

## Scabies



### Case Definition

Body infestation by the mite *S. scabiei*.

### Reporting Requirements

Scabies is not a reportable condition in Manitoba.

### Clinical Presentation/Natural History

Intensely itchy rash found particularly around the fingers, wrists, elbows and arm pits. In infants, the rash may also be on the head, neck, palms and soles. Immunocompromised persons may have crusted lesions with many mites on any part of the body (Norwegian scabies). The rash is caused by a mite which burrows under the skin to lay its eggs. Sensitization to the proteins of the parasite gives rise to the itchy rash. Secondary skin infections may occur. The itching is often worse at night.

### Etiology

*Sarcoptes scabiei*.

### Epidemiology

**Reservoir:** Humans

**Transmission:** Direct skin contact is usually required. Freshly contaminated fomites such as clothing and bedding can also serve as vectors.

**Occurrence:** Worldwide. Outbreaks occur in all socioeconomic conditions, but are more common in situations where there is crowding.

**Incubation Period:** In persons without previous exposure, it may take four to six weeks for symptoms to develop. In persons with previous exposure to scabies, itching may develop in one to four days after infestation.

**Susceptibility and Resistance:** Any person may become infested under suitable conditions of exposure.

**Period of Communicability:** Transmission can occur as long as the infested person remains untreated and until 24 hours after treatment. The mites do not live for more than three to four days without contact with skin.

### Diagnosis

Identification of mites from scrapings of the affected skin.

### Control

#### Management of Cases:

- Exclude children from school until 24 hours after the start of treatment.
- Launder clothing and bedding in hot water or by dry cleaning. Clothing that cannot be washed may be stored in a sealed plastic bag for three days.
- The pruritis associated with scabies may be treated with diphenhydramine HCL (Benadryl), hydroxyzine HCL (Atarax) or other anti-pruritic medication if necessary. The pruritis may persist for up to three weeks after treatment even though all mites are dead, and is not an indication to re-treat unless live mites are identified.
- The specific treatments are described below. 5% permethrin (NIX or Kwellada-P) and lindane (PMS Lindane) are most effective. For infants, pregnant women and other persons for whom 5% permethrin or lindane may not be the preferred drugs, the other products listed may be tried, but they are not as efficacious.
- If there is a superimposed bacterial skin infection, it should be treated at the same time as the scabies treatment.

## Treatment:

### 1. NIX (5% permethrin) Dermal Cream or Kwellada-P (5% permethrin) Lotion

Dosage of Nix Dermal Cream:

Adults and children over 12 years: 30 g tube

Children 5-12 years: 1/2 of a 30 g tube

Children 2-5 years: 1/4 of a 30 g tube

Dosage of Kwellada-P Lotion: To cover skin

Note: These products are essentially identical, other than the vehicle.

- Thoroughly massage the dermal cream or lotion into the skin from the head to the soles of the feet, paying particular attention to the areas between the fingers and toes, wrists, axillae, external genitalia and buttocks.
- Reapply to the hands if washed off with soap and water within eight hours of application. It is not necessary to apply a thick visible layer of cream into the skin.
- Scabies rarely infects the scalp of adults, although the hairline, neck, temple and forehead may be involved in geriatric patients. Children should be supervised by an adult when applying dermal cream or lotion.
- Remove the dermal cream or lotion after 12 to 14 hours by washing (shower or bath).
- In the majority of persons, the scabies infestation is cleared with a single application. If necessary, a second application may be given seven to 10 days after the first, but only if live mites can be demonstrated or new lesions appear.

## Precautions:

- Neither product should be used on a person with known hypersensitivity to any of their components or to chrysanthemums.
- These products should be used during pregnancy only if clearly needed and they should not be used by breastfeeding mothers. Consider discontinuing nursing during treatment or withholding treatment if it is not possible to discontinue nursing.

### 2. PMS Lindane (1% gamma benzene hexachloride or lindane) Lotion.

Note: This product is equivalent to Kwellada lotion, which is no longer on the market.

- Apply to cool, dry skin (not after a hot bath). Apply the lotion sparingly from the chin to the toes, with special attention to the hands, feet, web spaces, beneath the fingernails and skin creases. Wash off after eight to 12 hours.
- One treatment is sufficient in 95% of cases. Treatment should not be repeated unless infestation (i.e., the demonstration of live mites) is confirmed after one week. Itching may persist, and is not an indication to re-treat unless three weeks have passed since the first treatment.
- Calculate the amount needed for the patient and contacts (30 gm [1 oz.] will cover the trunk and extremities of the average adult) and give the patient just enough with no refills, if you are dispensing it. Discuss with the patient the hazards of over-usage, and the likely short-term persistence of symptoms despite successful treatment.

## **Adverse reactions:**

- Lindane is contraindicated in persons with seizure disorders and in children under two years of age. It should be used only under the direction of a physician in patients who have excoriated skin or who are pregnant.
- There is no epidemiologic evidence that lindane is associated with any human cancer, birth defect or adverse reproductive outcome. Convulsions have occurred in persons who have ingested lindane, who have overdosed themselves or who have had inflamed skin at the time of application. Lindane is an irritant, especially of the mucous membranes and eyes, and may cause dermatitis if used excessively.

### **3. Crotamiton (Eurax)**

- Apply 10% crotamiton cream to the entire body from the neck down, nightly, for two nights. Wash it off 24 hours after the second application. Efficacy is not more than 50%, even when used as directed.

## **Adverse reactions:**

- Little is known of the toxic effects of crotamiton in children, or its short-term or long-term toxicity in pregnancy or during lactation. However, no serious drug reactions have been reported. Local erythema may occur in sensitive persons.

### **4. Sulfur (5% in Petrolatum)**

- Apply from the neck down, nightly, for three nights. Bathe before reapplying and 24 hours after the last application. No controlled studies of efficacy or safety are available.

## **Adverse reactions:**

- This product may cause local erythema. It has a foul odour and is messy to apply.

### **5. Benzyl Benzoate**

- This is prepared as a 20-35% emulsion or lotion. It is applied nightly or every other night for a total of three applications. It can irritate the skin and eyes, and has caused seizures when ingested. There are no controlled studies of efficacy or safety. It should only be used on the recommendation of a physician.

## **Treatment of Norwegian Scabies:**

- In the usual scabies infestation, 10 to 15 mites can be found on the body. In Norwegian scabies, where the patient does not respond well immunologically to the infestation, thousands of mites can be present, making treatment and prevention of transmission difficult. Although the mite is still sensitive to the usual treatment, the huge number of mites and the (usual) accompanying rash make repeat treatment mandatory.
- Treatment should focus on areas where mites can be sequestered, such as under the fingernails (these may be brushed before treatment) and in skin folds, including the umbilicus.
- For persons in institutions who have Norwegian scabies, contact isolation must be maintained until the patient's rash has resolved, confirming the adequacy of treatment.

## **Management of Contacts:**

- Household contacts should be treated prophylactically at the same time as the index case. Bedding and clothing worn next to the skin should be laundered.
- Contacts of persons with Norwegian scabies should be treated. In some institutional

outbreaks, such as those occurring in nursing homes, prophylaxis of all residents and staff may be necessary. Direct skin contact with persons with Norwegian scabies should be avoided until cure is confirmed.

- School children with scabies should be excluded until 24 hours after the start of treatment. The school should be notified of the case, and parents of other children who may have been exposed to scabies should be notified by letter (see sample letter below). Mass screening of school contacts is not useful, as it is quite possible to be infested without having signs or symptoms.

## **Management of Outbreaks:**

### **Scabies Outbreaks in Institutions:**

The above points apply to scabies in institutions. However, because of the enhanced opportunities for transmission, additional factors must be considered:

- Institute contact precautions as soon as scabies is suspected as the cause of a rash in a patient or resident. Maintain contact precautions until 24 hours after initiation of treatment.
- Confirm the diagnosis. This may require consultation with a dermatologist. It may be

worthwhile, however, as control measures involve treatment of staff and patients. Rashes are often atypical in nursing home residents.

- Identify institutional contacts of the infested person. When scabies is confirmed, offer examination and treatment of these persons. Family contacts should also be treated.
- Institute in-service training for staff regarding scabies and its treatment. Staff fears of spreading the infestation to family members must be dealt with. Staff and residents should be kept aware of the control measures.
- After treatment of the index case and contacts, do not re-treat unless there is demonstration of live mites at least one week after treatment. New rashes may just represent an allergic response to dead mites that have not yet been shed from the skin. Failure to ensure that live mites are present will lead to over-treatment of staff and patients. It is not unusual in an institutional setting to have one or two secondary cases after the initial treatment, but transmission should cease with the institution of contact precautions.

### **Preventive Measures:**

- Avoid direct skin contact with infested persons and their clothing.

## Sample letter to parents

Dear Parents:

An individual in your child's school has scabies. This is a skin disease caused by a tiny mite which burrows under the skin. The mite causes itching and rashes. Scabies is not an indication of uncleanliness.

Scabies is spread from person to person by close contact with skin or clothing from someone with scabies. Therefore, we would like you to check your child for possible signs of this infection. Rashes most commonly occur between the fingers, around the wrists, elbows, waistline, abdomen and chest. These signs or symptoms may not occur for another three to six weeks.

If you are concerned that your child or someone else in the family has this condition, please see your family doctor so that a diagnosis can be made and treatment can be given. Children with scabies will be excluded from school until 24 hours after treatment has started. If one person in a family has scabies, it is recommended that all family members be treated. Please discuss this with your family doctor. The public health nurse can assist you if you have any questions about scabies.

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Principal

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Public Health Nurse

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Phone

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Phone