Scabies occurs worldwide and is caused by the microscopic mite *Sarcoptes scabiei*, which burrows under the skin of humans and lays eggs.\(^1,2,3\)

Outbreaks of scabies can occur in areas where people live in crowded conditions or where close body contact is frequent, such as child care facilities, nursing homes and prisons.\(^1,2\)

The above image shows the mite that causes scabies.\(^2\)

A. Agent:
*Sarcoptes scabiei var. hominis*, is the causative agent of human scabies. The mite 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. The eggs hatch, larvae migrate to the skin, and molt into nymphs. Once the nymphs molt into adults, and mating occurs, the impregnated female burrows back under the skin and remains for the remainder of the life cycle (~1-2 months). Males are rarely seen; they make temporary shallow pits in the skin to feed until they locate a female’s burrow and mate.\(^1,3\)

B. Clinical Description:
The most common symptoms of scabies include itching and a skin rash which can affect any area of the body, including wrist, elbow, armpit, waist, and shoulder blades. Severe itching (pruritus), especially at night, is the earliest and most common symptom of scabies. A pimple-like (papular) itchy (pruritic) “scabies rash” is also common. The head, face, neck, palms, and soles often are involved in infants and very young children, but usually not adults and older children. Tiny burrows sometimes are seen on the skin; these are caused by the female scabies mite tunneling just beneath the surface of the skin. These burrows appear as tiny raised and crooked grayish-white or skin-colored lines on the skin surface.\(^1,4\)

Some immunocompromised, elderly, or disabled persons are at risk for a severe form of scabies called crusted, or Norwegian, scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs, making the infested person very contagious to others. There is also a high potential of contamination to clothing, bedding, and furniture. Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.\(^1,4\)

C. Reservoirs:
Humans are the source of infestation; animals do **NOT** spread human scabies.\(^1,3\)
D. Mode of Transmission:
Human scabies is caused by an infestation of the skin by the human itch mite. The adult female scabies mites burrow into the upper layer of skin and deposit their eggs. The mite is passed by direct, prolonged, skin-to-skin contact with a person who is already infested. An infested person can spread scabies even if he or she has no symptoms. Scabies in adults is frequently sexually acquired.\(^1,5,6\)

E. Incubation Period:
When a person is infested with scabies mites for the first time, symptoms usually do not appear for about 2-6 weeks after exposure. If a person has had scabies before, symptoms appear much sooner (1-4 days) after exposure. An infested person can transmit scabies, even if they do not have symptoms, until they are successfully treated and the mites and eggs are destroyed.\(^1,4\)

F. Period of Communicability:
Scabies mites generally do not survive more than 2-3 days away from human skin. The lifespan of the human scabies mite on a human host is approximately 1-2 months.

G. Susceptibility and Resistance:
Scabies can be passed easily by an infested person to his or her household members and sexual partners.\(^5\)

H. Treatment:\(^1,7\)
Scabies is treatable with products called scabicides, which can kill scabies mites and some can also kill mite eggs. Scabicides used to treat human scabies are available only with a doctor’s prescription. No over-the-counter (non-prescription) products have been tested and approved to treat scabies. Scabicide lotion or cream should be applied to all areas of the body from the neck down to the feet and toes. When treating infants and young children, scabicide lotion or cream should also be applied to their entire head and neck because scabies can affect their face, scalp, and neck, as well as the rest of their body.\(^1,7\)

All household members and other potentially exposed persons should be treated at the same time as the infested person to prevent possible re-exposure and re-infestation. Bedding, clothing, and towels used by infested persons or their household, sexual, and close contacts anytime during the three days before treatment should be decontaminated. Skin sores that become infected should be treated with an appropriate antibiotic prescribed by a doctor.\(^1,7\)

Use of insecticide sprays and fumigants is not recommended.
I. Clinical Case Definition:
A parasitic disease of the skin caused by a mite whose penetration is visible as papules, vesicles, or tiny linear burrows containing the mites and their eggs. Lesions are prominent around finger webs, anterior surfaces of wrists and elbows, anterior axillary folds, belt line, thighs, and external genitalia in men, and nipples, buttocks, and abdomen in women.

Diagnosis of a scabies infestation usually is made by a physician and is based upon the appearance and distribution of a rash and the presence of burrows. A skin scraping that is examined microscopically in the doctor’s office may identify the mite, although a negative skin scraping should not rule out an infestation.

J. Laboratory Criteria for Diagnosis:
Recovery of Sarcoptes scabiei mite, parts of the mite, or eggs by scraping.

<table>
<thead>
<tr>
<th>Case Classification</th>
<th>Description</th>
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<tr>
<td>Confirmed</td>
<td>A laboratory confirmed case with evidence of the mite, parts of the mite or eggs by scraping.</td>
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<tr>
<td>Probable</td>
<td>An infested individual with rash occurring as described above.</td>
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NOTE: Only outbreaks of scabies are reportable.

K. Classification of Import Status:
N/A

L. Laboratory Testing:
N/A

M. Assessing Laboratory Results:
N/A

N. Outbreak Definition:
An outbreak is defined as a significant increase in cases above the level normally seen.
O. Time Frame:
Enter suspected outbreak into Outbreak Module in MEDSIS within 24 hours of receipt of report.

P. Forms:
- Outbreak Reporting Form:

Q. Investigation Steps:
i. Determine if there is an outbreak of scabies and work with appropriate staff at facility to collect information on infested individuals.
ii. Remove from facility environment any person with signs and/or symptoms of scabies and treat. If possible, segregate infested individuals.
iii. Confirm the presence of scabies by microscopic identification of the mite or mite products in symptomatic individuals and close contacts.
iv. Identify possible sources (other than infested people) and remove. Follow guidelines for infection prevention, environmental measures, and transmission reduction.
v. Complete outbreak summary form in outbreak module within 30 days of outbreak investigation completion.
vi. Provide prevention education.
  • Scabies is prevented by avoiding direct skin-to-skin contact with an infested person or with items such as clothing or bedding used by an infested person.
  • Children and adults usually can return to child care, school, or work the day after treatment.
  • Persons with crusted scabies and their close contacts should be treated rapidly and aggressively to avoid outbreaks. Institutional outbreaks can be difficult to control and require a rapid, aggressive, and sustained response.
  • Rooms used by a patient with crusted scabies should be thoroughly cleaned and vacuumed after use. Environmental disinfestation using pesticide sprays or fogs generally is unnecessary and is discouraged.

Per A.A.C. R9-6-368:

Case Control Measures - an administrator of a school or child care establishment, either personally or through a representative, shall:
  a. Exclude a scabies case from the school or child care establishment until treatment for scabies is completed.
  b. Exclude a scabies case from participating in the direct care of a patient or resident until treatment for scabies is completed.
  c. Ensure that a scabies case receives treatment for scabies and that the case's clothing and personal articles are disinfested.

Contact Control Measures - an administrator of a school, child care establishment, health care institution, or shelter, either personally or through a representative, shall:
  a. Advise a scabies contact with symptoms of scabies to obtain examination and, if necessary, treatment.

Outbreak Control Measures - a local health agency shall:
  a. Conduct an epidemiologic investigation of each reported scabies outbreak;
b. Provide health education regarding prevention, control, and treatment of scabies to individuals affected by the outbreak;
c. When a scabies outbreak occurs in a health care institution, notify the licensing agency of the outbreak; and
d. For each scabies outbreak, submit to the Department, as specified in Article 2, Table 4, the information required under R9-6-202(E).

References


Additional Information & Resources

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<td>Heather Venkat</td>
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