To reduce the annoyance of tick bites and prevent transmission of tick-borne diseases, a few commonsense measures should be followed. These include:

- **Avoid** time spent in tick infested habitats.
- **Wear light colored clothing** so that ticks can be spotted easily.
- **Wear long pants** and tuck the pant legs into your socks or boots; wear a long-sleeved shirt and tuck it into you pants. Tape the area where pants and socks meet so that ticks cannot crawl under clothing.
- **Use insect repellents** that contain 20-30% DEET or treat clothes (especially pants, socks, and shoes) with permethrin, which kills ticks on contact. As with all products, the user should follow the manufacturer’s usage recommendations.
- **Walk in the center of trails** to avoid over hanging grass and brush along the trails edge.

Finally, **inspect yourself carefully** and remove any attached ticks. It takes a minimum of 24 hours of attachment before an infected tick can transmit the Lyme disease spirochete. Therefore, the quicker you remove ticks, the less likely they can transmit any disease causing organism.

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**For additional information on ticks and tick-borne diseases contact:**

Sean Healy, Entomologist  
MCMEC Tick-borne Diseases Program  
Email: ticks@co.monmouth.nj.us

(Tel) 732-542-3630 • (Fax) 732-542-3267

Tick information and brochures are available online at:  
www.visitmonmouth.com/mosquito/tick.html
In 1997, the Monmouth County Board of Chosen Freeholders designated the Monmouth County Mosquito Extermination Commission (MCMEC) as the first Mosquito Commission in New Jersey to provide education, training, surveillance and recommendations on integrated pest management (IPM) for reducing the risk of Lyme disease and other tick-borne diseases. The Tick-borne Diseases Program of the MCMEC is devoted to education, research and services relating to ticks and tick-borne diseases in New Jersey.

**GENERAL INFORMATION**

To combat the threat of tick-borne diseases to the residents of Monmouth County, the Tick-borne Diseases Program of the Monmouth County Mosquito Commission provides the service of Tick Identification and Testing as part of an ongoing research program. The Tick Identification and Testing Service serves as a ‘first alert’ for people receiving a tick-bite.

**TICK SERVICES OFFERED**

**Tick Identification**

Individual citizens can submit ticks for identification to species, stage of development, and relative degree of engorgement. Knowing this information is helpful for the following reasons:

1. **Tick species:** Different tick species are known to transmit different disease-causing organisms, therefore knowing the species involved in the tick bite incident may alert you or your healthcare provider to watch for specific disease(s) and may aid in differential diagnosis if clinical symptoms should appear.

2. **Tick development stage:** You cannot determine the species of tick by its size because all ticks are extremely tiny in their immature stages (larva and nymph) get progressively larger as they mature through their life cycle (adult males and females) and larger still as they become engorged with blood. In addition different stages of ticks may be more or less likely to be infected with a disease causing organism (larva vs. nymph) or more or less likely to transmit a disease causing organism (males vs. females).

3. **Tick engorgement level:** If a tick is infected it may transmit that infection when it bites an individual. However transmission does not happen immediately. In the case of Lyme disease at least 24 hours is usually required before the tick will effectively transmit the pathogen. The engorgement level (flat, partially engorged, fully engorged) is a relative indication of how long the tick was attached. The longer a tick is attached, the more engorged (filled with blood) it becomes. The longer an infected tick is attached, the greater the risk that transmission will take place. So, risk increases with engorgement level.

All three of the most common ticks found in New Jersey are capable of transmitting diseases to humans and pets. There is no charge to Monmouth County Residents for identifying a tick.

**Tick Testing**

Ticks that have been successfully identified as *Ixodes scapularis* the blacklegged tick (a.k.a. deer tick) can be tested for *Borrelia burgdorferi*, the causative agent of Lyme disease. The tick is tested using a DNA based technique known as Polymerase Chain Reaction (PCR). The tick can be tested whether it is alive or dead. There is a $25.00 fee to cover the cost of the test.

1. **Tick infection status:** If a tick is positive for infection with the Lyme disease organism (*Borrelia burgdorferi*), the potential risk for infection of that individual to have taken place is increased (but not confirmed).

**Important Facts to Keep in Mind**

**Tick identification and test results do not represent the diagnosis of disease in humans or animals:** they do provide information that may facilitate you and your health care provider in evaluating and making diagnostic/treatment decisions. The identification and analysis of a submitted tick does not rule out the possibility that you may have had other undetected tick bites. Actual clinical symptoms should never be discounted based on the tick identification and test results. The official written report of the tick identification and testing results is an important document and you may want to save it to include in your medical file for future reference. Currently only the blacklegged tick (a.k.a. deer tick) will be tested for *Borrelia burgdorferi* the organism that causes Lyme disease. The blacklegged tick is also able to transmit other diseases such as Babesiosis (*Babesia microti*) and Anaplasmosis (*Anaplasma phagocytophilum*), formerly known as human granulocytic ehrlichiosis.

**Tick Removal**

The best way to remove attached ticks is to grasp the tick with fine-tipped tweezers as close to the skin as possible; then pull straight up with a slow, steady force. Try to avoid crushing the tick or destroying it in any other way. Clean the area of tick attachment with an antiseptic. Removed ticks can be saved in any sealed container to be later identified or tested. **Attached ticks should not be removed with noxious chemicals or by burning.** This may cause injury to the skin, and can increase the risk of transmission, by causing the tick to regurgitate disease causing organisms into the body. **Do not place ticks in tape.** This makes identification and testing more difficult.

**Submitting a Tick**

The Tick Identification and Testing Service is currently only available to the residents of Monmouth County. At this time all ticks must be submitted in person at the Monmouth County Mosquito Commission located in Tinton Falls (directions to the Commission are located on the back of this brochure). The identification of the tick is free but there is a $25.00 fee to cover the cost of testing the tick for the Lyme disease causing organism. We can only accept personal checks at this time, NO cash or credit cards. Payment is expected at the time the tick is submitted. Results of the Tick Identification and Testing will be conveyed by the telephone (a written report will be mailed or e-mailed for your records). Ticks can be submitted at the Mosquito Commission between the hours of 7:30 AM and 4:00 PM.