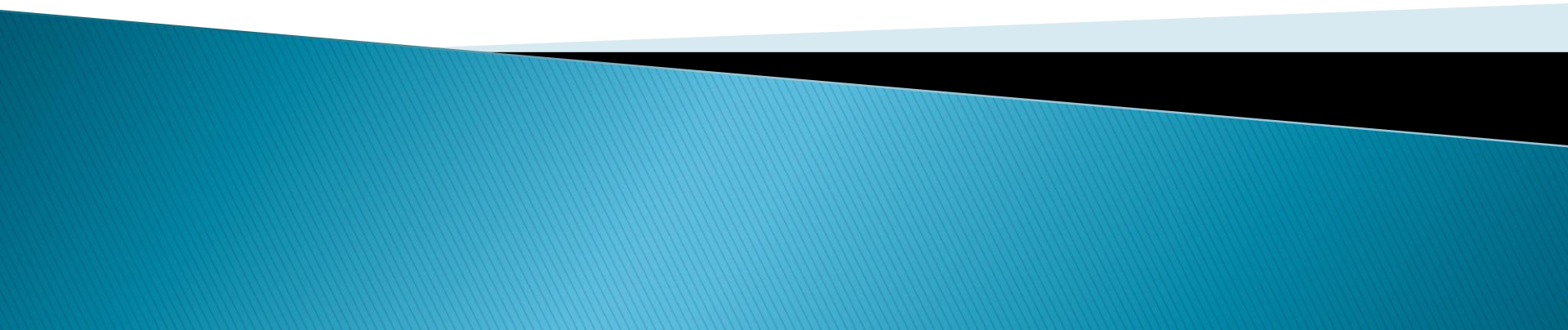


Cutaneous & subcutaneous mycosis



SUPERFICIAL FUNGAL INFECTIONS

- ▶ 1) **Pityriasis versicolor (also called tinea versicolor)**
- ▶ is a chronic superficial fungal infection which leads to hypopigmented or hyperpigmented patches on the skin. With sunlight exposure the skin around the patches will tan, but the patches will remain white. This infection is caused *by Malassezia furfur*.

- ▶ 2) **Tinea nigra** :is a superficial fungal infection that causes dark brown to black painless patches on the soles of the hands and feet. This infection is caused *by Exophiala werneckii*.

Diagnosis & treatment

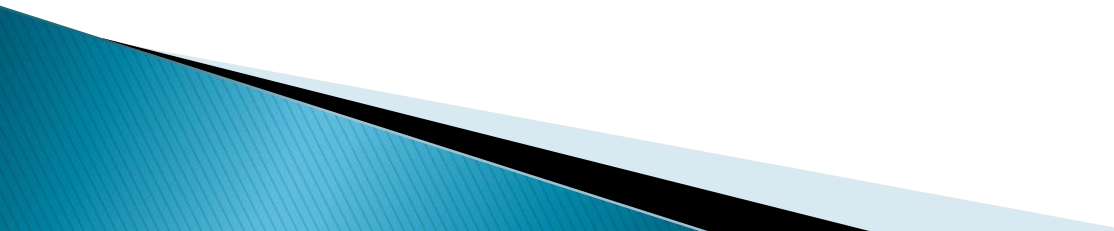
➤ **Diagnosis:**

- ▶ Microscopic examination of skin scrapings, mixed on a slide with potassium hydroxide (KOH). This will reveal hyphae and spherical yeast, as the KOH digests nonfungal debris.

➤ **Treatment:**

- ▶ Dandruff shampoo containing selenium sulfide over the skin.

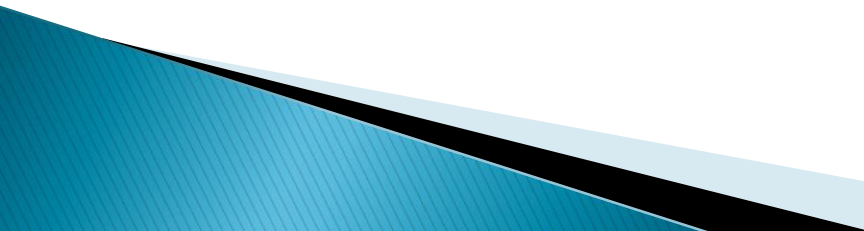
CUTANEOUS FUNGAL INFECTIONS of the SKIN, HAIR, and NAILS

- ▶ The Dermatophytoses: The dermatophytic fungi live in the dead, horny layer of the skin, hair, and nails.
 - ▶ These fungi secrete an enzyme called keratinase, which digests keratin.
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- ▶ The common dermatophytes include *Microsporum*, *Trichophyton*, and *Epidermophyton*.



- ▶ **1) Tinea corporis (body):**
- ▶ Following invasion of the horny layer of the skin, the fungi spread, forming a ring shape with a red, raised border.
- ▶ This expanding raised red border represents areas of active inflammation with a healing center.
- ▶ This is appropriately called ringworm, since it looks like a ring-shaped worm under the skin.

- ▶ **2) Tinea cruris (jock itch):** Patients develop itchy red patches on the groin and scrotum.
 - ▶ **3) Tinea pedis (athlete's foot):** This infection commonly begins between the toes, and causes cracking and peeling of the skin. Infection requires warmth and moisture, so it only occurs in those wearing shoes.
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Tinea pedis



FIGURE 21.—Tinea pedis in an American soldier in Vietnam. Dry, scaling lesions of the toewebs and soles are typical of *Trichophyton rubrum* infections.

Tinea cruris



- ▶ **4) Tinea capitis (scalp):** This condition primarily occurs in children. The infecting organisms grow in the hair and scalp, resulting in scaly red lesions with loss of hair. The infection appears as an expanding ring.
 - ▶ **5) Tinea unguium (onychomycosis) (nails):** The nails are thickened, discolored, and brittle.
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Tinea capitis



Tinea unguium

diagnosis

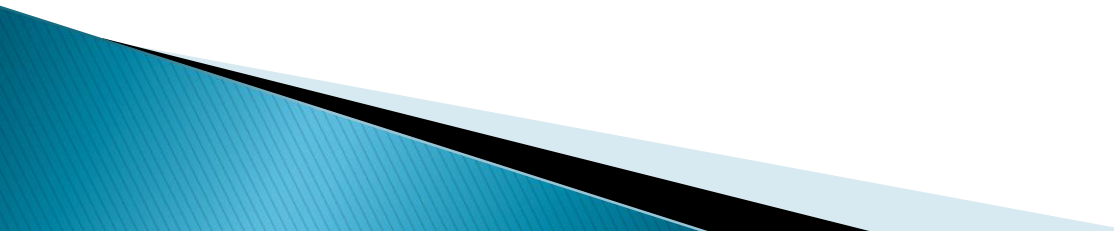
- ▶ 1) Dissolve skin scrapings in potassium hydroxide (KOH). The KOH digests the keratin. Microscopic examination will reveal branched hyphae.
- ▶ 2) Direct examination of hair and skin with **Wood's light** (ultraviolet light at a wavelength of 365nm). Certain species of *Microsporum* will fluoresce a brilliant green.

6) *Candida albicans*:

- ▶ 1) Oral thrush: Patches of creamy white exudate with a reddish base cover the mucous membranes of the mouth.
- ▶ 2) Vaginitis: The symptoms are vaginal itching and discharge .Speculum examination reveals inflamed vaginal mucosa and patches of cheese-appearing white clumps affixed to the vaginal wall.
- ▶ Imidazole vaginal suppositories are helpful.

- ▶ 3) Diaper rash: Warm moist areas under diapers and in adults between skin folds can become red and macerated secondary to *Candida invasion*.

SUBCUTANEOUS FUNGAL INFECTIONS

- ▶ Subcutaneous fungal infections gain entrance to the body following trauma to the skin.
 - ▶ They usually remain localized to the subcutaneous tissue or spread along lymphatics to local nodes.
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- ▶ *Sporothrix schenckii* (Sporotrichosis)
- ▶ *Sporothrix schenckii* is a dimorphic fungi commonly found in soil and on plants (rose thorns and splinters).
- ▶ Following a prick by a thorn contaminated with *Sporothrix schenckii*, a subcutaneous nodule gradually appears. This nodule becomes necrotic and ulcerates. The ulcer heals, but new nodules pop up nearby and along the lymphatic tracts up the arm.

Phialophora and Cladosporium (Chromoblastomycosis)

- ▶ It is a subcutaneous infection caused by a variety of copper-colored soil saprophytes
- ▶ found on rotting wood. Infection occurs following a puncture wound. Initially, a small, violet wart like lesion develops.
- ▶ cauliflower warts.



- ▶ Over months to years, additional violet-colored wart like lesions arise nearby.