### Disease Description

#### Rocky Mountain spotted fever (RMSF)
- Onset of symptoms is three to 14 days (average seven days) after tick bite.
- Initial symptoms may include: high fever, severe headache, muscle aches, nausea, vomiting and loss of appetite.
- Later symptoms: rash (two to six days after onset of fever), abdominal pain, joint pain and diarrhea.
- Rash usually starts as small, pink spots that do not itch on wrists and ankles, and then spreads.
- It can lead to heart, lung or kidney failure, swelling of the brain, and/or death.
- Early treatment with antibiotics is important.

#### Human monocytic ehrlichiosis (HME)
- Onset of symptoms is five to 21 days after tick bite.
- Symptoms usually include fever, fatigue, headache and muscle aches.
- Other symptoms include nausea, vomiting, diarrhea, cough, joint pain and confusion.
- Rash is often absent and more common in children.
- Severe disease or death occurs rarely.
- Early treatment with antibiotics is important.

#### Lyme disease
- Onset of symptoms is three to 30 days after tick bite.
- Early symptoms may include rash, fever, headache, muscle aches, fatigue and joint aches. Rash appears in 60 percent of cases.
- Some people develop late symptoms, which vary and may include: secondary bull's-eye shaped rashes, joint and muscle pain with or without swelling, neurological symptoms and heart problems.
- Early treatment with antibiotics is important to prevent late symptoms, including those that may be chronic and disabling.

#### Southern tick-associated rash illness (STARI)
- Symptoms are indistinguishable from those of early Lyme disease and include a bull’s-eye shaped rash, sometimes with fever, headache, muscle pain or fatigue.
- STARI is treated with antibiotics.

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### Tick Identification

- **American dog tick**: Onset of symptoms is three to 14 days (average seven days) after tick bite.
- **Lone star tick**: Onset of symptoms is five to 21 days after tick bite.
- **Black-legged tick**: Onset of symptoms is three to 30 days after tick bite.

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### Additional Information

- Ticks are commonly found in shady areas, moist ground litter, tall grass, brush, low tree branches, and along trails in the woods. They can also be found in backyards that back up to woody areas. If you spend time outside you are at risk of getting bitten by a tick and catching a tick-borne disease. It is easy to unknowingly be bitten by a tick because bites are usually painless. Not all ticks carry diseases, but see your doctor at the earliest signs of any of these symptoms of tick-borne disease within one to four weeks after a tick bite or exposure to tick habitats.

- Visit the NC Division of Public Health website at [http://epi.publichealth.nc.gov/cd/diseases/ticks.html](http://epi.publichealth.nc.gov/cd/diseases/ticks.html) for more information about tick-borne diseases.