

SCABIES

(Sarcoptic Itch, Acariasis)

REPORTING INFORMATION:

While scabies is not an individually reportable disease in Ohio, outbreaks are required to be reported. In addition, there are specific isolation requirements for individuals with scabies.

AGENT

Sarcoptes scabiei, a mite which burrows in the top layer of the skin where it feeds and lays eggs.

CASE DEFINITION

There is currently no case definition for scabies in the CDC publication "Case Definitions for Infectious Conditions Under Public Health Surveillance." In Ohio, cases to be reported will meet the signs and symptoms listed below with demonstration of the mite as described in **Diagnosis** below.

SIGNS AND SYMPTOMS

The lesions of scabies are very small and difficult to see until sensitization occurs, a period of 2-6 weeks following the onset of the initial infestation. Symptoms appear in 1-4 days in persons who are reinfested. Lesions are distributed on the finger webs, inner aspect of the wrists and elbows, and, especially in adults, on the forearms and trunk. In children younger than 2 years of age, the eruption generally occurs on the head, neck, palms, and soles. In the adult male, the penis and scrotum are almost always involved. Itching is intense, especially at night, and a patchy red rash is frequently present. Long-term, severe infestations, called Norwegian or crusted scabies, manifest with hyperkeratotic skin scaling and occur most frequently in immunocompromised patients.

DIAGNOSIS

Specific diagnosis is made by skin scraping of lesions that have not been scratched by the patient. Usually four or five areas of the most severe itching must be scraped to recover a sample of mites, their feces or their eggs. Mineral oil should be used to coat the scalpel blade to prevent loss of the collected specimen when transferring it to a glass slide for viewing under a low power microscope. These "wet mount" slides cannot be mailed off the premises for viewing unless provided with a cover slip and packed in a microscope slide mailer. An alternative method of diagnosis is the "ink prep." A solution of water-soluble ink is applied over an area containing suspect lesions, and then wiped off with an alcohol solution. Any burrows present will retain ink, making them visible to the naked eye.

EPIDEMIOLOGY

Source

Humans are the only host for these mites, but many other animal species have their own specific types of scabies mites, referred to as "mange."

Occurrence

Worldwide. Most common in crowded urban areas. Institutional outbreaks are common. Infestation has been attributed to poor hygiene, promiscuity and high population mobility. All ages and both sexes are equally susceptible.

Mode of Transmission

Direct skin-to-skin contact with an infested person. The likelihood of transmission may depend on the length and type of contact. Clothing, bedding and personal articles are rarely involved in the transmission of the mites.

Period of Communicability

Transmission is possible soon after initial infestation, during the asymptomatic period prior to development of sensitization. Therefore, additional persons can be asymptotically infested and capable of transmitting scabies prior to definitive diagnosis of the index case. Persons should be considered communicable until 24 hours after the initial treatment with a scabicide.

Incubation Period

Persons infested with the mite for the first time will not become sensitized for 2-6 weeks. Repeat infestation results in symptoms within 1-4 days.

PUBLIC HEALTH MANAGEMENT

Case

Individual case reports are not justifiable. The local health department may be called upon for assistance in the event of a scabies outbreak within an institution.

Treatment

A topical scabicide should be applied from the jawline down to, and including, the soles of the feet. Because the head, neck and scalp may be affected in infants, young toddlers and debilitated adults, these areas should also be treated in these individuals. Do not apply to mucous membranes. The medication should be applied to dry skin and washed off at the time interval specified by the manufacturer. **Do not over-apply.**

Current scabicial products include Kwell, Eurax and Elimite. Each is available only by prescription and must be used according to the manufacturer's directions to be effective. Retreatment is necessary in 7-10 days to kill any newly hatched mites that survived the initial treatment, when using Elimite.

Isolation

Ohio Administrative Code (OAC) 3701-3-13 (W) states:

"Scabies: a person with scabies shall be isolated for twenty-four hours following initial treatment with an effective scabicide. A person with the manifestation of scabies known as "crusted scabies" shall be isolated until the mite can no longer be demonstrated on a scabies preparation."

Contacts

Include all who have had skin-to-skin contact with the index case and with any persons who may be asymptotically infested through such contact. This includes all household and sexual contacts of the index case, care providers and those persons who meet the above criteria.

Hospitals and Extended Care Facilities

Contact tracing and treatment should begin when scabies is diagnosed in one patient or one care provider. All health care workers having contact with the index case or any other worker who might be infested should undergo treatment. Depending upon staffing patterns, this could be a large number of persons. Household and sexual contacts of these workers must not be overlooked, because they may be asymptomatic harborers of

mites. Failure to treat these contacts may result in reinfestation of staff and reintroduction of the mite to the facility. All treatment should be simultaneous. Staff may be sent home with scabicide for overnight treatment, then return to work the following day. Patients need not be isolated after the initial treatment. Staff should wear gloves to provide patient care until treatment is initiated. Hand washing should be emphasized to lower the risk of transmission.

Prevention and Control

The scabies mite does not remain viable off the skin of the host for more than 24 hours. Environmental sprays and/or extermination are unnecessary. Routine washing and drying of clothing, bedding and personal articles used by the index case and all contacts, or sealing those items which cannot be washed inside plastic bags for 7-10 days, is sufficient to kill the scabies mites.

Specific strategies for control in a health care facility should consist of an active surveillance program, which will detect infestations promptly. A high index of suspicion that any undiagnosed pruritic skin condition might be scabies is important. Experience has shown that failure to implement aggressive control measures can lead to protracted and costly outbreaks.

What is scabies?

Scabies is a fairly common disease of the skin caused by an infestation of a microscopic mite. Scabies mites burrow into the top layer of the skin, producing pimple-like irritations or linear burrows and intense itching. Occasionally, secondary bacterial infections may occur.

Who gets scabies?

Scabies infestations can affect people from all socioeconomic levels without regard to age, sex, race or standards of personal hygiene. Clusters of cases or outbreaks are occasionally seen in health care facilities, institutions and child care centers.

How is scabies spread?

Scabies mites are transferred by direct skin-to-skin contact. Indirect transfer through clothing or bedding can occur only if these items have been contaminated by infested people immediately before handling of these items. Scabies can also be transmitted during sexual contact. **Scabies from other animals cannot infest humans!**

How is scabies diagnosed?

Definitive diagnosis involves demonstrating the presence of the mite by taking skin scrapings, then microscopically examining the specimens obtained. The "ink prep" method may also be used to demonstrate the burrows.

What are the symptoms of scabies?

The most prominent symptom of scabies is intense itching, particularly at night. The areas most often affected by scabies include: the webs and sides of the fingers; around the wrists, elbows and armpits; waist; thighs; genitalia; nipples and breasts; and lower buttocks. In children younger than 2 years of age, the eruption generally occurs on the head, neck, palms, and soles. In severe infestations, the skin becomes dry and scaly; this condition is often called "crusted scabies" due to the appearance of the skin.

How soon do symptoms occur?

After exposure, symptoms will usually appear in 2 to 6 weeks in people who have not previously been exposed to scabies infestations. People who have had previous infestation with scabies mites may show symptoms within 1 to 4 days after re-exposure.

When and for how long can a person spread scabies?

A person is able to spread scabies until mites and eggs are killed by treatment. The mites are present and can spread to another individual long before the infected person shows symptoms. Individuals with scabies should not attend school, child care or work until 24 hours after the treatment is initiated.

A person with the manifestation of scabies known as "crusted scabies" shall be isolated until the mite can no longer be demonstrated on a scabies preparation.

What is the treatment for scabies?

Skin lotions containing lindane, permethrin, pyrethrin or crotamiton are available, but require a prescription. The lotion is applied to the whole body except the head and neck and left on for 8 to 12 hours, after which it is thoroughly washed off. Clothing and bedding should be laundered in hot water or dry cleaned concurrently with treatment of the individual. Clothing and/or bedding may also be sealed in plastic bags for 7 to 10 days, during which time scabies mites and eggs will die. Treatment may need to be repeated in 7

to 10 days. Sometimes itching can persist for 1 to 2 weeks after treatment, but this should not be regarded as treatment failure or reinfestation. Avoid over treatment.

It is not necessary to spray, fumigate or otherwise chemically treat the home, school or child care center for scabies.

What can be done to prevent the spread of scabies?

Avoid physical contact with infested individuals and their belongings, specifically clothing and bedding. Health education about the life cycle of scabies mites, the need for early diagnosis and proper treatment, including simultaneous treatment of infested individuals and their contacts, is extremely important.

Wear rubber, latex or plastic gloves when physically contacting infested people and their clothing and bedding. Wash exposed skin, especially hands and arms, immediately after physically contacting infested people and their clothing and bedding.