

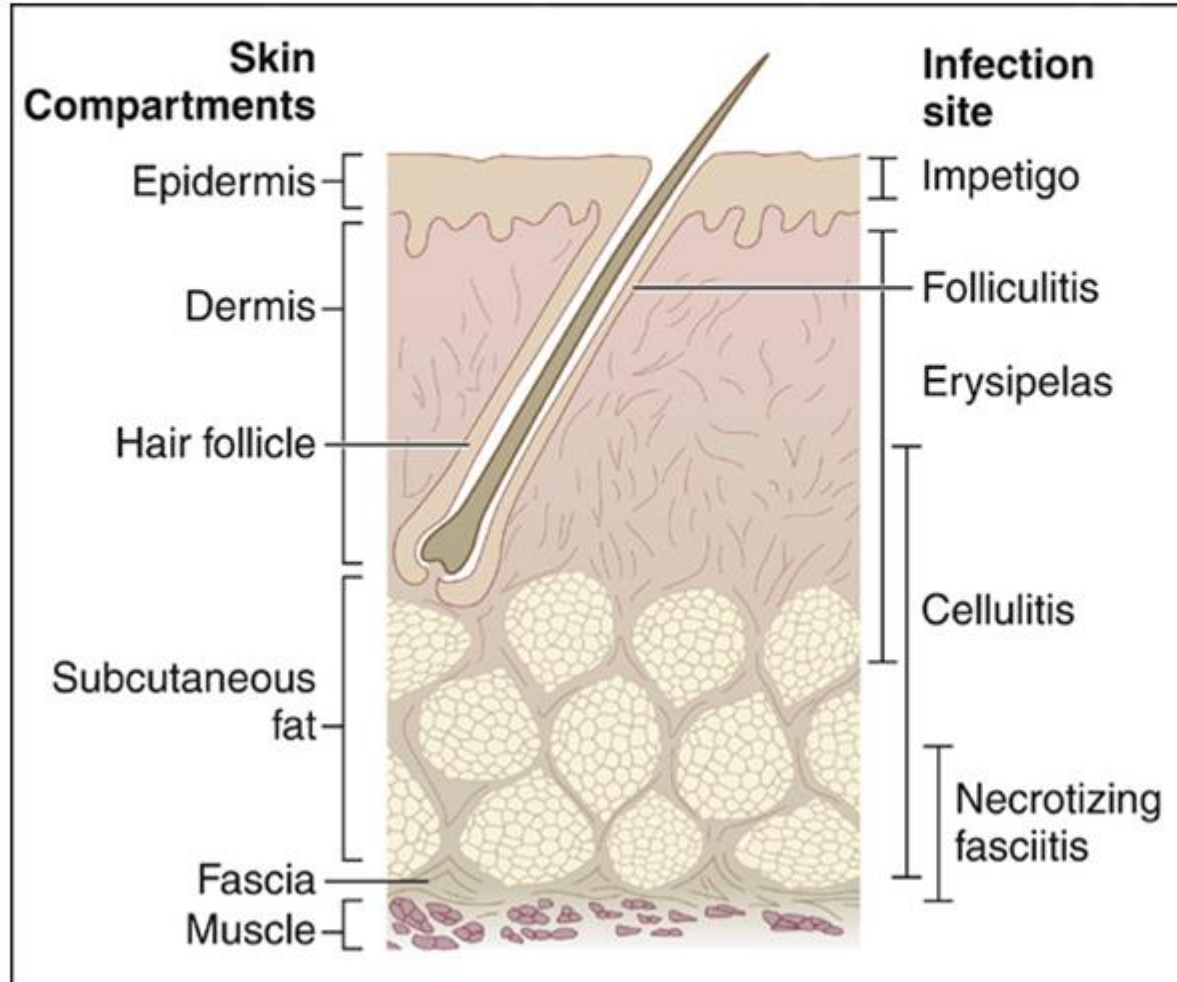
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Treatment of skin infections and acne

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Non specific bacterial skin and soft tissue infections



Non-bullous Impetigo



Bullous Impetigo



Ecthyma



❑ Most cases of impetigo (infection of stratum corneum) are caused by *Strept. pyogenes*, and/or *Staph. Aureus*.

❑ The bullous form is caused by strains of *Staph. aureus* capable of producing exfoliative toxins.

❑ Streptococcal infection may cause **glomerulonephritis**. Antibiotics should be given early to avoid glomerulonephritis.

❑ Ecthyma is infection of whole epidermis.

Treatment of impetigo and Ecthyma

- 1- Treatment of **predisposing causes**: e.g. pediculosis & scabies.
- 2- **Remove the crusts**: by soap and warm water, if necessary use hydrogen peroxide. **Good hygiene** should be maintained to prevent recurrence.
- 3- **Topical antibiotics**: e.g. **Fusidic acid**. Nasal mupirocin can eliminate carrier state.
- 4- **Systemic antibiotics** are indicated in the presence of fever or lymphadenopathy, in extensive infections involving scalp, ears, eyelids or if a nephritogenic strain is suspected.

The antibiotics used are:

- 1- Penicillinase resistant penicillins (**dicloxacillin** or **Flucloxacillin**)
- 2- **Penicillin G** or **penicillin V**.
- 3- **Augmentin** can be used .
- 4- First generation cephalosporins like **Cephalexin** or **cefadroxil**.
- 5- Macrolides (**erythromycin** and **azithromycin**) can be effective in susceptible strains.

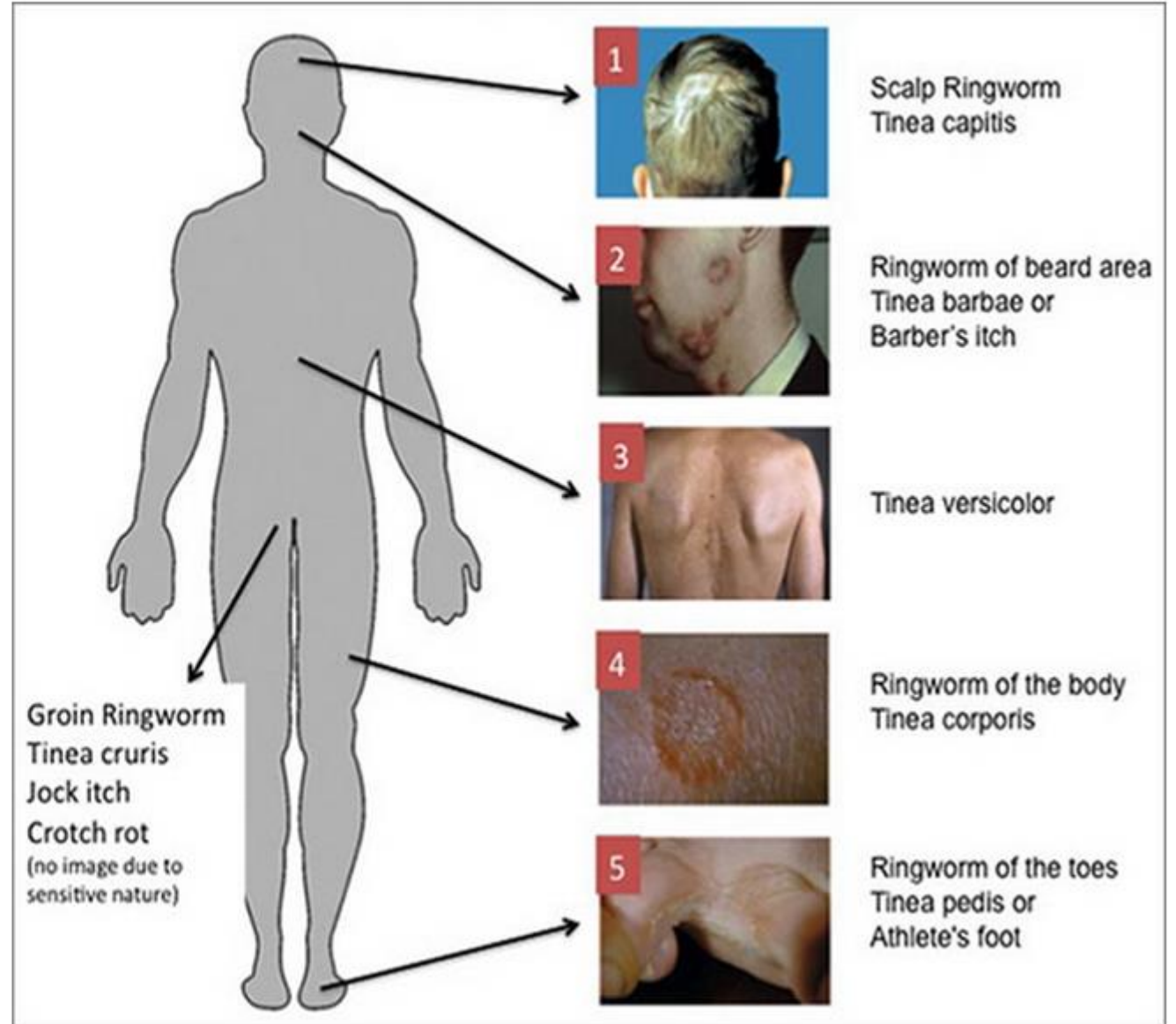
Management of cellulitis

- Elevate limb.
 - Treat underlying Cause
 - Antibiotics
 - Phenoxymethylpenicillin
 - erythromycin
 - flucloxacillin (all 500 mg qds)
 - Vancomycin
 - Linezolid
 - Clindamycin
 - Widespread
 - IV antibiotics (3–5 days) ,2 weeks (oral)
 - Recurrent
 - low dose antibiotic prophylaxis (phenoxymethylpenicillin)
- } MRSA Cellulitis

Treatment of superficial fungal infections (by Candida and dermatophytes)

1- Topical antifungal agents, e.g. **Azoles** (e.g. clotrimazole, miconazole, ketoconazole) and **terbinafine**.

2- Oral antifungal drugs:
Griseofulvin, **Terbinafine**, **Azoles** (ketoconazole, fluconazole, voriconazole and itraconazole)



Topical azoles

The two azoles most used topically are (**clotrimazole** and **miconazole**). They inhibit ergosterol formation by inhibiting fungal cytochrome enzymes. They are often used for:

1-Treating **vulvovaginal** and **oral candidiasis**.

2- Treating **dermatophytic** infections, including tinea corporis, tinea pedis, and tinea cruris.

➤ Absorption is negligible, and adverse effects are rare.

➤ Topical and shampoo forms of **ketoconazole** are also available and useful in the treatment of **seborrheic dermatitis** and **pityriasis versicolor**.

Topical Terbinafine

Terbinafine cream is effective for treatment of dermatophytes (tinea) but not Candida.

Mechanism: inhibit fungal ergosterol synthesis (by inhibiting squalene epoxidase a enzyme).

Adverse reactions include local irritation, and erythema. **Contact with mucous membranes should be avoided.**

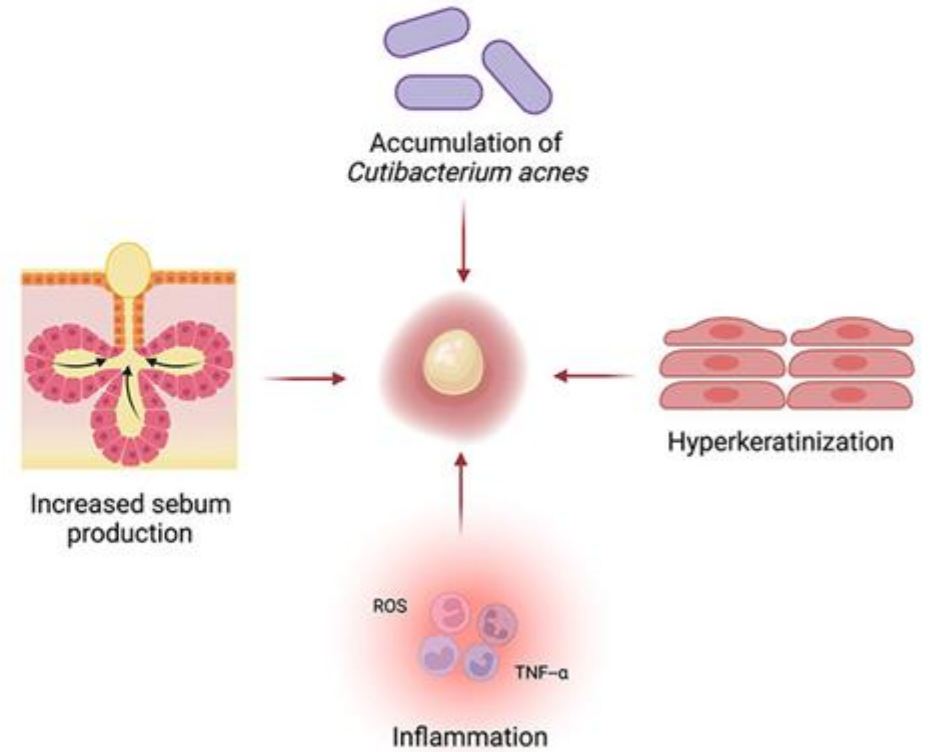
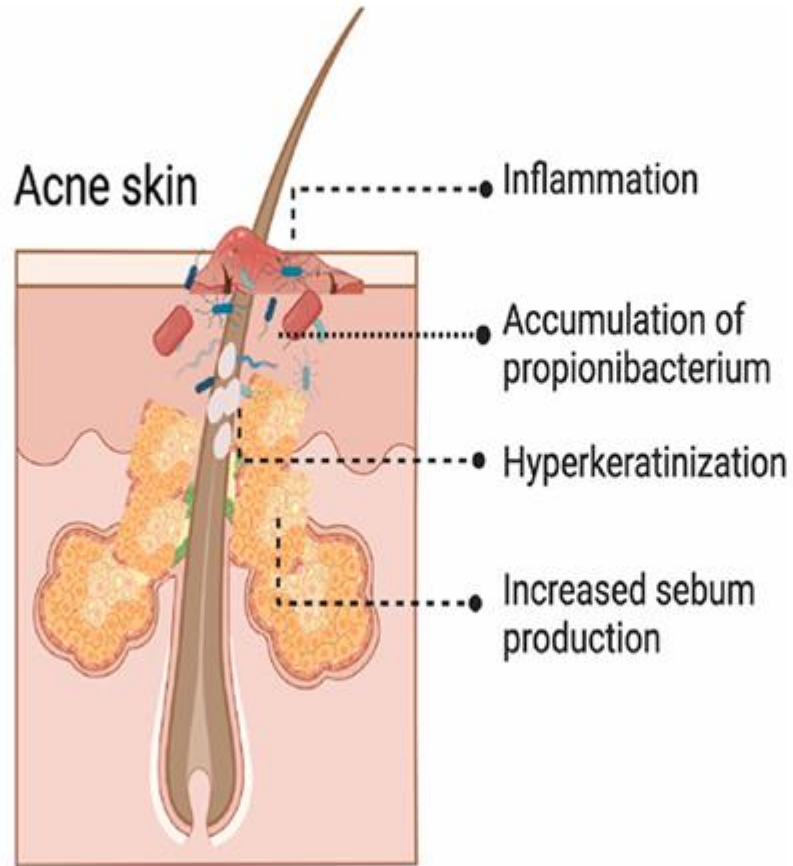
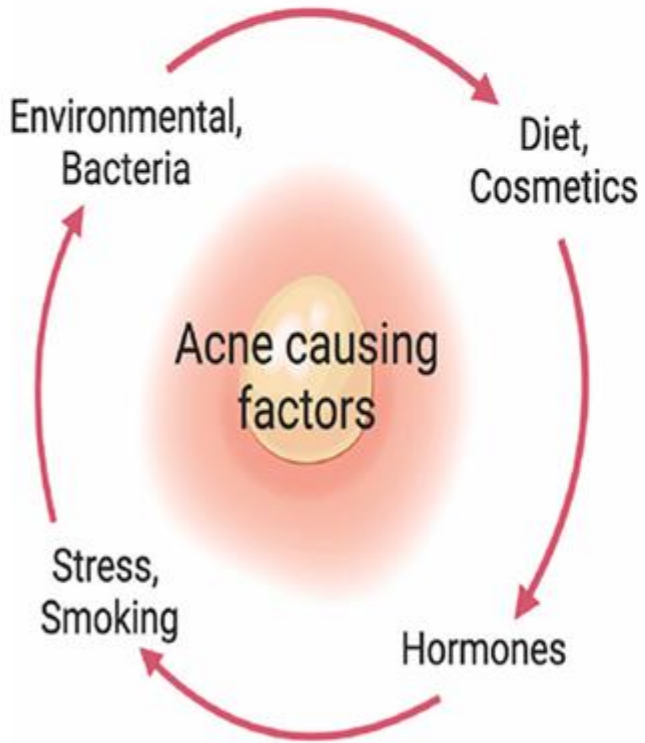
Griseofulvin

- ❑ Griseofulvin is fungistatic drug (inhibit mitosis)
- ❑ Its only use is in the **systemic treatment** of **dermatophytosis**.
- ❑ **it binds to keratin**, protecting the skin from new infection.
- ❑ Adverse effects **serum sickness** like illness , **hepatitis**, and **drug interactions**.

Treatment of skin infestation by scabies

- ❑ Several drugs can be used; the most important one is **permethrin**. Other drugs include **sulfur ointment** and **Ivermectin**.
- ❑ Permethrin causes opening of sodium channels and persistent depolarization leading to paralysis and death of scabies.
- ❑ Less than 2% of an applied dose to the skin is absorbed to the circulation .
- ❑ Adverse reactions to permethrin include transient burning, stinging, and pruritus.

Treatment of Acne



Topical drugs for acne

1- Topical retinoids

- ❑ They include (**tretinoin**, **adapalene**, **tazarotene**) and **topical isotretinoin** .
- ❑ They are available as creams and gel formulations
- ❑ Topical retinoids are vitamin A derivatives and serve as the **cornerstone of acne treatment** since they are **comedolytic** and anti-inflammatory, decrease scarring and **improve dyspigmentation**.

- ❑ Side effects:
 - 1- **Burning sensation**, **dryness**, **erythema**, **exfoliation**, and **peeling**.
 - 2- Some **tretinoin formulations** should be applied in the evening (**photolabile**)
 - 3- Topical retinoid may cause **photosensitivity** (**daily sunscreen** should be used)
 - 4- Risk of **teratogenicity**

2- Benzoyl peroxide

Mechanisms: **antimicrobial** (releases free oxygen radicals) and is mildly **comedolytic**.

Adverse effects: **burning sensation**, dryness, erythema, pain, and peeling.

3- Topical antibiotics

Topical antibiotics (including erythromycin, Clindamycin, Minocycline, and dapsone) treat acne through both **antibacterial** and **anti-inflammatory effects**.

4-Salicylic acid

Salicylic acid is a topical **comedolytic agent** that is available (0.5% to 2% conc.)

5- Azelaic acid

Azelaic acid is a topical **comedolytic**, **antibacterial**, and **anti-inflammatory** agent, which may be particularly helpful for patients with **sensitive skin** or **darker skin** types due to its **lightening effect** on dyspigmentation.

Fixed-dose topical combinations of Benzoyl peroxide , retinoids, or antibiotics facilitate treatment regimen adherence

Systemic treatment

1-Systemic **antibiotics** have been used extensively to treat acne, typically moderate to severe acne. Oral **doxycycline**, minocycline, and **azithromycin** are commonly used.

2- Combined **oral contraceptives** treat hormonal acne through their overall anti-androgenic properties

3- **Spironolactone** (anti-androgen). Used for treating hormonal acne.

4-Oral **Isotretinoin**, is the only FDA-approved treatment for severe acne vulgaris.

Given **orally** with fatty meals to help its absorption

Isotretinoin acts on the four pathogenic causes of acne.

The duration of Isotretinoin therapy is typically administered over 16–24-week period. Because of the adverse effects of Isotretinoin, patients must be continuously monitored .

Adverse effects of Isotretinoin:

1. Teratogenicity
2. Photosensitivity
3. Severe dryness in skin, eye and other mucous membranes
4. Elevation of serum triglycerides
5. Elevated liver enzymes
6. Rarely elevation of urea and abnormalities in blood cells

The image features a solid blue background with several white decorative elements. Two large, elegant white swirls are positioned on the left and right sides, framing the central text. Scattered throughout the background are numerous small white dots of varying sizes, creating a starry or confetti-like effect. The text 'THANK YOU!' is written in a bold, white, sans-serif font, slanted upwards from left to right. The letters have a slight drop shadow, giving them a three-dimensional appearance.

THANK YOU!