

Ticks and Mosquitoes

Safety Meeting Packet

Protect Your Workforce



Employees who work outdoors most of the time are at risk for exposure to bites from ticks and mosquitoes. This risk is increased for employees who work at jobsites that include woods, bushes, grasses, large piles of landscape debris, or stagnant water. The dangers associated with ticks and mosquitoes are focused around the different disease-causing bacteria, parasites, and viruses that the ticks and mosquitoes carry.

Ticks

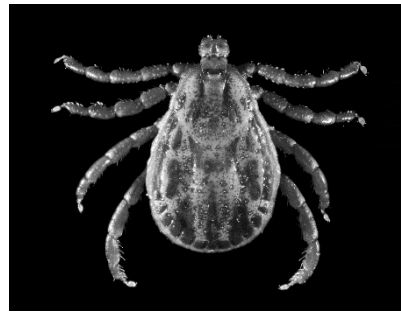
Ticks are arachnids, related to mites and spiders, not insects. They typically live in areas with grasses, brush, or trees but can live anywhere potential hosts may live. There are a large variety of species of ticks and while most species of ticks prefer a specific host, some ticks can feed on a wide variety of hosts ranging from birds to mammals. Even fewer species of ticks choose to use humans as hosts. These species are:

- American dog tick – Located in the western and midwestern United States, and California.
- Blacklegged tick – Located in the upper midwestern and northeastern United States.
- Brown dog tick – Located throughout the entire United States.
- Gulf Coast tick - Located in coastal areas along the Atlantic Ocean and Gulf of Mexico.
- Lone star tick – Located in the southeastern United States.
- Rocky Mountain wood tick – Located throughout the Rocky Mountains and surrounding areas.
- Western blacklegged tick – Located along the Pacific coast, especially northern California.

Ticks locate a host through body odor and body heat. Contrary to popular belief, ticks do not jump onto a host. Rather, ticks wait until a host touches the location where a tick is waiting.

The ticks then attach themselves to a host to feed on the blood of the host. Unless removed, ticks will feed over several days. Ticks usually attach themselves to areas of the host with the thinnest skin, like the inside of the ear. Once ticks are full, they will drop off and move on to another host.

Tick-Borne Diseases



When ticks bite or attach to a host, they ingest the blood of the host. If the host the tick attaches to carries a bloodborne pathogen, that pathogen is transferred to the tick. The tick can then spread that same pathogen into a new host's blood stream resulting in an infection of the new host.

According to the Centers for Disease Control and Prevention (CDC), the most common tick-borne pathogens are:

- Lyme disease
- Babesiosis
- Ehrlichiosis
- Rocky Mountain Spotted Fever
- Southern Tick-Associated Rash Illness
- Tick-Borne Relapsing Fever
- Tularemia
- Anaplasmosis
- Colorado Tick Fever
- Powassan Encephalitis
- Q Fever

These pathogens result in a variety of symptoms, but symptoms will most often include body/muscle ache, fever, headaches, fatigue, joint pain, rashes, stiff neck, and even paralysis.

Protection from Tick-Borne Diseases

Employees who are at risk for exposure to ticks or tick-borne diseases should be trained in the dangers of ticks, tick-borne diseases, and how to prevent exposure to ticks while working on a jobsite. Employers should make a point to avoid working in potential tick habitats, if at all possible. This means limiting the amount of work completed in areas with overgrown bushes, grasses, and trees. This is especially true during the warmer months. If avoiding this type of work environment is not possible, employers should ensure that excess leaves and grasses are removed from the surrounding area and apply chemical means to control the tick population.

Additionally, if employees are required to work in areas with potential tick populations, they should be provided with and utilize personal protective gear to limit exposure. Wearing light-colored clothing, long sleeved shirts, long pants, high boots or close-toed shoes, and a hat can delay a tick from attaching itself to a potential host. This increases the amount of time an individual has to identify a tick and remove it before it attaches. Insect repellants, like DEET or permethrin, can be applied to the skin and clothing to further prevent exposure.

After working outdoors, employees should shower immediately after getting home, making sure to wash any clothing that may have been exposed to ticks. The laundry should be completed at high temperatures to kill any ticks remaining on the clothing. If a tick is found, the employees should carefully and quickly remove the tick using a pair of tweezers and then clean the site with cool, running water, anti-bacterial soap, or an antiseptic.

Mosquitoes



Mosquitoes are small flies that are found throughout the world. While not all mosquitoes feed on the blood of hosts, employees and employers should take

precautions, as some species of mosquitoes do feed on blood and can transmit blood-borne diseases. While there are approximately 3,500 species of mosquitoes, the species in three genera are known to carry diseases that can affect humans. These species fall in the genus *Anopheles*, *Culex*, or *Aedes*. *Anopheles* mosquitoes carry malaria, while *Culex* is known to carry West Nile virus. *Aedes* carries diseases like yellow fever and the Zika virus.

Mosquito-Borne Diseases

- **Malaria:** The CDC indicates that an individual infected with malaria may have flu-like symptoms including, but not limited to, high fevers, shaking, chills, fatigue, headaches, nausea, vomiting, and diarrhea. Malaria is treatable, and it is most successful when the disease is caught early. Without treatment, malaria can be fatal.
- **West Nile virus:** According to the CDC, the symptoms of West Nile virus include fever, headache, body aches, a skin rash, and swollen lymph nodes. These symptoms can worsen over time without treatment, resulting in disorientation, coma, tremors, or even paralysis.
- **Zika Virus:** Most individuals infected with the Zika virus may not become symptomatic, which can make diagnosis difficult. However, should an individual become symptomatic, symptoms can include fever, rash, joint pain, and red or pink eyes. The symptoms of the Zika virus are generally mild. However, the major issue with the Zika virus is that infection during a pregnancy can result in severe birth defects in newborn babies.

Protection from Mosquito-Borne Diseases

One of the most effective ways to protect employees is through training. Employers should ensure that their employees know how to prevent mosquito bites and remove potential sources of mosquito breeding grounds. Mosquitoes require water to breed and reproduce. If stagnant and standing water is removed from a jobsite, the reproductive cycle cannot be completed.

If possible, employees should avoid working during dawn or dusk, the peak times for mosquito activity. If work must be completed during these time periods, employees must be vigilant about potential exposure to mosquitoes. This includes wearing light-colored clothing that covers all skin and applying chemicals like permethrin to their clothing. Employees should also regularly apply repellants containing chemicals like DEET and picaridin as these have been proven to be effective against mosquitoes. It is recommended that employees avoid wearing strong smelling perfumes or colognes that may attract more mosquitoes. As a major precaution, employees who are pregnant or whose spouse may be pregnant should avoid working in areas with potential exposure to the Zika virus.

For additional information, visit the following websites:

- Centers for Disease Control and Prevention (CDC): www.cdc.gov
 - National Institute for Occupational Safety and Health (NIOSH): www.cdc.gov/niosh
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Ticks and Mosquitoes Safety Meeting Attendance Acknowledgement

Company Name _____
 Department / Division _____
 Meeting Date & Time _____ AM PM
 Meeting Location _____
 Name & Title of Individual Conducting Meeting _____

Key Meeting Discussion Points / Important Reminders:

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Internal Procedures Reviewed:

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By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!

Employees in Attendance		
(Print): _____	(Print): _____	(Print): _____
(Sign): _____	(Sign): _____	(Sign): _____
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Employees not present: _____

Suggestions/Recommendations to improve workplace safety and health: _____

Actions Taken: _____

Manager/Supervisor: _____ Date: _____

Disclaimer:

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.
