



## RICKETTSIAL SWAB SAMPLES

Demonstration of rickettsiae in an eschar (necrotic area developed at the site of the infected tick bite) has provided a convenient method for the acute detection of spotted fever group rickettsial infections other than Rocky Mountain spotted fever caused by *Rickettsia rickettsii*. In some patients, the positive PCR can be achieved by detection and characterization of the rickettsial DNA in a swab of the ulcerated area formed underneath the scab. Ideally the specimen should be collected before antibiotic therapy is initiated since treatment with antirickettsial drugs (tetracycline, doxycycline, or chloramphenicol) for 24-48 hours reduces the sensitivity of the PCR assay and the likelihood of detection. Treatment for 72 hours or longer will result in a negative test. A negative PCR result does not exclude the diagnosis of RMSF, but should stimulate consideration of other diagnoses. However, the treatment should not be withheld if the procedure cannot be performed within a few hours to ensure that the patient receives properly and timely care and treatment.

### Collection of Skin Swab

1. Disinfect the area of the eschar and clean disinfectant with sterile gauze soaked in sterile saline.
2. Use sterile tweezers to lift the scab area partially or completely. If scab is removed completely, place it in a sterile vial and submit with the other samples at the same time in a separate vial.
3. Sample ulcerated area with a sterile cotton swap and collect the contents while applying gentle rotation and little pressure to the open surface.
4. Place sample in a small sterile container.
5. Cover the sampled area with sterile band-aid to prevent exposure.
6. Ship samples to the CDC on ice for by overnight delivery or freeze at  $-70^{\circ}\text{C}$  and ship on dry ice at your convenience.

In all cases, we also request that *paired acute and convalescent serum specimens* be submitted. This provides yet another avenue for confirmation of spotted fever group rickettsioses. The acute sample is collected during the initial febrile stage of illness, usually during the first office visit. The convalescent sample should be taken at least 2-3 weeks after the acute sample collection date. In African tick bite fever patients and patients suffering from *Rickettsia parkeri* infection, an interval of at least 28 days is ideal to demonstrate seroconversion.

For more information, please contact the Rickettsial Laboratory at 404-639-1090.