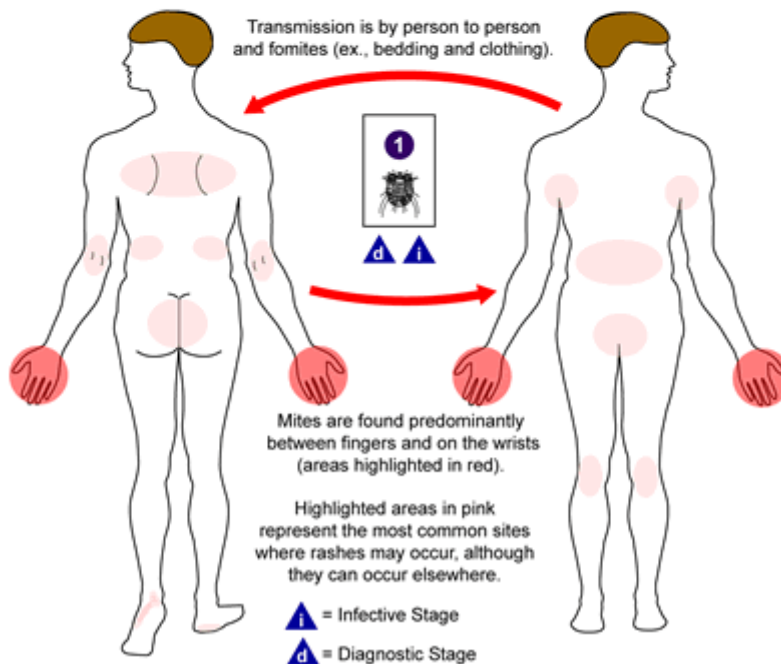
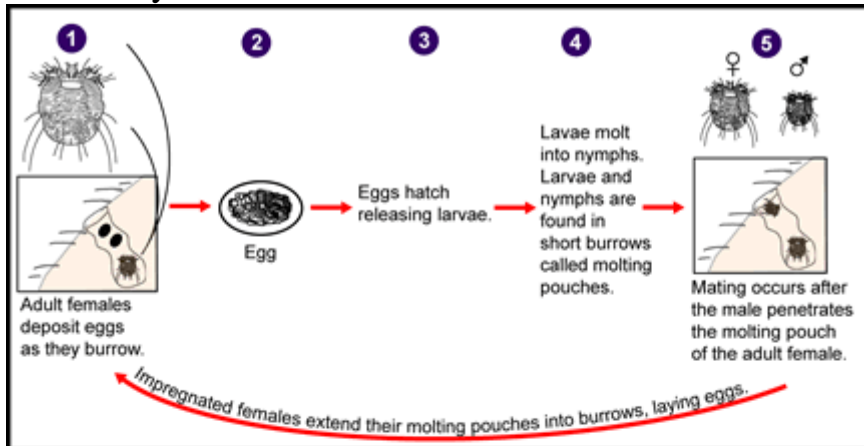


Scabies Fast Facts

- Causal Agent: *Sarcoptes scabiei*, the human “itch” mite. The mites burrow into the skin but never below the stratum corneum.
- Life Cycle:



Sarcoptes scabiei undergoes four stages in its life cycle; egg, larva, nymph and adult. Females deposit eggs at 2 to 3 day intervals as they burrow through the skin ①. Eggs are oval and 0.1 to 0.15 mm in length ② and incubation time is 3 to 8 days. After the eggs hatch, the larvae migrate to the skin surface and burrow into the intact stratum corneum to construct almost invisible, short burrows called molting pouches. The larval stage, which emerges from the eggs, has only 3 pairs of legs ③, and this form lasts 2 to 3 days. After larvae molt, the resulting nymphs have 4 pairs of legs ④. This form molts into slightly larger nymphs before molting into adults. Larvae and nymphs may often be

found in molting pouches or in hair follicles and look similar to adults, only smaller. Adults are round, sac-like eyeless mites. Females are 0.3 to 0.4 mm long and 0.25 to 0.35 mm wide, and males are slightly more than half that size. Mating occurs after the nomadic male penetrates the molting pouch of the adult female ⁵. Impregnated females extend their molting pouches into the characteristic serpentine burrows, laying eggs in the process. The impregnated females burrow into the skin and spend the remaining 2 months of their lives in tunnels under the surface of the skin. Males are rarely seen. They make a temporary gallery in the skin before mating. Transmission occurs by the transfer of ovigerous females during personal contact. Mode of transmission is primarily person to person contact, but transmission may also occur via fomites (e.g., bedding or clothing). Mites are found predominantly between the fingers and on the wrists. The mites hold onto the skin using suckers attached to the two most anterior pairs of legs.

- **Geographic Distribution:**

Scabies mites are distributed worldwide, affecting all races and socioeconomic classes in all climates.

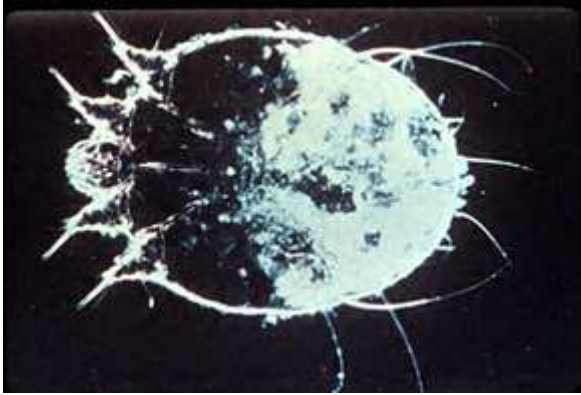
- **Clinical Features:**

When a person is infested with scabies mites for the first time, there is usually little evidence of infestation for the first month (range 2 to 6 weeks). After this time and in subsequent infestations, people usually become sensitized to mites and symptoms generally occur within 1 to 4 days. Mites burrowing under the skin cause a rash, which is most frequently found on the hands, particularly the webbing between the fingers; the folds of the wrist, elbow or knee; the penis; the breast; or the shoulder blades. Burrows and mites may be few in number and difficult to find in some cases. A papular "scabies rash" may be seen in skin areas where female mites are absent, usually on the buttocks, scapular region and abdomen; this may be a result of sensitization from a previous infection. Most commonly there is severe itching, especially at night and frequently over much of the body, including areas where mites are undetectable. A more severe form of scabies that is more common among immunocompromised persons is called Norwegian scabies, characterized by vesicles and formation of thick crusts over the skin, accompanied by abundant mites but only slight itching. Complications due to infestation are usually caused by secondary bacterial infections from scratching.

- **Diagnosis:**

Most diagnoses of scabies infestation are made based upon the appearance and distribution of the rash and the presence of burrows. Whenever possible scabies should be confirmed by isolating the mites, ova or feces in a skin scraping. Scrapings should be made at the burrows, especially on the hands between the fingers and the folds of the wrist. Alternatively, mites can be extracted from a burrow by gently pricking open the burrow with a needle and working it toward the end where the mite is living.

- Microbiology



- Treatment:

- Prophylaxis – Prophylactic treatment may be advisable for persons who have had direct (skin to skin or clothing to clothing) contact with an individual infested with scabies. Several lotions and creams are available to treat scabies. The preferred method of prophylaxis is 5% permethrin cream (Elimite or Nix Cream), applied to the skin from the neck down. Nails should be trimmed short and the cream applied under the nails as well. Cream is left in place for 8 hours. Because the adult mite can live off of the host for up to three days, all household members should be treated concurrently. In addition, bedding, clothing, towels, and other household fabrics should be de-infested at the same time. Clothing and linens should be washed in hot water, and dried in a hot dryer. Mattresses, carpet, and fabric-covered furniture may be steam cleaned or treated with pyrethrin by a professional exterminator.
- Treatment of an Active Case – As with prophylaxis, the preferred method of treatment is 5% permethrin cream (Elimite or Nix Cream), applied to the skin from the neck down. Nails should be trimmed short and the cream applied under the nails as well. The treatment may be repeated after 3 to 10 days (7 days is preferred) in order to assure that the mites that hatch after the initial treatment are killed before they reach maturity. Alternative topical therapies include lindane (Kwell) and crotamiton (Eurax). Ivermectin 200 micrograms/kg po should be considered in active cases in which scales are present (Norwegian scabies) and has been reported as an effective therapy in special situations such as nursing homes or military units. As indicated above, bedding, clothing, towels, and other household fabrics should be de-infested at the same time as the patient is treated. Clothing and linens should be washed in hot water, and dried in a hot dryer. Mattresses, carpet, and fabric-covered furniture may be steam cleaned or treated with pyrethrin by a professional exterminator.

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