

DOD Human Tick Test Kit Program:

A 'First Alert' System for Military Health Care Facilities

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If you are a Department of Defense health clinic serving military personnel, their dependents, retirees, civilian employees, reserve or national guard components, and wish to participate in AIPH's DOD Human Tick Test Kit Program, or if you would like additional information on this service, please contact Ellen Y. Stromdahl at DSN 584-5421 or commercial (410) 436-5421, email: Ellen.y.stromdahl.civ@mail.mil

To help combat the threat of tick-borne diseases to Department of Defense (DOD) personnel, the Army Institute of Public Health (AIPH) provides a tick identification and testing service for DOD health clinics in **CONUS**. This service is known as the DOD Human Tick Test Kit Program, and it serves as a 'first alert' for tick-bite patients and their health care providers. **The service is free!**

The AIPH provides Tick Test Kits to DOD clinics upon request. Health care providers can then use these kits to submit ticks that have been removed from tick-bite patients to our laboratory for species identification and pathogen analysis. Each kit consists of a non-breakable screw cap specimen vial in which to place the tick, an instruction sheet, a USAPHC Form LIDS 850 (Submission of Tick Specimens from Human Tick-Bite Patients) which should be filled out and mailed back with the tick, and a preaddressed mailing envelope. All kit items are enclosed in a Ziploc plastic bag.

Our laboratory uses polymerase chain reaction (PCR) to analyze ticks for evidence of infection with the agents of several tick-borne diseases: Lyme disease (*Borrelia burgdorferi*); Rocky Mountain spotted fever (*Rickettsia rickettsii*), Tidewater spotted fever (*Rickettsia parkeri*), as well as other emerging human spotted fevers; human monocytic ehrlichiosis (*Ehrlichia chaffeensis*), human granulocytic anaplasmosis (*Anaplasma phagocytophilum*); ewingii ehrlichiosis (*Ehrlichia ewingii*); and human babesiosis (*Babesia microti*). Live, as well as dead, ticks are tested. In addition, relative tick engorgement level is also noted: the longer a tick is attached, the more engorged it becomes, and the greater the risk that transmission will occur if the tick is infected. Therefore, potential disease risk increases with engorgement level.

Results of tick I.D. and engorgement level are telephonically reported back to the clinic within 1 day of receipt; results of analysis are likewise telephonically reported, usually within a week. The original USAPHC Form LIDS 850 is then returned to the clinic with all of the laboratory results annotated on side two of the form. USAPHC Form LIDS 850 can serve as documentation of the tick-bite incident for the patient's medical record.



Since different tick species transmit different pathogens (or groups of pathogens), and since many tick-borne diseases exhibit virtually identical early symptoms, it may be difficult for the health care provider to confidently evaluate and monitor a tick-bite patient. In addition, there is increasing evidence that in some cases a single tick may be infected with, and simultaneously transmit, more than one kind of pathogen, further complicating the clinical picture. Knowledge of tick species and infection status can alert the physician to specific diseases, thereby facilitating expedient diagnostic and treatment determinations. In addition, the ability to better clarify the actual threat associated with a specific tick bite may reduce unnecessary prescription of prophylactic antibiotics.