

Do Your Part

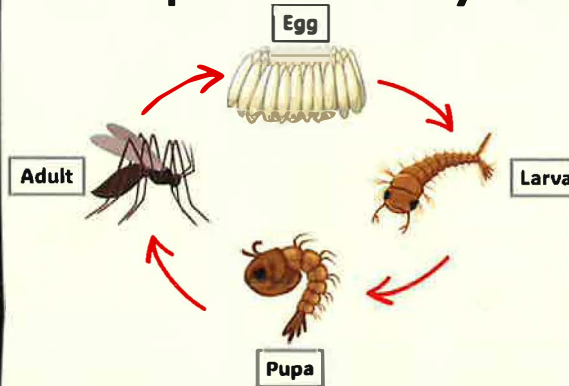
You can help reduce mosquitoes by doing these quick things!

- Empty standing water from buckets, tarps, and other objects found in your yard.
- Change water in bird baths every 3-4 days.
- Clear debris from rain gutters.
- Consider adding a water feature to your pond, larvae can't survive in moving water! Or add larvae eating fish!
- Call Morris County Mosquito Control for more information and service requests!

Share these tips with friends and family!



Mosquito Life Cycle



Facts about Mosquitoes

- Only female mosquitoes bite! They feed on blood in order to produce eggs. Males feed on nectar.
- All mosquitoes need water to complete their life cycle!

Contact Us!

- 📞 973-285-6450
- ✉ Mosquito@co.morris.nj.us
- 🌐 www.morrismosquito.org
- 📘 [Facebook.com/morrismosquito](https://www.facebook.com/morrismosquito)

Inspired by:
-Multnomah County Vector Control & Code Enforcement

Information from:
-<https://www.cdc.gov/mosquitoes/index.html>
-<https://www.nj.gov/health/cd/topics/mosquitoborne.shtml>
-<https://extension.rutgers.edu/mosquito>

Morris County Division of Mosquito Control

Mosquito Protection Methods



Where to Look:

Female mosquitoes lay their eggs in standing water- it only takes about a soda cap of standing water to breed mosquitoes! Common sources of standing water are:

- Ornamental Ponds
- Swimming Pools / Kiddie Pools
- Uncovered Boats
- Clogged Gutters
- Rain Barrels
- Tarps
- Buckets / Containers
- Flower Pots / Planters
- Bird Baths
- Tires



Fight the Bite

- It's best to limit the time spent outdoors at dawn and dusk when mosquitoes are most active.
- Always wear long-sleeved shirts and pants when going outdoors where mosquitoes may be present.
- Check windows and screen doors for holes that mosquitoes may enter through! Repair if needed.
- Use repellent that suits your families needs and lifestyle, recommendations can be found on the CDC's and EPA's website!

And remember mosquito awareness lasts longer than just the summer! Some species of mosquitoes can live from early spring into late fall. Always be aware of standing water.



West Nile Virus (WNV)

What is West Nile Virus?

West Nile Virus is an illness that people can get from mosquito bites. If you suspect you or a loved one has WNV, please seek medical attention for diagnosis immediately.

What are the symptoms of West Nile Virus?

-1/5 People experience flu like symptoms such as Fever, Body Aches, Skin Rashes, Swollen Lymph Nodes, and Upset Stomach.

-1/150 People experience serious illness such as encephalitis (swelling of the brain) and meningitis (swelling of the brain's lining).

-In severe cases, permanent brain damage and death can occur.

How does the virus spread?

West Nile Virus originates from birds; birds get West Nile Virus mainly from the bite of infected mosquitoes. Mosquitoes catch the virus by biting infected birds. Those infected mosquitoes can then spread the virus to humans, uninfected birds, and other animals.

What can I do to protect myself from West Nile Virus?

-Drain standing water on your property where mosquitoes can develop.

-Use an EPA registered repellent! Recommendations can be found on the CDC's or EPA's website.

-Wear long-sleeved shirts and pants when going outdoors where mosquitoes may be present.

-Treat clothing and gear with permethrin, always read the label/directions.



How can I prevent mosquito-borne diseases?

1. Protect Against Mosquito Bites

- ❖ Use EPA-registered insect repellent with DEET, picaridin, IR3535, oil of lemon eucalyptus (para-menthane-diol) or 2-undecanone. Always follow the product label instructions.
- ❖ Do not use insect repellent on children younger than 2 months. Do not use products with oil of lemon eucalyptus (para-menthane-diol) on children younger than 3 years.
- ❖ Wear long-sleeved shirts and long pants. Cover crib, stroller and baby carrier with mosquito netting.



2. Avoid Mosquito Bites After Travel

- ❖ Avoid mosquito bites for 3 weeks after travel. This helps to reduce the spread of new diseases to local New Jersey mosquitoes which may then infect other people.

3. Mosquito-Proof Your Home and Yard

- ❖ Empty or change outdoor standing water weekly to stop mosquito breeding.
- ❖ Use window and door screens. Repair holes in screens to keep mosquitoes outside and use air conditioning when possible.



Where can I find more information about mosquito-borne diseases?

New Jersey Department of Health
Communicable Disease Service:
www.state.nj.us/health/cd

New Jersey Department of
Environmental Protection Office of
Mosquito Control Coordination:
www.nj.gov/dep/mosquito

Centers for Disease Control and
Prevention Division of Vector-Borne
Diseases:
www.cdc.gov/ncezid/dvbd/index.html

Environmental Protection Agency
Insect Repellents:
www.epa.gov/insect-repellents



New Jersey Department of Health
Communicable Disease Service
PO Box 369
Trenton, NJ 08625
(609) 826-4872



Mosquito-Borne DISEASES



What are mosquito-borne diseases?

Mosquito-borne diseases are illnesses that are spread to humans by the bite of an infected mosquito. In New Jersey, the most common mosquito-borne diseases people can get from local mosquitoes are:

- ❖ West Nile virus
- ❖ Eastern equine encephalitis

In other areas, mosquito-borne diseases include:

- ❖ Chikungunya
- ❖ Dengue
- ❖ Jamestown Canyon virus
- ❖ La Crosse encephalitis
- ❖ Malaria
- ❖ St. Louis encephalitis
- ❖ Yellow Fever
- ❖ Zika

How do mosquito-borne diseases spread?

Mosquitoes become infected when they feed on birds or mammals carrying the disease. Infected mosquitoes can then spread the disease to people and other animals such as horses.

Rarely, some mosquito-borne diseases can be spread through blood transfusion, organ transplantation, unprotected sex, breastfeeding and pregnancy.



What are the symptoms of mosquito-borne diseases?

Most people infected with a mosquito-borne illness do not show any symptoms. Depending on the disease, if symptoms do appear, they may be mild. However, symptoms can sometimes be severe and result in death. Symptoms of a mosquito-borne disease typically appear 2-14 days after exposure.

Mild Illness

Fever	Joint pain
Chills	Body aches
Headache	Rash

Severe Illness

High fever	Paralysis
Stiff neck	Coma
Seizures	Heavy bleeding
Confusion	Brain swelling



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973-285-6450

Who is at risk for mosquito-borne diseases?

Anyone can get a mosquito-borne illness, but people who spend more time outside have a higher risk of becoming infected. Older adults and people with weak immune systems may develop more severe illness.



How are mosquito-borne diseases diagnosed?

Visit a healthcare provider if you develop any symptoms of a mosquito-borne illness. Make sure to mention recent travel and outdoor activities. A healthcare provider can order blood tests to look for infection based on your symptoms and exposure.



What is the treatment for mosquito-borne diseases?

There are no vaccines or specific treatments for most mosquito-borne diseases. Mild cases usually improve on their own. In severe cases, patients may need to be hospitalized. If you think you or a family member may have a mosquito-borne disease, call or visit a healthcare provider.



Checking for Ticks

Reduce your chances of getting a tick-borne disease by checking your body for ticks after being outdoors. Use a hand-held or full-length mirror to view all parts of your body.

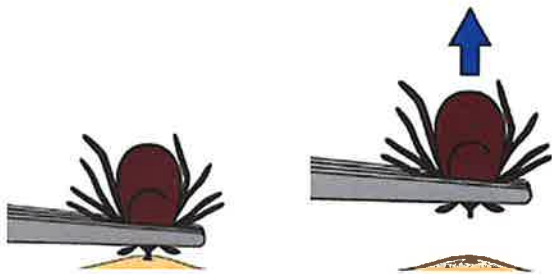
Be sure to check these parts of your body:

- Under the arms
- In/around the hair
- In/around the ears
- Between the legs
- Inside belly button
- Around the waist
- Back of the knees
- On the scalp

What to do if you find a tick:

1. Using fine-tipped tweezers, grab the tick close to the skin. Do not twist or jerk the tick, as this may cause the mouthparts to break off and remain in the skin.
2. With a steady motion, gently pull straight up until all parts of the tick are removed.
3. After removing the tick, clean your skin with soap and warm water.
4. Contact a healthcare provider if you develop symptoms of tick-borne disease.

Do not use petroleum jelly, hot matches, nail polish remover, or other products to remove a tick.



Where can I find more information?

New Jersey Department of Health Communicable Disease Service: Vector-Borne Illness

www.nj.gov/health/cd/topics/vectorborne.shtml

Centers for Disease Control and Prevention: Tick-Borne Disease

www.cdc.gov/ticks/diseases

Centers for Disease Control and Prevention: Stop Ticks

www.cdc.gov/features/stopticks

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www.morrismosquito.org

NEW JERSEY DEPARTMENT OF HEALTH COMMUNICABLE DISEASE SERVICE

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TICK-BORNE DISEASES



What are tick-borne diseases?

Tick-borne diseases are illnesses that can be spread to humans by the bite of an infected tick. The most common tick-borne diseases in New Jersey are:

- Anaplasmosis
- Babesiosis
- Ehrlichiosis
- Lyme disease
- Rocky Mountain spotted fever

How do they spread?

Ticks become infected when feeding on small infected mammals such as white-footed mice and voles. An infected tick can then infect a person through a tick bite. It is possible to be infected with more than one tick-borne disease at the same time.

Disease-causing ticks in NJ



Black-legged "deer" tick



American dog tick



Lone star tick

These are common ticks in New Jersey that may spread disease to humans:

- Black-legged "deer" tick (*Ixodes scapularis*) can transmit Lyme disease, anaplasmosis, babesiosis and Powassan disease
- American dog tick (*Dermacentor variabilis*) can transmit Rocky Mountain spotted fever and tularemia
- Lone star tick (*Amblyomma americanum*) can transmit ehrlichiosis and tularemia

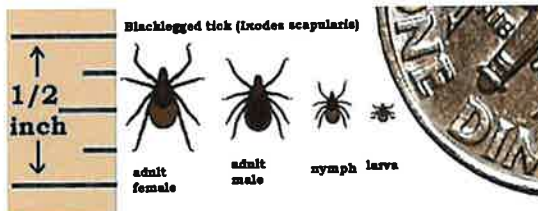
What are the symptoms?

Early signs of tick-borne diseases can include:

- Skin rash
- Tiredness
- Fever/chills
- Headache
- Stiff neck
- Muscle aches
- Joint pain
- Dizziness

How soon after a tick bite do symptoms occur?

Lyme disease	3-30 days
Ehrlichiosis	7-14 days
Anaplasmosis	7-14 days
Rocky Mt. spotted fever	2-14 days
Babesiosis	7-63+ days



What is the treatment for tick-borne diseases?

Most tick-borne diseases (Lyme disease, ehrlichiosis, anaplasmosis, and Rocky Mountain spotted fever) are caused by bacteria and can be treated with antibiotics. Babesiosis is caused by a parasite similar to malaria, and a healthcare provider may prescribe medication. It is important to check for symptoms and talk to a healthcare provider if you've been bitten by a tick. Early treatment can be very effective.



Who gets tick-borne diseases?

Anyone who is bitten by an infected tick may get a tick-borne disease. People who spend a lot of time outdoors, especially from April to September, have a greater risk of becoming infected.

How are tick-borne diseases diagnosed?

Most tick-borne diseases are diagnosed through blood tests and by discussing symptoms with a healthcare provider.

How to Prevent Tick-Borne Diseases

✓ DEET ✓ Showers ✓ Tick Checks

- Know where ticks are: ticks live in or near wooded or grassy areas. Always walk in the center of trails to avoid contact with ticks.
- Keep your yard clean: mow lawns, clear brush and remove leaf litter.
- Apply insecticides: use EPA-registered repellent with DEET on skin and permethrin on clothing, boots and camping gear.
- Cover up: wear long sleeves and pants tucked into socks to prevent ticks from getting under clothes.
- Shower: showering can help find and wash off unattached ticks.
- Inspect: check your body for ticks.

COMMON MYTHS ABOUT INSECT REPELLENT



"Any insect repellent will work against all biting ticks and insects."

- Make sure the insect repellent you purchase is labelled for what you want to avoid!
- Only EPA-registered products are guaranteed to have the proper testing to prove effectiveness at preventing bites from targeted insects or ticks.
- To be sure your product has been tested for insect and tick bite prevention, look for the EPA Registration Number (EPA Reg. No.) on the label.



"If it's natural, it must be safer!"

- Natural plant oils, like peppermint, lemongrass, geraniol, cedar oil, clove, and thyme oil, can cause skin irritations, especially when in the sun.
- Many natural plant oil repellents have not been properly tested for preventing tick bites, and only prevent mosquito bites for a short amount of time.



"There's no such thing as too much repellent."

- Applying more than the suggested amount of insect repellent can be potentially dangerous and cause health issues!
- Follow the product instructions for safe and effective application and re-application.



"Sunscreen that's also insect repellent... what a great idea!"


- Combination sunscreen/insect repellents combine two products into one, usually as a cream.
- Studies show that repellent ingredients can decrease the effectiveness of the SPF in the sunscreen. These two products also last for different amounts of time.
- For these reasons, you are better off using separate sunscreen and repellents to protect your skin. **Apply your sunscreen first, then put on your insect repellent.**



"Citronella candles and clip-ons are great for keeping mosquitoes away!"

- Citronella candles and clip-ons are not recommended for effective bite prevention.
- Citronella oil evaporates quickly, and candles have only been shown to reduce mosquito biting by 50%.
- Instead, try using a fan to prevent mosquitoes from flying towards you and biting you.

CHOOSING A REPELLENT THAT'S RIGHT FOR YOU

	DEET	Picaridin	IR3535	Oil of lemon eucalyptus	Permethrin
How do I apply it?	<ul style="list-style-type: none"> Follow label instructions for product application and re-application Apply directly to skin or clothes. Do not apply under clothes. Avoid eyes, mouth, and wounded or irritated skin. Spray on hands and then sparingly apply to face, ears and neck. 				Never apply directly to skin! Apply only to clothes, shoes, tents, & other fabrics. Avoid use around pets - toxic to cats!
Can I use it on my kids?		Recommended for use on children 2 months & older. Adults should apply.		Recommended for use on children 3 years and older. Adults should apply.	All ages can wear treated clothes. Follow label instructions.
Is it effective? How long does it last?	Highly effective. Lasts 2 to 8 hours, depending on concentration.	Highly effective. Lasts 3 to 10 hours, depending on concentration.	Moderately effective. Lasts 4 to 6 hours.	Highly effective. Lasts up to 2 hours.	Highly effective repellent & contact insecticide. 0.5% sprays applied to clothing can last for 5 to 7 washes.
What can it repel? 	Mosquitoes, ticks, fleas, black flies, biting midges	Mosquitoes, ticks, fleas, black flies, biting midges	Mosquitoes, ticks, black flies	Mosquitoes, ticks, fleas, black flies, biting midges, gnats	Mosquitoes, ticks, fleas, black flies, human lice, chiggers
Other names for ingredient	N, N-diethyl-met-toluamide	Icaridin, Piperidine, Propidine, INCI, KBR 3023	Ethyl butyl acetyl aminopropionate	P-methane-3, 8-diol, PMD	




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 Products with lower concentrations of these ingredients may not be as effective at repelling ticks. Always look on the product label to see what pests are effectively targeted by the active ingredient. Visit www.epa.gov/insect-repellents/find-repellent-right-you for more product-specific information.