

Specimen Submission Guidelines for Pathologic Evaluation of Rash- and Eschar-Associated Illness

Pathogens that cause rashes or eschars may be distributed focally or sparsely in the skin, despite extensive inflammatory infiltrates in the involved tissues. Because cutaneous lesions often occur in the context of systemic diseases (e.g. Rocky Mountain spotted fever or meningococemia), collecting an adequate biopsy or autopsy specimen of the involved skin, and in the case of fatal illnesses, tissue samples from any other organ system with significant inflammatory findings, ensures the best chance of detecting the causative agent. Performance of specific immunohistochemical, molecular, or other assays will be determined using clinical and epidemiologic information provided by the submitter and the histopathologic features of the submitted tissue specimens. Gross and microscopic digital images can be particularly useful in guiding subsequent laboratory evaluations of rash- or eschar-associated diseases.

Collection of Tissue Specimens

The preferred specimens include a minimum of 1 paraffin block of the cutaneous lesion, or an appropriate biopsy specimen in formalin (i.e., wet tissue). Specific guidelines for these samples include:

1. Minimally, a 3 mm punch, deep shave, or excisional biopsy specimen from the eschar or a representative rash lesion. Biopsies from the margin of the lesion can be the most informative. If multiple stages or forms of cutaneous lesions are identified, multiple biopsies should be submitted.

If a rash is identified in the context of a systemic fatal illness, representative tissues should be included from any other organ showing significant gross or microscopic pathology.

Submission of Specimens

Paraffin-embedded tissue blocks

In general, this is the preferred specimen and is especially important to submit in cases where tissues have been in formalin for a significant time. Prolonged fixation (>2 weeks) may interfere with some immunohistochemical and molecular diagnostic assays.

Wet tissue

If available, we highly recommend that unprocessed tissues in 10% neutral buffered formalin be submitted in addition to paraffin blocks. The volume of formalin used to fix tissues should be 10x the volume of tissue. Place tissue collected according to the dimensions provided above in 10% buffered formalin for three days (72 hours) for biopsies, and a week for thinly-sliced autopsy tissues. After fixation, if not paraffin-embedded, tissues SHOULD be transferred to 70% ethanol for long term storage and for shipping.

Electron Microscopy (EM) specimens

Samples should be fixed in glutaraldehyde and held in phosphate buffer. Sample containers are filled to the top with phosphate buffer and sent on wet ice. Do not freeze. Epoxy-embedded tissues are also accepted.

Please refer to our General Guidelines for Submitting Pathology Specimens (next page).

Infectious Diseases Pathology Branch (IDPB)

Specimen Submission Requirements

Requirements for submitting diagnostic specimens/cases to IDPB

A. U.S. health care professionals – first consult with your state health department regarding any sample submissions.

B. Send an email to Pathology@cdc.gov with:

- 1) A brief clinical history
- 2) A copy of the surgical pathology report or autopsy report (prelim reports are acceptable)
- 3) A listing of available formalin-fixed specimen types (wet tissue, paraffin blocks, and/or slides)
- 4) Relevant clinical, gross pathology, or microscopic pathology digital images, as available

C. After you receive approval by email to submit the case to IDPB:

- 1) Electronically fill, save, and print both pages of the [Specimen Submission Form CDC 50.34](#).
 - a) The form must be filled electronically to generate 3 barcodes required for accessioning
 - b) E-mail addresses of the Original and Intermediate submitters (if any) are mandatory fields
- 2) Select Test Order Code CDC-10365 (Pathologic Evaluation of Tissues for Possible Infectious Etiologies)
- 3) Click on links below for specific syndrome based tissue collection instructions:

[Pathologic Evaluation of CNS Infections](#)

[Pathologic Evaluation of Influenza Virus Infections](#)

[Pathologic Evaluation of Myocarditis](#)

[Pathologic Evaluation of Suspect Pneumonia Infections](#)

[Pathologic Evaluation of Rash- and Eschar-Associated Illness](#)

[Pathologic Evaluation of Hepatitis](#)

[Pathologic Evaluation of Sudden Unexplained Infant Death with Pathologic or Clinical Suspicion of Infection](#)

[Pathologic Evaluation of Unexplained Illness Due to Possible Infectious Etiology](#)

[Pathologic Evaluation of Suspect Mycobacterium Cases](#)

D. Mailing/Contact Info:

- 1) Ship to Dr. Sherif Zaki, CDC, IDPB, 1600 Clifton Rd NE, MS: H18-SB, Atlanta, GA 30329-4027
- 2) Mail in suitable packaging for delivery Monday-Friday, excluding Federal holidays
- 3) Send tracking number to Pathology@cdc.gov
- 4) Tel: 404-639-3132, Fax: 404-639-3043, Email: Pathology@cdc.gov