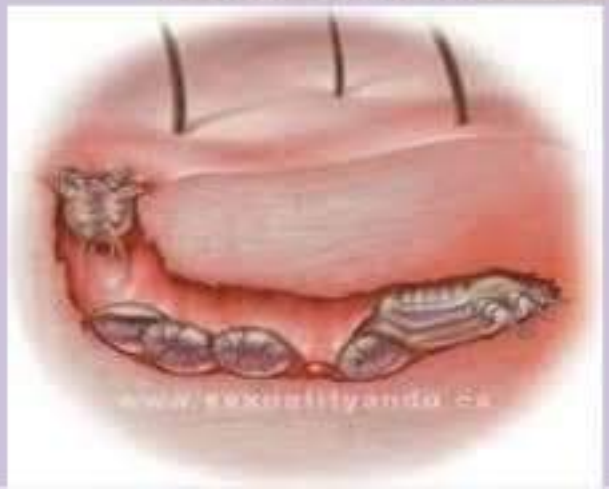
SCABIES



DEFINITION

- Scabies is an itchy skin condition caused by a tiny burrowing mite called Sarcoptes scabiei.

- Scabies is contagious and can spread quickly through close physical contact in a family, child care group, school, class or nursing home.

Epidemiology of Scabies

- Scabies is common in rural Africa

- Prevalence is high in areas with shortage of water and is uncommon in people who bathe regularly

- Low socio-economic conditions favour the spread of the disease

- Transmission is by direct close body contact from infected person and indirectly through bedclothes and clothing

- The female mite enters the skin and makes a small tunnel or burrow

- The burrow is always superficial

- The skin selected for burrow is always thin and wrinkled giving scabies rash a typical distribution • In the burrows, eggs and faeces are produced

- The eggs hatch in 4-5 days

- The larvae leave the parent tunnel and bury in the skin in other places, but they do not make tunnels

CAUSES

- Close physical contact and, less often, sharing clothing or bedding with an infected person can spread the mites.

- Dogs, cats and humans all are affected by their own distinct species of mite.

Epidemiology: Risk factors

- Scabies affects people of all races and social classes.
- Poor hygiene and sanitation is the most important risk factor
- Scabies can spread easily under crowded conditions where close body and skin contact is common.
- Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs: transmission through brief contact and fomites, more severe manifestations

Sarcoptidae - Scabies Mites

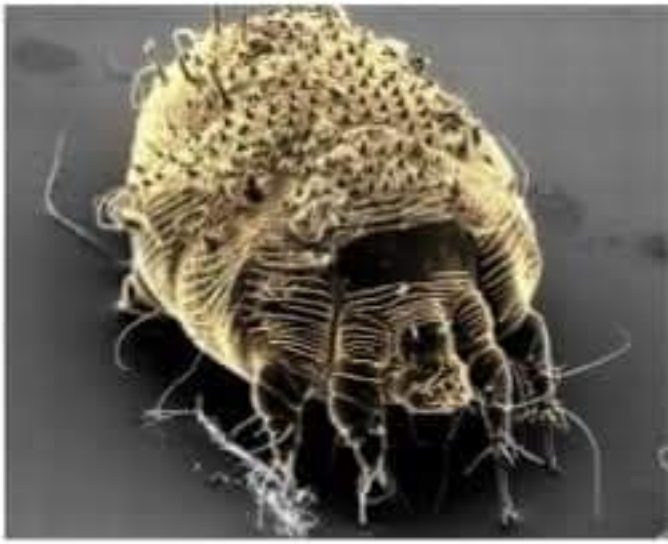
Sarcoptes scabiei - itch mite of humans

Distribution: Worldwide.

Disease: not vectors of any disease, but causative agent of scabies.

Morphology: male (0,2 mm) is smaller than female (0,4 mm). Body is oval, convex dorsally and flat ventrally. Mouthparts: rudimentary hypostome without teeth. Chelicerae end in pincer-like structures. Pedipalps are short and 3-segmented.

The whole life cycle takes about 2 weeks.



SITES

- In children, common sites of infestation include the:
- Scalp
- Face
- Neck
- Palms of the hands
- Soles of the feet

How is it transmitted ?

- Scabies is passed from one infected person to another via prolonged direct skin contact (10 minutes or more, often through hand holding)
- An infected person who has no itching can pass the mite onto other people
- Scabies is rarely transmitted via clothing and bedding

Types of Scabies

- **Clean Man's Scabies:** This is seen in individuals who bathe regularly, and keep very clean. In this case, the lesions are minimal and hard to see. Itching tends to be not as intense.

- **Infant Scabies:** This occurs in babies and young children, and is often misdiagnosed or mistreated. Scabies will affect the whole body of the child, and there will be a large amount of pustules.

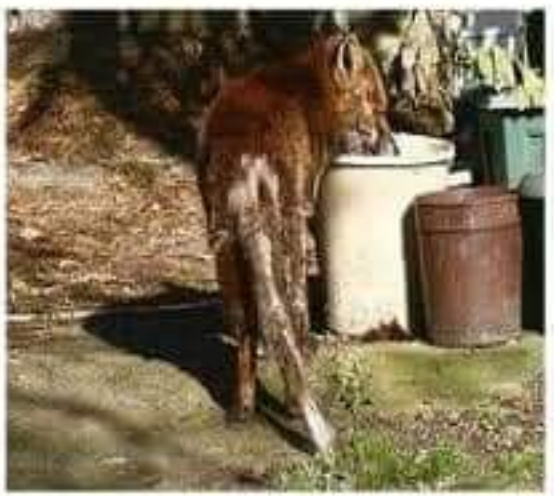
- **Scabies Incognito:** Normally, if a strong type of treatment, such as steroids, are applied then the scabies are masked and the lesions are suppressed.

Types of Scabies

- **Norwegian Scabies:** This is an intense case of ***crusted scabies***. In this case, there can be up to hundreds or thousands of mites within the lesions. This occurs commonly in immunocompromised individuals, or people who are mentally challenged.

They are highly contagious either by direct or indirect contact.

- **Animal Scabies:** Animals are susceptible to scabies too. Domestic pets that contract scabies are liable to pass it on to the other members of the household as well.



Clinical types

- Classical Scabies: characteristic distribution of lesions along the circle of Hebra
- Genital Scabies: sexually transmitted
- Scabies in clean: fewer, atypical, severe itching
- Incognito: topical/systemic steroids
- Infants: scalp, palms, soles
- Nodular (sensitization): scrotum, penis, elbows, axillary folds

Types of Scabies

Classical

- ✓ Is the form usually found in healthy people with a normal immune system
- ✓ Spread is usually confined to breasts, waist, genitalia, buttocks, knees and ankles
- ✓ Typically there are fewer than 10 mites on the entire body of an infested person
- ✓ Symptoms are caused by an allergic reaction to the mites saliva, faeces or egg hatching fluid

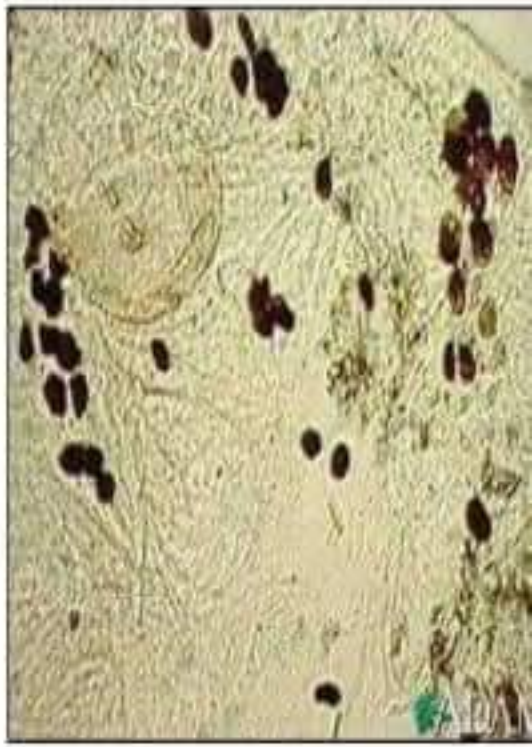
Types of Scabies

Crusted

- ✓ Also known as Norwegian Scabies
- ✓ Occurs in people where the immune systems is impaired
- ✓ Eventually small areas of thickening and crusting of the skin appears (usually on the hands, feet and scalp) and may be itchy
- ✓ Average number of mites can be thousands
- ✓ Is a common cause of outbreaks
- ✓ Clothing and linen are risk factors due to skin scales
- ✓ Clients with learning disabilities are more prone to this type of scabies

Pathophysiology

- The symptoms are caused by an allergic reaction of the host's body to mite proteins not exactly known
- The mite proteins are also present from the gut, in mite feces, which are deposited under the skin
- The allergic reaction is both of the
- delayed (cell-mediated) & immediate (antibodymediated) type, & involves IgE presumed to mediate the very rapid symptoms on reinfection
- The allergy-type symptoms (itching) continue for some days, and even several weeks, after all mites are killed
- New lesions may appear for a few days after mites are eradicated. Nodular lesions from scabies may continue to be symptomatic for weeks after the mites have been killed

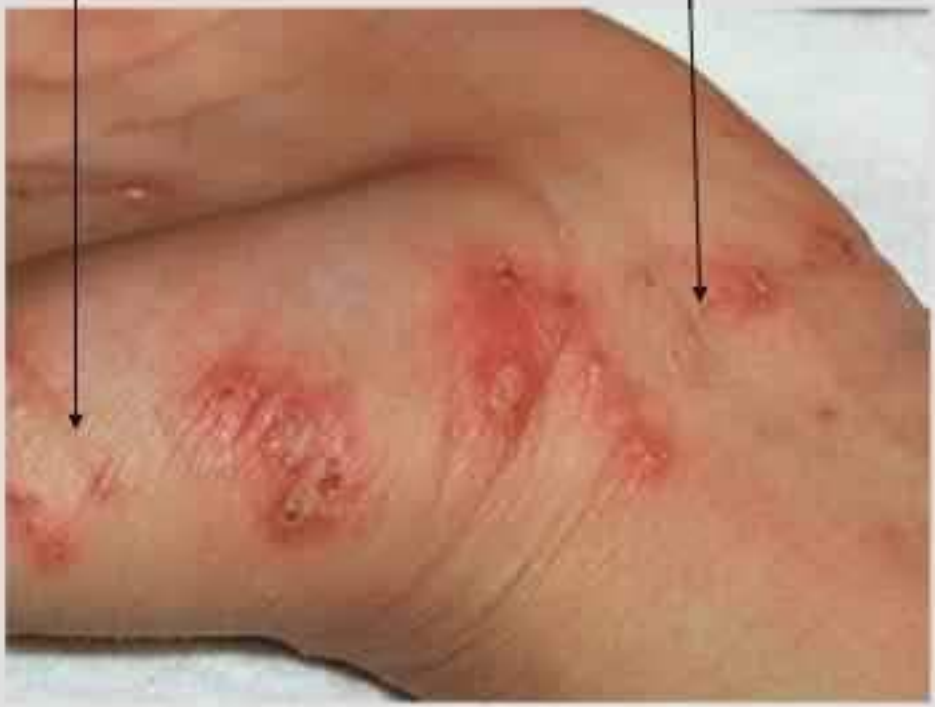


1. **Types of lesion:**

Burrow, the linear tunnel in which the mite lives. Other skin manifestations include **papules**, **blisters**, **nodules**, and **eczematous** changes.

2. **Sites of involvement**

The skin lesions commonly involve **web spaces**, flexor surface of **wrists**, **axillae**, **waist**, **feet**, and **ankles**. **Facial** and **palmoplantar** involvement is unique to infantile scabies.



3. **Symptoms:**

Itching, which is most severe **at night.**

4. **Other members** may manifest Scabies. **Itching** takes approximately four to six weeks to develop in others.

The four points to diagnose a case of scabies

Clinical features

- Symptoms
  - Itching-worse at night, with skin rash
  - Family members affected
- Signs
  - Characteristic distribution along the circle of Herba.
  - Papules, vesicles
  - Burrow- grey-brown line 5mm, seen on webs & genitalia with mite as black dot at the end

- Burrow may be a dot, dotted line, curve or curved line

TESTS AND DIAGNOSIS

- To diagnose scabies, doctor examines skin, looking for signs of mites, including the characteristic burrows.
- When doctor locates a mite burrow, he or she may take a scraping from that area of skin to examine under a microscope. The microscopic examination can determine the presence of mites or their eggs.

TREATMENT OVERVIEW

- 5% permethrin cream: This is the most common treatment for scabies. It is safe for children as young as 1 month old and women who are pregnant.
- 25% benzyl benzoate lotion.
- 10% sulfur ointment.
- 10% crotamiton cream.
- 1% lindane lotion.

- Some patients need other treatment, too.
- Antihistamine: To control the itch and help you sleep.
- Pramoxine lotion: To control the itch.
- Antibiotic: To wipe out an infection.
- Steroid cream: To ease the redness, swelling, and itch.

Scabies Treatment

- Application of scabicide over entire body below head
- Cream should be reapplied to hands after routine hand washing, since hands are often infected
- Itching may continue for several weeks despite successful treatment
- In ~5% of cases, 2nd treatment may be necessary after 7-10 days.

Scabies Treatment

SCABICIDES

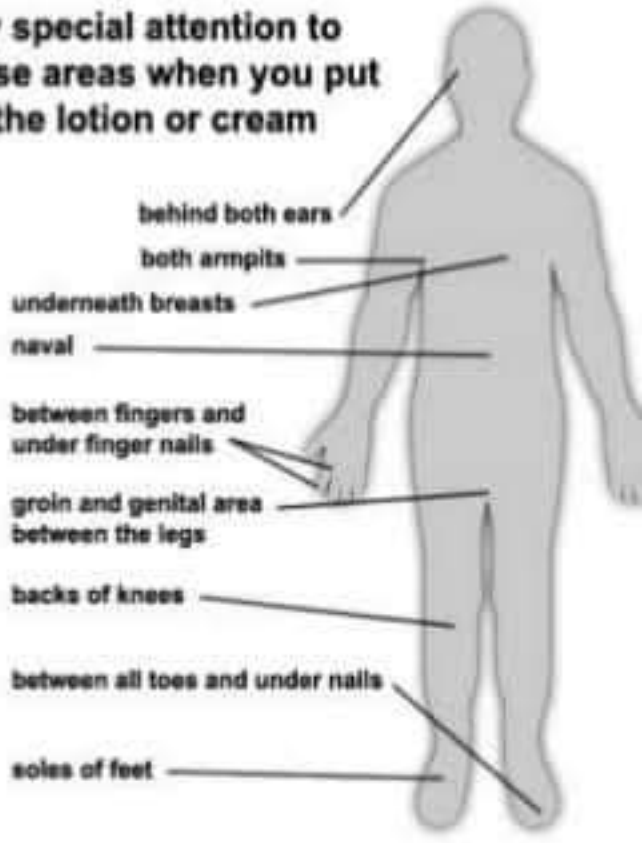
- **Permethrin** Treatment of choice
  - Applied from the neck down usually before bedtime and left on for about 8 to 14 hours, then showered off in the morning
  - One application is normally sufficient for mild infections
  - For moderate to severe cases, another dose is applied 7–14 days later
  - May cause slight irritation of the skin, but the sensation is tolerable

- **Ivermectin**
  - An oral medication, often used as a single dose
  - Treatment of choice for crusted scabies, and often used in combination with a topical agent **(200microgram/Kg body weight)**
  - Not tested on infants and not recommended for children under six years of age

- **Topical ivermectin** preparations have been found to be effective for scabies in adults, and are attractive due to their low cost, ease of preparation, and low toxicity
  - Has also been useful for sarcoptic mange (the veterinary analog of human scabies)

- **Other ttt:**
  - include lindane, benzyl benzoate, crotamiton, malathion, and sulfur preparations)

Pay special attention to these areas when you put on the lotion or cream



APPLICATION OF LOTION OR CREAM

Scabies Control

- Educate patient about personal hygiene, including hand washing
- Increase awareness and surveillance for scabies
- Instruct patient to bath thoroughly, scrubbing the involved areas with a brush.
- Educate other members of the family.
- All members of the family should be treated on the same day.

Preventive measures during Scabies outbreaks

- Mass treatment programs that use topical permethrin or oral ivermectin
- There is NO vaccine available for scabies
- The simultaneous treatment of all close contacts is recommended, even if they show no symptoms of infection (asymptomatic), to reduce rates of recurrence
- Families are treated all at the same time.
- Asymptomatic infection is relatively common
- Rooms used by those with crusted scabies require thorough cleaning
- Maintain a high level of suspicion if patients present with undiagnosed skin rashes

Scabies

- Nursing management
  - Promotion of comfort
  - Prevention of secondary infections
  - Handwashing
- Family teaching
  - All members of household need treatment
  - All clothes and bedding in hot water
  - Daycare: no attendance for 24 hours after treatment

Complications

- Secondary infection
- Eczematization
- Glomerulonephritis
- Phimosis, Paraphimosis
- Urticaria
- Erythroderma
- Immunologic sequelae?
- Drug reactions: irritation, eczematization