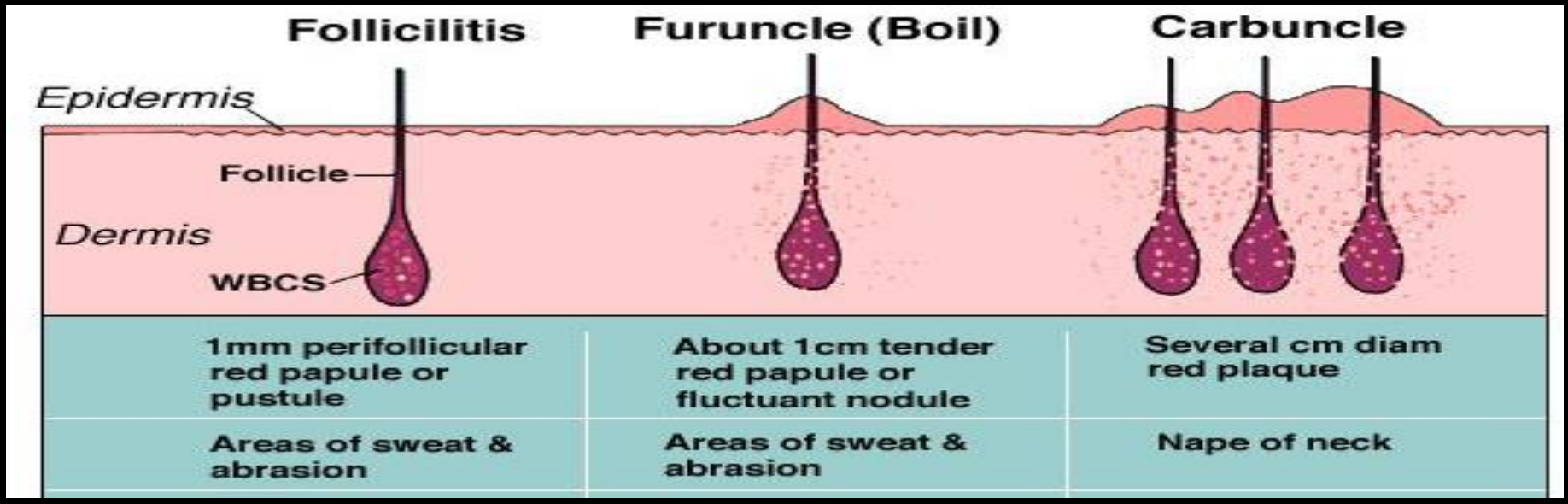
**Back of neck is a common site of curbuncle** associated with systemic signs (fever, chills, malaise).

- Furuncle

Carbuncle





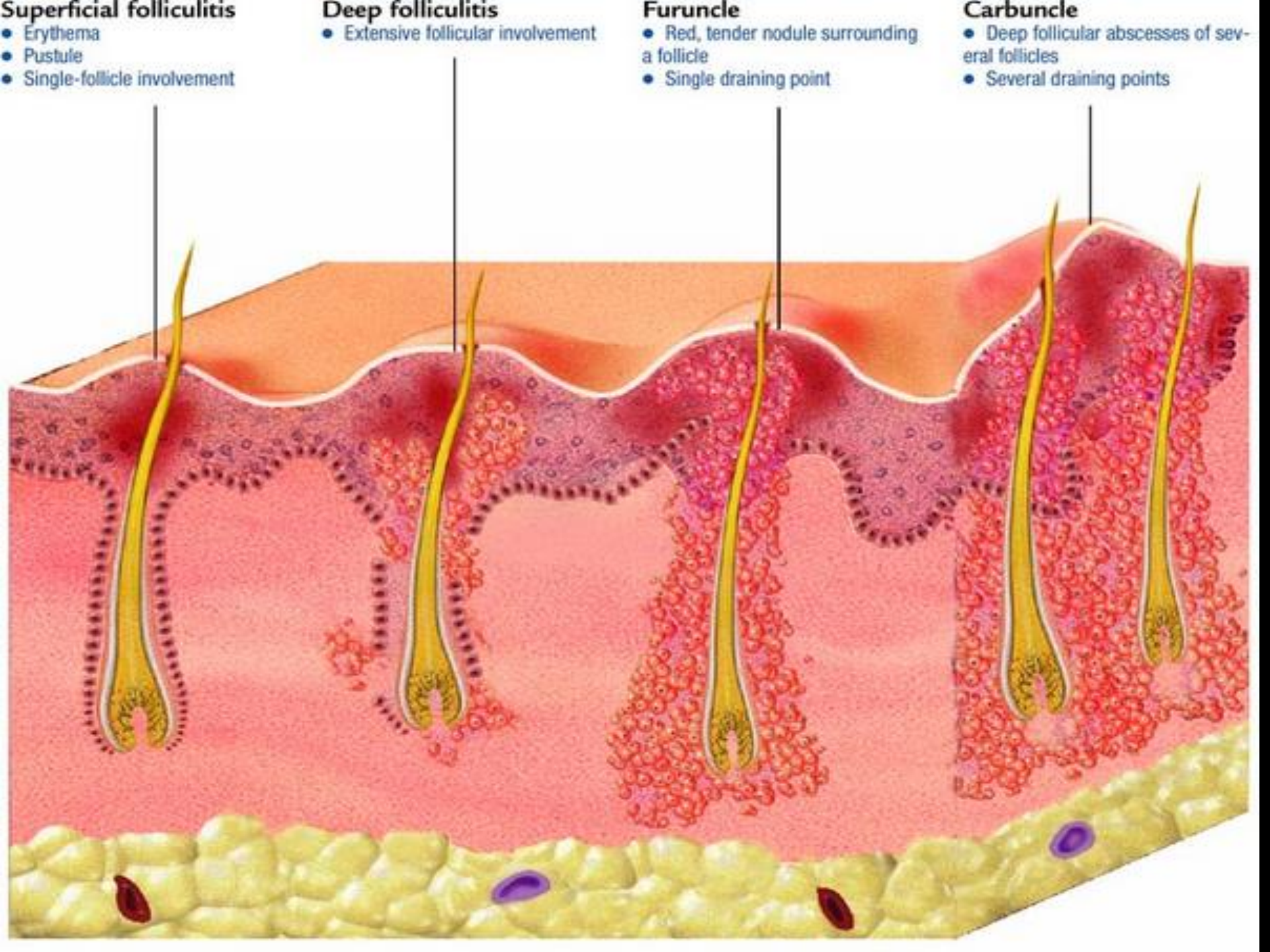


**Superficial folliculitis**
- Erythema
- Pustule
- Single-follicle involvement

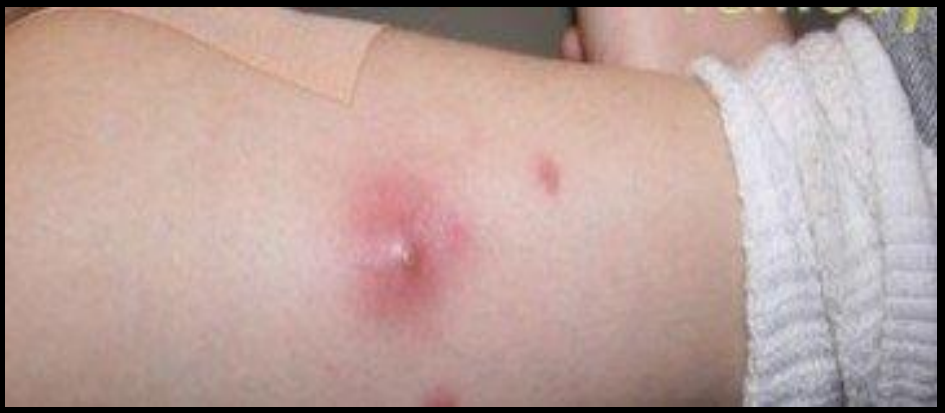
**Deep folliculitis**
- Extensive follicular involvement

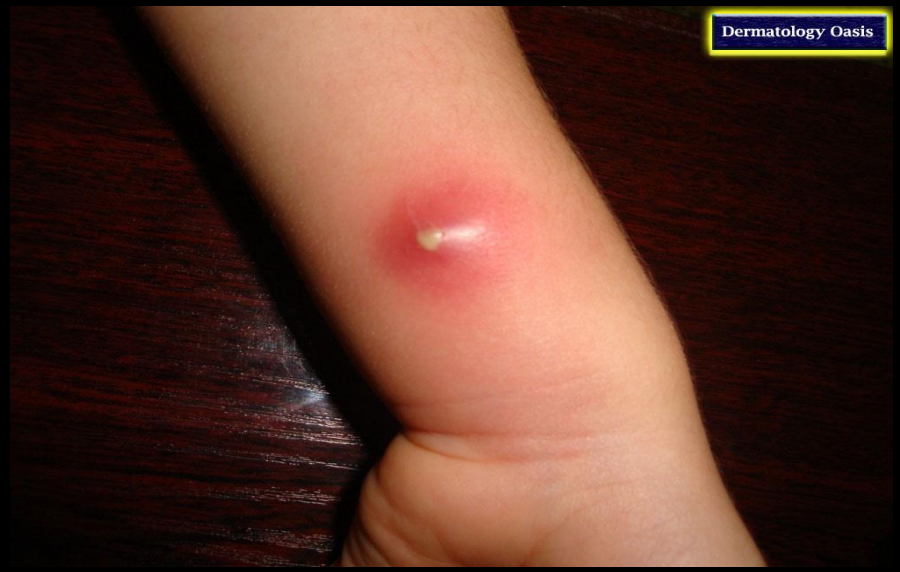
**Furuncle**
- Red, tender nodule surrounding a follicle
- Single draining point

**Carbuncle**
- Deep follicular abscesses of several follicles
- Several draining points

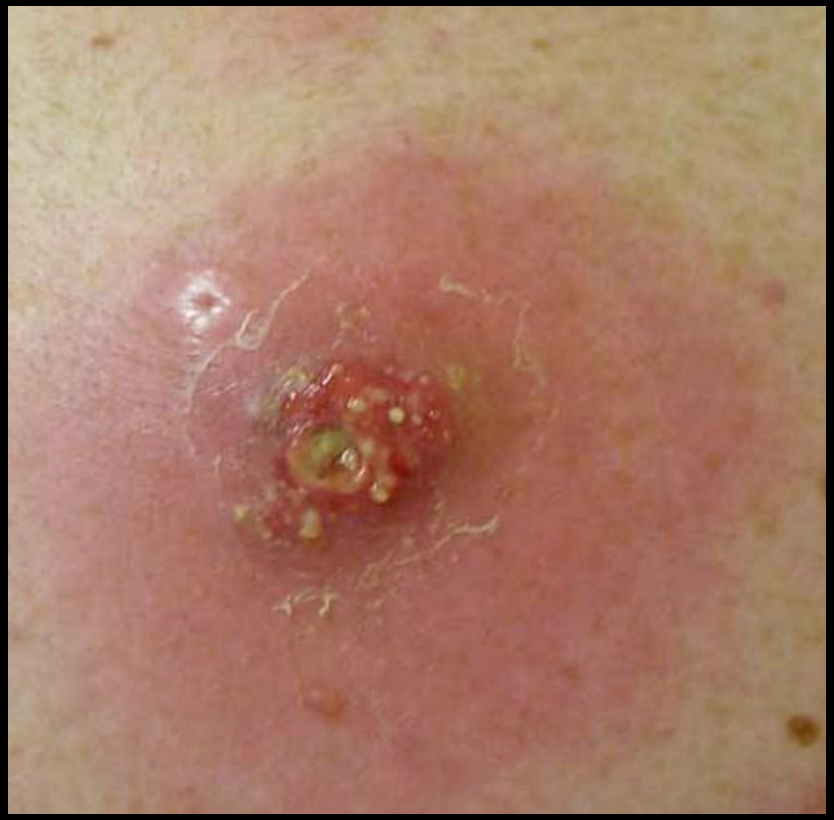


# Furuncle






# Carbuncle



# Furuncle and carbuncle

**Treatment (not OTC)**

Incise and curettage by physician (never to cut or squeeze it by yourself).

Ichthammol ointment to localize and drain pus outside

It can be treated with systemic antibiotic like erythromycin or cephalaxin for 10 days specially if accompanied with fever.

An alternative agent for penicillin-allergic patients is clindamycin

Topical antibiotic may be added

# Treatment


ICHTHAMMOL
OINTMENT
30 gm.
Const.:
Ichthammol 10%.
Ointment base 90%
Uses:
In the treatment of skin diseases
and inflammations.


Icthammol oint
A19/04 Exp: 12/11/2014

# 7-Leprosy

- It is bacterial infection caused by **mycobacterium leprae**.

- It is a disease of **peripheral nerves**, but it also affects the skin, and sometimes other tissues as the eyes, the mucosa of the respiratory tract, the bones and the testes.

- The incubation period is lengthy (several years) and it likely that most patients acquire the infection in childhood.

# Leprosy (Hansen disease)

- The disease is acquired as a result of **close prolonged** contact with an infected person or by coughing, nasal discharge.

- *The lesions are anesthetic, The peripheral nerves are thickened with loss of sensation.

- lack of ability to feel pain >>>>>>> loss of parts of extremities due to repeated injuries or infection due to unnoticed wounds

# Leprosy (hansen disease)

- Sensory loss at the skin lesion is important because this feature can help differentiate from other causes of skin lesions such as tinea

- **Early detection** of the disease is important, since physical and neurological damage may be irreversible even if cured

- Leprosy has been associated with **social stigma** for much of history, which is a barrier to self-reporting and early treatment

# Leprosy (hansen disease)

- Types: determined by the host's cell-mediated immune response to the organism.
- **tuberculoid leprosy (paucibacillary)**
- **lepromatous leprosy (multibacillary)**

# Tuberculoid Leprosy

*When it's well-developed (high cell-mediated immunity)

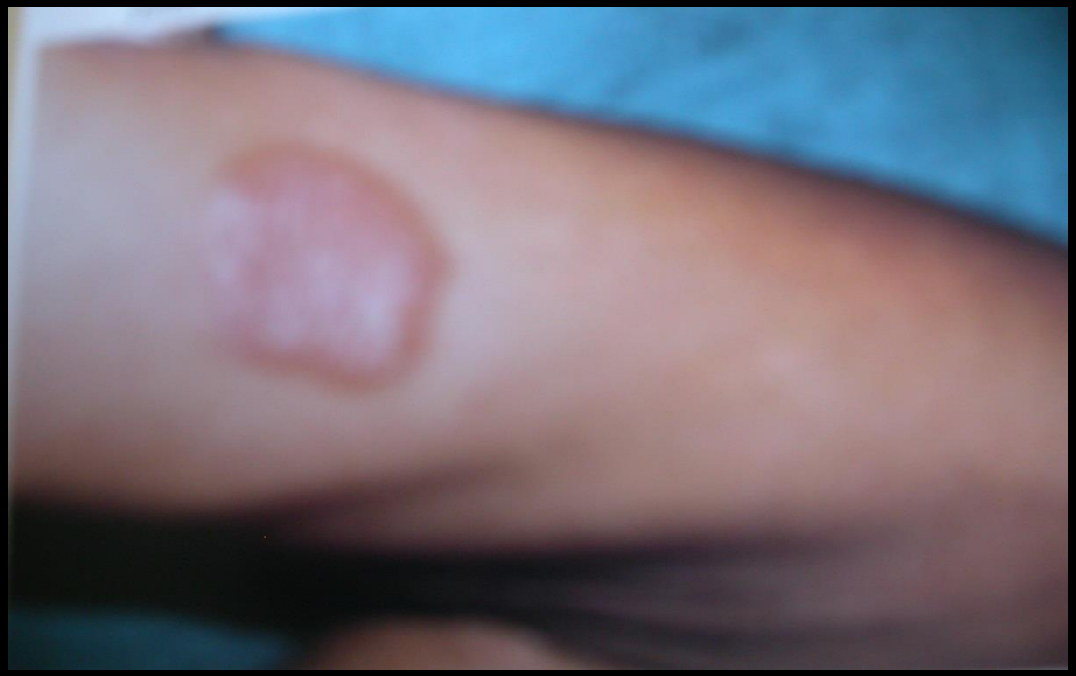
*one or more hypo pigmented skin macules, the skin and peripheral nerves are affected.

*Skin lesions are single or few in number (1-5).

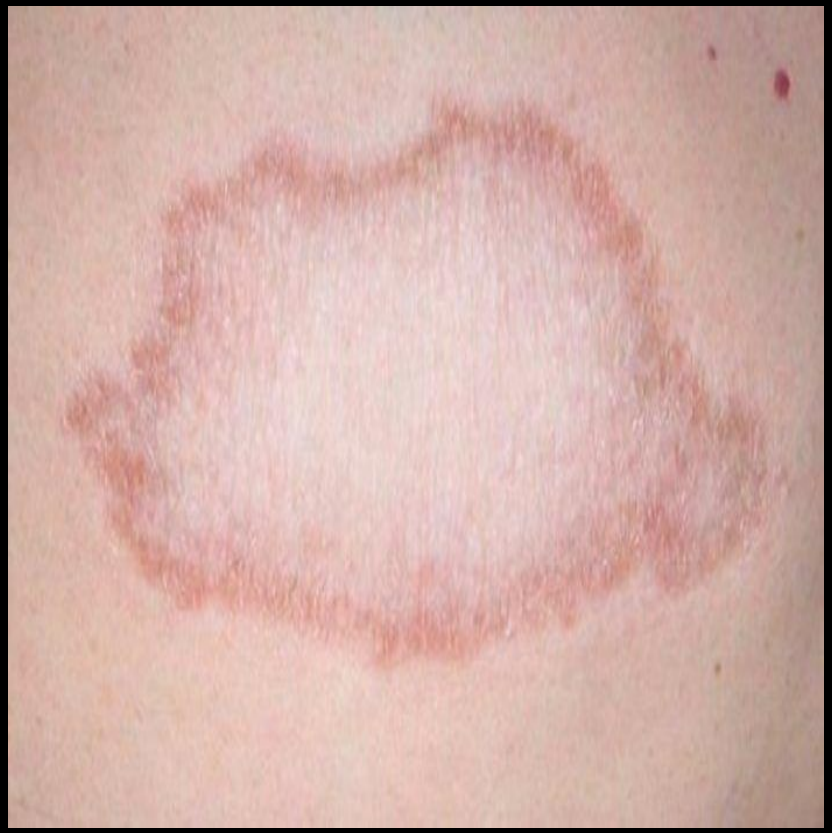
*Lepromin test is strongly positive.

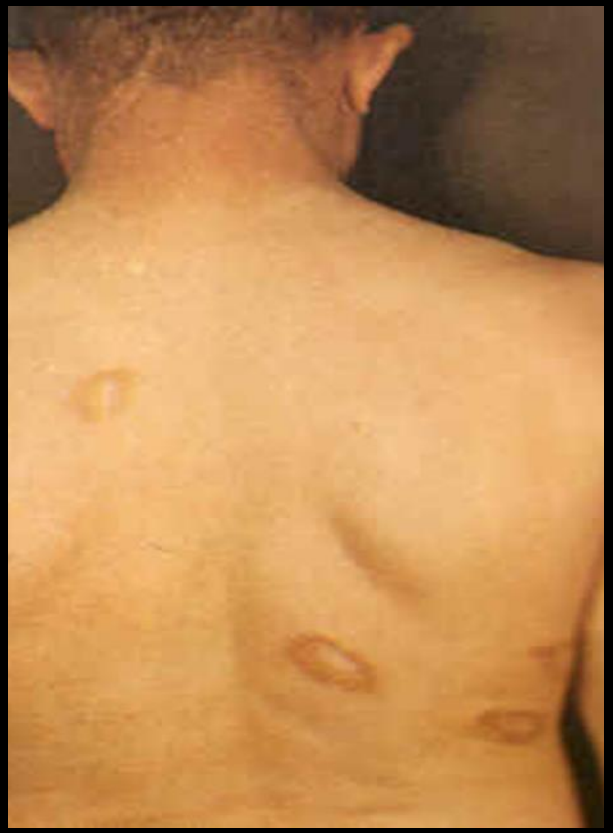
*Histology shows well-defined tuberculoid granulomas and bacilli are not seen on staining

# Tubercloid leprosy



# Tubercloid leprosy





# lepromatous Leprosy

When the cell-mediated immune response to the bacilli is poor

*It involves not only the skin but also, the eyes, the mucosa of the respiratory tract, the bones and the testes.

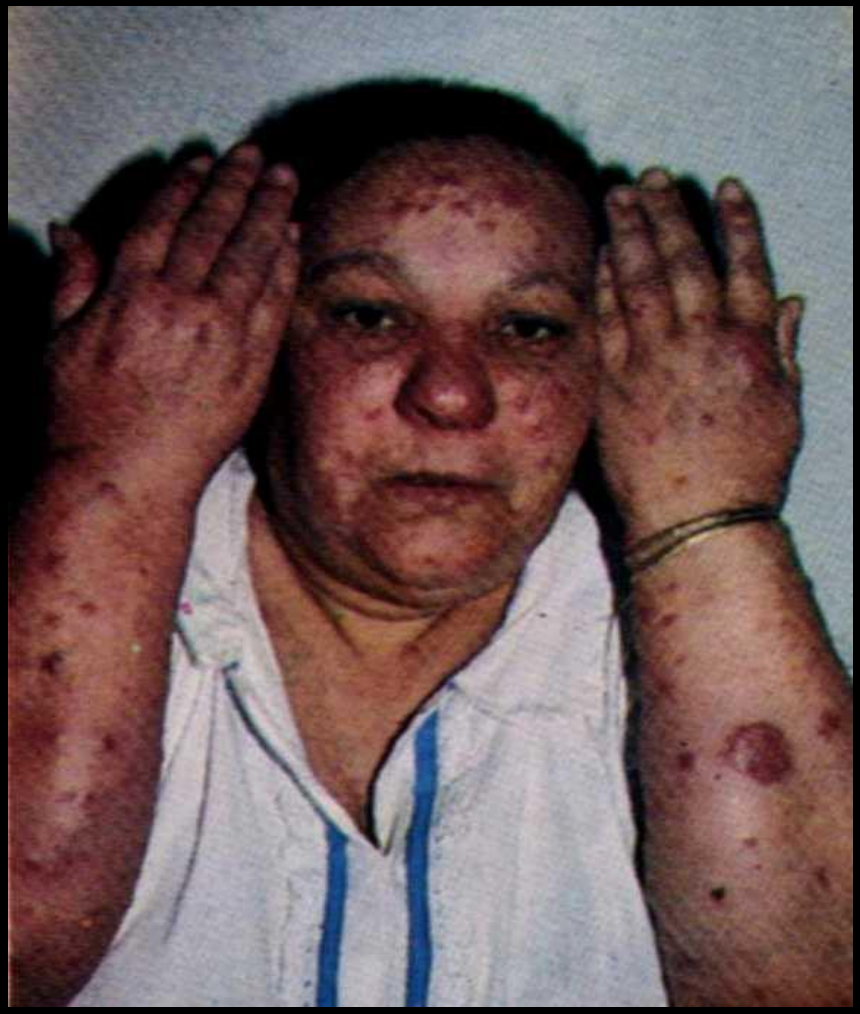
*The skin lesions are multiple and **nodular, plaques**, thickened dermis **symmetrically distributed.**

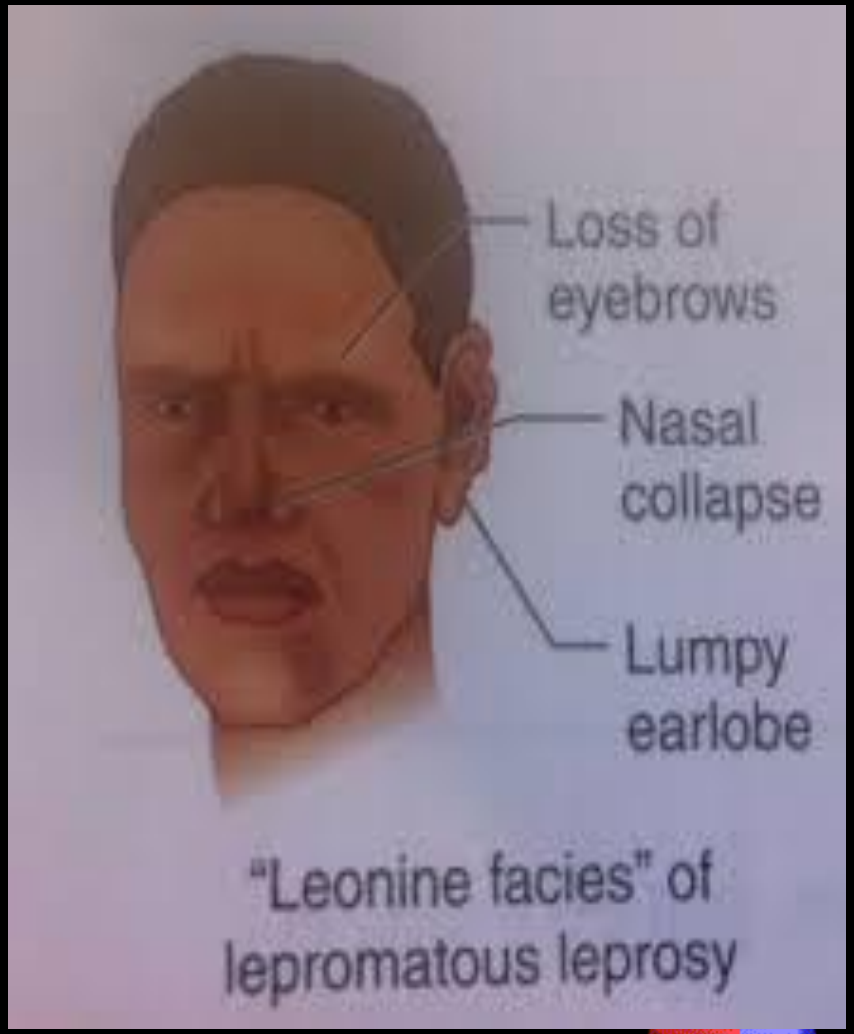
*If it is on the face, it give leonine face (characteristic features)

*Lepromin (inactivated bacillus injection) test is negative.

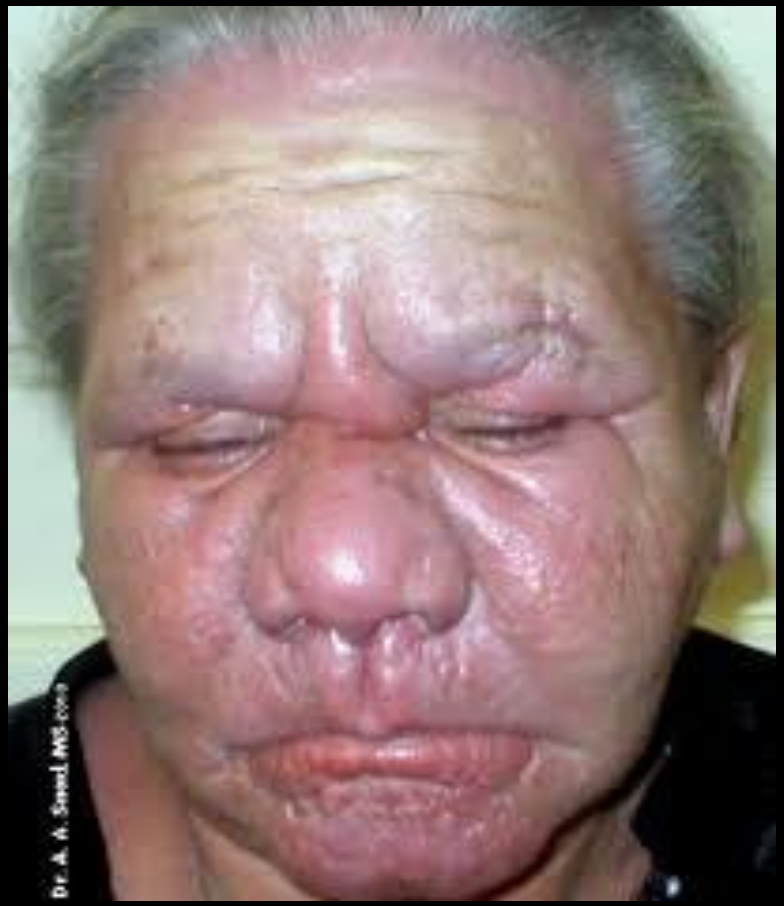
*Histology shows diffuse granulomas (collection of immune cell) and bacilli are present in large numbers.

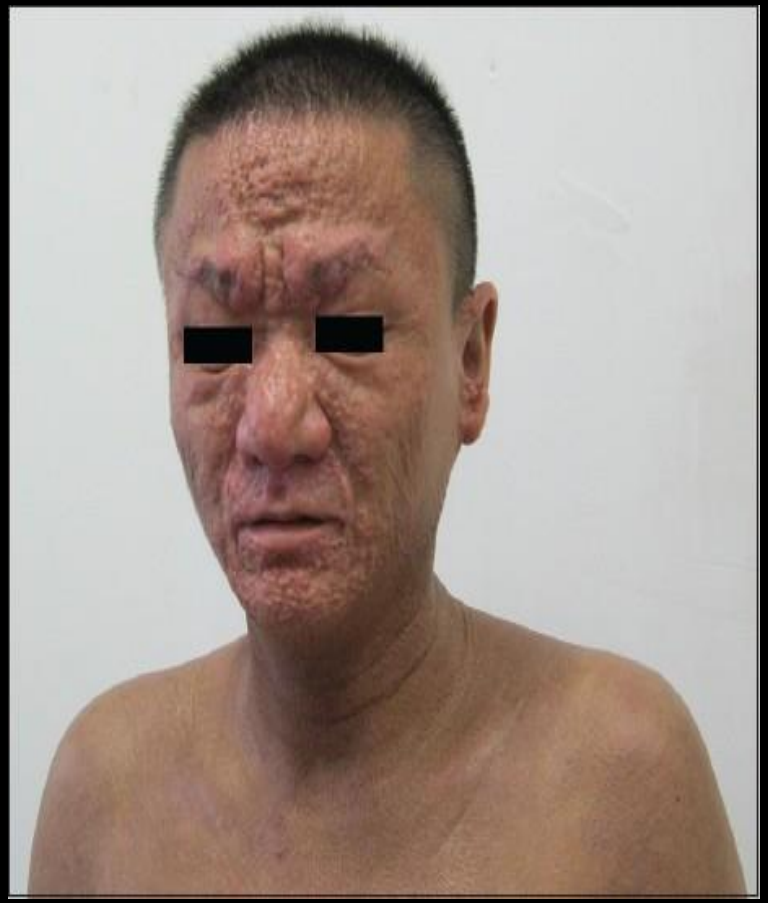
# leprosy




Loss of eyebrows
Nasal collapse
Lumpy earlobe
"Leonine facies" of lepromatous leprosy

# leprosy





# Treatment (not OTC)

**Multidrug therapy for 6-12 months:**

- **- Dapsone 100 mg/day**

Dapsone is administered orally as a 100 mg tablet or alternatively as 25 mg tablets four times daily.

Side effects include: hepatitis and cholestatic jaundice

- **-Rifampicin 300 mg/day**

Side effects: hepatitis and enzyme inducer (metabolic interactions)
Taking rifampicin usually causes certain bodily fluids, such as urine, sweat, and tears, to become orange-red in color

Relapse rates remain low, and no resistance to the combined drugs is seen

# Prevention

The Bacillus Chalmette–Guerin (BCG) vaccine offers a variable amount of protection against leprosy in addition to tuberculosis (main aim)

No drug treatment for contacting persons due to resistance and side effects

# leprosy


Rimactan® 300
Rifampicin
Antibiotikum
8 Kapseln à 300 mg
SANDOZ


2 Strips x 10 Tablets
Dapsone 50
B.P. 80 - E.P. 84