SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
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SCABIES ADULT & PEDIATRIC

DEFINITION

Scabies is a highly contagious, pruritic, ectoparasitic infestation of the skin.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

- Crusted scabies
- Signs and symptoms of sepsis (e.g., fever, tachycardia, hypotension, tachypnea, altered mental status)
- Severe secondary infection

CAUSES

- *Sarcoptes scabiei* is the causative agent.
- Female mites live 4-6 weeks and produce up to four eggs daily.
- The mites that cause scabies burrow into the skin and lay their eggs. This forms a burrow that looks like a pencil mark. Eggs hatch in 3-10 days, mature on the skin and the cycle repeats.
- The itchy rash is an allergic response to the mite.
- Mites can survive outside the host 36 hours at room temperature and up to 17 days in cool humid conditions.

How it is spread:

- Direct (skin-to-skin) contact with another person who has scabies.
- Less often it is spread by contact with contaminated articles such as clothing or bedding which has been used by a person with scabies in the previous 48 hours.
- Mites can survive outside the host 36 hours at room temperature and up to 17 days in cool humid conditions.
- Clinical symptoms can take 1-8 weeks to manifest after the exposure.
- Pruritus can begin within 1-3 days in clients who have previously been infested.
- Without treatment it is infectious indefinitely.

Types:

Common scabies

- Infestation which includes < 15 female mites

Crusted scabies (formerly called Norwegian scabies)

- Pruritus mild or absent
- Lesions are on hands and feet with thick crust

- Nail dystrophy and eruptions with erythematous scaling
- Infestation of hundreds to millions of female mites
- Occurs in immunocompromised clients
- Very difficult to treat
- High mortality rate from secondary bacterial sepsis

Nodular scabies

- Persistent pruritic nodules
- Usually in genitals, axilla, skin folds
- Results from allergy to mites or their feces
- Mites are absent in nodular lesions

PREDISPOSING AND RISK FACTORS

Scabies is most common in clients who have close physical contact with other people such as in day care settings, nursing homes, and overcrowded homes.

- Lack of knowledge about the basic epidemiology of scabies
- Any skin-to-skin contact with an infested person, although brief contact (e.g., a hug or handshake), is unlikely to spread scabies.
- Holding hands
- Dancing
- Sharing a bed or clothing
- Sexual contact
- Any communities where the following factors exist are at increased risk for scabies:
  - Crowded housing, shared beds, crowded schools, and day care centres
  - High pediatric population
  - Reduced access to medical or nursing care
  - Lack of running water which may predispose to poor hygiene and secondary skin infection
- Mites can survive much longer than 36 hours in colder conditions with high relative humidity or without skin contact.

After diagnosis, the following can lead to persistent or recurrent infection:

- Faulty application of treatment regimens
- Failure to treat close contacts

- Failure to eradicate mites from clothing and bed linen

HISTORY

- Severe itching
- Itching is generally worse at night or after a hot shower
- Rash of hands, feet, flexural folds

Enquire about:

- Family and close contact with similar symptoms
- Recent inadequate treatment
- Prevalence of disease in the community

PHYSICAL FINDINGS

- Usually affects finger web spaces, flexures of wrists and arms, axillae, belt line, lower folds of buttocks, genitalia, areola of nipples, abdomen
- Often spares head and neck area in adults
- Atypical distribution may be seen in infants and elderly
  - Scalp
  - Head
  - Soles of feet
  - Palms of hands
  - Diffuse red rash
- Primary lesions: papules, vesicles, burrows (rarely visible)
- Secondary lesions: scabs, excoriations, pustules, bullae, crusts, nodules, secondary infection
- Lesions in various stages present at the same time
- Secondary lesions may predominate
- Burrows (grey or flesh-coloured ridges 5-15 mm long) may be few or many
- Burrows commonly seen on anterior wrist or hand and in interdigital web spaces

Crusted scabies lesions are:

- Prominent hyperkeratotic scale and/or crust on hands, feet, and nails
- Localized or generalized distribution with head and neck involvement in adults
- May mimic seborrheic dermatitis or psoriasis

Secondary infection of scabies lesions are:

- due to *Staphylococcus aureus* or Group A streptococcus and may cause:
  - Impetigo
  - Ecthymas
  - Furuncles
  - Cellulitis

DIFFERENTIAL DIAGNOSIS

- Pediculosis
- Impetigo
- Eczema
- Contact and irritant dermatitis
- Atopic dermatitis
- Seborrheic dermatitis
- Folliculitis
- Psoriasis
- Tinea corporis
- Lichen planus
- Bullous pemphigoid
- Pyoderma
- Pruritic urticarial papules and plaques of pregnancy
- Dermatitis herpetiformis
- Acropustulosis of infancy
- Insect bite

COMPLICATIONS

- Secondary bacterial infection
- Post-scabietic pruritus may last days to weeks
- Psychological issues such as embarrassment, delusion of parasitosis
- Generalized lymphadenopathy secondary infection

INVESTIGATIONS AND DIAGNOSTIC TESTS

Burrow ink test

- Used to identify the burrow
- Gently rub scabietic papule with tip of fountain pen or felt-tip marker to cover

with ink and then remove with alcohol wipe
- Positive test if ink tracks into and outlines burrow, forming dark zigzagged line
- Burrow ink test appears specific but not sensitive for scabies

Adhesive tape test
- The adhesive tape test for scabies involves the use of transparent tape with a strong adhesive (e.g., clear packing tape). The tape is firmly applied directly to a skin lesion and then is rapidly pulled off. After applying the tape to a glass slide, the clinician utilizes a microscope to examine the tape for mites and eggs.

MAKING THE DIAGNOSIS
- Diffuse itching, visible lesions in at least two locations, or household member with itch
- Clinically, if burrow found at the sites by burrow ink test
- Presence of mites or egg with adhesive tape test

MANAGEMENT AND INTERVENTIONS

Goals of Treatment
- Eradicate infestation
- Control secondary infection
- Relieve symptoms

Appropriate Consultation
Consult a physician/RN(NP) when:
- the diagnosis is uncertain.
- the child is < 2 months of age.

Non-Pharmacological Interventions
- All bed linen (sheets, pillow slips) and clothing worn next to the skin (e.g., underwear, T-shirts, socks, jeans, etc.) should be laundered in a hot soapy wash and dried with a hot drying cycle as available.
- If hot water is not available, place all bed linen and clothing into plastic bags and store away from family for 5-7 days as the parasite cannot survive beyond 4 days without skin contact.

Pharmacological Interventions

- Scabicide cream or lotion, to be applied to entire body from chin to toes (emphasize that scabicide must be applied in skin creases, between fingers and toes, between buttocks, under breasts, and to external genitalia)
- In adults, apply from neck down to feet. In infants and children, apply to head as well.
  - Permethrin 5% dermal cream (Nix) is the drug of choice for clients > 2 months of age
    Or
  - Kwellada P lotion
    - Leave on skin for 8-14 hours. A single application is usually curative but medication may be reapplied after 1 week if symptoms persist. It is safe in pregnant and lactating women.
  - Crotamiton topical cream or lotion (Eurax) is another alternative to Permethrin
    - May be considered as an alternative to Permethrin in infants but it is less effective
    - Apply daily for 2 days and leave it on for 48 hours
    - Wash off the cream after 48 hours
    - Repeat if necessary after 7-10 days

Pruritus may be a problem, particularly at night, and can be managed by hydrOXYzine.

- For adults: hydrOXYzine (Atarax) 25 mg orally tid or qid
- For children > 12 years of age: hydrOXYzine (Atarax) 10 mg orally hs prn
- For children < 12 years of age: consult a physician/RN(NP) regarding the use of hydrOXYzine

Instruct client that itching, nodular skin lesions, and dermatitis may persist for weeks or months, even after successful treatment. For all ages, use liberal amounts of emollients, such as colloidal oatmeal or Aveeno Bath preparations, to relieve itching but only use after the topical scabicide treatment has been completed.

Client and Caregiver Education

- Counsel client/caregiver about the appropriate use of medications (dose, frequency, application, compliance, side effects, etc.).

Prevention

Prophylactic therapy is essential for all household members, since signs of scabies may not appear for 1-2 months after the infection is acquired.

- Treat all household members at the same time to prevent reinfection.
- Exclusion from school until treated. Topical treatment usually effective within 12 hours.
- Clients with crusted scabies are often hospitalized for treatments. Isolation is strongly recommended whether treated in the hospital or in the community.
- Health care workers who have had close contact with clients with scabies may themselves require prophylactic treatment.
- Community education, aimed at early recognition and awareness of scabies, is important.
- In widespread scabies epidemics, prophylactic treatment of a whole community may be optimal management.

Monitoring and Follow-Up

- Follow-up in 1 week to assess response to treatment.
- Advise client to return immediately if signs of secondary infection develop.
- Topical treatment is usually effective within 12 hours.
- Assess for treatment failure or misdiagnosis.
- Treatment failure is likely if:
  - the itch still persists at least 6 weeks after the first application of an insecticide (particularly if it persists at the same intensity or is increasing in intensity).
  - the treatment was uncoordinated or not applied correctly.
  - new burrows appear at any stage after the second application of an insecticide.
- Pruritus may persist for weeks after successful treatment.
- Nodular scabies may persist for months after treatment.
- Crusted scabies is difficult to treat.
- A response to a successful treatment in common scabies is indicated by:
  - Pruritus may increase 1-2 days after treatment
  - Pruritus may persist for > 1 week
  - At 1-2 weeks erythematous papules or healing lesions may be difficult to distinguish from active lesions
  - 1 month should be long enough for all lesions to heal and any eggs to reach

maturity to be sure of resolution

Referral

- A referral is rarely necessary if the original diagnosis is correct and the client and his or her contacts follow adequate eradication treatment.
- Initial treatment regimen failure.

DOCUMENTATION

- As per employer policy
- Document if any close contacts or family members were given treatment.

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