Scabies

Adapted from UpToDate article by John T Crissey, MD

Scabies ("the itch") is an infestation of the skin by the mite *Sarcoptes scabiei*, the burrowing habits of which result in an itchy eruption with a characteristic distribution pattern.

Transmission of scabies is usually from person to person by direct contact, although there are many authenticated instances in which it was contracted by wearing or handling heavily contaminated clothing, or by sleeping in an unchanged bed recently occupied by an infested individual. In young adults the mode of transmission is usually sexual contact.

Morphology and Habits

Sarcoptis scabiei, var. *hominis* is a whitish-brown eight-legged mite, shaped much like a turtle. The female (the sole cause of the clinical manifestations) measures 0.4 x 0.3 mm; it can easily be seen with naked eye, but the burrowing habits of the parasite prevent it from ever being observed by the patient. When fertilized the female burrows quickly into the epidermis to the level of the stratum granulosum, where it extends its tunnel or "gallery" some 2 mm each day, lays two or three eggs at a time to a total of 10 to 25, and dies in place. Larvae hatch in three to four days, molt three times, leave the burrow for the surface, copulate, and continue the cycle.

Clinical Manifestations

The outstanding clinical feature of scabies is itching. It is often severe and usually worse at night.

The essential lesion is a small, red, nondescript bump, often scratched-at and tipped with blood crusts. It is not a dramatic lesion and not always easy to see. More striking, when present, is the burrow. Pathognomonic when correctly identified, the burrow is a thin, grayish, reddish, or brownish line some 2 to 15 mm long. Burrows are often absent, however, or obscured by flaking of dry skin or secondary infection. Miniature wheals, vesicles, pustules, and rarely blisters may also be present.

The distribution of the scabies constitutes its most constant and distinctive feature and provides the most convenient route to diagnosis. The eruption usually involves the sides and webs of the fingers, the flexor aspects of the wrists, the extensor aspects of the elbows, anterior and posterior axillary folds (armpits), the skin immediately adjacent to the nipples (especially in women), the belly button area, waist, penis (shaft and glans), the extensor surface of the knees, the lower half of the buttocks and adjacent thighs, and the lateral and posterior aspects of the feet. The back is relatively free of involvement; the head is spared except in very young children.

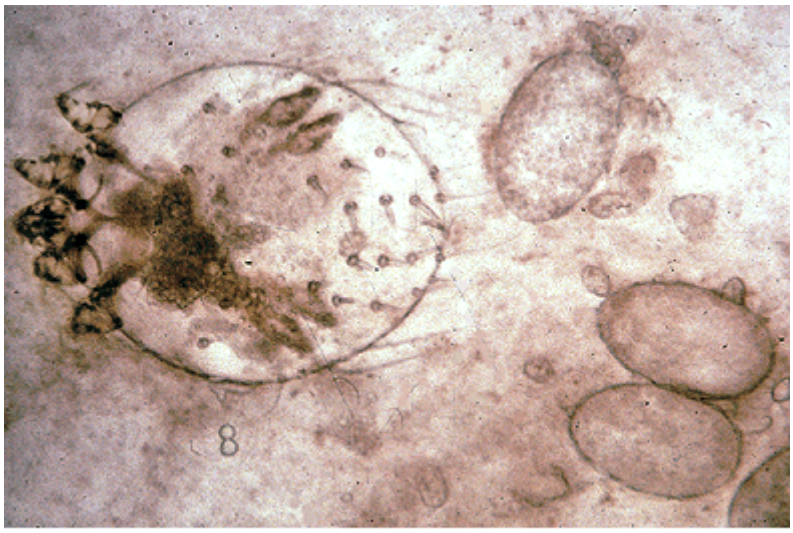
A few patients develop a nodular form of scabies, exhibiting firm, red, extremely itchy, dome-shaped lesions, 5 or 6 mm in diameter. The groin, genitalia, buttocks, and axillary folds are the usual sites of involvement.

Treatment

Treatment of scabies is by means of topical application of medications that kill the mite. When properly carried out the cure rate approaches 100 percent.

Good timing and adequate communication are essential to the success of any treatment for scabies. All members of the family and all close contacts of family members should be treated at the same time to avoid an endless chain of cross contamination and reinfection.

The topical medication of choice is 5 percent permethrin cream (Elimite), a prescription medication. It should be massaged thoroughly into the skin from the head to the soles of the feet. Usually 30 grams is sufficient for an average adult. The cream should be removed by washing (shower or bath) after 8 to 14 hours. One application will generally suffice, but many practitioners advice a repeat application one week later. The antihistamines Benadryl and Atarax are useful in controlling the itching, which often persists for a week or two after treatment.



Sarcoptis scabiei and eggs (Courtesy of John T Crissey, MD.)

Preventing Transmission of Scabies

Because scabies is usually transmitted through close (skin-to-skin) contact, it is best to treat all family members and close contacts at the same time to avoid the transmission->re-infection->transmission cycle.

Contaminated clothing or bedding can also transmit Scabies. However, because the mite cannot survive more than two or three days without human contact, adequate decontamination need only include the clothing and bed linens used within the three days prior to scabies treatment as well as those items worn/used the night of treatment. In addition, any other cloth items, e.g., towels, pillows that may have been in contact with the infected individual should also be decontaminated. Place items to be decontaminated in a sealed plastic bag for at least 4 days OR wash the items in a washing machine using hot water and dry them on high heat. Fumigation of living areas is not necessary. Use of upholstered furnishings (couches, chairs) that may temporarily harbor the mite should not be used for 3 days.