

Module 6 – Managing Cockroaches in Child Care Centers

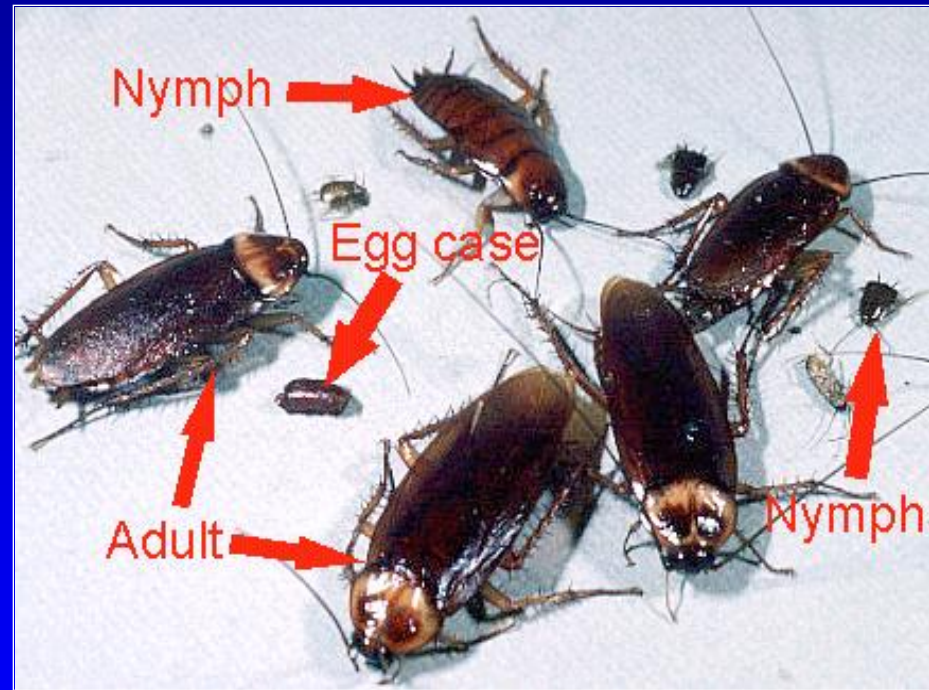


Integrated Pest Management for
Child Care Settings

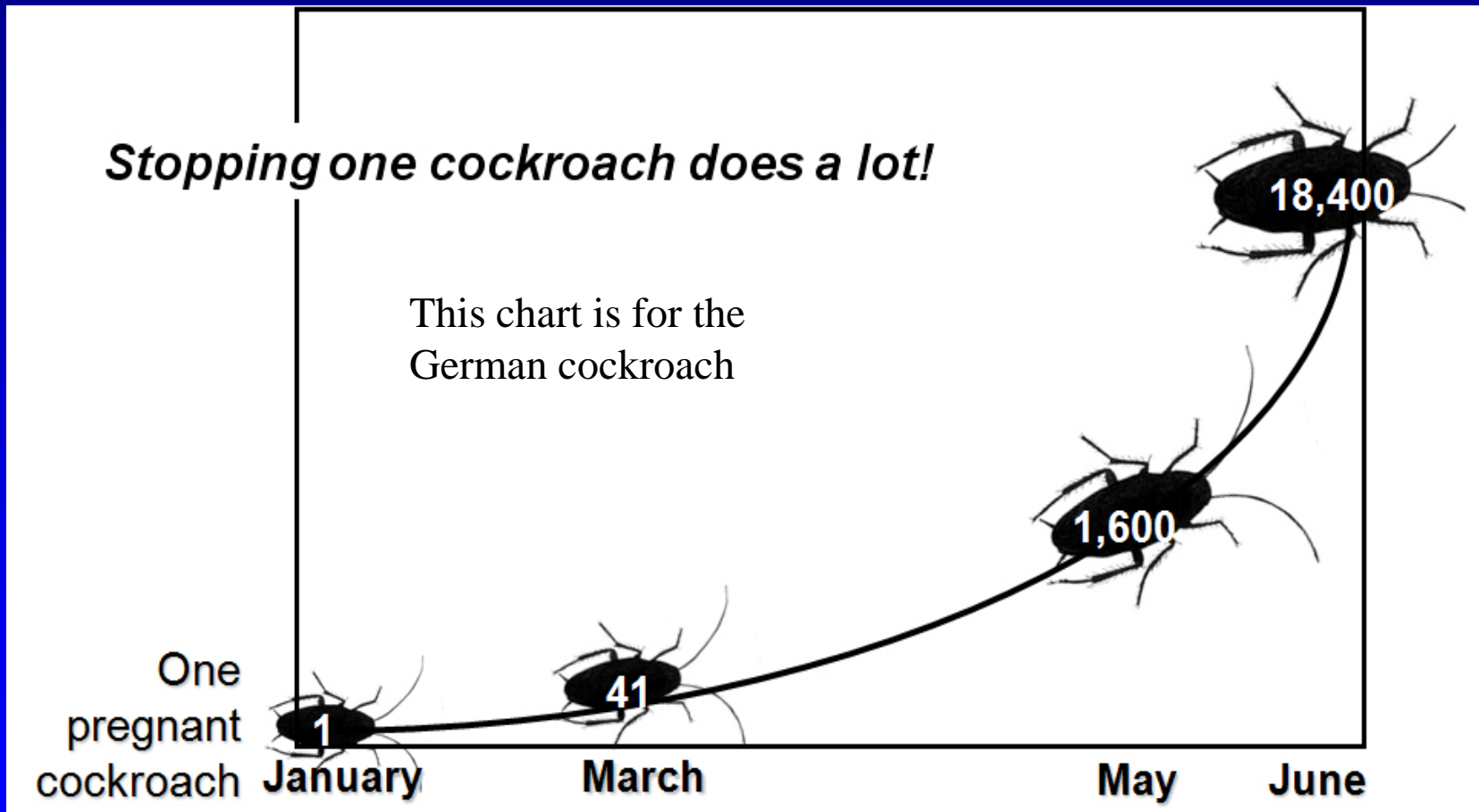
Why manage cockroaches?

Cockroaches and their waste:

- Can make asthma worse in sensitive people
- Can aggravate allergies
- Can make people sick because they carry germs that cause food-borne illness.



Cockroaches multiply rapidly



Cockroach pest species

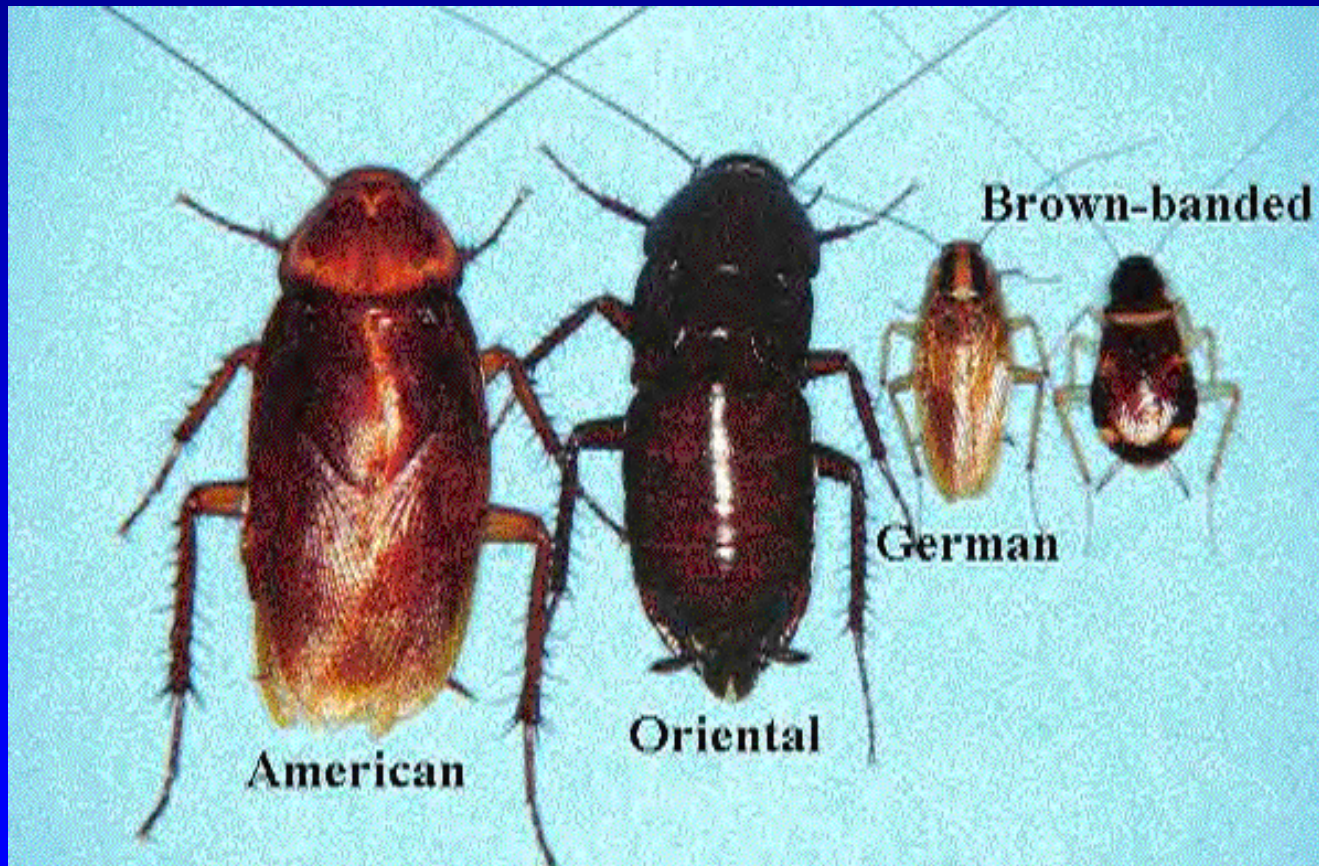


Photo by James Kalisch Univ. Nebraska- Lincoln, Entomology Dept.

American cockroach

- Large reddish-brown roach (waterbug)
- This one can fly!
- Prefers warm, humid areas
- Enters buildings through lower levels and sewers.



Photo by James Kalisch Univ. Nebraska-Lincoln, Entomology Dept.

Oriental cockroach

- Large dark colored roach
- Cannot fly
- Common in sewers and humid dirty places
- Enters buildings through lower levels.



Photo by James Kalisch Univ. Nebraska-Lincoln, Entomology Dept.

German cockroach

- This is the most common roach species!
- Small and fast
- Pale brown, full wings
- Does not fly
- Likes kitchens, appliances
- Transferred in boxes and paper goods



Photo by James Kalisch Univ. Nebraska-Lincoln, Entomology Dept.

Brownbanded cockroach

- Small light brown roach
- Uncommon in NY
- Adults have wings
- Prefers “high and dry” areas such as computers and electrical equipment.

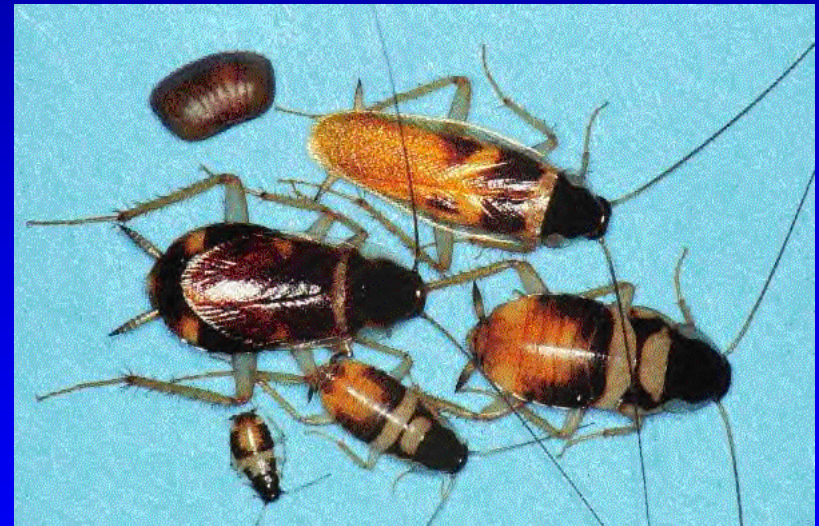


Photo by James Kalisch Univ. Nebraska-Lincoln, Entomology Dept.

Know the type of cockroach

- Each type comes inside through different means
- Target areas preferred by that type
- German roaches are worst pests



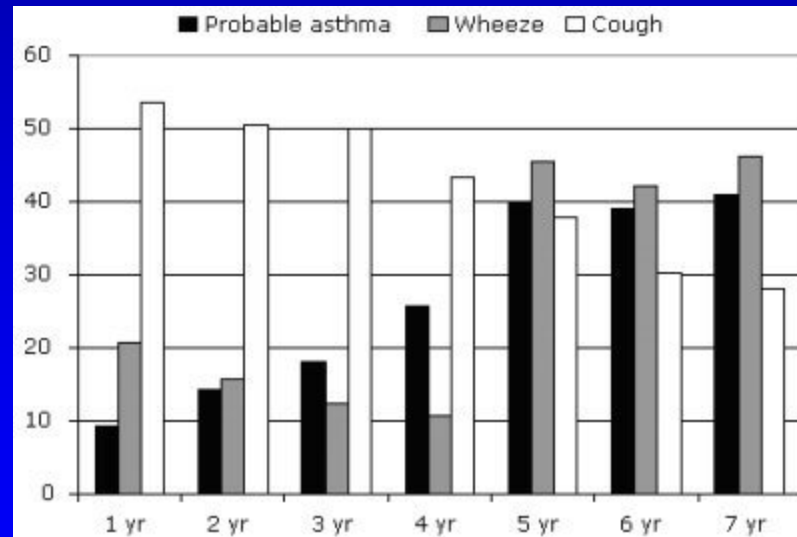
Photo by J.L. Gangloff-Kaufmann

Cockroach damage

- Cockroaches eat lots of different things.
- Small amounts of food can feed large numbers of cockroaches.
- Cockroaches ruin stored food and other items by feeding, defecating and carrying germs.
- They contaminate eating utensils and surfaces.
- Cockroaches are disgusting and not tolerable for many people.

Cockroach damage

- Cockroaches trigger asthma, especially in children.



US EPA 2007
Progress Report:
Research Project on
Asthma: Prenatal
and Postnatal Urban
Pollutants and
Childhood Asthma

Exposure to cockroach and mouse allergens
raises child asthma rates over time

Cockroach behavior

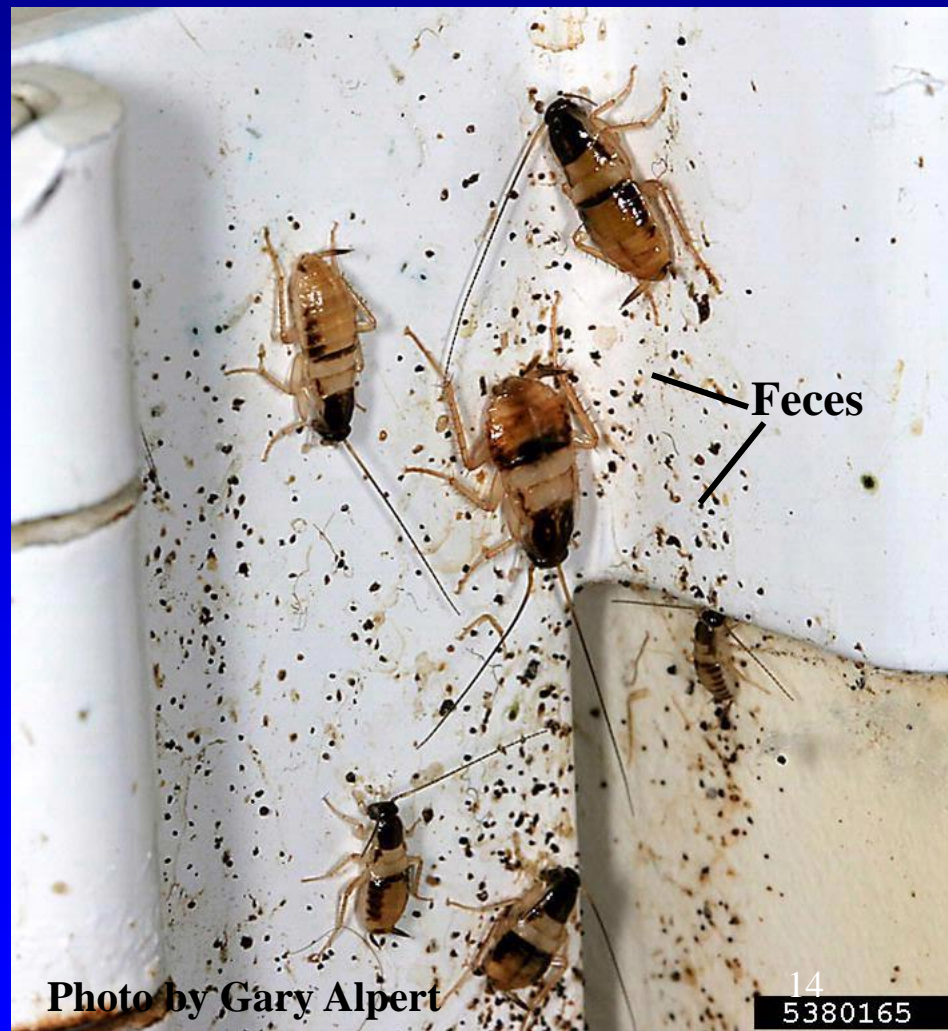
- Hide during the day, emerge at night to feed
- Tend to aggregate in kitchens and bathrooms
- Live in loose groups, not “nests”
- Young cockroaches will eat the cast skins and feces of others. They tend to stay in the hiding spots.

Cockroach control

- Four main steps
 1. Inspection to see what kind they are, where they are.
 2. Remove food, water and shelter they use.
 3. Seal up places where they could be coming in – or stop them from being brought in.
 4. Remove, trap and bait for the remaining.

Signs of cockroaches

- Feces (frass)
- Cast skins
- Egg cases (each with many eggs)
- Dead roaches



Inspection

- Look in gaps, cracks and crevices.
- Use a powerful flashlight to see beneath appliances (stove and refrigerator).
- Check for loose molding at the wall base.
- Look in all spaces, under things, behind things. Look for water, food.
- Cardboard and paper are favorite spots.

Inspection

- Look behind wall hangings, clocks, in door jambs.
- Look under shelf liners inside cabinets.
- Lift boxes and also look inside them
- Inspect gaps along shelves and counter tops at the wall.

Cockroach
debris in
cardboard
school food
trays



Photo by J.L. Gangloff-Kaufmann

Cockroaches love to hide in narrow spaces



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Remove sources of food

- Keep all counter surfaces and crevices very clean. Wipe up crumbs and spills.
- Clean under the stove and refrigerator.
- Vacuum and wash floors daily.
- Clean out the microwave every day!
- Store all food in tightly sealed metal, plastic or glass containers.
- Wash, dry and put away dishes.
- Do not leave items in a sink overnight.

Good sanitation removes food and water



Photos by J.L. Gangloff-Kaufmann

Thorough cleaning should be performed on a regular basis. Sweep, scrape, scrub all food residues away.

Remove sources of food

- Empty and clean refrigerator drip pans weekly or more often if water sits there.
- Keep recyclables in plastic bags, sealed at night and away from kitchen or food storage areas.
- Empty garbage and recycling containers at the end of each day and keep them cleaned.

Clean trash areas



Liquids and food may collect under the trash bag in a garbage can. It must be hosed out!

Remove areas of shelter

- Throw away piles of cardboard, paper and junk.
- Inspect boxes before bringing them into the building or open them outside.
- Rotate stocks of food and dry or paper goods.
- Keep closets and pantries organized.
- Inspect wall hangings and remove if necessary for treatment.

Use shelves to keep items off the floor



Photo by J.L. Gangloff-Kaufmann

This removes hiding spots and makes cleaning and inspection much easier. Works for mice, too! 25

Organize storage areas to minimize habitat



Photos by J.L. Gangloff-Kaufmann

Remove sources of water

- Repair water leaks, for example:
 - A dripping sink
 - A pipe with condensation
 - A leaking window, door or roof
- Keep bathrooms dry



Photo by J.L. Gangloff-Kaufmann

What is wrong with this picture?



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Remove cockroach access

- Seal all gaps around rooms where cockroaches can enter or hide.
 - Use caulk or make permanent repairs
 - Seal base molding with caulk or glue it back on



Remove cockroach access

- Seal all gaps around rooms where cockroaches can enter or hide.
 - Close holes in walls

A previous repair that has fallen apart – it must be redone. Concrete patch can be used.



Remove cockroach access

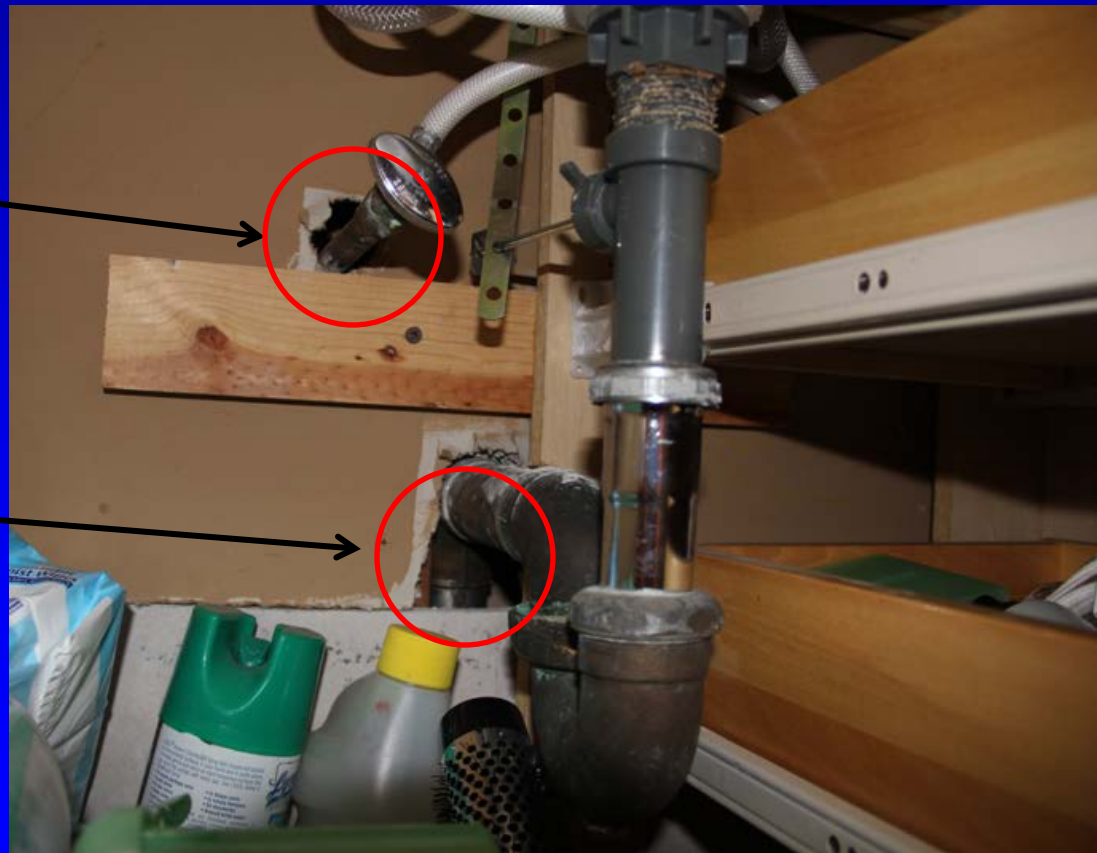
- Seal all gaps around rooms where cockroaches can enter or hide.
 - Seal openings around pipes using caulk if openings are small and escutcheon plates or permanent repairs if openings are large.



Remove cockroach access

- Seal openings where pipes enter under sinks.

Cockroaches will come up from basements and sewers into the facility with openings like this.



Remove cockroach access

- Seal all gaps around rooms where cockroaches can enter or hide.
- Door sweeps restrict entry of all pests from outdoors and basements. They are easy to install. (see video?)
- Use brush-style door sweeps because they spread at the ends to close the corners.



Cockroach control



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Remove cockroaches

- Vacuum areas where cockroaches are seen.
- Vacuum live or dead roaches AND their droppings, skins and egg cases.
 - These are all allergy triggers
- Use a vacuum (with HEPA filter) to clean up cockroaches and their body parts to reduce allergens.
- Seal and throw vacuum bag away.

To avoid contaminating vacuum

- Insert knee-high pantyhose into hose end to collect cockroaches and particles for disposal.



You will need a rubber band and a knee-high sock in good condition. Use the rubber band to keep the sock from being drawn into the vacuum. Remove when finished vacuuming and throw it away.

Sticky traps are useful

- Use sticky traps to track and actually reduce a cockroach infestation.
 - Write the date on each trap.
 - Inspect traps weekly.
 - Write down number of roaches caught to track changes (up or down) in activity.
 - Replace sticky traps each time.



Photo from
Stoppests.org

Sticky trap placement

- Place traps in areas where cockroach activity is noticed.
 - Under stove and refrigerator, washer and dryer
 - Inside cabinets
 - In drawers
 - Along walls in trash and recycling areas
 - **AWAY** from children!

Is this trap in the right spot?



Now you have learned

- Cockroaches are bad for human health and should be eliminated from a child care.
- Sanitation is the most important factor in cockroach control.
 - Eliminate food and water.
- Organize to remove hiding spots.
 - Clutter encourages cockroaches.

The pest management professional's (PMP) role

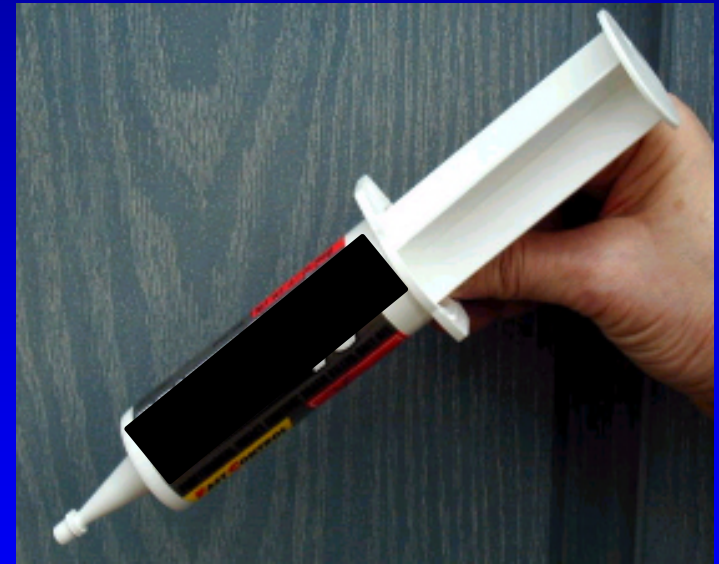
- PMP should use sticky trap information to determine where activity is highest.
- PMP should offer services such as:
 - Cleaning recommendations
 - Inspection and monitoring
 - Vacuuming
 - Drain cleaning
 - An IPM approach to management
 - Low-risk pesticide products

The pest management professional's (PMP) role

- Low-risk pesticide products include:
 - Boric acid placed in areas not accessible to kids (under appliances, in walls)
 - Diatomaceous earth (DE) – a mineral
 - Cockroach baits can be used to eliminate larger problems.
 - Baiting takes time and works best when sanitation is good.
 - Keep children away from baits!

Cockroach baits

- Paste or gel baits work well.
- They do not work if:
 - Contaminated with cleaners, pesticide spray, nicotine
 - Food is available, such as grease, crumbs or trash
- Granular baits are also available but must remain dry.



Don't use over-the-counter sprays and foggers

- Over-the-counter sprays and foggers are not allowable in child care centers.
- They are not compatible with baits.
- They are dangerous to children's health.



Finally...

- Cockroach control takes time and cooperation of all involved.
- Spraying, alone, doesn't work well.
- Multiple tactics are needed.
- Prevent cockroaches with improved sanitation and by excluding them.
- Never apply pesticides, let the PMP do that.
- Use only low-risk products in child care.