

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

Occupational Safety and Health

Part 242 Industrial Hygiene

Chapter 5 Tick-Borne Disease Prevention

242 FW 5

5.1 What is the purpose of this chapter? This chapter:

- A. Provides information on tick-borne diseases,
- B. Assigns responsibilities for addressing occupational response to these diseases, including ways to mitigate the hazard through prevention techniques, and
- C. Describes the procedures for avoiding ticks, removing ticks, and pursuing medical treatment when necessary.

5.2 What is the scope of this chapter?

A. This chapter applies to the following people who work in areas where ticks are known or believed to be present:

- (1) Employees,
- (2) Volunteers,
- (3) Youth Conservation Corps members,
- (4) Student interns, and
- (5) Others with whom we have an employer-employee relationship (e.g., Youth Ambassador program participants, etc.).

B. This chapter does not apply to contractors. Contractors must comply with the safety and health clauses in their contract agreements and with Federal, State, and local requirements.

5.3 What are the authorities for this chapter?

A. Occupational Safety and Health Act (OSHA) Federal Agency Safety Programs and Responsibilities (Public Law 91-596, Sections 5(a)(1) and 19).

B. Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters (29 CFR 1960).

C. Executive Order 12196, Occupational Safety and Health Programs for Federal Employees.

D. Department of the Interior *Occupational Medicine Program Handbook*, Tab 12 E-4(a) Specific Program Requirements, Attachments and References.

5.4 What are tick-borne diseases? Tick-borne diseases are diseases or illnesses that ticks carry and transmit. There are eight notable tick-borne diseases in the United States (see Table 5-1). See section 5.8 for more information on symptoms.

Table 5 1: Notable diseases and illnesses	
Anaplasmosis	Rocky Mountain spotted fever
Babesiosis	Rickettsia Parkeri
Ehrlichiosis	Southern tick-associated rash illness
Lyme disease	Tularemia

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

5.5 Who is responsible for tick-borne disease prevention? See Table 5-2.

Table 5 2: Responsibilities for preventing tick borne diseases	
This official...	Is responsible for...
A. The Director	Ensuring that we maintain an effective and comprehensive occupational safety and health program.
B. The Assistant Director – Business Management and Operations	Ensuring: (1) We have a policy on tick-borne disease prevention, and (2) That the Chief, Division of Safety and Health, has sufficient support and resources to implement his/her responsibilities.
C. Directorate members	Ensuring that there are sufficient resources and support in place to implement effective and comprehensive tick-borne disease prevention measures within their areas of responsibility.
D. The Chief, Division of Safety and Health	(1) Revising and updating this chapter, as necessary, (2) Interpreting the requirements in this chapter and serving as a consultant to resolve Servicewide questions or issues, and (3) Providing up-to-date information on tick-borne disease prevention measures to the Regional/Headquarters (HQ) Safety Managers.
E. Regional/HQ Safety Managers	(1) Interpreting tick-borne disease prevention methods and serving as advisors to resolve Regionwide/HQ questions or issues; (2) As requested, interpreting tick-borne disease prevention measures for Project Leaders, supervisors, Collateral Duty Safety Officers, and employees; (3) As requested, consulting on the content of Job Hazard Assessments (JHAs) for operations in areas endemic with ticks and tick-borne disease; (4) Evaluating the implementation of this chapter during Regional/HQ field station safety and health compliance evaluations; and (5) Ensuring that field stations are aware of how to report tick bites (see section 5.11B).
F. Project Leaders/ Supervisors	(1) Ensuring that employees are aware of and trained on the procedures related to preventing tick bites and the contraction of tick-borne disease; (2) Doing hazard assessments to identify mitigation measures and any necessary personal protective equipment (PPE) (see 240 FW 1, Safety Program Management); (3) Ensuring their employees have the appropriate clothing and PPE based on a certified JHA for the work activities involved and are trained on its selection, use, and maintenance; (4) Ensuring their employees receive appropriate medical follow-up if a tick bites them and they exhibit signs or symptoms of related disease. Follow-

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

Table 5 2: Responsibilities for preventing tick borne diseases	
This official...	Is responsible for...
	<p>up may include consultation with the Regional/HQ Safety Manager, Division of Safety and Health, or with an Occupational Health Physician to determine appropriate examinations or screening tests;</p> <p>(5) When an employee is bitten and exhibits signs/symptoms of tick-borne disease, reporting this information in the Department’s Safety Management Information System (SMIS); https://www.smis.doi.gov/</p> <p>(6) Ensuring employees’ medical test results, doctors’ reports, exposure records, etc. are handled in accordance with the Privacy Act, and are sent to the servicing Personnel office for placement within the employee’s medical file; and</p> <p>(7) Documenting and maintaining records for their employees’ tick bite prevention training. Records can be maintained onsite, in a Regional training database, or by documenting it in the Department’s Learning Management System (i.e., DOI Learn). DOI Learn provides a “Learning Request Wizard,” a 3-step process, for requesting external training.</p>
G. Employees	<p>(1) Practicing acceptable measures of personal protection, including the use of PPE and repellent as described in the JHA,</p> <p>(2) Performing personal body checks and buddy checks following all work in the field if there is a potential for tick bites,</p> <p>(3) Reporting a tick bite to their Project Leader/supervisor as soon as possible and documenting the tick bite in a field log or other work/activity log, and</p> <p>(4) Reporting any signs/symptoms of tick-borne disease to their Project Leader/supervisor.</p>

5.6 How can employees be exposed to tick-borne disease? Employees may be exposed to tick-borne disease only after they have been bitten by an infected tick. Generally, risk of exposure to ticks is limited to an outside working environment.

A. Ticks typically search for a host from the tips of low lying vegetation and shrubs and attach to a person or animal near ground level. They grab onto people or animals that brush against vegetation, and then they crawl to find a place to bite. Every tick bite does not cause disease.

B. Landscaping, forestry, brush clearing, land surveying, farming, and wildlife management are activities commonly associated with increased tick-borne disease exposure.

5.7 Where can employees get information about the level of risk for tick-borne disease within a specific area? You should contact your State and local health authorities or Regional/HQ Safety Manager to obtain information about the occurrence of tick-borne disease in any areas where you may be working. You can also get this information from the [Center for Disease Control’s \(CDC\) Web site on ticks and tick-borne disease](#).

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

5.8 What are the signs and symptoms of tick-borne disease? See Table 5-3.

Table 5 3: Common signs and symptoms	
Body and muscle aches	Joint pain
Fever	Rash – large red spots, ulceration
Headaches	Stiff neck
Fatigue	Facial paralysis
Red “bulls eye” type rash around the bite	

A. The CDC describes symptoms of tick-borne diseases that may occur within stages based on the length of time from the tick bite. These symptoms may overlap, appear out of “traditional” order, or specific stages/symptoms may not present themselves. An infected individual may progress directly from the early stages to the late stages, while someone in the late stage may show the first signs of the disease. Refer to the [CDC Web site](#) or your local public health service for the most current information on signs/symptoms and diagnosis and the progression of tick-borne diseases.

B. Timely diagnosis and treatment are very important in preventing the progression of tick-borne diseases. Keep in mind that many of the symptoms are associated with diseases unrelated to tick bites, and initial diagnosis may be difficult.

C. It is incumbent on the duty station to provide information to its staff on endemic diseases, including transmission, symptoms, prevention, and treatment information. In addition to the notable diseases previously listed, there are other dangerous local diseases, such as Powassan encephalitis (Minnesota), Colorado Tick Fever (Colorado), and 364D Rickettsiosis (California). Consult your local public health authority for more information.

5.9 How can employees reduce exposure to tick-borne disease? You can reduce exposure to tick-borne disease by avoiding areas endemic with ticks when possible, wearing appropriate clothing, using repellants, and checking your body for ticks.

A. Consider whether or not ticks will be present when you’re preparing for field work.

B. Clothing should be light-colored and consist of long pants tucked into your socks or boots, a long-sleeved shirt, and a hat. If possible and whenever feasible, wear clothing that ticks have trouble hanging on to, such as nylon pants and rubber boots.

(1) In areas with a high incidence of tick-borne disease, Project Leaders/supervisors may allow employees to purchase light-colored clothing with their uniform allotment in lieu of brown uniforms. See 041 FW 4, Uniforms.

(2) In these high incidence areas, they may also use station funds set aside for PPE to buy the clothing.

C. Spray repellants containing Permethrin (Perma-none) on your shoes, socks, and pants. You can apply products containing 25% DEET directly to the skin. With any repellant, never apply more than a light spray and always wash your hands after applying.

D. Frequently check your body for ticks (see section 5.10).

E. Wear bug nets and Permethrin-treated clothing when possible. Both are available at many outdoors stores and online.

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

5.10 How should employees check for ticks? When field work is concluded and prior to entering a vehicle, all employees must conduct a thorough tick check. If possible, office personnel should not use vehicles used for field work since ticks embedded in the vehicle's upholstery can crawl onto and attach themselves to vehicle occupants.

A. Carefully examine all areas of your skin (both covered and exposed) for ticks when you're finished with outdoor work. Deer ticks (i.e., black-legged ticks) are extremely small. In the nymphal (most infective) stage, they are smaller than a poppy seed. A nymph that has been attached to the skin for several hours looks like a small blood blister with legs.

(1) Check extremity joints, pressure points (where clothing presses on the skin), in/behind the ears, hairline, top of head, back of the neck, armpits, navel, and groin.

(2) Once in the office, especially if employees have been in a tick-infested area, they must change clothing before entering the work area. Place used clothing in a plastic bag, do a body check, and put on fresh clothing.

(3) When you get home for the day, immediately put your clothes in the washer and do a last tick check of your body while taking a shower. Showering is one of the most effective ways to remove ticks that have not attached to your body.

B. Be diligent about checking pets that have been outdoors as ticks can be carried indoors and dropped off inside.

5.11 What should employees do to remove an embedded tick? If you find a tick attached to your body, you should:

A. Remove it carefully with a tick removal tool or tweezers by grasping the tick as close as possible to your skin and pulling upward with steady, even pressure. After removal, wash your hands and the tick bite area thoroughly with rubbing alcohol, iodine scrub, or soap and water. Never bum, squeeze, or apply rubbing alcohol or oil to the tick as these do not help eliminate transmission of a disease. In fact, burning or squeezing may force the tick to regurgitate its body fluids into the bite, thus increasing the chance of disease transmission. There are several types of tick removal tools available for use. The following Web sites have examples of such tools: TickInfo.com and O'Tom Tick Twister@.

B. Notify your Project Leader/supervisor and document the tick bite in a personal field log, station field log, or other form of dated/signed notation (for tick bites received during work). The recorded information should include the date you noticed the attached tick, work location, description of the work being conducted, and the tick's location on your body.

5.12 How are tick-borne diseases detected? Clinical diagnosis is often difficult due to a lack of definitive laboratory tests and disease complexity. Antibodies take anywhere from 2 to 6 weeks after infection to appear in the blood. Blood tests, called blood titers or cultures, are done to confirm most diagnoses.

5.13 Are tick-borne diseases treatable? Yes. Most cases of tick-borne disease can be successfully treated with antibiotics, especially if treatment is started early. Humans do not develop immunity, so reinfection is possible. See the CDC Web site for more information.

**FISH AND WILDLIFE SERVICE
OCCUPATIONAL SAFETY AND HEALTH**

Occupational Safety and Health

Part 242 Industrial Hygiene

Chapter 5 Tick-Borne Disease Prevention

242 FW 5

5.14 What process should an employee follow when diagnostic testing or medical treatment is required for a tick bite? If you require diagnostic tests or medical treatment for signs or symptoms associated with tick-borne disease, tell your Project Leader/supervisor and contact the Regional/HQ Injury Compensation Specialist. The Regional/HQ Injury Compensation Specialist will provide more information on how to proceed with a workers' compensation claim. You may:

- A.** File a workers' compensation claim (CA-1) electronically through [SMIS](#) if you incur medical expenses or time away from work to get medical treatment for a bite or disease symptoms.
- B.** File an occupational disease claim (CA-2) if you develop and are diagnosed by a physician to have contracted a tick-borne disease.

5.15 Do employees have to pay for testing and treatment? It depends on the situation.

A. If you develop a tick-borne disease as a result of your work assignments, you are eligible to have accepted costs paid through the Office of Workers' Compensation Program (OWCP). The burden of proof for establishing how the disease is related to work is your responsibility. Contact your Project Leader/supervisor or your Regional/HQ Injury Compensation Specialist for more information.

B. If you are experiencing signs or symptoms associated with tick-borne disease and want to see your physician or medical provider, ask your Project Leader/supervisor if the field station will pay for the visit and associated expenses. As symptoms are similar to other illnesses, there is a possibility that test results will be negative, thus preventing payment through OWCP. Your Region/HQ may have a policy that allows the field station to pay for your testing, regardless of the results.

5.16 Where can employees get additional information or training on tick-borne diseases? The [CDC Web site](#) provides a plethora of information on tick-borne diseases, including several podcasts on tick-borne disease and Lyme disease. Also check with your local public health service or Regional/HQ Safety Office as they may have training materials available (e.g., videos, JHAs, fact sheets).

/sgd/ Thomas O. Melius
ACTING DIRECTOR

Date: July 23, 2012