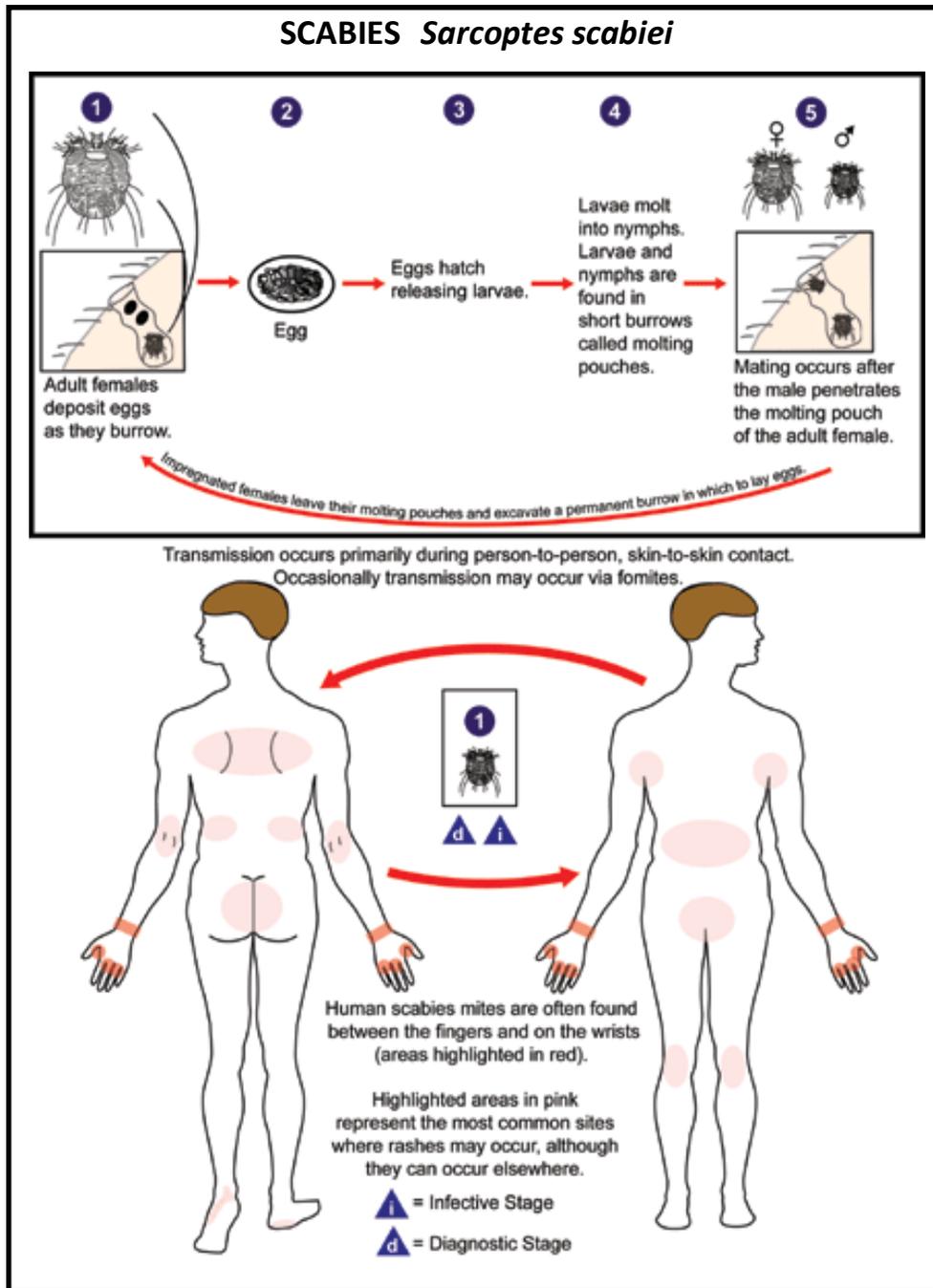


# The Life Cycle of SCABIES



Scabies, *Sarcoptes scabiei*, undergoes four stages in its life cycle: egg, larva, nymph and adult. Females deposit 2-3

eggs per day as they burrow under the skin <sup>1</sup>. Eggs are

oval and 0.10 to 0.15 mm in length <sup>2</sup> and hatch in 3 to 4

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 <sup>3</sup> and lasts about 3 to 4 days.

After the larvae molt, the resulting nymphs have 4 pairs of legs <sup>4</sup>.

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 0.30 to 0.45 mm long and 0.25 to 0.35 mm wide, and males are slightly more than half that size. Mating occurs after the active male penetrates the molting

pouch of the adult female <sup>5</sup>. Mating takes place only once and leaves the female fertile for the rest of her life.

Impregnated females leave their molting pouches and wander on the surface of the skin until they find a suitable site for a permanent burrow. While on the skin's surface, mites hold onto the skin using sucker-like pulvilli attached to the two most anterior pairs of legs. When the impregnated female mite finds a suitable location, it begins to make its characteristic serpentine burrow, laying eggs in the process. After the impregnated female burrows into the skin, she remains there and continues to lengthen her burrow and lay eggs for the rest of her life (1-2 months). Under the most favorable of conditions, about 10% of her eggs eventually give rise to adult mites. Males are rarely seen; they make temporary shallow pits in the skin to feed until they locate a female's burrow and mate.

Transmission occurs primarily by the transfer of the impregnated females during person-to-person, skin-to-skin contact. Occasionally transmission may occur via fomites (e.g., bedding or clothing). Human scabies mites often are found between the fingers and on the wrists.

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