Scabies in the LTC Setting:

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Objectives

• Identify one strategy to identify residents infested with scabies.
• Name one strategy to prevent scabies transmission.

The Mighty Mite

* Scabies mite: parasitic, 4 legs
* Identified in 17th as cause of scabies
* Sarcoptes scabiei var hominis (Greek):¹
  • Sarx (the flesh)
  • Koptein (to cut)
  • Scabere (to scratch)


Clinical Manifestations

• Intense itching, especially at night
• Burrows

Clinical Manifestations

Intense itching, especially at night
Burrows
Complications

Excoriated skin lesions may become secondarily infected with:

- *Staph. aureus* (including MRSA)
- Group A streptococci

Norwegian/Crusted Scabies

- First described in Norway
- Severe, overwhelming variant; infested with hundreds to millions of adult female mites
- Patients at higher risk include:
  - Down Syndrome
  - AIDS
  - Renal failure
  - NIDDM

Norwegian/Crusted Scabies

- Hyperkeratotic crusted nodules; skin becomes thickened
- Secondary bacterial infections, septicemia, death
- Highly contagious, may spread rapidly
Scabies, The Mighty Mite

Scabies does discriminate against:
- Socioeconomic level
- Gender
- Ethnicity
- Age
- Race
- Sexual orientation
- Personal hygiene habits

Incidence

- Worldwide distribution
- Increasing U.S. incidence
- Humans are reservoir
- Canine version; self limiting in humans

Infestation Sites

Bedridden: Lesions may be more prominent on the back, buttocks, back of legs

Scabies can mimic:
- Eczema
- Tinea (ringworm)
- Dermatitis
- Lupus
- Psoriasis
- Drug reaction
- Impetigo
- Insect bites

Atypical Presentation of Scabies Among Nursing Home Residents

Margaret Mary G. Wilson,1,2 Carolyn D. Philpot,1,2 and Wayne A. Brez1

“Older nursing home residents with scabies may present with atypical skin lesions.”

Additionally: Residents may have impaired ability to scratch
**Lifecycle**

- After mating, the male dies
- Female burrows into epidermis, depositing up to 3 eggs per day, during her 30-60 day lifetime
- Burrowing time: 2.5 minutes
- Eggs hatch in 3-4 days

![Image of scabies mite]

**Transmission**

- 4-6 week delayed hypersensitivity reaction to the mites, eggs, feces
- Severe itching, worse at night
- 2nd scabies infestation; symptom development within hours

![Image of scabies transmission]

- Spread by direct, prolonged skin-to-skin contact
- Quick handshake or hug will not usually transmit scabies
- Transmission can occur after shaking the hands of a person with Norwegian scabies

- Mites can live 2-5 days on inanimate objects e.g. bedding, clothing
- Inanimate objects i.e. linens, fabric covered chairs/sofas, have little, if any role in typical scabies
- Residents with Norwegian scabies may shed a great many mites in the environment
# mites living on the skin

+ Delay in recognition/treatment

= Infestation Severity

**Diagnosis**

- Skin scraping with scalpel; look for mite presence e.g. mite, eggs, scybala (feces)
- Burrow/mites may be few in number; results in false negative scraping

**Skin Scrapings**

May consider getting a dermatologist diagnosis and expert consultation

**Diagnosis**

- Ink test for burrows
- Insensitive test
- Useful only during the first days after sx onset

**Outbreak**

The NIH defines an outbreak as a sudden rise in the incidence of a disease (http://www.merriam-webster.com/medlineplus/outbreak)

- Scabies is not normally occurring in a LTC facility; one case may be considered an 'outbreak'
- Use caution when using the word "outbreak; use cluster instead
- Notify the DOH
Outbreak

Develop a line listing:
• Positive residents

Develop a line listing:
• Symptomatic contacts
• Asymptomatic contacts

Treatment

• Lindane (resistance, neurotoxic)
• Permethrin 5% cream (~ 90% effective)
• Ivermectin (~ 95% cure with 2 doses)
• Antipruritic drugs
• Treat secondary infections
• Topical steroids can aggravate scabies
• No non-prescription products have been approved for humans

Permethrin 5%

• Topical cream resulting in mite paralysis and death
• Most common treatment today; apply below head, paying attention to skin folds
• Left on for 8-12 hours, then rinse with soapy water/reapply to incontinent residents
• No cases of permethrin-resistant scabies reported
• Trim fingernails, toenails; apply under nails

Permethrin 5%

• Itching may continue for several weeks despite successful treatment
• Second treatment may be needed after 7-10 days
• Initial treatment failures are common due to:
  ▸ Impaired cognition
  ▸ Behavioral disorders
  ▸ Mobility restrictions/Flexion contractures

Ivermectin

• Not FDA approved for scabies treatment
• Administrators usually prefer FDA approved treatments
• Especially effective in treating Norwegian scabies (due to thick, crusted skin)
• Possible drug interactions
• SE: Nausea, rash, dizziness, itching; may be related to dead mite antigen release
• No serious adverse effects
Precautions

- Contact precautions until 24 hours after initiation of effective therapy
- Multiple treatments may be required
- Residents may be contagious for weeks
- Norwegian scabies;
  - single-bed room
  - 3 consecutive negative skin scrapings
  - symptom resolution

Precautions

- Gowns and gloves for care
- Hand hygiene after removing PPE
  - Alcohol hand rub: Unknown scabies impact
  - Soap and water: soap/water/mechanical hand action will help with scabies removal

Precautions

- Belongings
  - Clothes
  - Wheelchair pads
  - Pillows
  - Blankets
    - Washer/dryer with hot settings
    - Seal in plastic bag for 5-7 days
    - Dry cleaned

Precautions

Use hospital approved germicidal agent for:
- Wheelchairs
- Walkers
- Bed frames
- Tables
- Chairs
- BP cuffs

Precautions

- Cloth/fabric furniture may need to be sequestered for 5-7 days
- Carpets should be vacuumed + discard bag

Treatment Failures

- Itching continues more than 2-4 weeks after initial treatment
- New burrows
- New rash
**Prophylaxis**

- Caregivers with prolonged skin-to-skin contact; prolong not defined
- Identified contacts vs. mass prophylaxis
- Limited data for best avenue
- Variables:
  - Length of time undiagnosed
  - Infested resident’s mobility
  - Numbers of symptomatic cases

**Prophylaxis**

- Variables:
  - Length of time undiagnosed
  - Infested resident’s mobility
  - Numbers of symptomatic cases
  - Type of scabies
  - Exposure occur before or after treatment
  - Would the exposed person be likely to expose others

**Education**

- Use credible information sources
- Example: CDC, State DOH
- Avoid herbal & homeopathic treatments

**Take Home Message**

- Teach staff to report skin rashes; consider heightening staff’s awareness during mandatory education sessions
- Suspect scabies with an unexplained generalized skin rash
- Begin precautions while establishing a diagnosis
- Follow responses to treatment
- Ideally, treat all persons together to prevent reinfestation

[Image of Parasites - Scabies]

**PREVENTION AND CONTROL OF SCABIES IN CALIFORNIA LONG-TERM CARE FACILITIES**

California Department of Health Services

http://www.cdph.ca.gov/Programs/DOH/Pages/PreConControlScabies.pdf
Take Home Message

#1 reason for scabies outbreaks;

- Failure to observe, document, and report skin conditions at the time of admission
- Failure to diagnose, treat, and prevent transmission