

Preventing Disease Spread by **Ticks**



What are ticks?

Ticks are bugs that feed on the blood of people and animals. When they bite you, they can make you sick. Two kinds of ticks found in Massachusetts can carry diseases — deer ticks and dog ticks.

Deer ticks

Both young (nymph) and adult deer ticks bite people. The risk of being bitten by a deer tick is highest in the spring, summer and fall. However, ticks can also be out any time winter temperatures are above freezing. Deer tick nymphs are the size of a poppy seed and deer tick adults are the size of a sesame seed, so they can be very hard to spot.

Dog ticks

In general, only the adult dog tick will bite humans. The risk of being bitten by a dog tick is highest during the spring and summer seasons. Adult dog ticks are about the size of a watermelon seed.



A tick should be carefully removed as soon as possible. The longer an infected tick remains attached to you, the more likely you are to get sick.

Use these products wisely!

Follow the instructions on the product label. If you have questions after reading the label, contact the manufacturer.

- Don't use repellents under clothing.
- Don't use repellents on cuts or irritated skin.
- Don't use repellents near the mouth or eyes, and use them sparingly around the ears. When using spray products, spray the repellent on your hands first and then apply it to your face.
- Use just enough repellent to lightly cover exposed skin and/or clothing. Putting on a larger amount does not make the product work any better.
- Don't let children handle the product. When using repellents on children, put some on your hands first, and then apply it to the child. Don't put repellents on a child's hands.
- When you come inside, wash your skin and the clothes that had repellent on them.

What should I do if I have a reaction to a repellent?

If you suspect that you or your child is having an adverse reaction to a repellent (for example, if you develop a rash or other symptoms you think were caused by using a repellent), remove any treated clothing, wash the affected area with soap and water, and contact your doctor or local poison control center. If you go to the doctor, take the repellent with you — the label information may be useful. The toll-free telephone number for the Regional Center for Poison Control is (800) 222-1222.

What diseases do ticks spread?

Dog ticks can spread Rocky Mountain spotted fever and Tularemia.

Rocky Mountain spotted fever is a bacterial disease that usually causes a high fever with severe headache and tiredness. Symptoms begin anywhere from 3 days to 2 weeks after being bitten by an infected tick. A rash that spreads to the palms of the hands and soles of the feet often appears 3 to 5 days after the fever begins. Rocky Mountain spotted fever is rare in Massachusetts and generally occurs in the southeastern part of the state, Cape Cod, and on Martha's Vineyard.

Tularemia is a disease caused by bacteria that can be spread by the bite of an infected dog tick. Symptoms usually begin between 3 to 5 days after an exposure, but may take as long as 3 weeks to show up. People infected by a tick bite typically have a slow-healing sore on their skin and swollen glands (lymph nodes). In Massachusetts, people are most frequently infected on Cape Cod, Martha's Vineyard, and Nantucket.



Deer ticks can spread Lyme disease, Babesiosis and Anaplasmosis.

Lyme disease is caused by bacteria. Symptoms can begin anywhere from 3 days to 1 month after a person is bitten by an infected deer tick. Symptoms may include a rash around the bite that often looks like a bull's eye, and/or flu-like symptoms. If left untreated, the bacteria can spread to other parts of the body and can cause arthritis, shooting pains, numbness or tingling in the hands or feet, problems with short-term memory, and heart problems. Cases of Lyme disease occur all over Massachusetts.

Babesiosis is caused by a parasite that affects red blood cells. Most people who are infected will show no or only very mild signs of illness. Symptoms, when they do occur, begin gradually about 1 to 6 weeks after being bitten by an infected deer tick. They can include fever, chills, headache, achy joints and muscles, fatigue, nausea, vomiting, abdominal pain, and dark urine. The elderly and people without a healthy spleen or immune system are more likely to develop serious symptoms. In Massachusetts, cases occur most often on Cape Cod, Martha's Vineyard, and Nantucket.

Anaplasmosis is caused by bacteria that affect white blood cells. Symptoms typically appear suddenly 1 to 2 weeks after being bitten by an infected deer tick. They can include fever, headache, muscle aches, chills, sweating, nausea, and vomiting. Because symptoms may become life-threatening, immediate treatment is necessary. The elderly, and people that have diabetes or a compromised immune system are more likely to develop serious symptoms. In Massachusetts, cases occur most often on Cape Cod, Martha's Vineyard, Nantucket, and in Berkshire County.

How can I reduce the number of ticks around my home?

You don't have to be walking in the woods to be bitten by a tick. You can be in your own backyard! You can reduce the number of ticks around your home by following these tips:

- Keep grass cut short.
- Remove leaves and brush from around your home.
- Prune low-lying bushes to let in more sunlight and reduce moisture. Ticks need moisture to survive.
- Keep woodpiles and birdfeeders off the ground and away from your home to discourage mice and other rodents, which can carry ticks.
- Keep the plants around stone walls cut short.
- Use a three-foot wide woodchip, mulch or gravel barrier where your lawn meets the woods. Ticks are less likely to cross a barrier onto your lawn. It can also serve as a reminder to people who cross the barrier that they are going into an area that may have ticks.
- Ask your local nursery about plants to use in your yard that do not attract deer. That's because deer carry ticks and spread them from place to place.
- Use deer fencing (for yards 15 acres or more).
- An application of an acaricide (tick pesticide) may reduce the number of ticks in your yard. Products are available in stores, or you can consider using a professional pesticide company.

What kind of repellent should I use?

Different products work against different bugs. It is important to look at the “active ingredient” on the product label. Products with DEET (N,N-diethyl-m-toluamide) or permethrin are commonly recommended for protection against ticks. Other repellents, such as picaridin, oil of lemon eucalyptus and IR 3535, have also been found to provide protection against ticks.

Repellents with DEET can be used directly on exposed skin or on clothing. If you use it on your clothes, be aware that DEET can damage some synthetic fabrics such as acetate, rayon or spandex.

There are over 200 products containing DEET registered with the Environmental Protection Agency (EPA), ranging in concentration from 5% to 100% DEET. In general, the higher the percentage of DEET, the longer it lasts. Read the product label so you know how often it should be reapplied. DEET should not be used on infants under 2 months of age. Children older than two months should use concentrations of 30% or less.

Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin. Apply the permethrin to your clothes before you put them on and follow the product’s instructions.





How can I protect my family, my pets, and myself from tick bites?

The best way to prevent these diseases is to prevent tick bites. Ticks are most commonly found in grassy, brushy, or wooded areas. They only attach when you come into direct contact with them — they cannot jump or fly. Follow these steps if you live, work, or spend time in areas where ticks can live:

- **Check yourself for ticks once a day** — it's the single most important thing you can do. It can take 24 hours or more for infected ticks to spread disease, so even if you get a tick bite, you may be able to stop yourself from getting sick just by removing the tick promptly. Favorite places ticks like to go on your body include: areas between the toes, back of the knees, groin, armpits, and neck, along the hairline, and behind the ears. Remember to check your children and pets, too. Remove any attached tick as soon as possible. Don't forget to check your gear, clothing and pets when you come inside.



- Use repellents that contain DEET on your exposed skin and those that contain permethrin on your clothes.
- Brushing against tall grass and bushes will increase your exposure to ticks. Stick to main pathways and the center of trails if you can.
- Weather permitting, wear long-sleeved, light-colored shirts and long pants tucked into your socks. This will help keep ticks away from your skin and make it easier to spot ticks on your clothing.
- Dogs and horses are particularly susceptible. Talk to your veterinarian about the best ways to protect your animals from tick-borne disease.

What can I do to protect my animals?

Pets and horses can get diseases from ticks also. Talk to your veterinarian about vaccinating your animals and about tick repellents approved for use in animals. Always read the product label before using, and follow all instructions carefully. Check your pets for ticks daily. Not only can ticks make your pet sick, they can use your pet to “hitch a ride” inside where they may bite you and your family.

What should I do if I find a tick on myself?

The tick should be carefully removed as soon as possible. The longer an infected tick remains attached to you, the more likely you are to get sick.

1. Use clean, fine-tipped tweezers to grasp the tick as close to your skin's surface as possible.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick — this can cause the mouth-parts to break off and remain in your skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and let the skin heal.
3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water.

Avoid folklore remedies such as “painting” the tick with nail polish or petroleum jelly, or using heat. These may not cause the tick to detach and may increase the chance of the tick spreading disease. Your goal is to remove the tick as quickly as possible — not wait for it to detach.

Note the date and where on your body the tick was removed. Notify your health care provider if you have been bitten by a deer tick or if you develop a rash or other signs of illness during the tick season. Your doctor may choose to treat you following a deer tick bite.

For more information on diseases spread by ticks:



Massachusetts Department of Public Health
Bureau of Infectious Disease
Division of Epidemiology and Immunization
(617) 983-6800 or toll-free at (888) 658-2850
www.mass.gov/dph/tick