

PUBLIC HEALTH FACT SHEET

Human Granulocytic Anaplasmosis (HGA) (also known as Human Granulocytic Ehrlichiosis or HGE)

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What is human granulocytic anaplasmosis (HGA)?

HGA is caused by bacteria (germs) that attack certain types of white blood cells called granulocytes. HGA is also known as human granulocytic ehrlichiosis.

Where do cases of HGA occur?

In the United States, HGA is most commonly found in the Northeast, mid-Atlantic and upper Midwest. In Massachusetts, the highest rates of disease occur on the islands of Nantucket and Martha's Vineyard and in Barnstable and Berkshire counties, but it can occur anywhere in the state.

How is HGA spread?

HGA is one of the diseases that can be spread by the bite of an infected deer tick. The longer a tick remains attached and feeding, the higher the likelihood that it may spread the bacteria. Deer ticks in Massachusetts can also carry the germs that cause Lyme disease and babesiosis. Deer ticks are capable of spreading more than one type of germ in a single bite.

When can I get HGA?

HGA can occur during any time of year. The bacteria that cause HGA are spread by infected deer ticks. Young ticks (nymphs) are most active during the warm weather months between May and July. Adult ticks are most active during the fall and spring but will also be out searching for a host any time that winter temperatures are above freezing.

How soon do symptoms of HGA appear after a tick bite?

Symptoms of HGA usually begin to appear 7 to 14 days after being bitten by an infected tick.

What are the symptoms of HGA?

Symptoms of HGA generally include fever, headache (that often doesn't get better with over-the-counter medicine), chills, muscle ache, and fatigue. Less commonly, people may have abdominal pain, nausea, vomiting, diarrhea, cough and joint aches.

Is there a treatment for HGA?

HGA can be treated with antibiotics. It is important to begin treatment early to prevent serious, potentially life-threatening complications.

What can I do to lower my chances of getting HGA, or any other disease, from ticks?

Prevention begins with you! Take steps to reduce your chances of being bitten by any tick. Ticks are most active during warm weather, generally late spring through fall. However, ticks can be out any time that temperatures are above freezing. Ticks cling to vegetation and are most numerous in brushy, wooded or grassy habitats. They are not found on open, sandy beaches, but may be found in grassy dune areas. When you are outside in an area likely to have ticks (e.g. brushy, wooded or grassy places), follow these simple steps to protect yourself and your loved ones:

- Use a repellent with **DEET** (the chemical N-N-diethyl-meta-toluamide) or **permethrin**. Repellents containing DEET should not be used on children less than 2 months of age and should be used in concentrations no higher than 30% on older children. Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin. More information on choosing a repellent and how to use repellents safely is included on the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph/cdc/factsheets/factsheets.htm.
- Wear long, light-colored pants tucked into socks or boots, and a long-sleeved shirt. This may be tough to do when the weather is hot, but it will help keep ticks away from your skin and help you spot a tick on your clothing faster.
- Stay on trails when walking or hiking, avoiding the edge habitat where ticks are likely to be.
- Talk to your veterinarian about tick control options (tick collars, repellents) for your pets.

Did you know?

You don't have to be a hiker on Cape Cod to worry about ticks. In Massachusetts, you may be bitten in your own backyard. There are lots of things you can do around your own backyard to make it less inviting for ticks! Visit the MDPH Tickborne Disease Website at www.mass.gov/dph/cdc/epii/lyme/lymehp.htm for suggestions.



After spending time in an area likely to have ticks, check yourself, your children and pets for ticks. Young ticks, called nymphs, are the size of a poppy seed. Adult deer ticks are the size of a sesame seed. Both nymph and adult deer ticks can spread the bacteria that cause HGA; however, nymphs are more of a concern. They are aggressive feeders and so tiny that it can be difficult to see them on the body, unless you are looking carefully. When doing a tick check, remember that ticks like places that are warm and moist. Always check the back of the knees, armpits, groin, scalp, back of the neck and behind the ears. If you find a tick attached to your body, remove it as soon as possible using a fine-point tweezers. Do not squeeze or twist the tick's body, but grasp it close to your skin and pull straight out with steady pressure.

Know the symptoms of HGA as described in this fact sheet. If you have been someplace likely to have ticks and you develop symptoms of HGA, or any other disease carried by ticks, see your health care provider right away.

Where can I get more information?

- **For questions about your own health**, contact your doctor, nurse, or clinic
- **For questions about HGA or other diseases spread by ticks**, contact the MDPH at (617) 983-6800 or toll free at (888) 658-2850 or online at www.mass.gov/dph. You may also contact your local Board of Health (listed in the telephone directory under "Government").
- **For questions about tick repellents**, read the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph/cdc/factsheets/factsheets.htm. If you can't go online, you may ask for hard copies of MDPH fact sheets by calling the MDPH number above.



**Massachusetts Department of Public Health
Tickborne Disease Website**

www.mass.gov/dph/cdc/epii/lyme/lymehp.htm

