

Help Control Mosquitoes that Spread Dengue, Chikungunya, and Zika Viruses

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Aside from being itchy and annoying, the bite of an infected female mosquito (*Aedes aegypti* or *Aedes albopictus*) can spread dengue, chikungunya, or Zika viruses. People become infected with dengue, chikungunya, or Zika after being bitten by an infected mosquito.

- Female mosquitoes lay several hundred eggs on the walls of water-filled containers. Eggs stick to containers like glue and remain attached until they are scrubbed off. When water covers the eggs, they hatch and become adults in about a week.
- Adult mosquitoes live inside and outside.
- They prefer to bite during the day.
- A few infected mosquitoes can produce large outbreaks in a community and put your family at risk of becoming sick.

Protect Yourself, Your Family, and Community from Mosquitoes

1.

Eliminate standing water in and around 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. Check inside and outside your home.
- Tightly cover water storage containers (buckets, cisterns, rain barrels) so that mosquitoes cannot get inside to lay eggs.
- For containers without lids, use wire mesh with holes smaller than an adult mosquito.

2.

If you have a septic tank, follow these steps:

- Repair cracks or gaps.
- Cover open vent or plumbing pipes. Use wire mesh with holes smaller than an adult mosquito.

3.

Keep mosquitoes out of your home:

- Use screens on windows and doors.
- Repair holes in screens.
- Use air conditioning when available.



Put plants in soil, not in water.



Drain water from pools when not in use.



Recycle used tires or keep them protected from rain.



Drain & dump any standing water.



Weekly, scrub vases & containers to remove mosquito eggs.

4.

Prevent mosquito bites:

- Use an Environmental Protection Agency (EPA)-registered insect repellent with one of the following active ingredients. All EPA-registered insect repellents are evaluated to make sure they are safe and effective.



Keep rain barrels covered tightly.



Weekly, empty standing water from fountains and bird baths.



Keep septic tanks sealed.



Install or repair window & door screens.

Active ingredient Higher percentages of active ingredient provide longer protection	Some brand name examples*
DEET	Off!, Cutter, Sawyer, Ultrathon
Picaridin , also known as KBR 3023 , Bayrepel , and icaridin	Cutter Advanced, Skin So Soft Bug Guard Plus, Autan (outside the United States)
IR3535	Skin So Soft Bug Guard Plus Expedition, SkinSmart
Oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD)	Repel
* Insect repellent brand names are provided for your information only. The Centers for Disease Control and Prevention and the U.S. Department of Health and Human Services cannot recommend or endorse any name brand products.	

- Always follow the product label instructions.
- Reapply insect repellent every few hours, depending on which product and strength you choose.
- Do not spray repellent on the skin under clothing.
- If you are also using sunscreen, apply sunscreen first and insect repellent second.
- Treat clothing and gear (such as boots, pants, socks, and tents) with permethrin or purchase permethrin-treated clothing and gear.
 - Treated clothing remains protective after multiple washings. See product information to find out how long the protection will last.
 - If treating items yourself, follow the product instructions carefully.
 - Do **not** use permethrin products, intended to treat clothing, directly on skin.
- Wear long-sleeved shirts and long pants.



FOR MORE INFORMATION
Rockland County Department of Health
 (845) 364-3173
rocklandgov.com/health
New York State Department of Health
 Zika Information Line: 1 (888) 364-4723
health.ny.gov

For more information, visit:
www.cdc.gov/dengue, www.cdc.gov/chikungunya, www.cdc.gov/zika

Mosquito Bite Prevention (United States)

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Not all mosquitoes are the same. Different mosquitoes spread different viruses and bite at different times of the day.

Type of Mosquito	Viruses spread	Biting habits
 <i>Aedes aegypti</i> , <i>Aedes albopictus</i>	Chikungunya, Dengue, Zika	Primarily daytime, but can also bite at night
 <i>Culex</i> species	West Nile	Evening to morning

Protect yourself and your family from mosquito bites

Use insect repellent

Use an Environmental Protection Agency (EPA)-registered insect repellent with one of the following active ingredients. When used as directed, EPA-registered insect repellents are proven safe and effective, even for pregnant and breastfeeding women.

Active ingredient		Some brand name examples*
Higher percentages of active ingredient provide longer protection		
DEET		Off!, Cutter, Sawyer, Ultrathon
Picaridin , also known as KBR 3023 , Bayrepel , and icaridin		Cutter Advanced, Skin So Soft Bug Guard Plus, Autan (outside the United States)
Oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD)		Repel
IR3535		Skin So Soft Bug Guard Plus Expedition, SkinSmart

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Protect yourself and your family from mosquito bites *(continued)*



- ◆ Always follow the product label instructions.
- ◆ Reapply insect repellent every few hours, depending on which product and strength you choose.
 - » Do not spray repellent on the skin under clothing.
 - » If you are also using sunscreen, apply sunscreen first and insect repellent second.

Natural insect repellents (repellents not registered with EPA)

- ◆ The effectiveness of non-EPA registered insect repellents, including some natural repellents, is not known.
- ◆ To protect yourself against diseases like chikungunya, dengue, and Zika, CDC and EPA recommend using an EPA-registered insect repellent.
- ◆ When used as directed, EPA-registered insect repellents are proven safe and effective.
- ◆ For more information: www2.epa.gov/insect-repellents

If you have a baby or child



- ◆ Always follow instructions when applying insect repellent to children.
- ◆ Do not use insect repellent on babies younger than 2 months of age.
- ◆ Dress your child in clothing that covers arms and legs, or
 - ◆ Cover crib, stroller, and baby carrier with mosquito netting.
- ◆ Do not apply insect repellent onto a child's hands, eyes, mouth, and cut or irritated skin.
 - » Adults: Spray insect repellent onto your hands and then apply to a child's face.
- ◆ Do not use products containing oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD) on children under 3 years of age.

Treat clothing and gear



- ◆ Treat items such as boots, pants, socks, and tents with permethrin or purchase permethrin-treated clothing and gear.
 - » Permethrin-treated clothing will protect you after multiple washings. See product information to find out how long the protection will last.
 - » If treating items yourself, follow the product instructions.
 - » Do not use permethrin products directly on skin.

Mosquito-proof your home



- ◆ Use screens on windows and doors. Repair holes in screens to keep mosquitoes outside.
- ◆ Use air conditioning when available.
- ◆ Keep mosquitoes from laying eggs in and near standing water.
 - » 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. Check inside and outside your home.



Pregnant?

Warning: Zika can cause microcephaly and other severe brain defects

There is no vaccine to prevent Zika virus infection

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(845) 364-3173
rocklandgov.com/health
New York State Department of Health
Zika Information Line: 1 (888) 364-4723
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Protect yourself from mosquito bites



Daytime is most dangerous

Mosquitoes that spread chikungunya, dengue, and Zika are aggressive daytime biters. They can also bite at night.



Use insect repellent It works!

Look for the following active ingredients:
• DEET • PICARIDIN • IR3535



Wear protective clothes

Wear long-sleeved shirts and long pants and use insect repellent. For extra protection, treat clothing with permethrin.



Mosquito-proof your home

Use screens on windows and doors. Use air conditioning when available. Keep mosquitoes from laying eggs in and near standing water.

For more information:

www.cdc.gov/chikungunya • www.cdc.gov/dengue • www.cdc.gov/zika



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention

Ideas for Talking to your Children about Zika



Your children may have heard about the Zika virus disease (Zika) outbreak and may have questions about it. Children can better cope with any disease outbreak when they know more about what is happening and that they can do something to help protect themselves, family, and friends.

It's important that children understand anyone living in or traveling to an area with Zika may be at risk for getting sick. People who are not living in or traveling to an area with Zika are not likely to get Zika. There are steps we can take to prevent catching and spreading Zika.

By tailoring your conversation to your child's age, developmental stage, and concerns, you can help him or her understand and cope with the current Zika outbreak.

For children of all ages, start the conversation by asking: What have you heard about Zika?

- ◆ Listen to see if your children have any fears about Zika.
- ◆ Learn what your children have heard and correct any misinformation.
- ◆ Let your children know that you are open to answering questions and talking about Zika.
- ◆ Limit your children's exposure to news reports and media on Zika. When they see a lot of information, it may seem like the risk is bigger than it really is.

Explain what you know about Zika, simply and directly. Here are some facts you can talk about with children.

- ◆ Zika is mostly spread by getting bitten by a certain type of mosquito.
- ◆ Any person that lives in an area where the type of mosquito that spreads Zika lives could catch Zika through a mosquito bite.
- ◆ A mosquito that bites a person who has Zika can get infected and spread it to another person through bites.
- ◆ They can only catch Zika if they live in or travel to an area where mosquitoes are spreading Zika and are bit by a mosquito carrying Zika.
- ◆ Everyone can take steps to prevent mosquito bites to protect themselves and others. Children can help remind adults about taking steps to protect the family from mosquito bites.
- ◆ Most people infected with Zika will not get sick. The people who do get sick will probably only feel a little sick for a few days. They might not even know they have Zika.
- ◆ People who do get sick with Zika might get a fever, rash, joint pain (like in elbows or knees), or red eyes.
- ◆ There is no medicine or vaccine for Zika. If people get sick they will go to the doctor for some tests. People who get Zika can feel better by getting a lot of rest and drinking fluids and taking medicine for pain.



The government, doctors, health departments, and their community are taking steps to keep everyone healthy.

Gently correct incorrect information and rumors

- ♦ If your children have incorrect information about Zika, give them the correct information clearly, using words they understand.
- ♦ Make sure you check facts from reliable sources, such as CDC's Zika Virus website, your pediatrician, or your state or local health department.

Help children if they are not coping well

- ♦ Children do not always know how to express what they are feeling in words. Look for cues about whether they are worried by the types of questions they ask. Other non-verbal cues include temper tantrums, irritable moods, trouble falling or staying asleep, changes in appetite, or changes in behavior.
- ♦ If they seem worried, encourage them to express how they are feeling and ask questions.

Explain to children what they can do to prevent the spread of Zika

The best ways to prevent getting Zika are to protect from getting mosquito bites. Here are some ways:

- ♦ Wear long-sleeved shirts and long pants.
- ♦ When not playing outdoors, stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- ♦ (If traveling to an area with Zika) Sleep under a mosquito bed net. This is netting that serves as a tent over a bed to keep bugs away while people sleep.



Very Young Children: Children even as young as 4 years old may hear about Zika. It's best that they learn about Zika through a parent or caregiver instead of a classmate or the media. Tell children what is going on, possible ways it could affect them, and what is being done to keep them safe.

Older Children: Grade school children and teens will likely want and benefit from more information on control and prevention of Zika transmission. If children are watching media coverage, consider watching it with them.



- ♦ **For younger children:** They should not try to put bug spray on themselves. Adults should put bug spray onto skin that is not covered by their clothes. *(Adults, please note: Use Environmental Protection Agency (EPA)-registered insect repellents. Do not use insect repellents on babies younger than 2 months old. Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old).*
- ♦ **For teens (children old enough to apply their own repellent):** Use Environmental Protection Agency (EPA)-registered insect repellents. It will say that it is EPA registered on the bottle. When used as directed, EPA-registered insect repellents are proven safe and effective.
 - » Always follow the instructions, and make sure to check them to see if they need to reapply it.
 - » Do not spray it on the skin under clothing.
 - » If they are also using sunscreen, they should put the sunscreen on before putting on insect repellent.

Talk to your pediatric healthcare provider if you have questions or concerns about your child or how to talk with him or her about Zika.