

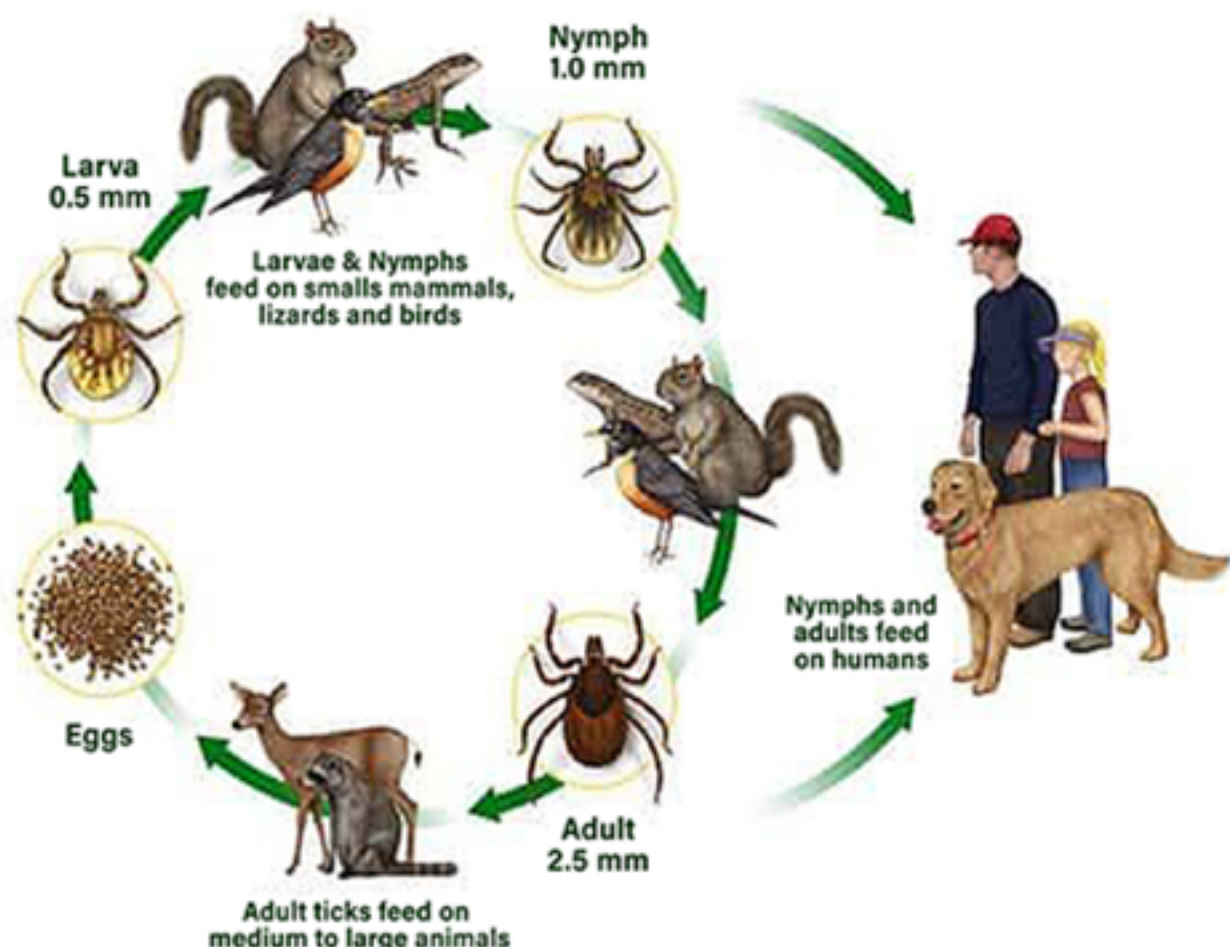
Transmission of Tick-Borne Diseases

Transmission times have been found to be much shorter! Once thought to take 23 to 48 hours for ticks to transmit disease, multiple research studies from around the world are finding much shorter transmission periods when ticks have been feeding on other blood meals.

Initial tick studies concentrated on the transmission time of *Norrelia burgdorferi*, the causative agent of Lyme disease, and researchers studied the progress of bacteria as it left the tick gut. These studies found that it took several hours- some times up to 72 hours- for the bacteria in the tick gut to travel from the gut to the salivary glands before being transmitted to a host.



However, newer research has found that ticks routinely feed on multiple blood meals. Think about a tick that may live in leaf litter in your backyard. A mouse scampers by and becomes a blood meal for the tick. After feeding for a few hours, the tick drops off or gets dislodged and begins crawling on the ground. Your dog goes in the backyard and lays down while watching you rake leaves. The tick chooses your dog as its next blood meal. That night, the tick drops off your dog, or gets dislodged, and finds you- it's next blood meal.



At this point, the tick has fed for several hours and bacteria and other organisms- once contained to the tick's gut- have now moved to its salivary glands. Once attached to you, it does not take long to transmit diseases.

A review of data on transmission times which appeared in the "International Journal of General Medicine" find that a minimum attachment time for transmission of infection has never been established. Recent studies have also confirmed that multiple tick species are carrying Bb and other organisms. and before being transmitted to a host.