Specimen Submission Guidelines

Rickettsial Diagnostic Laboratory
Collection and Submission of Skin Biopsy Specimens

A punch biopsy specimen of rash or eschar lesions can be evaluated to diagnose rickettsial diseases using various diagnostic techniques. This includes polymerase chain reaction (PCR) assay, cell culture isolation, and immunohistochemical (IHC) staining the pathogen, depending on the size and state of the tissue. Different laboratories at CDC have different requirements to prepare specimens.

The optimal tissue to diagnose rickettsial diseases is a punch biopsy of skin ≥4 mm that includes the central aspect of the lesion (macule, petechia, or eschar). The sample should be obtained before or within 72 hours of initiating appropriate antibiotics (doxycycline).

Antibiotic treatment should never be delayed to obtain a biopsy specimen.

Submit:

- **Fresh tissue.** This is preferred because it offers opportunity for different diagnostic techniques, including cell culture isolation and PCR assay. Lightly moisten a sterile gauze pad with sterile saline and place the specimen on the pad. Package in a sterile specimen collection cup. Do not immerse the tissue in liquid. Ship the fresh material **for overnight delivery to CDC** and refrigerate on cold packs.
- **Frozen tissue.** Frozen tissue can be evaluated by PCR assay. Send frozen tissues overnight on dry ice.

Or

- **Formalin-fixed, paraffin-embedded tissue blocks.** Contact CDC's Infectious Diseases Pathology Branch at pathology@cdc.gov if submitting this type of specimen.

Contact rzbepidiag@cdc.gov or rzbrefdxlab@cdc.gov for questions on collecting and submitting fresh tissue specimens for rickettsial diagnostics.

See the Rickettsial Zoonoses Branch Specimen Submission Guidelines (https://www.cdc.gov/vector-borne-diseases/php/laboratories/submit-specimens-rickettsiosis-tests.html) for additional details on shipping requirements.