



Scabies, Lice and Bed Bugs


Challenging Itchy Pests




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Bed Bug



Head
Lice




Scabies



Public Health and Scabies, Head Lice and Bed Bugs

- Frequent consultation from public, schools and day cares but scabies, lice not reportable unless an outbreak.

“Public Health” involvement in bed bugs is more of a consortium of agencies, departments etc



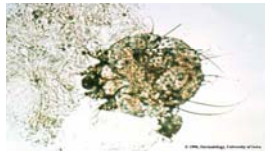
Facility Guidelines

- Management in Acute Care, Personal Care Homes and Community may differ, depending on the “bug”.
- WRHA has tried to standardize response through their regional Infection Prevention and Control committee and the development of the IP+C manuals for all sectors



Scabies

- *Sarcoptes scabiei* var *Hominis*- human parasite
- Also called the “7 year itch”



Scabies

- Same mite causes regular scabies and Norwegian scabies- difference is number of mites
- Regular- 10-15 mites
- Norwegian- 1000s’ – millions of mites



Transmission

- Direct skin contact- sharing a bed, holding hands, sexual contact
- Freshly contaminated fomites –clothing and bed linen



Incubation Period

- Without previous exposure - 4 to 6 weeks for symptoms to develop
- If previously exposed to scabies, onset occurs more rapidly, usually within a few days



Signs and Symptoms



- Excessive, intense itching- usually worse at night



Signs and Symptoms

- Rash on wrists, web spaces of the fingers and waistline.
- Lesions may also be found of the nipples, umbilicus, axillae and genitalia
- In infants rash may be on head, neck, palms and soles
- Secondary skin infections may occur



Diagnosis

- Confirm the diagnosis-consult dermatologist
- Identifiable burrow particularly associated with itchy rash
- Positive skin scrapings showing eggs, mite or feces



Treatment



- Permethrin 5 % (Nix dermal cream or Kwellada-P)
- Ivermectin-in research phase in Canada, requires special release form



Treatment



- Household or close contacts should be treated prophylactically and at the same time
- Second treatment may be given 7 days after first to cases. Contacts need one treatment unless they become cases.

Treatment



- Prophylactic treatment for Health Care Workers may be provided, depending on circumstances..ie outbreak, Norwegian scabies etc, degree and frequency of contact.

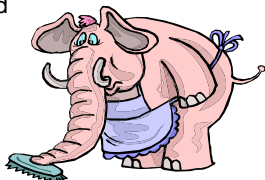
Treatment



- Synchronize treatment and cleaning so it is done at the same time
- Importance of staff education

Environmental Cleaning

- Treat all contaminated clothing and bedding at the same time
- Vacuuming of mattresses may be beneficial- *not to go overboard



Exclusion Policies

- Manitoba Health Scabies protocol states; “ Exclude children from school until 24 hours after the start of treatment.”
- Institutions:
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 the start of treatment.”



Outbreak management

- Assessment, surveillance , communication very important
- May be long, difficult process to resolve-particularly in PCHs
- Scabies outbreaks are reportable- Public Health Act



Implications for Infection Control

- Identify contacts-residents, staff, family
- Appropriate treatment of cases and contacts and environmental cleaning
- Education of staff, family, resident-letters, information session
- Public Health is a valuable resource



Norwegian scabies

- Rare manifestation of scabies
- Seen in neurologically or immunologically impaired hosts





Norwegian scabies

- Signs and Symptoms:
- More severe skin manifestations-thick, hyperkeratotic crusts that can occur on almost any area of the body
- Usually not itchy




Norwegian Scabies





Norwegian scabies

- Infection Control
- Contact isolation
- More aggressive contact follow-up and treatment
- Environmental Treatment



Bed Bugs




Who's sleeping with you tonight?



B.Z. Toons
By Brian Zakowski
www.bztoons.com
Well, good night, sleep tight, and don't let the bed bugs bite.

Bedbugs

- *Cimex lectularius*
- Life Cycle
 - Females lay ~200-500 eggs
 - Eggs hatch in 1-2 weeks
 - Nymphs start to feed immediately
 - Nymphal stage is 14-30 days
 - Entire life cycle is 4-9 weeks
 - Adults can survive up to 12 months without feeding (may migrate if it 'senses' a potential food source)
 - Mating "Traumatic Insemination"



© Orkin Inc.

Feeding

- Adults/Nymphs feed usually at night
- Saliva causes the allergic reaction
- They do not stay on the host longer than it takes to get a blood meal

Feeding

- Bedbugs feed when it is dark – they avoid light.
- They feed mainly on human blood and feed for 10 to 15 minutes.
- After feeding, they crawl to a hiding place to digest their meal.
- They do not stay on hosts – they don't have appendages to cling to hair, skin, fur.



Hiding Places

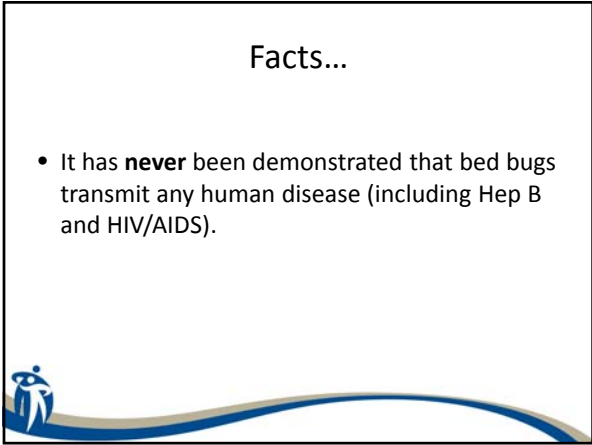
- Bedbugs hide during the day in dark, protected places.
- They prefer fabric, wood, and paper surfaces and close to where the host sleeps.
- They can be found about tufts, seams, folds of mattresses.
- They can hide behind baseboards, under loose rugs, folds in chairs/couches.



Bedbug Evidence













Signs and Symptoms

- “Bites” – usually in two to three spatially close welts
- Symptoms include a raised, inflamed, reddish wheal at each bite site which may itch intensely for several days
- However, individuals may vary widely in sensitivity to these bites





Signs and Symptoms

- Immediate reactions may appear 1-24 hours after a bite
- Delayed reactions 1-3 days (up to 14 days) after a bite and may last 2 to 5 days
- Some people may be hardly aware that they've been bitten



Signs and Symptoms

- Itching of bites can lead to secondary infection
- Itching may be intense enough to interrupt sleep
- In children and the elderly, risk of anemia



Other Reactions

- Stigma
- Fear of being treated as a pariah
- Delusional parasitosis -strong delusional belief that the individual is infested with parasites



Impact

- Individuals with disabilities or pre-existing mental or physical conditions
 - may have decreased ability to advocate on own behalf
 - and limited organizational skill to follow through with proper clean up during disinfestation process



Impact on Client's Finances

- Low or fixed incomes:
 - Cost of pest control services or products
 - Cost of repeated treatment – who pays if initial treatment ineffective?



Impact on Client's Finances

- More likely to acquire previously owned furniture, cost of replacing furniture
- Cost of multiple loads of laundry
- Energy costs – hot water, hot dryer



Implications for Community Health care Workers

- Fear of carrying bed bugs home
- If unable to sit on client's furniture, may limit social and therapeutic interaction with client
- Sensation of unpleasantness when entering client home




Impact on Community Care Employees

- Relationship with client may be impacted by a person entering the home in protective garb- wearing gowns, hightop bootees and gloves (in heavily infested rooms).




Bedbug Prevention

- Be wary of acquiring secondhand beds, bedding, and furniture
- Vacuum suitcases after returning from a vacation
- Repair cracks in plaster and glue down loosened wallpaper
- Remove and destroy wild animal roosts and bird nests when possible
- Check furniture and bedding regularly
 - Clean and vacuum regularly as well




Why they are a control challenge?

1. Often hard to detect in small numbers.
(small, nocturnal, cryptic, & fairly mobile)
2. No reliable attractant available (currently).
3. Readily detect (& avoid) many chemicals.
4. Adults can live > 1 yr. without feeding.
[Nymphs fed \geq once can live > 3 mo. w/o feeding]
5. Insecticide resistance newly documented.
6. Very easily re-introduced and/or spread.




Client Visits

- Meet clients outside of known infested areas
- Do not bring bags, purses, coats into infested locations
- Do not put articles on the floor or items that may potentially have bed bugs
- Do not transfer items from a potential infestation to another location
- Be aware of the signs/presence of bed bugs




Control of Bedbugs

- Chemical control
 - Spray, liquid, and dust products are available
 - Permethrin, cyfluthrin, bendiocarb, pyrethrins & diatomaceous earth
 - Do not chemically spray linens and mattresses. Treat them only with products that are labeled for this use




Control of Bedbugs

- Non-chemical control
 - Wash bedding/clothing in hot water (120°F) & laundry detergent
 - Hot steam along baseboards, wallpaper etc.
 - Vacuum often with strong suction – after vacuuming immediately place vacuum cleaner bag in a plastic bag, seal tightly, discard outdoors.
 - Use a scrub brush along the seams of mattresses
 - Expose bugs to cold temperatures below 32°F
 - chilling period must be maintained for at least two weeks



WRHA

- Committee established consisting of agencies, dep'ts involved in BB management..to standardize information, form partnerships.
- Eg: Public Health, PH Inspectors, City of Winnipeg Entomology, Family Services and Housing, Manitoba Housing etc



Lice - A Challenging Pest



lice.mite

Public Health and Head Lice in Winnipeg

- Standardize practice
- Develop research- based guidelines
- Problem solving tools



Head Lice Facts

- Are endemic like the common cold
- On the increase since the 70s' in North America
- Occur 12 months of the year



Head Lice Facts



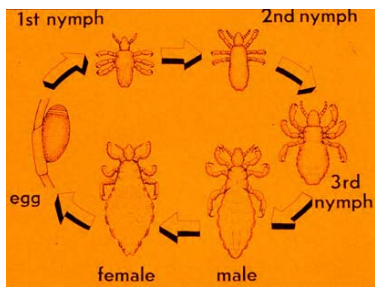
- Head lice prefer clean heads and are not an indication of poor hygiene
- Do not fly or jump!
- Do not cause or carry disease

Head Lice Detection



- Parents/Guardian are the best persons to screen their children for head lice on a regular basis.
- A designated head lice person in school, day care is not an effective control method
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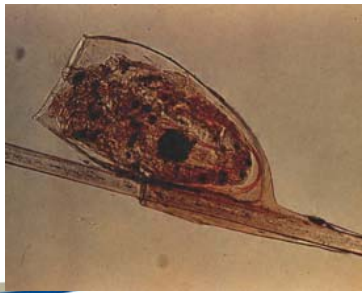
Head Lice Life Cycle



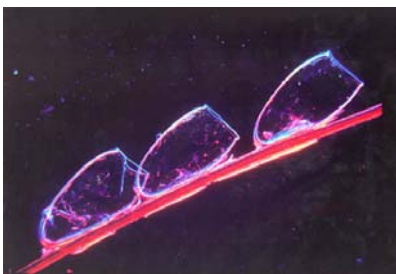
Adult Louse and Nymph



Head Louse Nit (Viable)



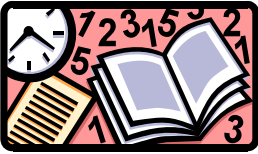
Empty (non-viable) Nits



Head Lice Nits



Pre-Treatment Tips



- Allow Time-there's no short cut!
- Assemble supplies
- Wash hair with plain shampoo or dishwashing detergent before treatment
- Notify school, contacts



Pre-Treatment Tips



- Brush hair vigorously over a white towel
- Pick nits*****
- Read product instructions carefully
- Make sure you use enough product -may require more for longer thicker hair



Treatment

- **Pediculocides**
- NIX, Kwellada-P (permethrin)
- R+C- pyrethrin

- **Other treatments** –vaseline, olive oil, tea tree oil (research lacking re: effectiveness)
- Resultz- new product, non-pediculocide- research not complete but looks promising.



Treatment Tips

- No pediculocide is 100% ovicidal therefore NITPICKING is important

- Repeat treatment in 7 days

- Only treat those infested with lice in a family-check the rest daily for 2 weeks.



Environmental Cleaning

- Major household cleaning not necessary

- Do not use sprays

- Clean items that come in contact with the head and neck.



Head Lice Resistance to Pediculocide

- Can be seen after numerous applications with the same product during that current infestation



Exclusion Policies

- Manitoba Health Pediculosis protocol states “ that children may return to school after the first treatment has been completed and as many nits as possible removed.”




“No nit” policy




- Not effective according to research
- Disruption of school , home and work life



WRHA Head Lice Strategy



- Education +++ with effective resources
- Partnerships with stakeholders
- Problem Solving Methods to manage complex issues



WRHA Head Lice Resources

<http://www.wrha.mb.ca/healthinfo/a-z/lice/index.php>



Questions

