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# Scabies & Bed Bugs

Michelle Luscombe  
Karly Herberholz Hagel  
Karli Gammack

# What is scabies?

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- Scabies is a **highly contagious** skin infestation caused by the mite *Sarcoptes scabiei var. hominis*.
- Humans are the natural reservoir of *S. scabiei var hominis*.
- The average life span of these mites is 1-2 months.

# Picture of Mite

## *Sarcoptes scabiei var. hominis*

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- The mite has a round body consisting of eight legs and is no bigger than the head of a pin.

# Clinical Presentation of Scabies

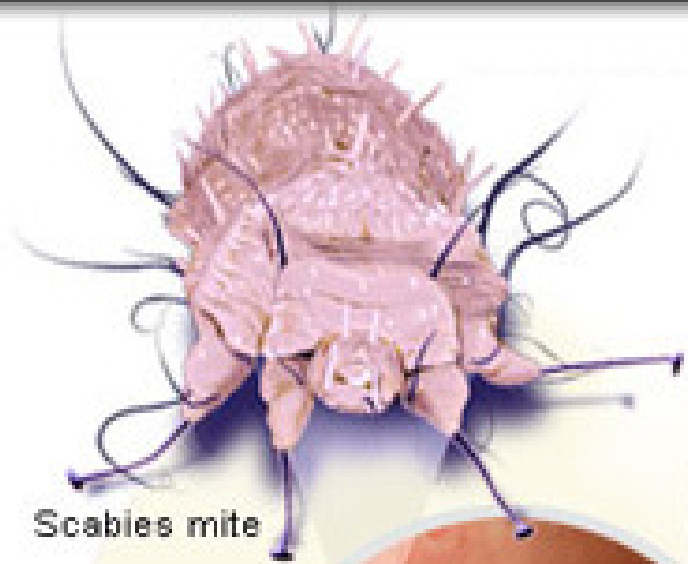
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- The typical presenting symptom in most individuals is intense pruritus (itching) which is often more severe at night or after having a hot bath or shower.
- The most common areas for infestation are hands, webs of fingers, wrists, extensor surfaces of elbows, and knees, as well as the outer surfaces of their feet, armpits, buttocks.
- Further spread can occur to arms, trunk, legs, and genitalia.

# Incubation Period

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- The incubation period (exposure to onset of symptoms) for the primary infestation may be as early as 10 days, but is typically 4-6 weeks.
- Symptoms in patients/residents with reinfestation generally occur in 1 to 3 days due to previous sensitization.



Scabies mite



# Transmission

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- Mites are able to survive as long as 3 days on stuffed chairs, sofas, and on the floor.
- Transmission can occur via direct (transfer from one person to another) or indirect contact (transfer from inanimate object to a person).
  - Shared walking belts, bed linens, clothing, skin creams, and lotions have been implicated in the transmission of these mites.

# Crusted (Norwegian) Scabies

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- Patients/residents with crusted (“Norwegian”) scabies have crusty, scaly dermatitis usually involving the hands and feet.
- Norwegian scabies are highly contagious due to the large number of mites present in the exfoliating scales.



# Prevention and Control Measures

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- Early Recognition

- With the high possibility of transmission, the diagnosis of scabies should be considered in any patients/residents that present with a pruritic cutaneous eruption that involves the hands, wrist, and elbows.

# Prevention and Control Measures

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- Contact Precautions are recommended until 24 hours after treatment (see SCHR Infection Control Manual E5-10-25-105).
- All recently used clothing, bed linens, and towels should be washed in the hot cycle for at least 10 minutes (50C or 122F), then tumble dried in a hot dryer for 20 minutes, or bagged for 10 days.
- Placing inanimate objects in a freezer for several days can also kill mites. (*APIC-92-3*)

# Prevention and Control Measures

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- It is usually not necessary to clean outer wear or furniture because the mites do not typically come into prolonged direct contact with infested areas.
- Small disposable items (creams and lotions) should be discarded.

# Implications for Healthcare Facilities

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- Scabies is becoming more common particularly in immunocompromised individuals and in residents of long term care facilities.
- Health care workers may become infested when caring for residents with undiagnosed scabies. As a result, the infested health care worker may spread scabies to other residents or their coworkers.

# Implications for Healthcare Facilities

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- Control of a scabies outbreak will be discussed with Infection Control, Public Health team members, Employee Health, and the Medical Health Officer.

# Diagnostic Tests

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- Generally, diagnosis is confirmed by microscopic examination demonstrating the presence of mites that have been extracted from skin scrapings.
- A hand lens can be used to identify recent burrows and to obtain skin scrapings.
  - Skin scrapings are examined for eggs, mature and immature mites, and fecal pellets.

# Treatment Options

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- Treatment recommendations are usually the responsibility of the resident or patient's physician. The MHO is available for consultation.

# BED BUGS

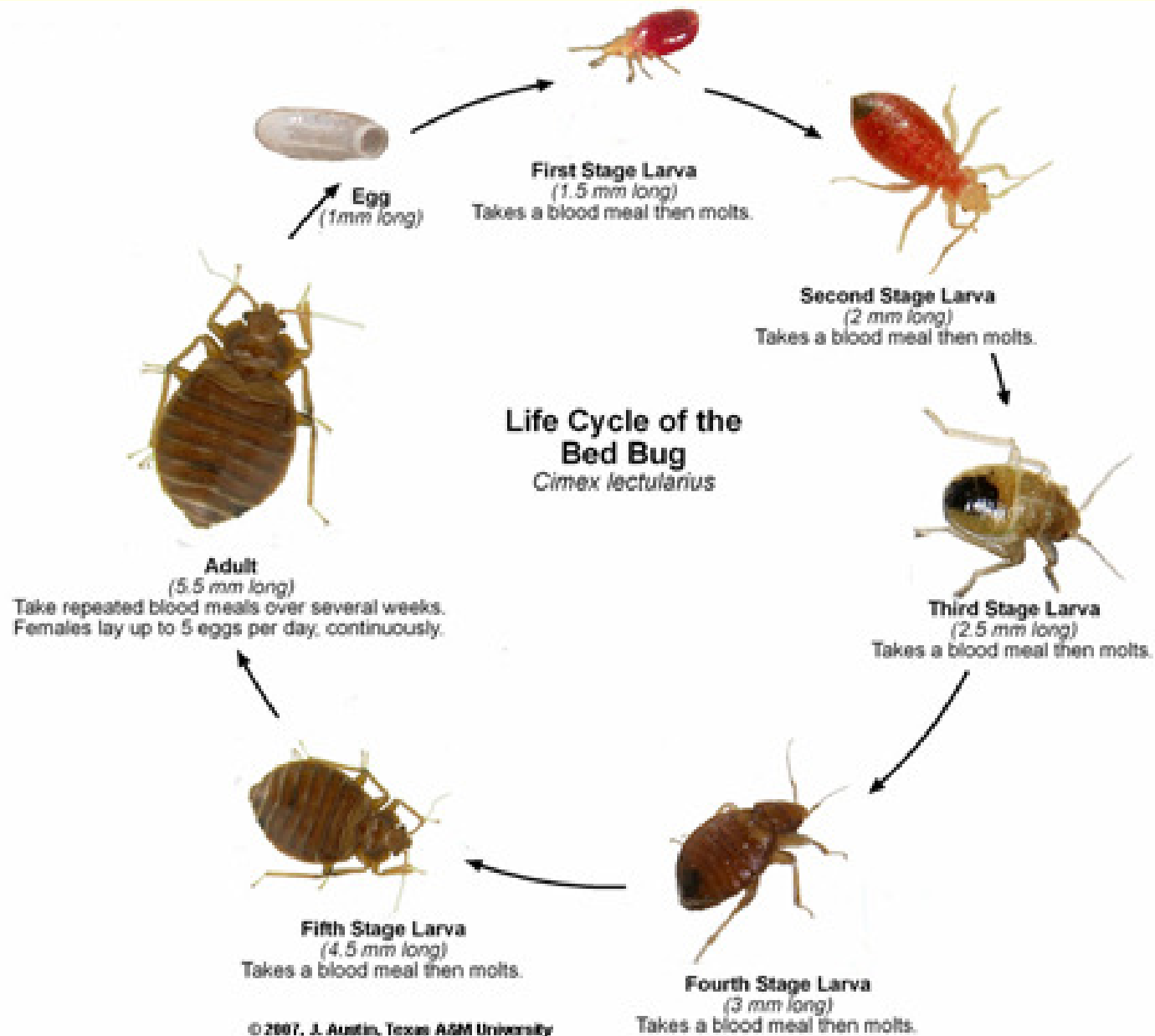
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Image from <http://www.hc-sc.gc.ca/cps-spc/pest/part/protect-proteger/bedbugs-punaises-lit/what-quoi-eng.php>



# Life Cycle of Bed Bugs



# Where Can Bed Bugs Show Up?

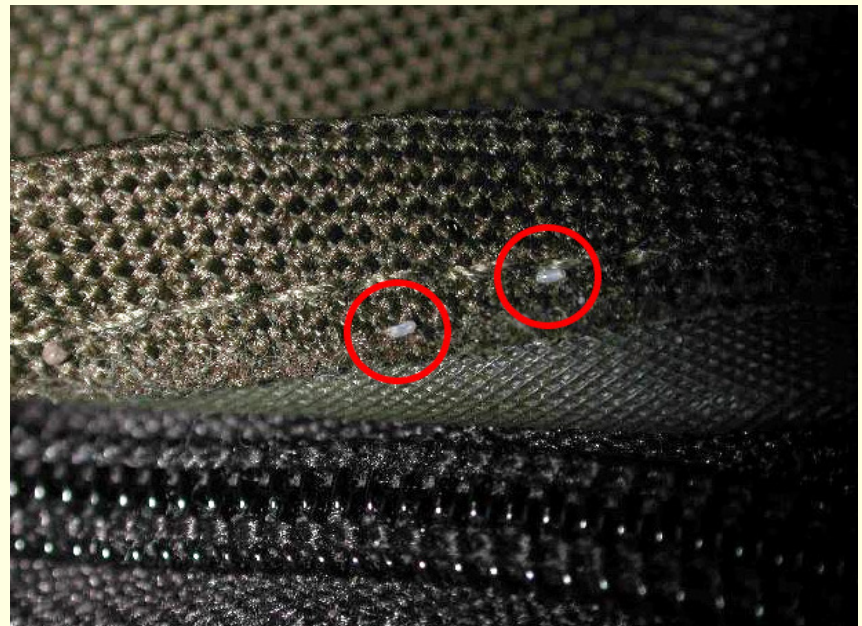
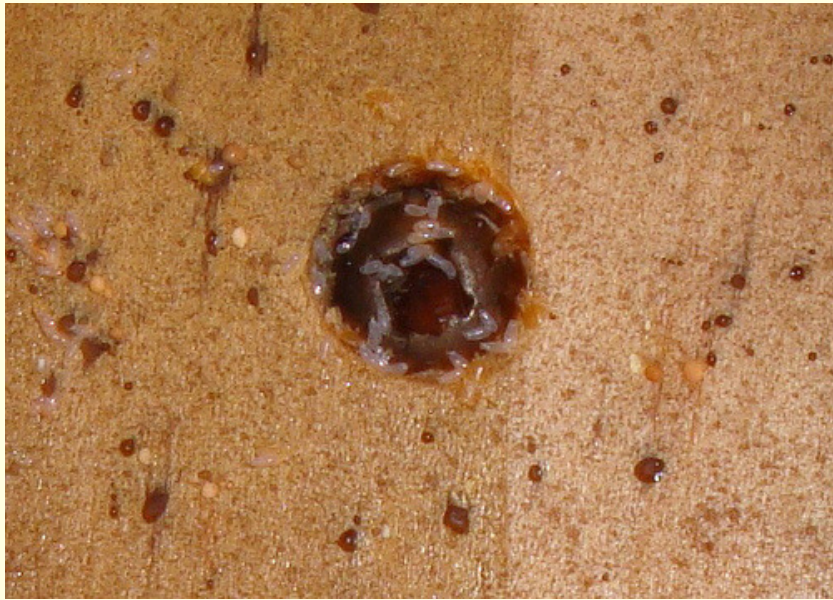
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- Carried on objects such as furniture, clothing, bedding, and luggage.
- Can travel along pipes, electrical wiring, and through other openings.
  - Multi unit dwellings, such as apartment and condo buildings, institutions.
- Areas to check include:
  - Seams, creases, tufts and folds of mattresses and box springs;
  - Cracks in the bed frame and head board;
  - Under chairs, couches, beds, in drawers; dust covers;
  - Between the cushions of couches and chairs;
  - Under area rugs and the edges of carpets;
  - Between the folds of curtains;
  - Behind baseboards, around window and door casings;
  - Behind electrical plates, under loose wallpaper, paintings, and posters;
  - Cracks in plaster;
  - In telephones, radios, televisions, smoke detectors, books and clocks.

# What To Look For & Monitoring

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- Bedbugs can survive 6 -18 months without feeding.
- Heavy infestations may produce a sweet musty smell.
  - Live bugs
  - Eggs
  - Exoskeletons
  - Fecal staining
  - Blood spots
  
- Mattresses should be checked on a regular basis;
- Traps;
- Suspicious bites on clients;
  - \*Rule out bites from other insects and other skin conditions
- 3D approach;
- There are other options (bug sniffing dogs).



# Bed Bug Bites – Clinical Presentation:

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- Localized red and itchy flat lesions;
- Small raised red swelling lesions;
- In rare cases, large raised, often itchy, red welts;
- In people with high sensitivity to bed bug saliva, a lump filled with blood or fluid, or even more rarely anaphylactic shock.



<http://bedbugsinfo.ca/tools/bed-bug-bites-download>



# BED BUGS

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- There are no known cases of infectious disease transmitted by bites.
- Allergic sensitivity may worsen over time, the more someone is bit.
- Scratching may lead to infection.

# Preventing Infestation

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- Even the cleanest places can have bed bugs.
- Regular housekeeping is extremely important;
- Vacuuming mattress and furniture;
  - HEPA filter vacuums are recommended
- Clean up clutter to eliminate hiding places;
- Be careful when buying used furniture or clothes or when bringing into a facility;
- Use mattress covers – may need to duct tape around the zipper;

# Preventing Infestation

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- New clients could be screened for bugs upon moving into the facility:
  - Furniture, luggage, bedding;
  - Suspicious bites;
  - Concerns of an infestation at a previous residence.



# What do you do if you suspect an infestation?

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- Inspect mattress and bed frame, or other common hiding spots.
- Consult health department or professional pest control operator to confirm that you have bed bugs.
- Consult professional pest control operator and discuss options:
  - Chemical, freeze, or heat treatment;
  - Usually requires more than 1 treatment.
- Use a nozzle attachment on the vacuum to capture the bugs and their eggs.
  - Vacuum daily and empty the vacuum immediately.
- Wash all linens in the hottest water possible and place in dryer on hottest setting possible for 20 minutes.
- Any items removed from the room should be secured in plastic bags or containers.

# What to do if you suspect an infestation?

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- Remove all unnecessary clutter.
- Seal cracks and crevices between baseboards, on wood bed frames, floors, and walls with caulking.
- Repair or remove peeling wallpaper, tighten loose light switch covers and seal any openings where pipes, wires, or other utilities come into your home.
- Pay particular attention to shared walls.
- Monitor daily by setting out glue boards, sticky tape, or bed bug traps.
  - It is common to see bugs up to 10 days after treatment.

# Questions?

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# Information Sheets

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- PHAC Scabies - <http://www.phac-aspc.gc.ca/publicat/std-mts/pubic-eng.php>
- MoH Scabies - <http://www.health.gov.sk.ca/scabies>
- [CDC – Scabies](#)
- MoH Bed Bugs - [http://www.hc-sc.gc.ca/cps-spc/pubs/pest/\\_pnotes/bedbugs-punaises-lits/index-eng.php](http://www.hc-sc.gc.ca/cps-spc/pubs/pest/_pnotes/bedbugs-punaises-lits/index-eng.php)
- PHAC Bed Bugs - <http://www.hc-sc.gc.ca/cps-spc/pest/part/protect-proteger/bedbugs-punaises-lit/rid-elimine-eng.php>

# Scabies References

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- Infection Control Manual
- Control of Communicable Diseases Manual (2008) 19<sup>th</sup> Ed.
- Association for Professionals in Infection Control and Epidemiology (APIC), Inc (92-1-92-3)
- Provincial Infectious Diseases Advisory Committee (PIDAC)

# Bed Bug References

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- Austin, J. Bed Bug Life Cycle, Texas A&M University  
<http://urbanentomology.tamu.edu/bedbugs/bedbugs.html>
- Health Canada Bed Bugs <http://www.hc-sc.gc.ca/cps-spcc/pubs/pest/pnotes/bedbugs-punaises-lits/index-eng.php>
- Sun Country Health Region Bed Bugs Fact Sheet
- Toronto Public Health Bed Bugs Fact Sheet  
[http://www.toronto.ca/health/bedbugs/bedbugs\\_factsheet.htm#001](http://www.toronto.ca/health/bedbugs/bedbugs_factsheet.htm#001)