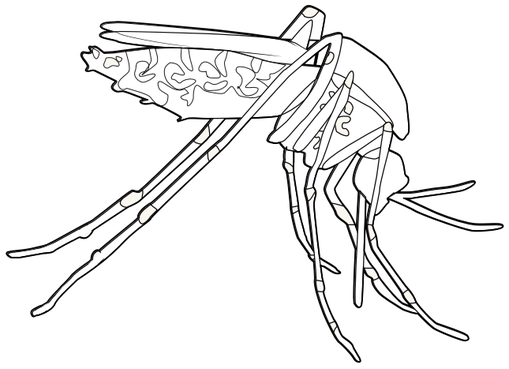
# MOSQUITO CONTROL & BITE PREVENTION

Educational Flipbook

# Background



Mosquitoes can spread viruses like Zika, chikungunya, and dengue.This flipbook gives basic information about mosquito control activities and how to protect from mosquito bites. Mosquito control approaches that incorporate community education, and mosquito surveillance and control are often called “integrated vector control.” A vector is an insect, like a mosquito, that can spread viruses.

# How to Use this Flipbook

- Each page in the flipbook has two sides.
- Face the side with the mosquito image in the corner towards you and use the bullets on this side as a discussion guide.
- Show your audience the side with the larger picture on it to explain the different methods of mosquito control, and mosquito bite prevention.

# Background on Mosquito Bite Protection

Everyone can take steps to prevent mosquito bites.

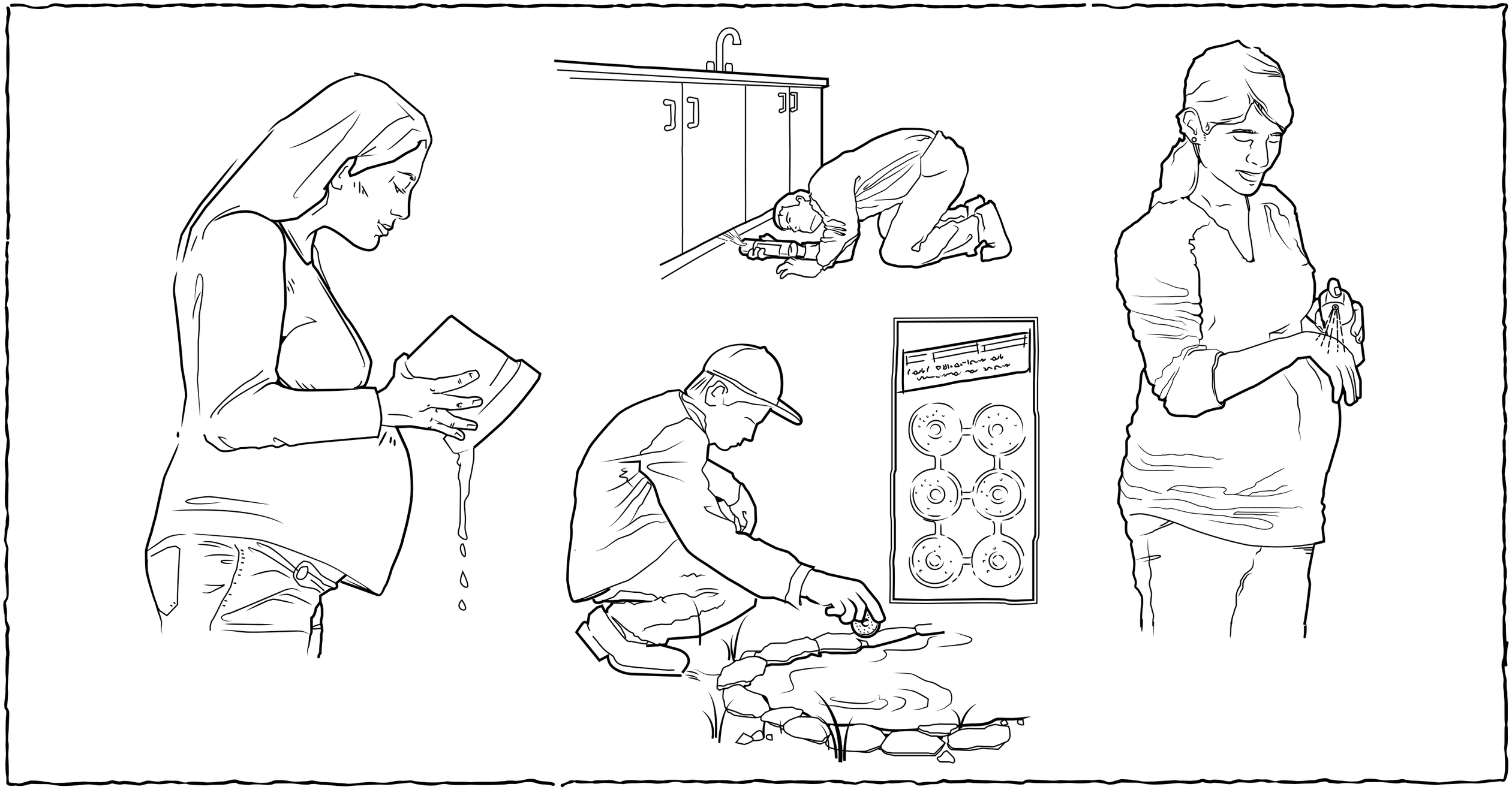
- Wear long-sleeved shirts and long pants.
- Stay in places that have air conditioning and window and door screens to keep mosquitoes outside.
- Sleep under a mosquito bed net if your home does not have screens on windows and doors or if you sleep outside.
- Use Environmental Protection Agency (EPA)-registered insect repellents with one of the following active ingredients:
  - DEET
  - Picaridin
  - IR3535
  - Oil of lemon eucalyptus or para-menthane-diol
- Choosing an EPA-registered repellent ensures the EPA has evaluated the product for effectiveness. When used as directed, EPA-registered insect repellents are proven safe and effective, even for pregnant and breastfeeding women.

# Background on Mosquito Control

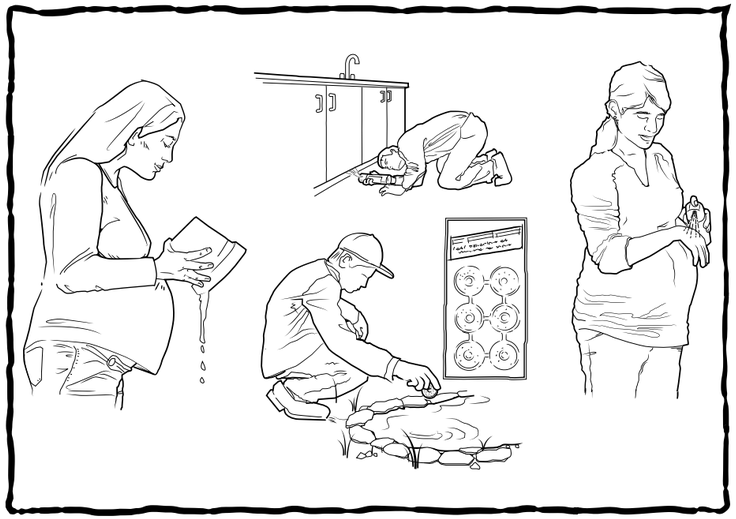
Effective mosquito control relies on many methods

- Tracking mosquito populations and viruses they may be carrying.
- Determining if EPA-registered insecticides are effective on a specific mosquito population.
- Reducing areas of standing water where mosquitoes lay eggs.
- Spraying adulticides (products used to kill adult mosquitoes).
- Treating water that cannot be eliminated with larvicides (products used to kill young mosquitoes).
- Acting on information from health departments about cases of disease in the community.
- Teaching the public about how to control mosquito populations.

# 1. Introduction



# 1. Introduction



- Today we will learn about different ways to control mosquitoes and ways to protect yourself and your family from mosquito bites.
- We will talk about things you can do at home and in the community.
- Mosquito control is important because it reduces the number of mosquitoes in an area and the chances that you will get sick with a disease spread by bites from infected mosquitoes.

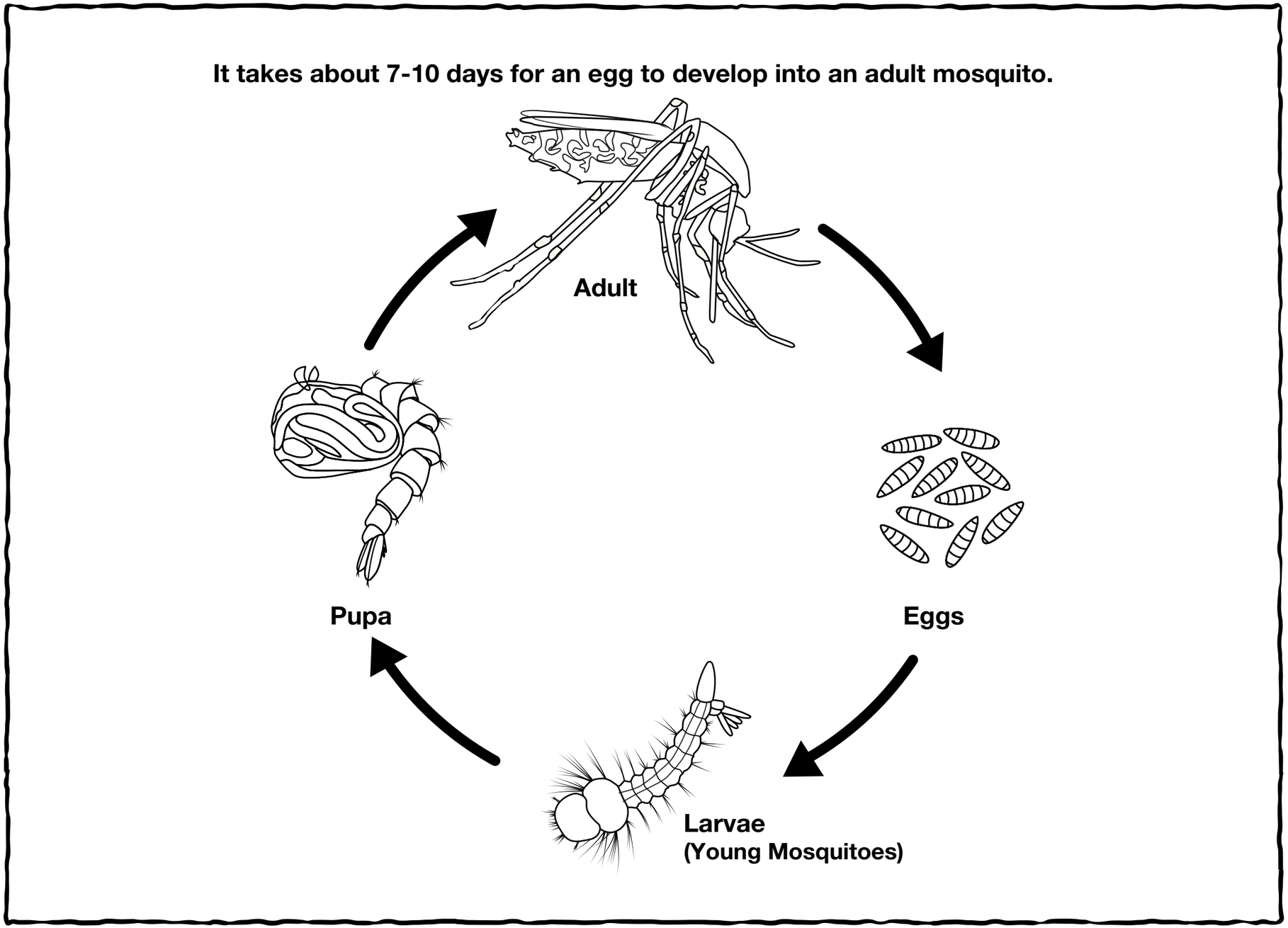
# 2. About Mosquitoes

Female mosquitoes lay eggs in containers that hold water.

Eggs hatch within a few days to months when covered with water.

Young mosquitoes (larvae) live in water. They develop into pupae in as few as 5 days.

Pupae live in the water. They develop into adult, flying mosquitoes in 2-3 days.



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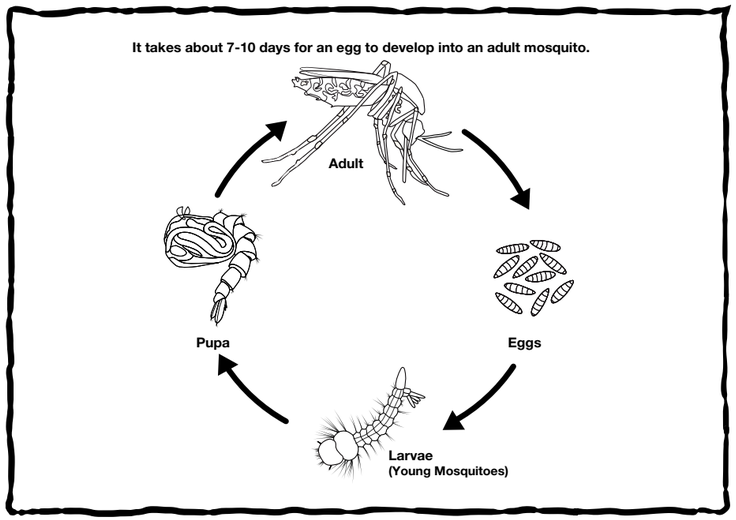


- It takes about a week for a mosquito egg to develop into an adult.
- Adult female mosquitoes lay eggs in containers that hold water.
- Eggs stick to container walls like glue. The eggs can dry out and survive for up to 8 months.
- Reduce the number of mosquitoes inside and outside your home.
    - Once a week, empty and scrub, turn over, cover, or throw out items that hold water, such as tires, buckets, planters, toys, pools, birdbaths, flowerpots, or trash containers.

# 3. Remove Standing Water

Removing standing water keeps mosquitoes from having a place to lay eggs.

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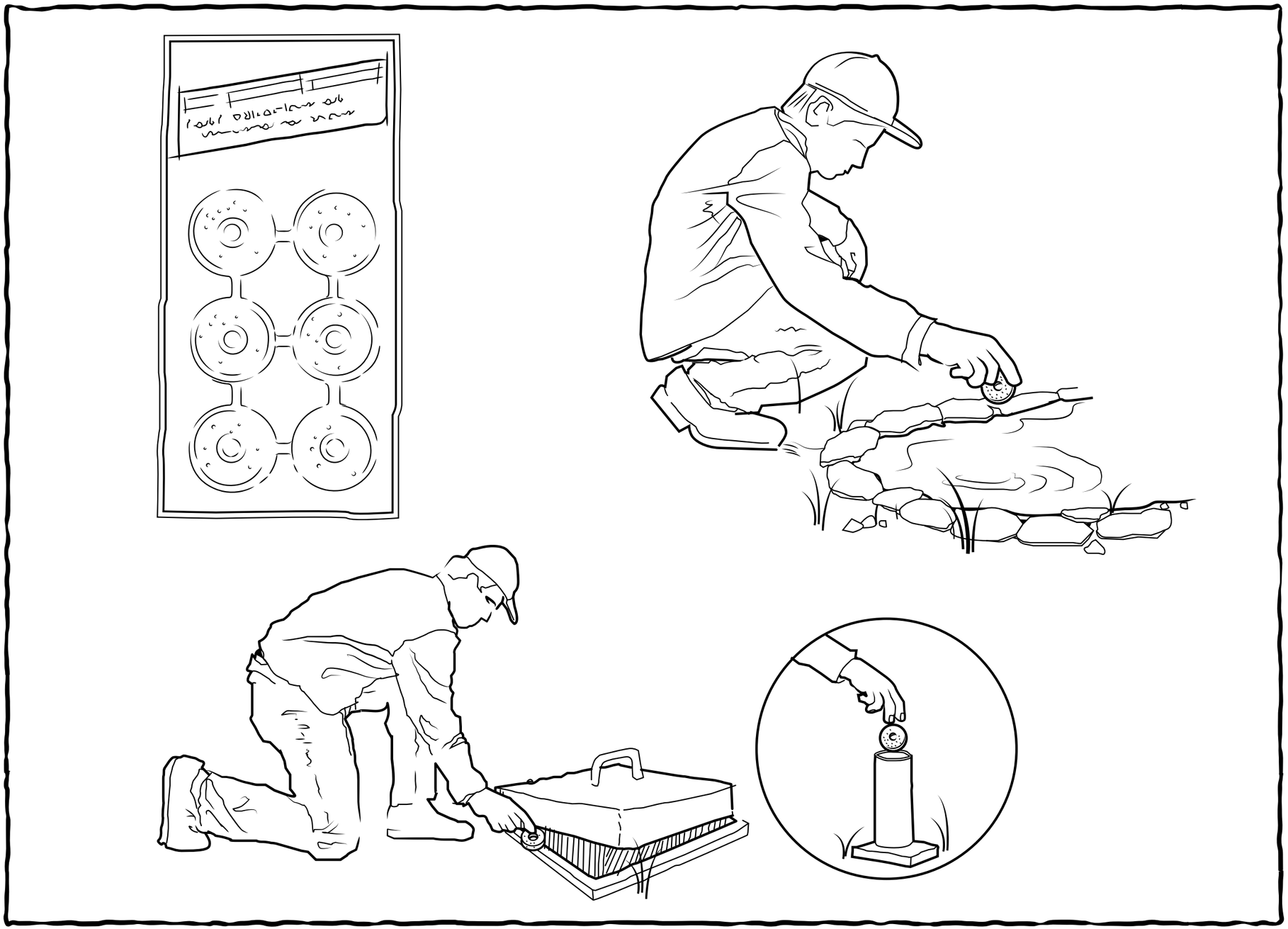
- Because mosquito eggs need water to hatch, removing water in and around the home helps to reduce the number of mosquitoes and may help reduce your chances of getting sick.
- Once a week, you should empty and scrub, turn over, cover, or throw out any items that hold water like tires, buckets, planters, toys, pools, birdbaths, flowerpot saucers, or trash containers.

# 4. Treat Standing Water with Larvicides

Larvicides are used in standing water that cannot be emptied to kill young mosquitoes before they become adults.



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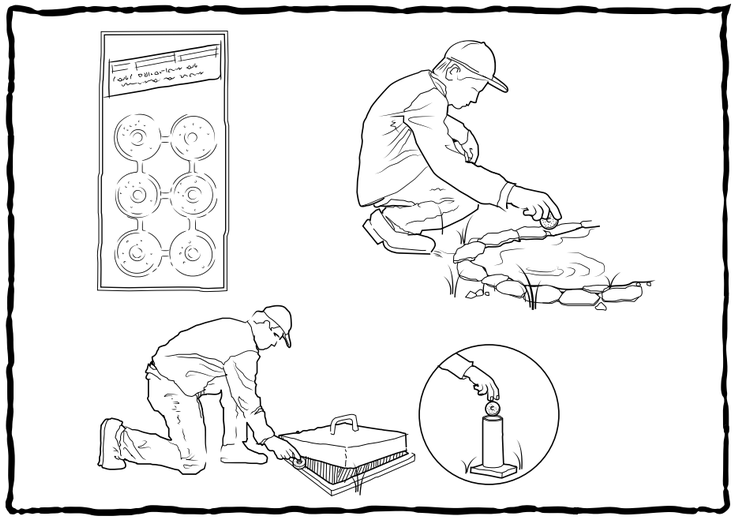


- Larvicides can be added to containers with standing water to kill young mosquitoes.
- DO NOT add larvicides to drinking water, fountains, or household water containers. Mosquito “dunks” can be bought at grocery or hardware stores and dropped in standing water.
- Larvicides kill young mosquitoes so they cannot become adults mosquitoes, which means fewer biting and disease-spreading mosquitoes.

# 5. Wear Insect Repellent

Insect repellents do not kill mosquitoes but will help keep mosquitoes from biting you.

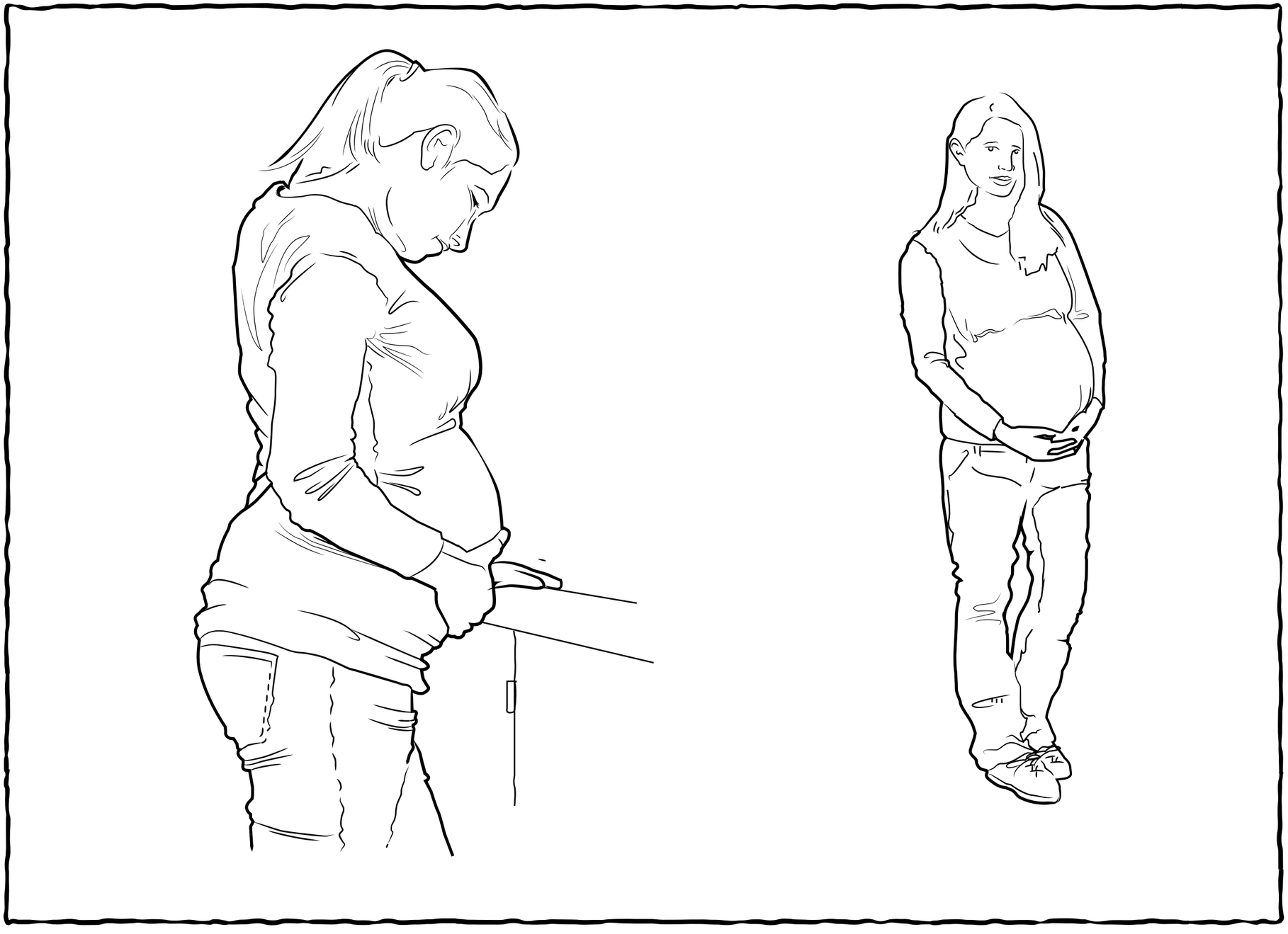
# 5. Wear Insect Repellent

When used as directed, insect repellents keep mosquitoes from biting you

- Insect repellents are designed to be used on bare skin not covered by clothes.
- Repellents come in many forms
    - Aerosol sprays
    - Lotions
    - Creams
    - Solid (sticks)
    - Pump sprays
    - Liquids
    - Towelettes or wipes
- CDC recommends using an EPA-registered insect repellent with one of these ingredients:
    - DEET
    - Picaridin
    - IR3535
    - Oil of lemon eucalyptus or paramenthane-diol

# 6. Wear Protective Clothing

Wear long-sleeved shirts and long pants to keep mosquitoes from biting you.



# 6. Wear Protective Clothing

- Wear long-sleeved shirts, pants, and socks cover skin to keep mosquitoes from biting you.
- Clothing is a barrier between mosquitoes and the people they want to bite.

# 7. Install or Fix Screen Windows and Doors

Screened windows and doors help to keep mosquitoes outside of your home.

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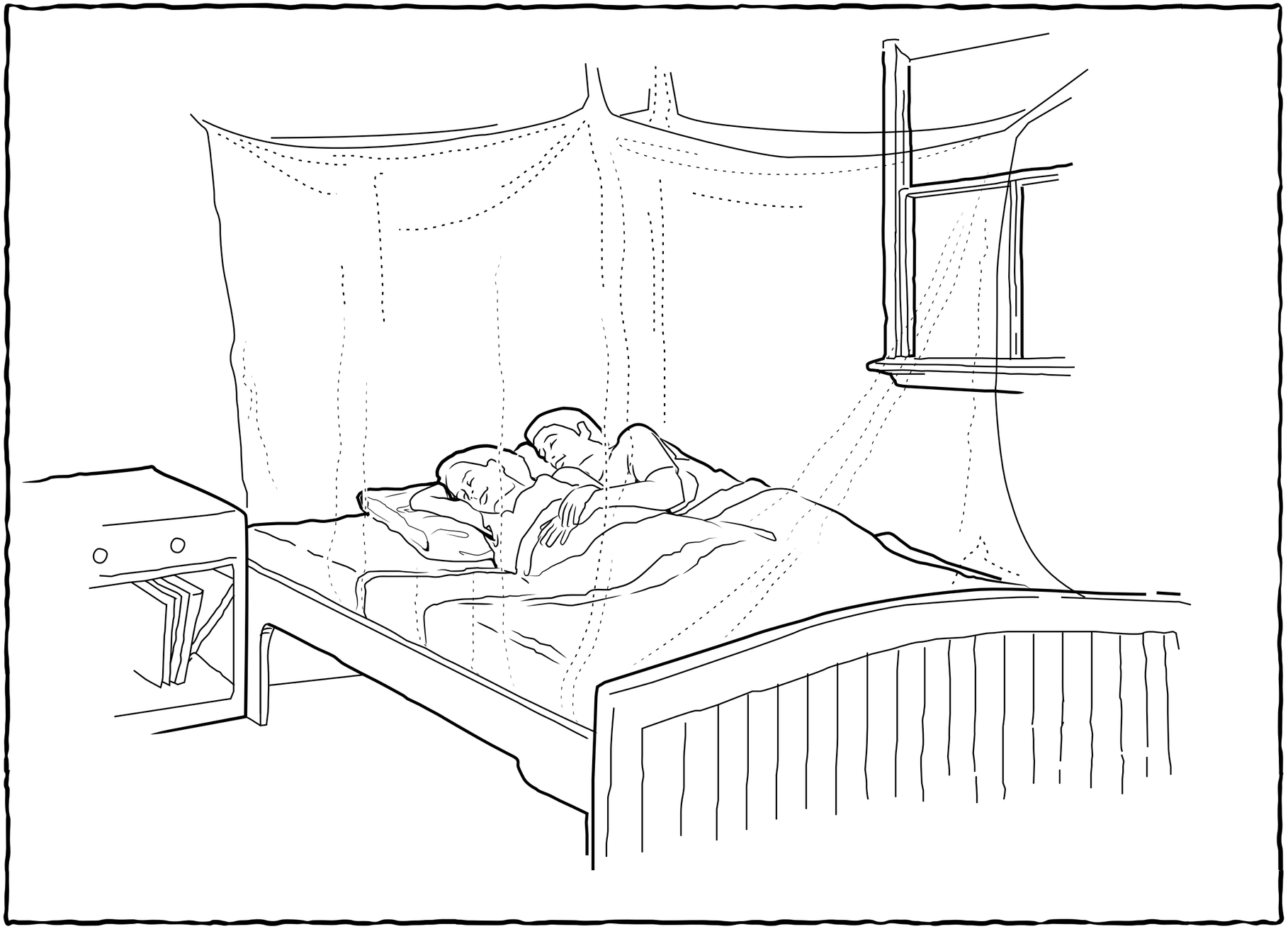
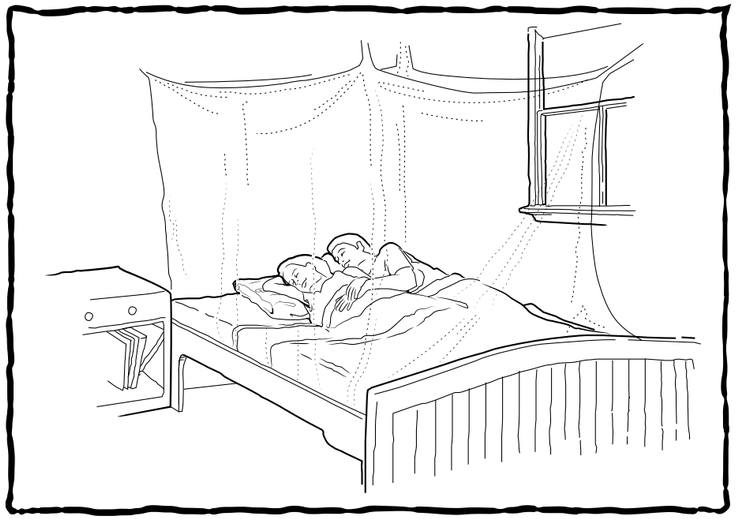
- Screened windows and doors help to keep mosquitoes outside of your home.
- Mosquitoes can get inside if there are rips or tears in screens, so it is important to repair screens (close any holes).
- Studies show that houses with screens are less likely to have mosquitoes in them.

# 8. Sleep Under a Bed Net

If you don’t have screens on your windows and doors, sleep under a bed net to prevent mosquito bites.



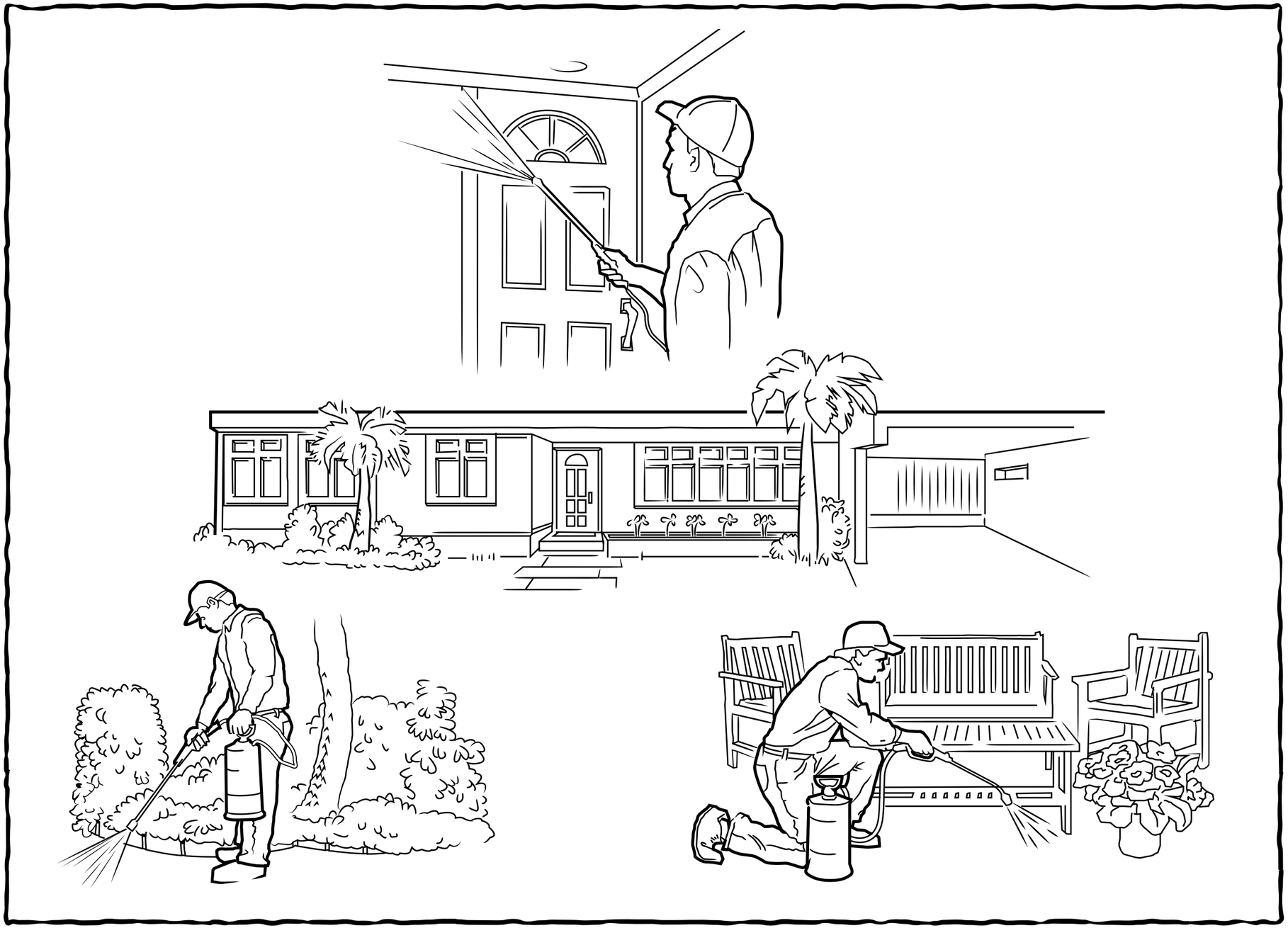
# 8. Sleep Under a Bed Net



- The mosquitoes that spread the Zika virus bite during the day and at night.
- If you don’t have screens on windows and doors, bed nets can keep you from being bitten while you sleep.
- A bed net is a barrier between mosquitoes and the people they want to bite.

# 9. Outdoor Spraying

Outdoor spraying kills adult mosquitoes.



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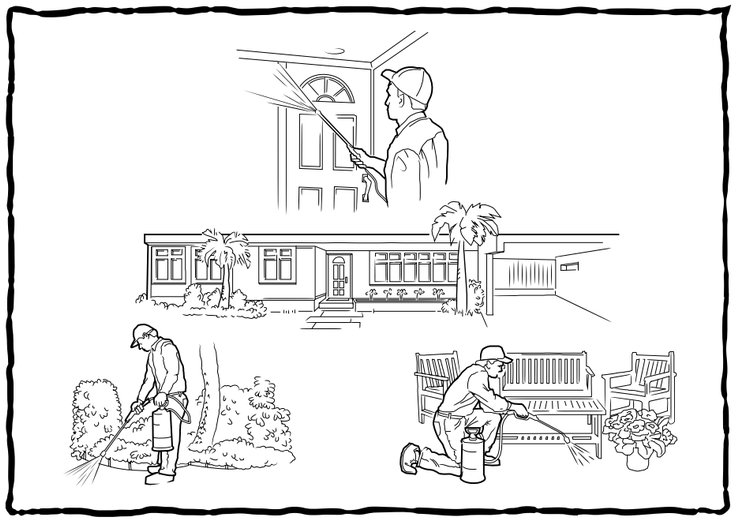
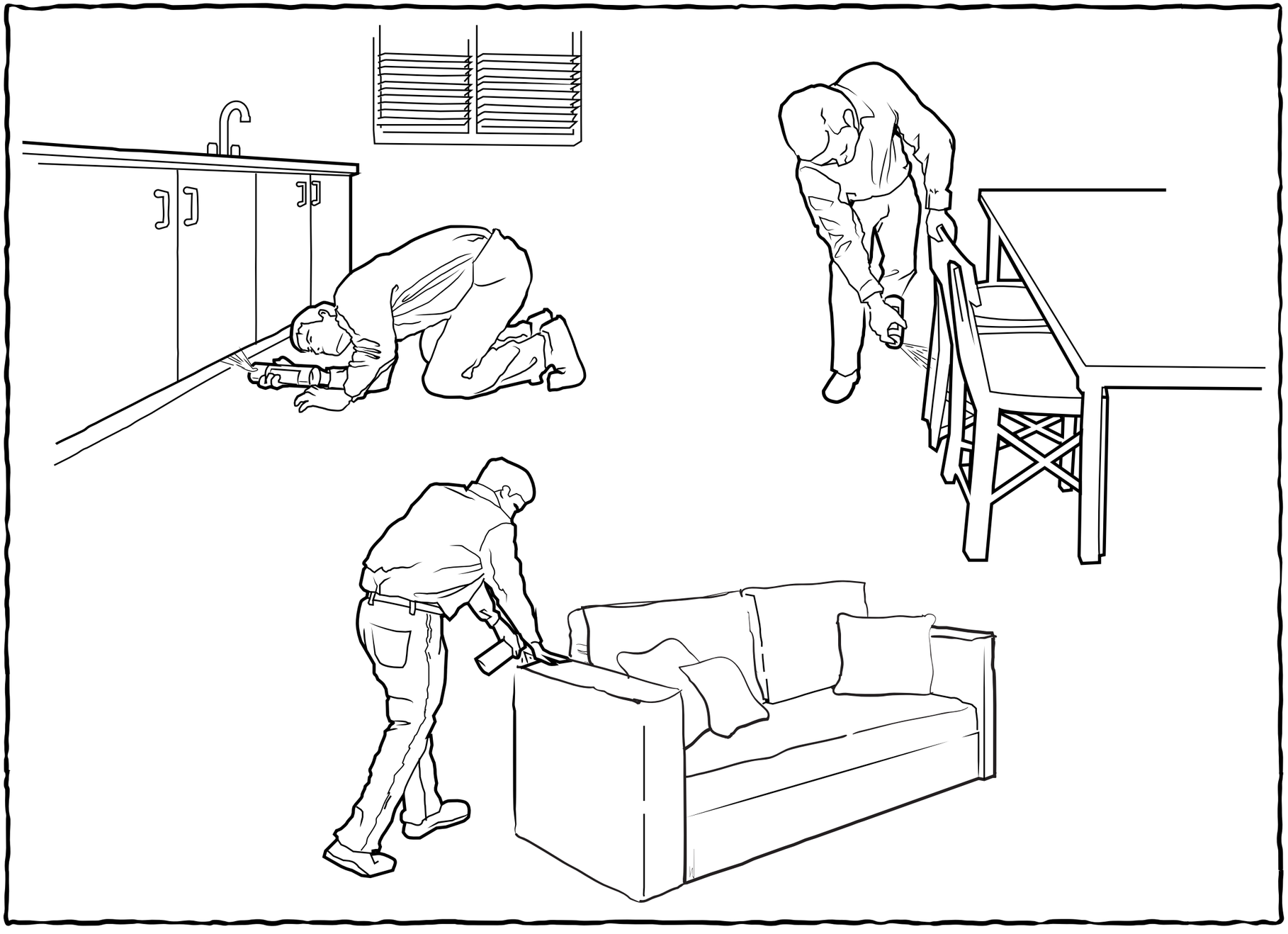


- Trained professionals spray insecticide outside of the home in and on the places that mosquitoes like to rest – usually cool, dark, humid places.
- Examples of places to be sprayed include sheds and children's playhouses, and under decks, furniture, and playground equipment.
- The spraying can be done anytime during the day and usually will kill mosquitoes for several weeks.
- Trained professionals use insecticides that are safe and effective.
- Once dried, products are unlikely to cause health problems.

# 10. Indoor Spraying

Indoor spraying kills adult mosquitoes.



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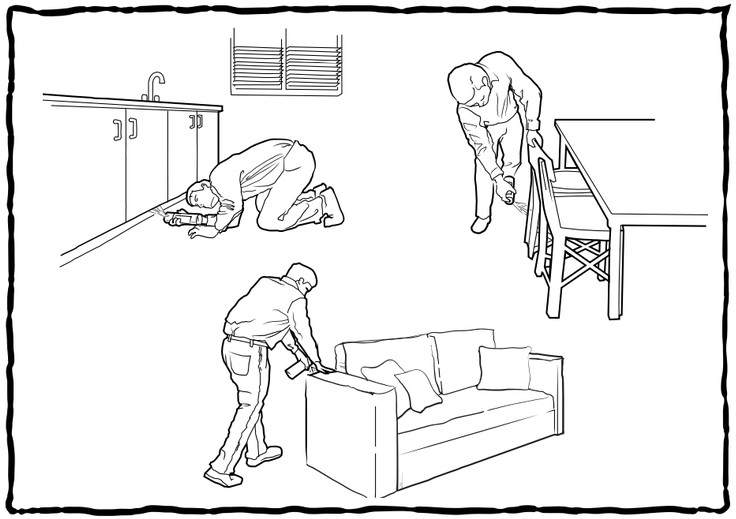
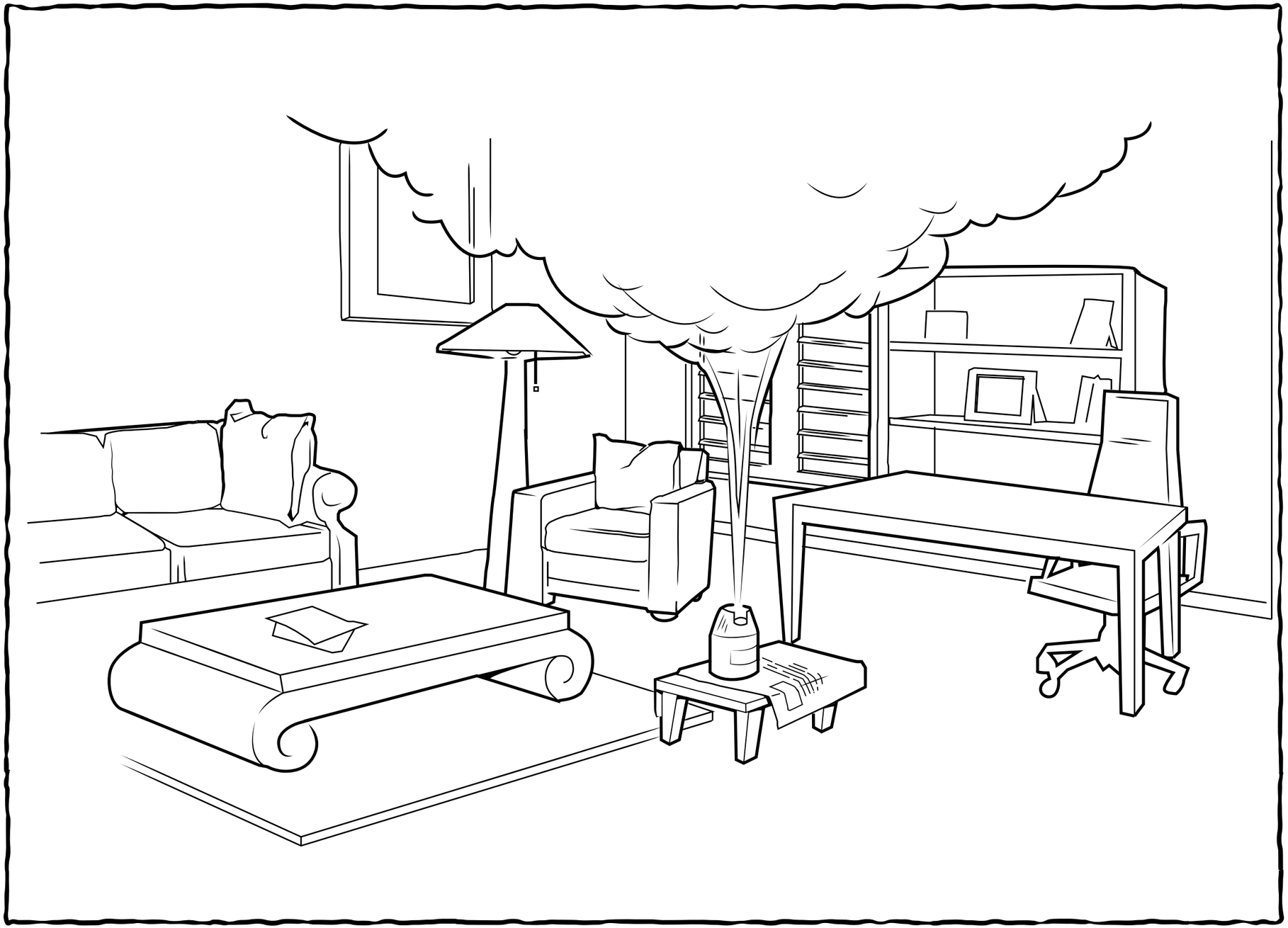


- Indoor spraying should be considered when your home doesn't have screens on windows and doors to keep mosquitoes outside.
- You can buy indoor insecticide at the local hardware or grocery store and spray your home. If you prefer and have the resources, trained professionals can spray insecticide inside of the home.
- Mosquitoes like to rest in cool, dark, places so spray
    - Under tables
    - Behind furniture
    - Under beds and cabinets
    - In the laundry room
- This type of spraying can be done anytime during the day and products work immediately. Some products may kill mosquitoes for up to several weeks. It is important to follow label instructions.
- Spraying kills adult mosquitoes.
- Once dried, products are unlikely to cause health problems.

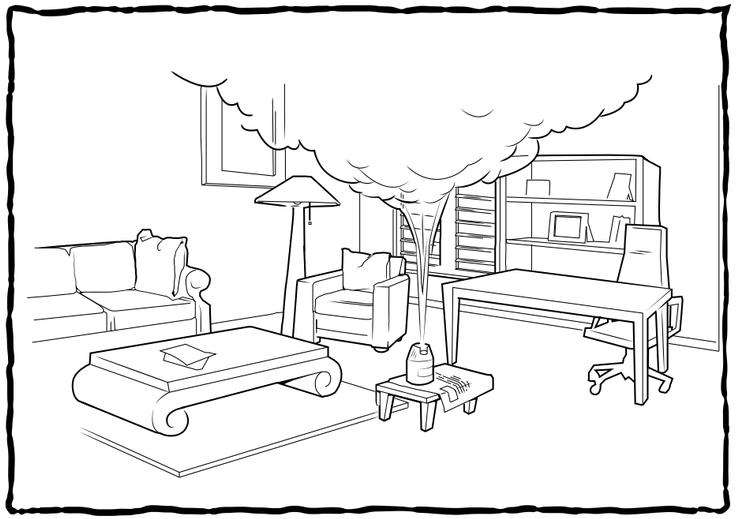
# 11. Indoor Spraying Foggers

Indoor foggers can also be used to kill mosquitoes inside your home.

You and your pets must leave your home when using a fogger.



# 11. Indoor Spraying Foggers



- You can also use foggers or aerosols to kill mosquitoes inside. These products can be used to kill mosquitoes in the air.
- You and your pets must leave the home when foggers or aerosols are used. Cover fish tanks.
- It is important to follow label instructions.
- You can return home after the fog has dried.

# 12. Community-Wide Clean Up Campaigns

Community-wide efforts to pick up trash and remove tires can help get rid of places where mosquitoes lay eggs.

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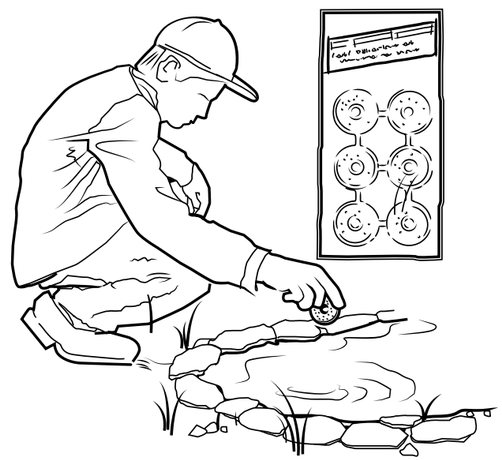
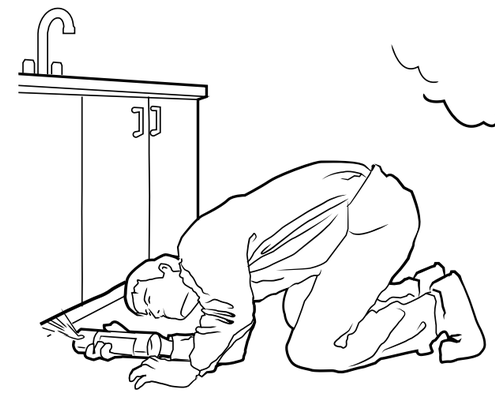
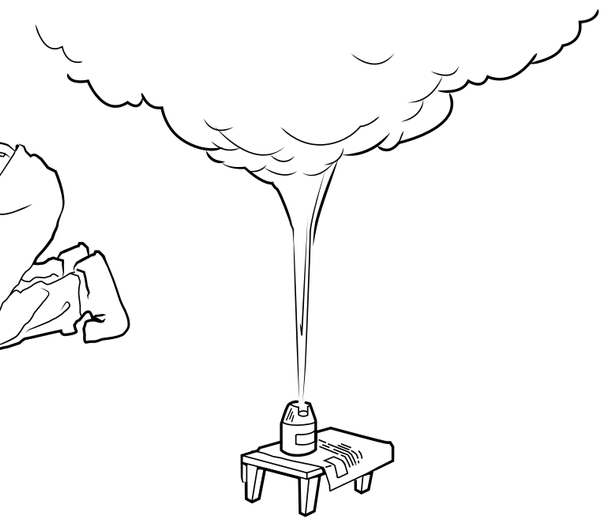
- Community-wide efforts to pick up trash and tires can help get rid of places where mosquitoes lay eggs.
- Discarded containers, trash, and tires are the perfect place for mosquitoes to lay eggs—they are cool, dark, and humid.

# What we've learned about

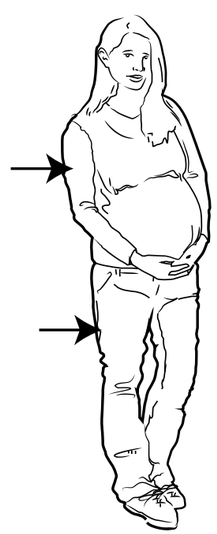
## Types of mosquito control

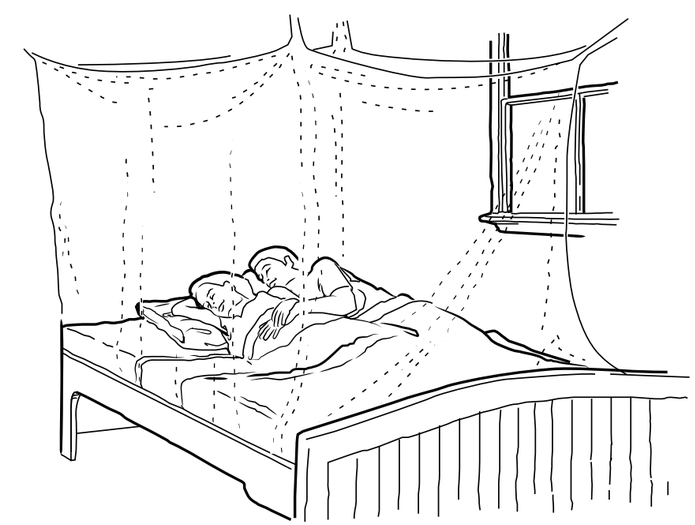






## Ways to protect from bites





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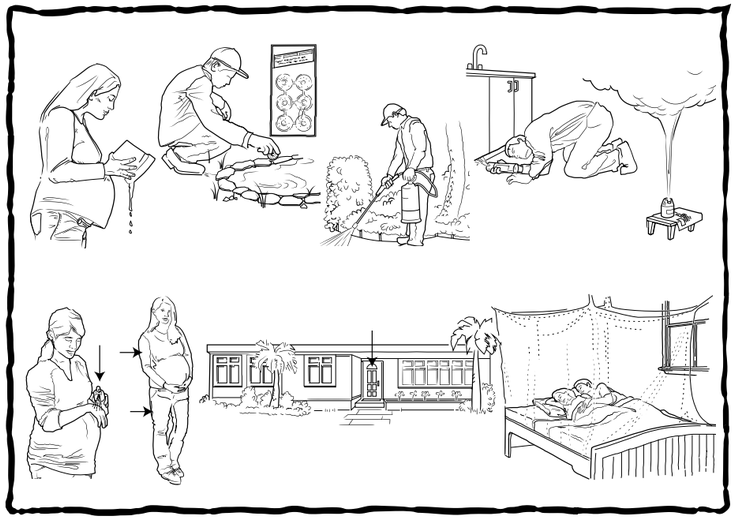

## Types of mosquito control

- Removal of standing water
- Adding larvicides to standing water
- Outdoor spraying
- Indoor spraying
- Indoor fogger

## Ways to protect from bites

- Use Environmental Protection Agency (EPA)-registered insect repellents with one of the following active ingredients:
  - DEET
  - Picaridin
  - IR3535
  - Oil of lemon eucalyptus or para-menthane-diol
- Wear long sleeves and pants.
- Stay inside in air conditioning when available, or fix screens on windows and doors.
- Sleep under a mosquito bed net if your home does not have screens on windows and doors or if you sleep outside.