Bacterial Infections

Staphylococcus aureus and Streptococcus pyogenes account for the vast majority of skin infections.

Both are part of the normal flora of our skin.

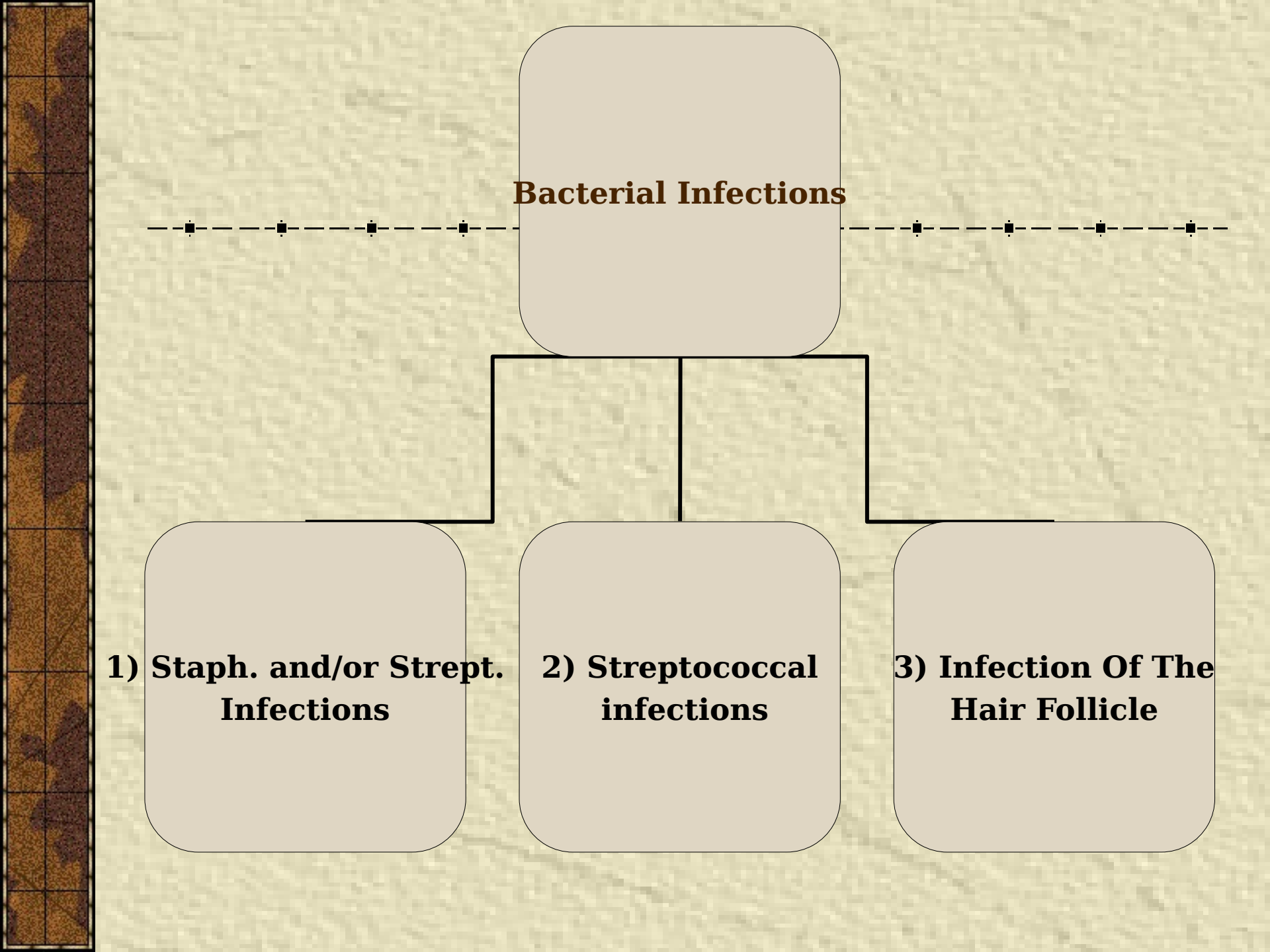
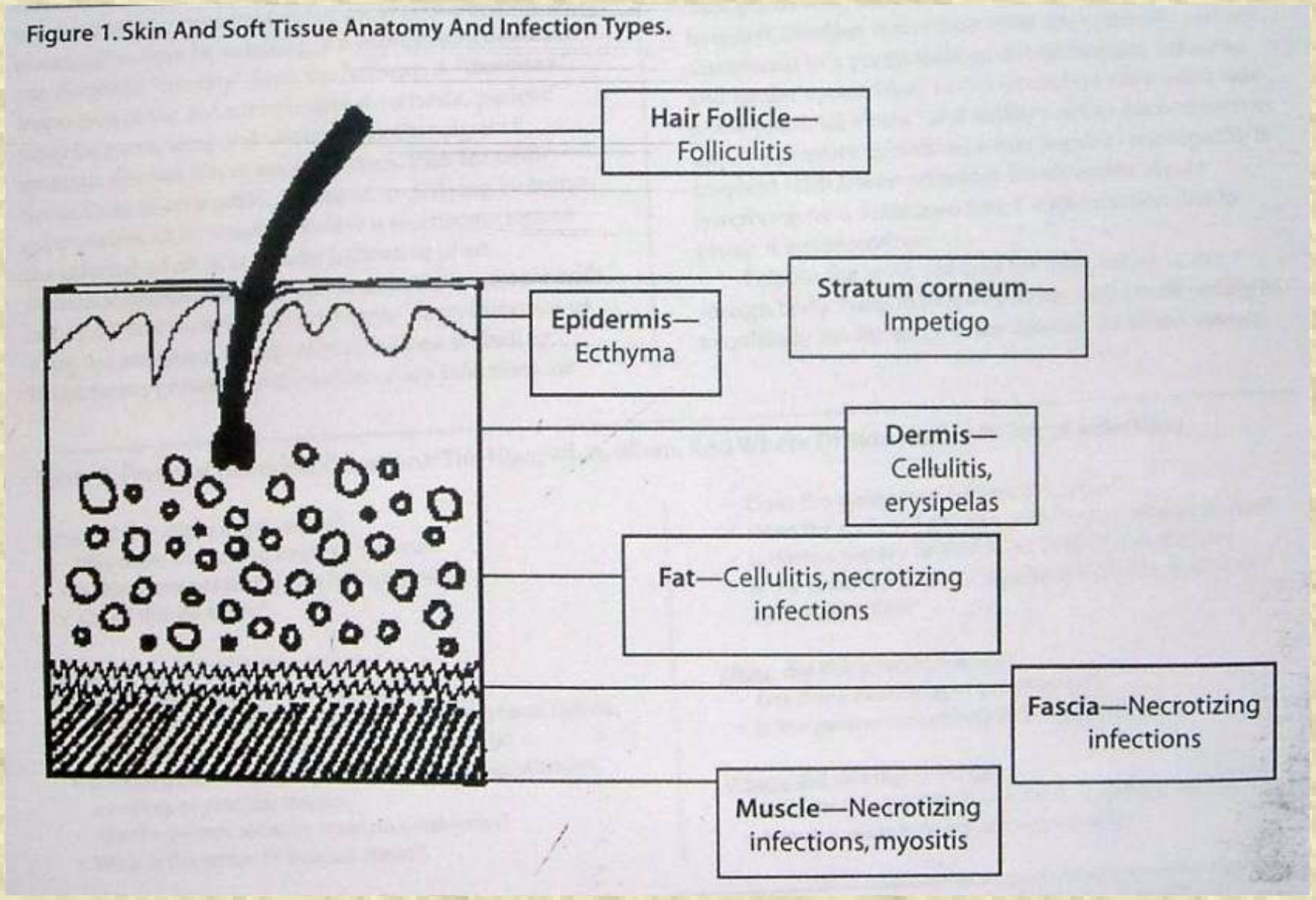

Bacterial Infections
1) Staph. and/or Strept. Infections
2) Streptococcal infections
3) Infection Of The Hair Follicle

Figure 1. Skin And Soft Tissue Anatomy And Infection Types.



1) Staph. and/or Strept. Infections

a) Impetigo contagiosa

The most common skin infection in children.

Impetigo is a contagious superficial bacterial skin infection caused by staphylococci and to a lesser extent by streptococci pyogenes.

Infection is usually predisposed by different factors mainly:

General diseases lowering the general defense mechanisms.

Malnutrition

Mild trauma to skin

Insect bites

Abraded skin lesions

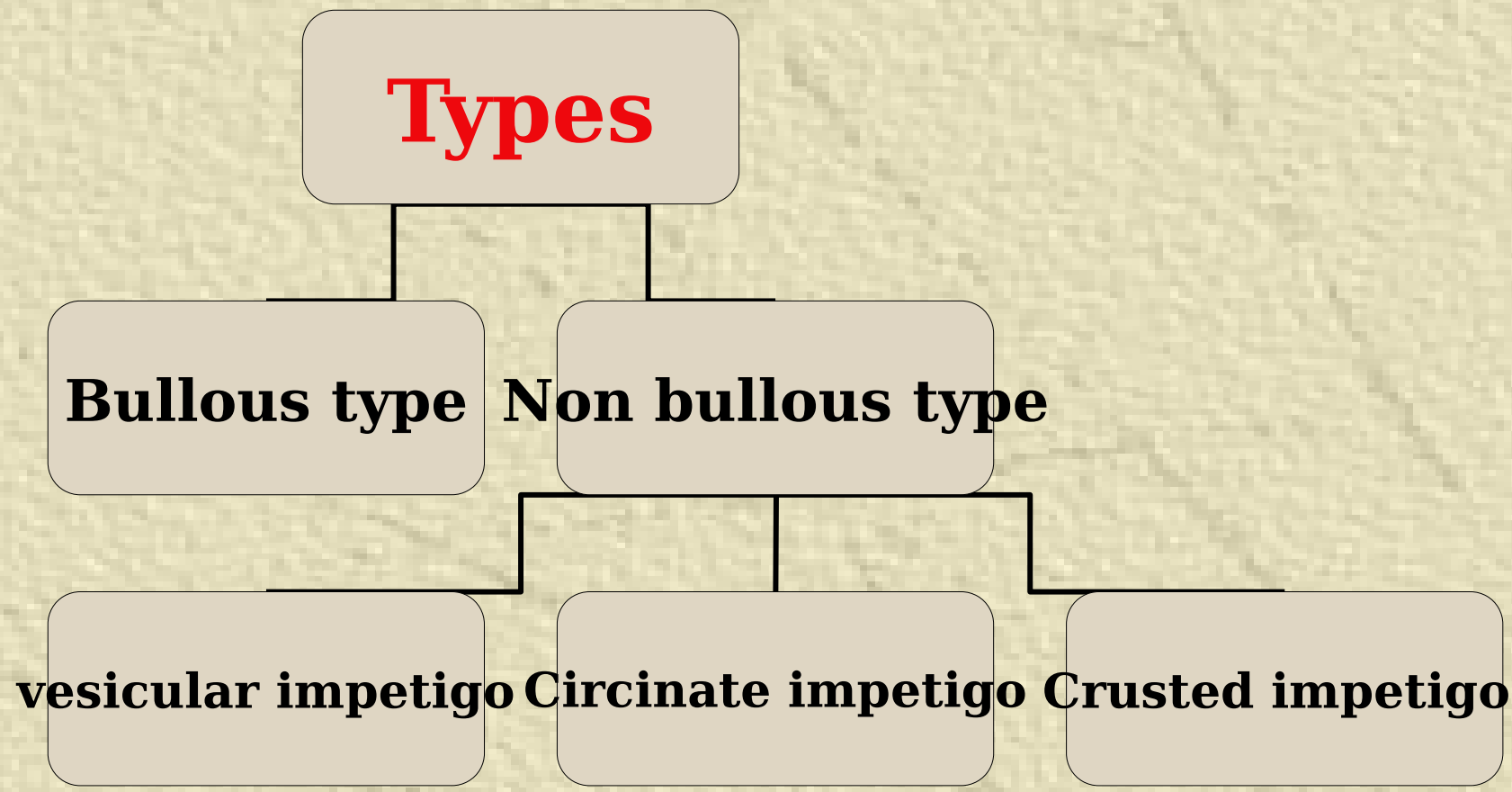
Poor hygiene

Impetigo contagiosa may complicate certain skin diseases such as pediculosis, scabies and eczematous eruptions.

Clinical features

1ry lesion: vesicle

Crust is formed when the lesion becomes dry.


Types
Bullous type
Non bullous type
vesicular impetigo
Circinate impetigo
Crusted impetigo

Impetigo






SFS



Complications

Glomerulonephritis

due to beta- hemolytic Streptococci

Scalded skin syndrome

This is a serious skin problem due to exotoxins of Staph aureus

Treatment

Systemic antibiotics

Usually Penicillinase-resistant penicillin analogue such as Flucoxacillin or an appropriate Cephalosporin.

Local treatment of lesions

Antiseptic baths such as 1:5000 -1:10000 Potassium permanganate.

Antibiotic cream is then applied after drying the lesions with clean gauze.

Indications of Systemic antibiotics

1 Fever.

2 Extensive lesions.

3 Lymphadenopathy.

4 Bullous impetigo.

b) **Ecthyma**

Ecthyma is a deep infection of the skin affecting mainly the legs.

The lesion begins as a vesico-pustule, which ulcerates leaving punched out ulcer covered with a dark brown crust. The lesion takes a long time to heal, it may take weeks or more leaving a scar.

Treatment: is the same as that applied for impetigo.



2) Streptococcal infections

a)Erysipelas:

Erysipelas is an acute bacterial infection of the skin and subcutaneous tissues caused by beta-hemolytic Streptococci.

The commonest sites involved are the face and extremities.

Clinical features

Prodromal symptoms

High fever, chills, headache, vomiting, and pain in the joints.

Skin manifestations

*The infection is usually predisposed by trauma to the skin.

*The lesion has sharply demarcated erythema which is bright red & hot with bullae formation.

*Relapsing erysipelas damages the lymphatics and may lead to permanent lymphoedema.





Treatment

Bed rest.

Penicillin is the treatment of choice, penicillin G (600.000 units IM twice daily) till all signs & symptoms disappear and then continued in a dose of 600.000 units/day for another 5 days to guard against recurrence.

Erythromycin 500mg/8h for 7-10 days.

Symptomatic ttt for pain & fever.

b) Cellulitis

An inflammation of the loose C.T. of the subcutis caused by a bacteria, usually strep or staph

Appears as a hot , raised, tender or painful plaque with ill-defined margins that fade into the surroundings.

The skin is dull red, no bullae develop.

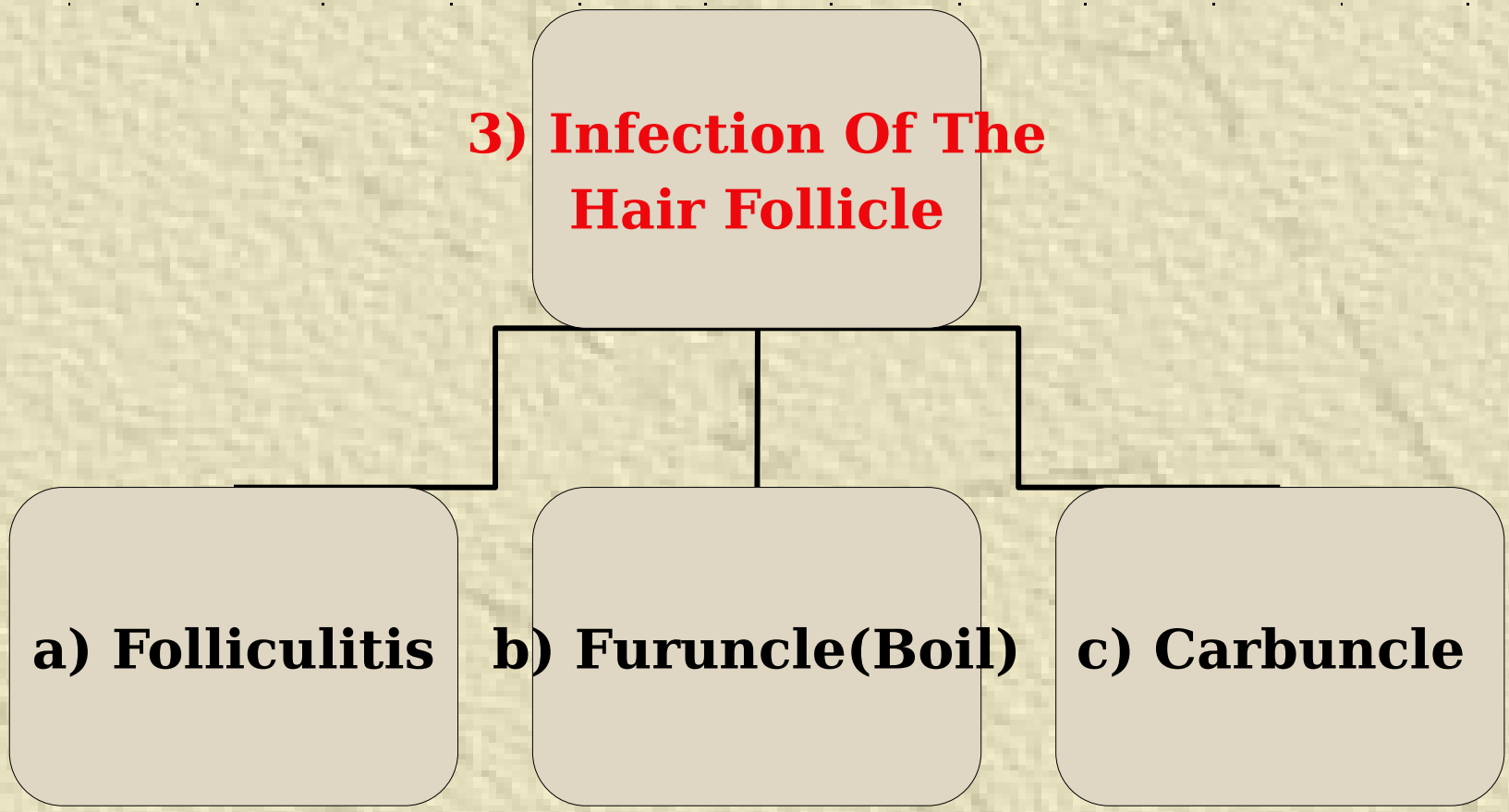
Often associated with skin trauma (portal of entry).

Treated as erysipelas.

Cellulitis



Erysipelas	Cellulitis
Abrupt onset with fever.	A low grade fever may be present with a less abrupt onset.
The skin is bright red.	The skin is dull red.
A spreading, hot, tender plaque with a well-defined border.	The border is less well defined, fades into the surrounding skin.
Vesicles and bullae may be present.	No blisters are present.


3) Infection Of The Hair Follicle
a) Folliculitis
b) Furuncle(Boil)
c) Carbuncle

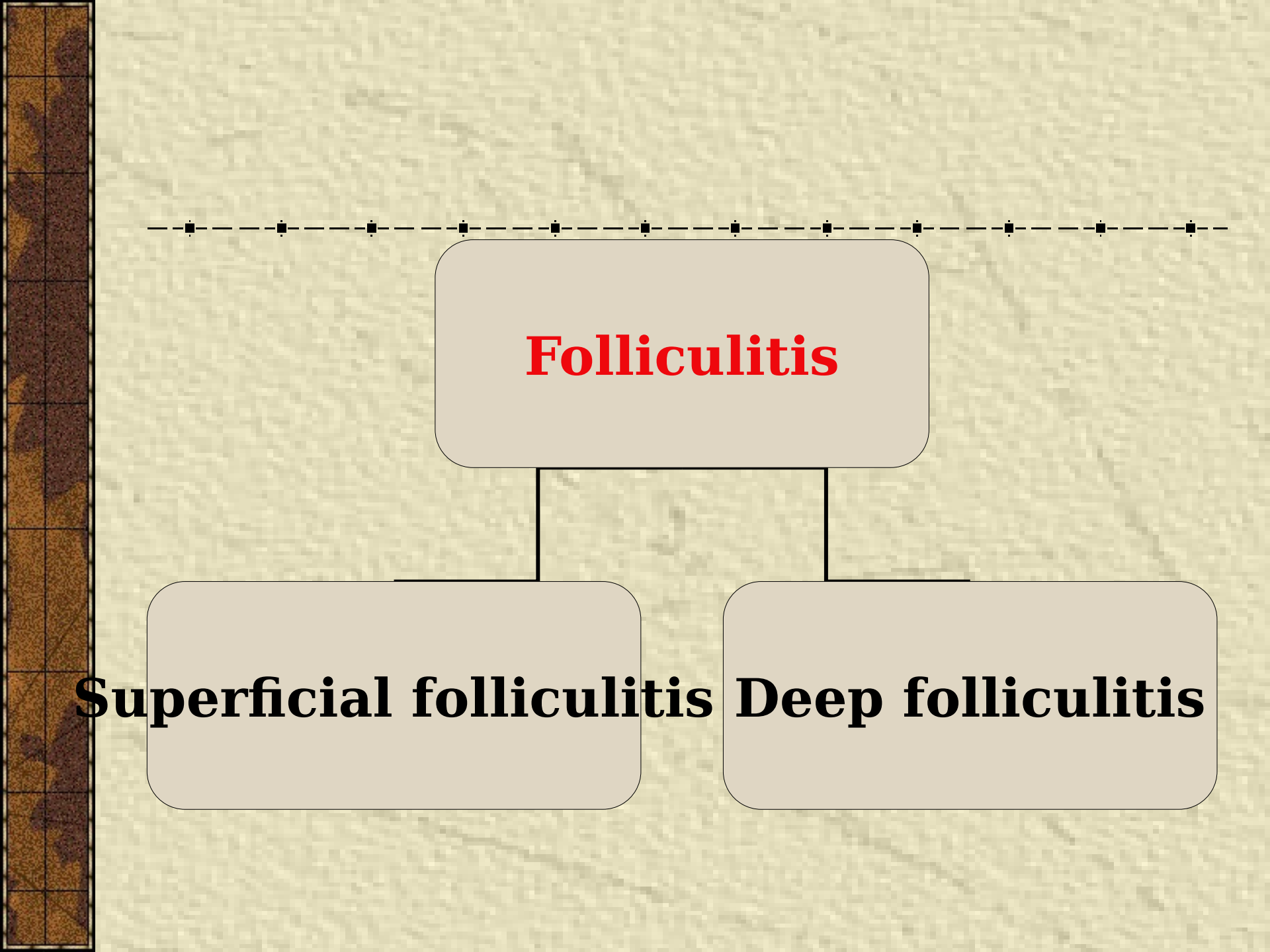
a) Folliculitis

Small pustules located at the base of hairs within the follicle structure.

Generally a staph infection.

Warm moist skin (bathing suits) and irritation of skin (shaving) are risk factors

Treatment consists of oral or topical antibiotics.


Folliculitis
Superficial folliculitis
Deep folliculitis

Superficial folliculitis

1. Barber's itch) Impetigo of Bockhart) .
2. Tinea barbae.
3. Pseudofolliculitis barbae.
4. Herpetic folliculitis.

Deep folliculitis

1. Boils and carbuncles.
2. Acne keloidalis nuchae.

Folliculitis: Common



Folliculitis: Special Circumstances

Pseudofolliculitis barbae (razor bumps)

- Tightly curled hairs embed into skin and irritate it generating raised, reddened papule or pustule
- Treated by allowing hair to grow out, using hair growth inhibitors.

Acne keliodalis

- Inflammation from a folliculitis at base of neck, generally in back.
- Treated with antibiotics or local steroid injections.

Pseudofolliculitis barbae



Acne Keliodalis





b) Furuncle (Boil)

A furuncle or boil is an acute round, tender, circumscribed, follicular and perifollicular staphylococcal inflammation, which tends to suppurate.

Treatment:

1. **Compresses**
2. **Topical antibiotics** as Gentamycin (Garamycin cream) or Sodium fucidate (Fucidin cream).
3. **Antibiotic orally** and locally will lead usually to rapid resolution of the lesion.


Boil



c) Carbuncle

A carbuncle is a circumscribed inflammation caused usually by Staph. aureus complicating certain diseases such as diabetes or other conditions that lower the body resistance.

Clinical features

*Carbuncle is usually single and located on the back and lower side of the neck and on other hairy areas.

*Carbuncles are composed of furuncles joined together in the subcutaneous area and when sloughing shows multiple openings on the surface of the skin.

*Suppuration is deeply seated than in the furuncles.

Treatment

The same treatment applied for furuncles.




MD Challenger Sample Photo