

PDPH/LTCF Conference Call – Friday 5/17/2024

Agenda

- Ectoparasite Prevention and Control in Long-Term & Congregate Care Settings
 - Scabies
 - Bed Bugs
- Resources, Services and Education
 - Project Firstline Escape Room
 - CDC's Enhanced Barrier Precautions Webinar, 5/22 @ 1 pm

Scabies in Congregate Living Settings

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ACUTE COMMUNICABLE DISEASE PROGRAM

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH



CITY OF PHILADELPHIA
**DEPARTMENT OF
PUBLIC HEALTH**
DIVISION OF DISEASE CONTROL

Scabies Overview

Caused by the human itch mite, *Sarcoptes scabiei*

Burrow into the upper layer of the skin where it lives and lays its eggs

Symptoms are a result of reaction to mite eggs and fecal matter:

- Intense itching
- Pimple-like skin rash

Live for up to 4–6 weeks on the body

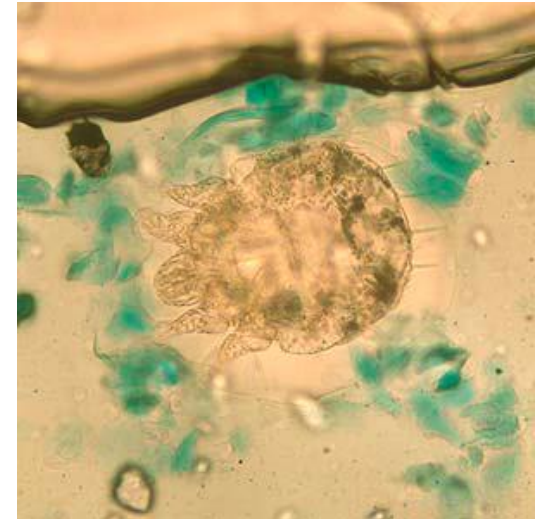
- An exposed person can be infested immediately and spread to others.

Do not survive more than 48–72 hours off skin

- Will die if exposed to a temperature of 50°C (122°F) for 10 minutes

Can spread rapidly under crowded conditions where close body and skin contact is frequent

- Can occasionally spread through items that are in contact with skin (e.g., clothes, bedding)



Scabies Incubation

Time from initial infestation to symptom onset:

- Previously uninfested persons: 2–6 weeks
 - *An infested person still can spread scabies during this time even though s/he does not have symptoms.*
- Previously infested persons: 1–4 days
- May be reduced for exposures to crusted scabies

Clinical Presentation

Itching and rash caused by a reaction to the mite, its eggs, & fecal matter.

- 10–15 mites on the body at 1 time

Areas commonly involved:

- Between the fingers
- Elbow
- Waist
- Shoulder blades
- Wrists
- Armpit
- Nipple
- Penis

Symptoms usually worse at night

Complications:

- Crusted scabies (aka: Norwegian scabies): Heavy infestation
 - More prevalent among debilitated or immunocompromised persons
- Secondary skin infections (i.e., staph, GAβHS)



Scabies can look like the following:



Crusted (Norwegian) Scabies



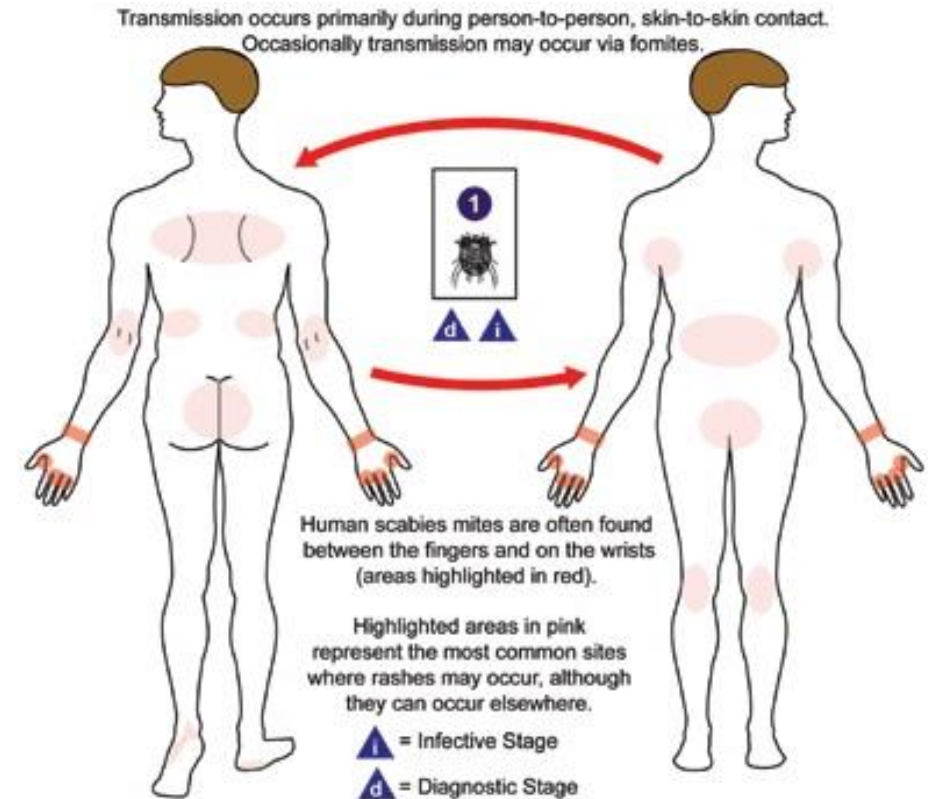
Scabies Transmission

Person-to-person, skin-to-skin contact

- Transfer of the impregnated female mites from infested person to non-infested person
- **An exposed individual is potentially immediately infectious to others until mites and eggs are destroyed with medication.**

Occasionally occurs via fomites (e.g., bedding or clothing).

Human scabies is not spread by animals



Audience question

Have you experienced cases of scabies among residents or staff in a Philadelphia long-term or congregate care setting?

a) Yes

b) No

Scabies Diagnosis

Clinical evaluation of signs and symptoms

- Rash distribution
- Presence of burrows
- Often misdiagnosed

Skin scraping: Microscopic demonstration of the mite, ova, or fecal matter obtained from a skin scraping

- A negative skin scraping does not rule out scabies infestation

Scabies Treatment

Scabicides

- Indicated for both symptomatic and potentially, infested exposed contacts
- Available only with a doctor's prescription
- No “over-the-counter” (non-prescription) products have been tested and approved to treat scabies

Topical (most common treatment)

- 5% Permethrin (Elimite, Acticin): 2 months of age and older
- One tube contains 2 adult applications (30g/application)
- Retreatment if mites are present >2 weeks after initial treatment

Oral antiparasitic drug (Ivermectin) for crusted scabies in addition to multiple applications of topical cream

Providing itch relief with topical corticosteroids or oral antihistamines is recommended

Scabicide Application

Bathe or shower, along with drying skin thoroughly before applying

Follow scabicide instructions carefully

Massage into the skin from below the chin to the soles of the feet

- Also apply to forehead, temples and scalp for infants, toddlers, the elderly & immunocompromised persons
- Gloves & long-sleeved gowns should be used by caretakers applying cream with hand washing after glove removal

Clip fingernails & toenails & apply scabicide under nails

Dress in clean clothing after application

Leave scabicide on the body for the recommended time before washing it off

- Can apply at bedtime and washed off in the am after the appropriate duration

Scabies Control Overview

Scabies recognition and reporting policies

- Establish procedures for staff and residents to report suspected infestations
- Screen new residents / staff
- Identify healthcare provider who can diagnose (perform scrapings) & prescribe treatment.

Implementation of control measures (within 24 hrs) once infestation is recognized:

- Treatment for symptomatic persons
- Identification and prophylactic topical treatment of exposed contacts with scabicide at the same time as the symptomatic person(s)
- Environmental cleaning
- Focus on items that were in close contact with symptomatic person's skin

Symptomatic Persons

Until 24 hours after treatment:

- Isolate the infested resident if possible
- Have other residents and staff avoid:
 - Direct skin-to-skin contact with the infested individual
 - Using items that may have contacted the scabies case's skin

Symptomatic staff can return to work the morning following overnight treatment with 5% permethrin cream

No restrictions on admission or transfer of residents with scabies

- Efforts should be made to recognize and treat residents with scabies as quickly as possible.
- Notify the transfer facility of persons with scabies and those potentially exposed

Contact Tracing

Keep list of persons (residents & staff) with potential skin-to-skin contact with symptomatic person

- Time frame: persons with skin-to-skin contact that took place from 6 weeks before to 1 day after treatment

Document treatment for each case and prophylactic topical scabicide treatment for each contact

- Should occur at the same time as the case

Follow contacts for 6 weeks and document whether they develop symptoms.

Environmental Cleaning

Bedding and clothing worn or used next to the skin anytime during the 3 days before treatment:

**Remember the scabies mite will die within 72 hours when not on skin.*

- Machine wash and dry using the hot water and hot dryer cycles OR dry-clean
- Should be sorted and handled by a gloved and gowned person

Non-washable items should be placed in tightly sealed plastic bags for 7 days

Change all bed linens, towels & clothes daily

Vacuum mattresses, upholstered furniture & carpeting

Routine disinfection procedures are adequate

Note: Recommendations are for the environment surrounding the scabies case & not facility-wide.

Communication to Residents/Staff

Provide information on:

- Signs and symptoms of scabies
- Who should be notified if a resident/staff member develops a suspected scabies rash

Other key points:

- Scabies is spread through skin-to-skin contact and more rarely, by sharing items like bedding or clothing.
- A person can spread scabies up to 6 weeks before they develop symptoms (itching and rash).
- Preventive use of topical scabicide is recommended for exposed, close contacts and should be applied at the time as the symptomatic case to prevent re-infestations. This is the best way to control the spread of scabies.
- Scabies occurs worldwide among persons of all ages and social classes.

Reporting to Public Health

Individual cases of scabies are not reportable by public health law in Philadelphia.

However, scabies outbreaks involving (2 or more residents/staff) should be reported.

Public Health Department Telephone Numbers for Communicable Disease Reporting

Agency	Business Hours	After Hours (Immediately Notifiable Conditions)
Philadelphia Department of Public Health	215-685-6741	215-686-4514 (ask for Disease Control On call staff)
Pennsylvania Department of Health	877-PA-Health	877-PA-Health
Bucks County Department of Health	215-345-3318	267-718-1939
Chester County Department of Health	610-344-6452	610-344-6225 and press 1
Delaware County Department of Health	484-276-2100	484-276-2100
Montgomery County Department of Health	610-278-5117	610-275-1222

Questions???

Health Alert Network – Sign Up Links

Philadelphia: <https://hip.phila.gov/health-alerts-subscriber-signup/>

Pennsylvania: <https://ondemand.mir3.com/han-pa-gov/login/>

Audience question

What type of facility do you represent?

- Skilled nursing facility
- Personal care home
- Inpatient behavioral health
- Intellectual and developmental disability (IDD)
- Pediatric long-term care
- Other (please type in the chat)



Bed Bug Prevention in Long-Term Care & Congregate Care Settings

Healthcare-Associated Infections & Antimicrobial Resistance (HAI/AR) Program
Philadelphia Department of Public Health (PDPH)

Bedbug panic sweeps Paris as infestations soar before 2024 Olympics

It's not just Paris. There's a "global resurgence" of bedbugs.

Share

It's a bedbug's world now. We're just sleeping in it.

By Benji Jones | @BenjiSJones | Oct 15, 2023, 7:30am EDT



Apr 23
2024

Bed bug infestation in Buffalo public housing

Senior residents say their apartments are overrun with bed bugs, cockroaches and rodents. The problems don't end there.



EDs trying not to let the bed bugs bite

These circulating on social media show the bedbugs on a train seat and in a sofa

A plague of bedbugs has hit Paris and other French cities, provoking a wave of insectophobia and raising questions about health and safety during next year's Olympic Games.

Which US cities have the most bed bugs?

1. Chicago
2. New York
- 3. Philadelphia**
4. Cleveland
5. Los Angeles

*Based on Orkin treatment data from Dec 2022 – Nov 2023

What are Bed Bugs?

Ectoparasite

Scientific Name: *Cimex Lectularius*

Order: Hemiptera

Food Source: Blood

Distribution: Worldwide

****Bed bugs are not known to transmit disease****



Poll

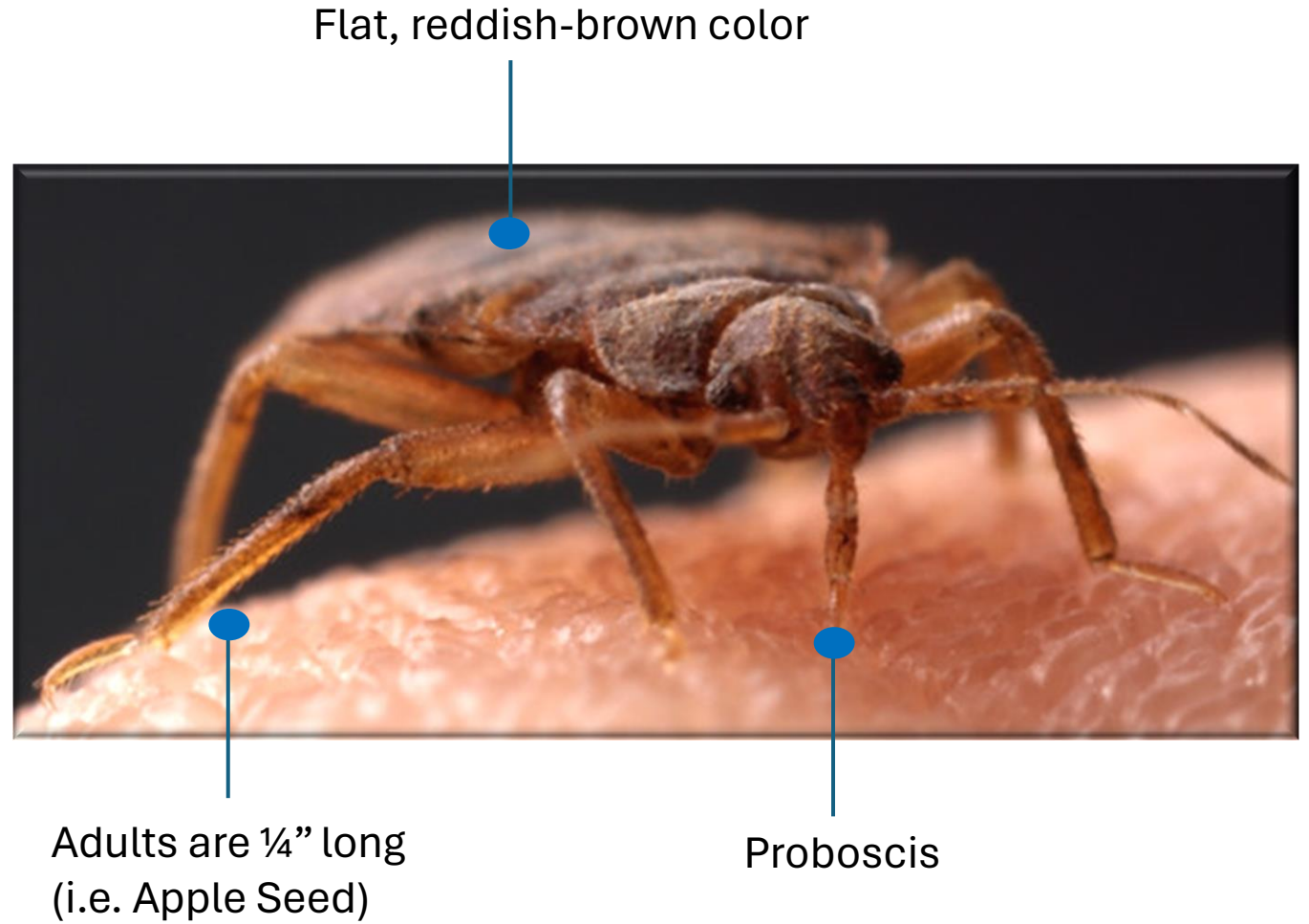
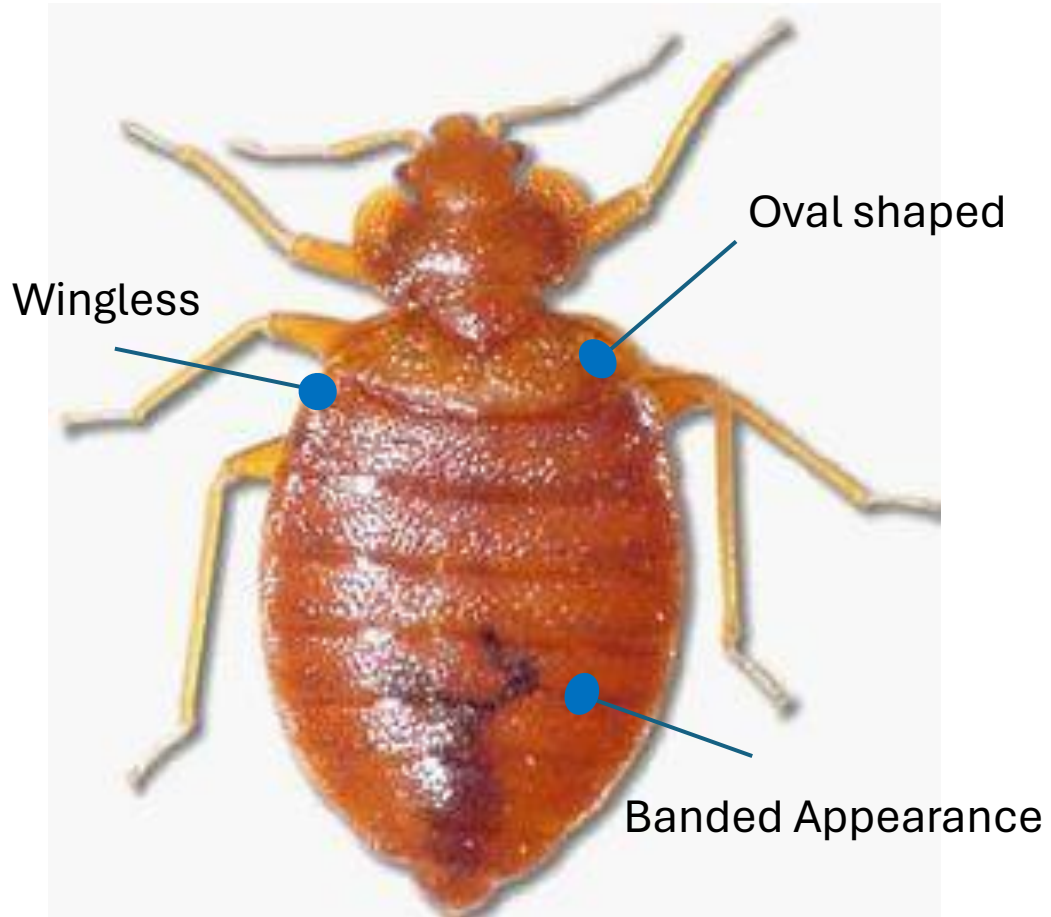
Have you previously experienced bed bugs in a Philadelphia congregate care or long-term care setting?

Yes

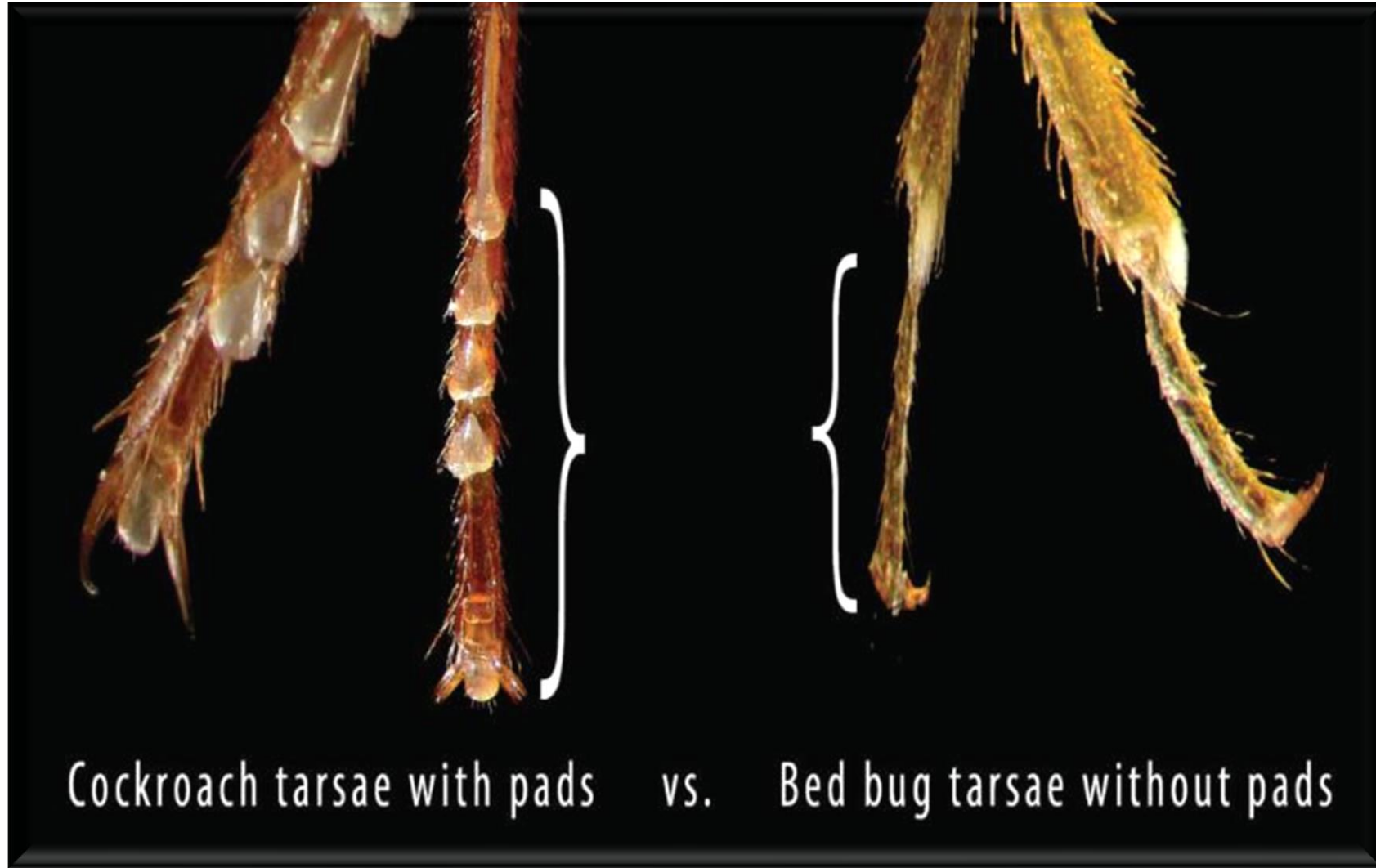
No



Appearance



Appearance - Tarsae



Mistaken Identity

Roach Nymph



Swallow bug / Common Bed Bug / Western Bat Bug



Ticks



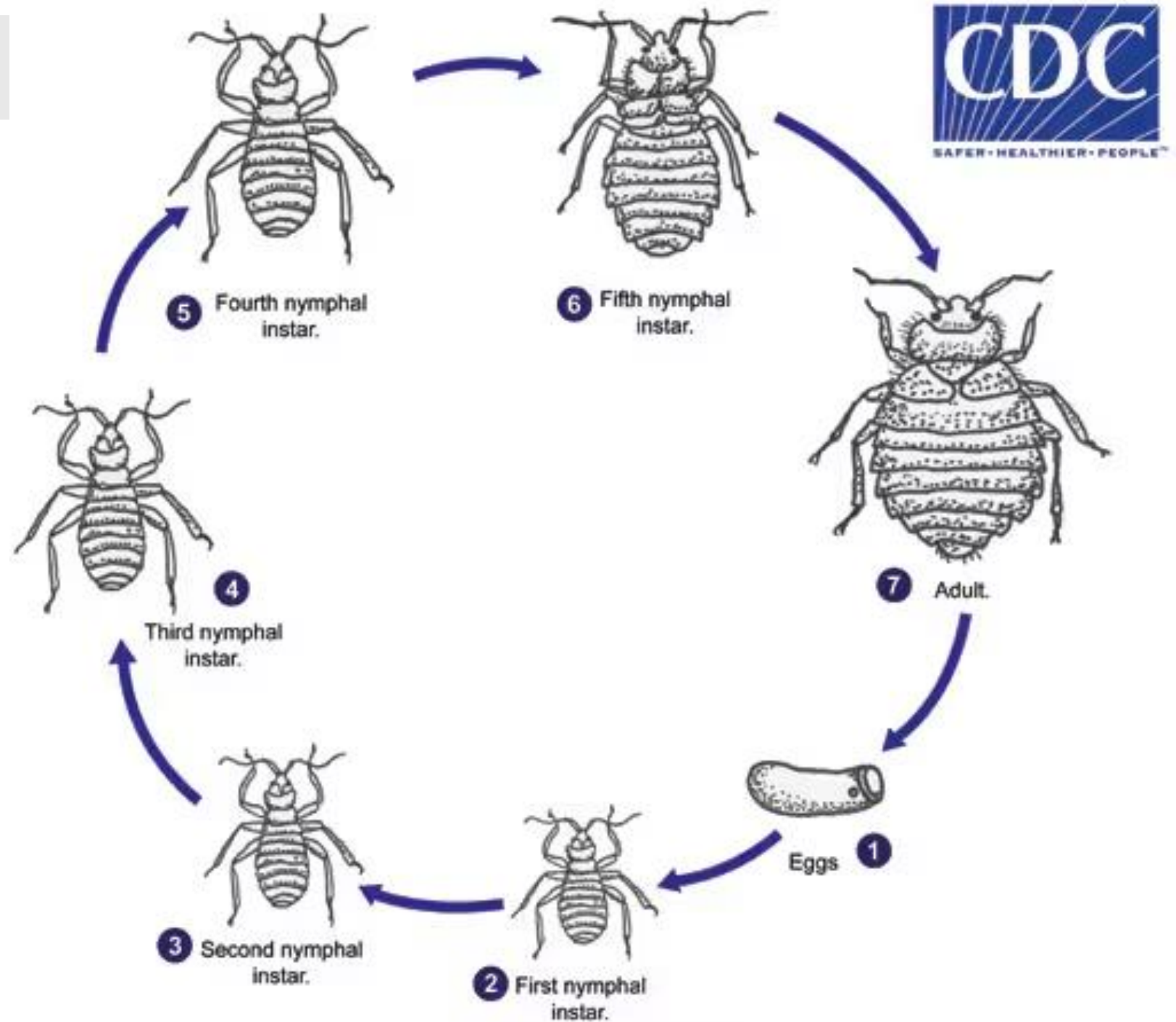
Spider Beetles



Sow Bug



Life Cycle



Life Cycle - Eggs



Life Cycle - Hatching



Photo Credit: James Kalisch, UNL Dept of Entomology

Life Cycle – 1st Instar



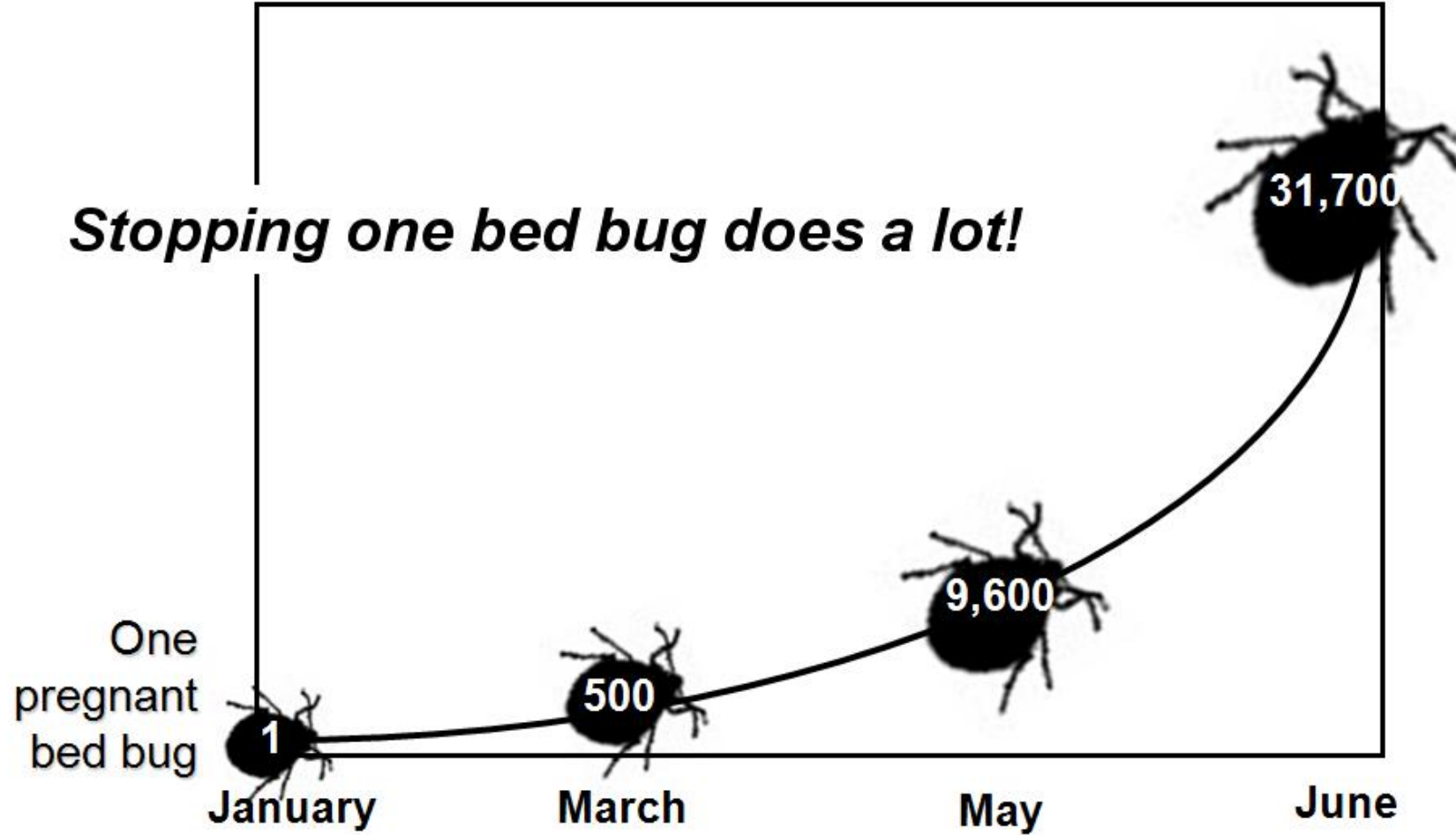
Life Cycle – Molting



Life Cycle – Adult



Life Cycle – Reproduction



Life Cycle – Reproduction

- “Traumatic Insemination”
- Female can lay up to 5 eggs per day
- Eggs adhere to surfaces in and around harborage areas
- Eggs hatch in 7-10 days
- Nymphs immediately begin feeding



Photo: R. Ignell

Feeding

- Stationary Host
- Bedbugs feed through two hollow tubes that pierce the skin
 - 1st tube injects saliva (contains anesthetic & anticoagulant)
 - 2nd tube draws up blood



Feeding

- Bed bugs excrete a small droplet of blood when feeding
- Appear as dark fecal specks along mattress seams or other crevices



Signs & Symptoms of Bed Bug Bites

- Often occur in linear groups of 3-4 bites
- Varies by individual
- Allergic reaction possible
- Secondary infections
- Psychological effects



Harborage

- Bed bugs tend to congregate in cracks and crevices near where a person sleeps or sits for extended periods.
- Nesting locations can vary though, bed bugs will travel long distances in heavily infested areas





Secondary Bed Bug
Harborage (23%) – 5 ft

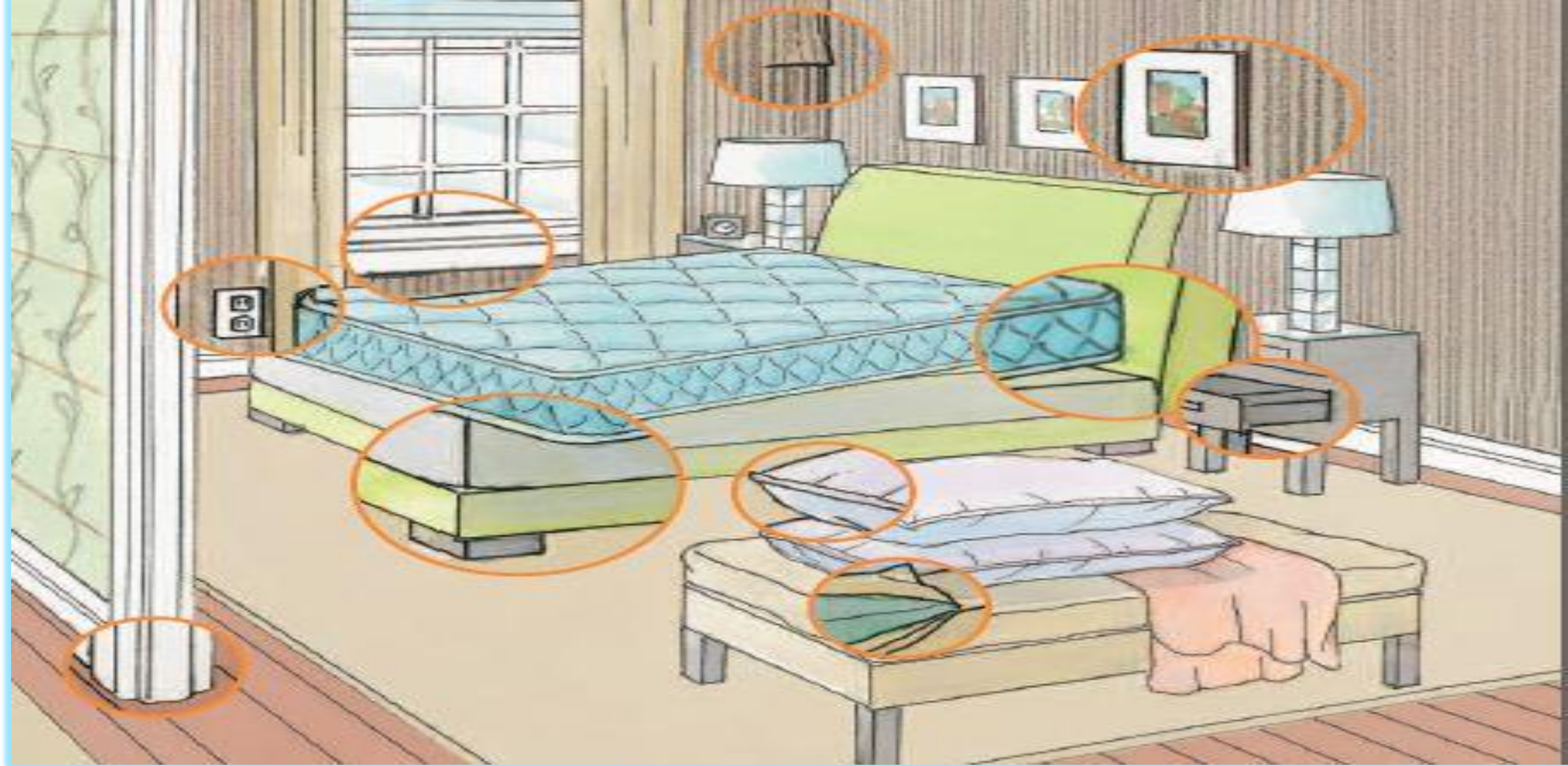
“Other” Bed Bug
Harborage (7%)

Primary Bed Bug
Harborage (70%)

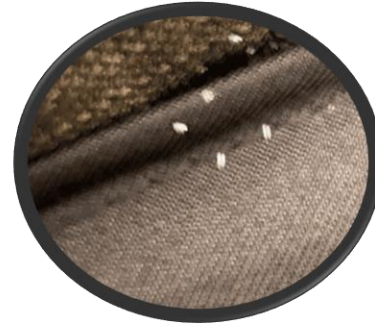


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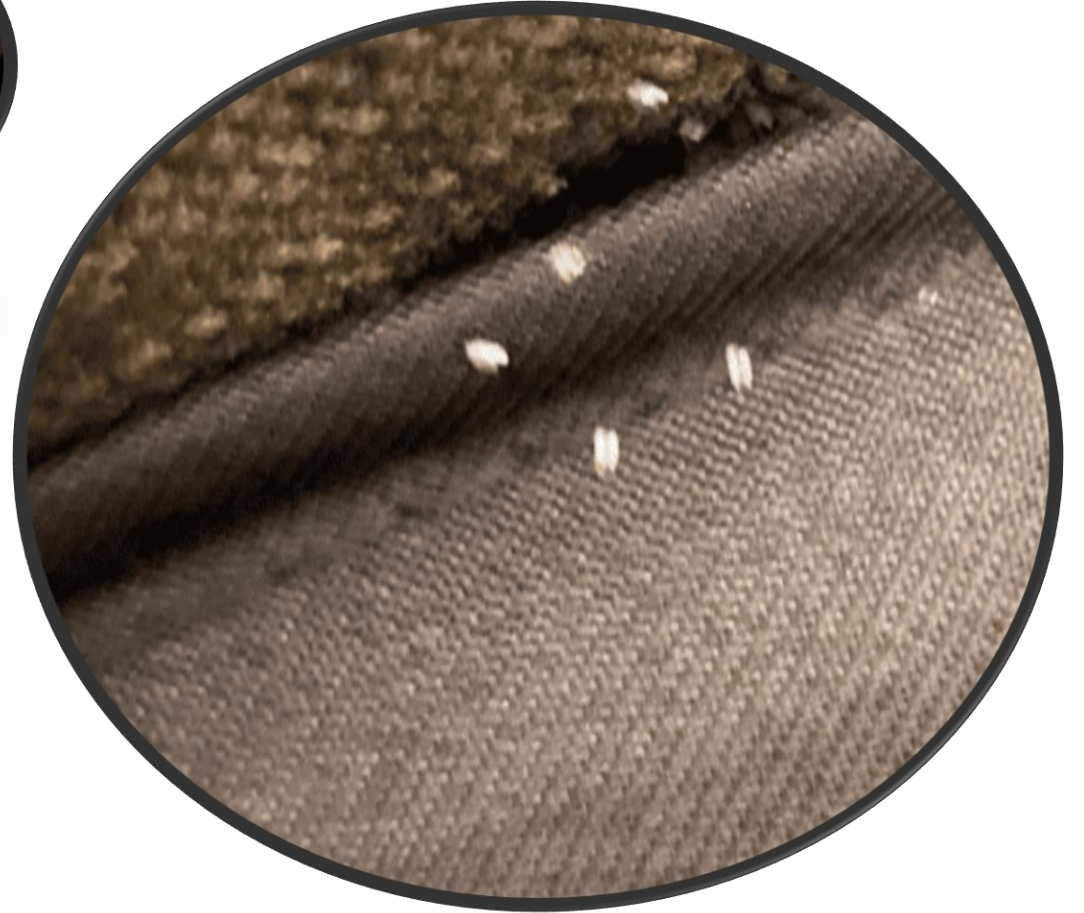
Recognizing an Infestation



Recognizing an Infestation



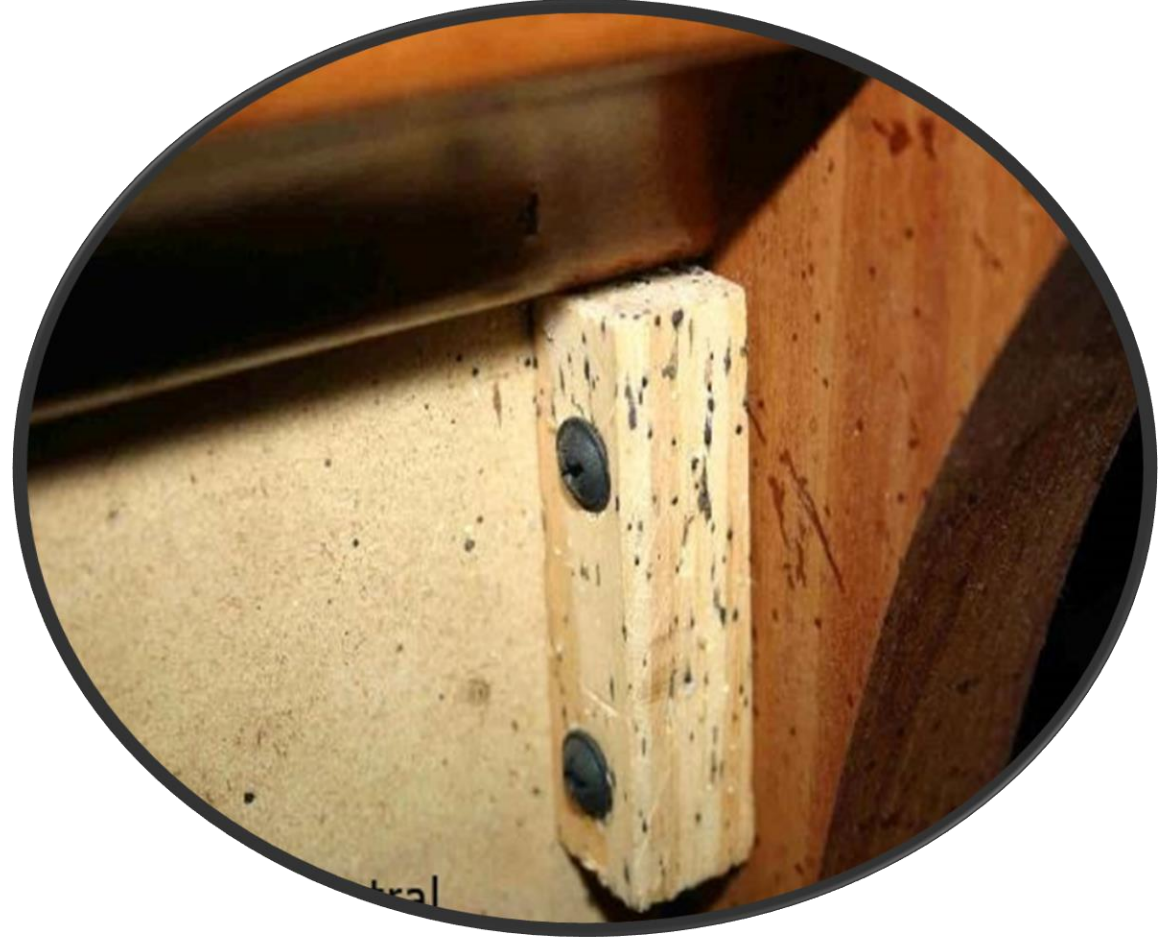
EGGS



Recognizing an Infestation



FECAL STAINS



Recognizing an Infestation



CASINGS



Recognizing an Infestation

BED BUGS *(LIVE & DEAD)*



Why the Resurgence?

- Increased international travel
- Resistance to insecticides
- Lack of public awareness
- Inadequate pest control

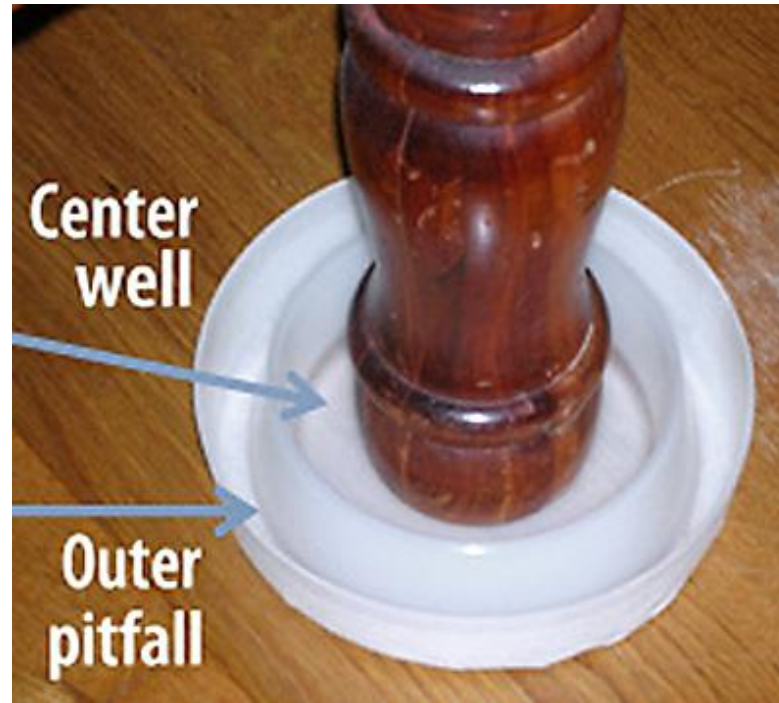


Bed Bug Prevention

- Inspect belongings regularly
- Inspect new items brought into the facility or residence
- Seal cracks & crevices
- Routinely vacuum, including crevices
- Regularly clean and disinfect surfaces
- Reduce clutter
- Keep carts in the hall during room service
- Separate clean & dirty laundry in all areas
- Educate

Bed Bug Prevention - Monitoring

- Monitoring device
- NOT for control
- Detect infestation early



Bed Bug Prevention– Mattress Encasements

- Eliminate hiding areas
- Use with mattress AND box spring
- Easier to detect an infestation
- Eliminates use of pesticides on mattress
- MUST be inspected routinely for rips / tears



Bed Bug Control

- Try to capture a bed bug for a professional to examine
- Have the patient or resident change clothes
- Double-bag patient/resident belongings
- Contain large personal items in a pallet bag
- Double-bag contaminated linen
 - Hold in room until collected
 - Do not place in the linen chute
 - Launder and dry on high heat for at least 30 -45 minutes

Bed Bug Control - Inspection



Bed Bug Control – Steam Cleaning

- Most Effective
- Pesticide Free
- Kills Bugs & Eggs
- 20 seconds per linear foot
- Dry Steam over “Wet”



Bed Bug Control – Ambient Heat Treatment

- Non-toxic
- One treatment only
- No concern of pesticide resistant bugs
- Difficult articles i.e. sofas, etc.

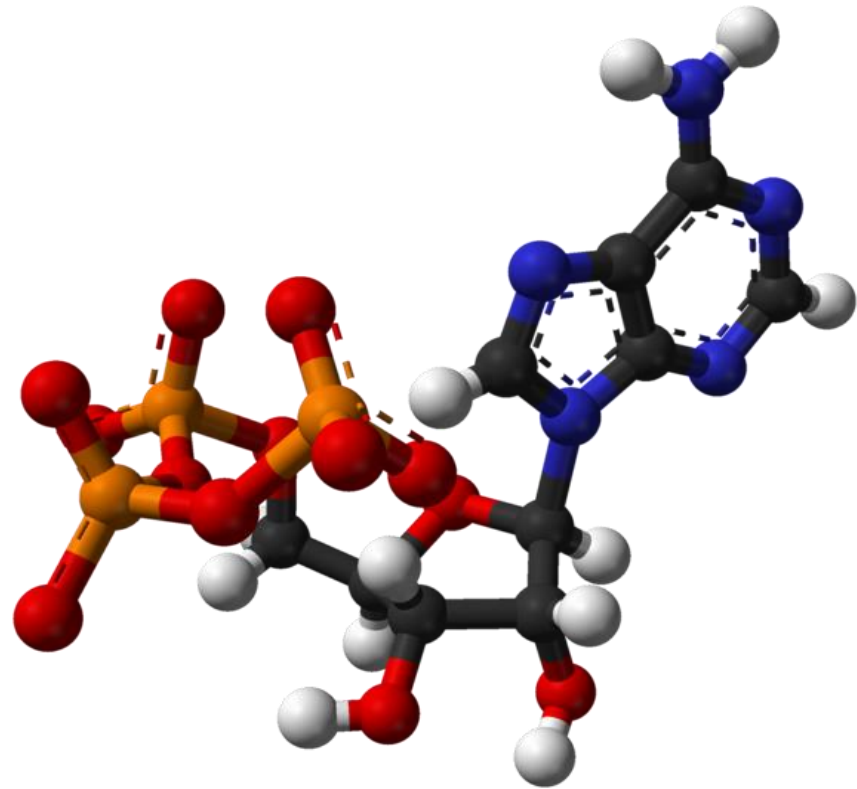


Bed Bug Control – Freezing

- Non-toxic
- Dry ice “snow”
- Must cling to bug for several minutes
- Limited use



Bed Bug Control – Pesticides



- EPA has registered >300 products for bed bugs
- 8 chemical classes
 - Pyrethrins
 - Pyrethroids
 - Desiccants
 - Biochemicals
 - Pyrroles
 - Neonicotinoids
 - Insect Growth Regulators
 - Dichlorvos

Bed Bug Control – Sprays

- “Contact” killer
- Bed bug resistance
- Residual found to be ineffective upon drying
- May repel bugs



Bed Bug Control – Prostrips

- Use on sensitive articles (books, electronics, etc...)
- Kills Bugs AND eggs within 72 hours in enclosed area



Bed Bug Control – Dusts & Powders

- Long lasting
- Ideal for wall voids and electronics
- 2 types:
 - 1. Silica w/ Pyrethrin
 - 2. Diatomaceous Earth

Bed Bug Control – Foggers

- Not for bed bug control!
- Will not penetrate harborage areas
- Will spread infestation

FOGGERS

Bed Bug Control – Disposal



Bed Bug Resources

- [Pesticides to Control Bed Bugs | US EPA](#)
- Long-Term Care RISE Bed Bug Training Video: [storage.googleapis.com/infection_prevention/bed bugs video.mp4](https://storage.googleapis.com/infection_prevention/bed_bugs_video.mp4)
- [CDC - Bed Bugs](#)
- PDPH Bed Bug Fact Sheet: [Microsoft Word - bed bugs FAQ draft_v2.doc \(phila.gov\)](#)



Questions?

HAI.PDPH@phila.gov



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Education Services & Project Firstline

Reminder: HAI/AR Services

- Infection Control Assessment and Response (ICAR) visit
- Onsite Education
 - Onsite Education Topics:
 - Hand Hygiene
 - Environmental Services
 - Personal Protective Equipment
 - *C. auris*
 - Injection Safety
 - Escape Room
 - Virtual Education Topics:
 - Injection Safety
 - *C. auris*
- N95 Qualitative Fit Test Train-the-Trainer
- Quarterly newsletter
- [Sign-Up Form for HAI/AR Services](#)



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Healthcare-Associated Infections/Antimicrobial Resistance (HAI/AR) Program

Sign-Up Form for HAI/AR Services

Please fill out the fields below.

Thank you!

First Name <small>* must provide value</small>	<input type="text"/>
Last Name <small>* must provide value</small>	<input type="text"/>
Email <small>* must provide value</small>	<input type="text"/>
Phone Number	<input type="text"/>
Facility Name <small>* must provide value</small>	<input type="text"/>

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ESCAPE ROOM

CAPTAIN GERM B. GONE
NEEDS YOUR HELP



Sign up for PDPH's Project Firstline Newest Educational Offering!

- Participants can enhance their knowledge of infection prevention and control by using the escape room format to provide a supportive, safe, and dynamically engaging environment.

What is the Project Firstline Escape Room?

- The escape room is a live, interactive training where teams of 5-6 people will work together for 20-30 minutes to navigate Clutterbug's clever traps and help unite with Captain Germ-B Gone to proclaim victory.
- Four stations cover hand hygiene, source control, cleaning and disinfection, and personal protective equipment that reinforce specific standard infection prevention and control objectives.
- If you're interested in bringing this education to your facility or a train-the-trainer option, contact the PDPH Project Firstline team at HAI.PDPH@Phila.gov





For Skilled Nursing Facilities

CDC Updates

- **CDC Townhall: Understanding Enhanced Barrier Precautions**
 - May 22nd at 1pm
- **Learning Objectives:**
 - Provide an overview of Multidrug-Resistant Organisms (MDROs).
 - Discuss why MDROs pose a significant concern in healthcare settings.
 - Define Enhanced Barrier Precautions and their role in preventing the spread of infections.
 - Address common questions surrounding infection prevention.
 - Open the floor for a Q&A session with participants.



Webinar Link: [Join the Webinar](#)



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Thank you!

Stay tuned for our next call invite