

Case Definition

Crimean-Congo hemorrhagic fever (CCHF) (Notifiable)

November 2023

1. Disease Information

1.1 General Disease and Pathogen Information: Crimean-Congo hemorrhagic fever (CCHF) is a viral disease caused by the CCHF virus (CCHFV) that shows no evidence of disease in infected animals but is a serious threat to human health. A member of the *Nairoviridae* family, it is a vector-borne, [zoonotic](#) disease of vertebrates found in Asia, Europe, the Middle East, and Africa. [Hyalomma ticks](#) maintain the disease in the environment and serve as the vector. The virus circulates in a tick–vertebrate–tick cycle but can also be transmitted horizontally and vertically within the tick population. *Hyalomma* ticks infest a wide spectrum of wildlife species, e.g., deer, antelope, ostrich, and hares, and free-ranging livestock animals, e.g., goats, cattle, and sheep. CCHFV is a potential bioterrorism agent and is listed as a Centers for Disease Control and Prevention/National Institute of Allergy and Infectious Diseases Category A priority pathogen.

1.2 Clinical Signs: Infected animals are usually subclinically infected, with a short-lived, low-intensity viremia.

2. Laboratory Criteria

2.1 Agent Isolation and Identification: The virus can be isolated from serum or plasma samples collected during the febrile or viremic stage of infection, or from the liver of infected animals. Primary isolations are made by inoculation of several tissue cultures, commonly African green monkey kidney (Vero) cells, or by intracerebral inoculation of suckling mice. For identification and characterization of the virus, conventional and real-time reverse transcriptase polymerase chain reaction can be used. As infections of animals remain clinically inapparent, the likelihood of isolating virus from a viremic animal is very low. Virus neutralization assays are rarely used due to weak neutralizing antibody responses and the necessity of using live virus for the assay.

2.2 Agent Characterization: CCHFV has high genetic diversity with the currently identified strains being classified into seven genotypes based on genomic sequencing of the S segment.

2.3 Serology: Enzyme-linked immunosorbent assay (IgM and IgG enzyme-linked immunosorbent assay (ELISA) is the preferred serological test.

3. Case Classification

3.1 Suspect Case: Any vertebrate with

3.1.1 Travel history to/from CCHFV endemic areas; **AND**

3.1.2 Documented interactions with a human diagnosed with CCHF.



3.2 Presumptive Positive Case: Any vertebrate with

3.2.1 Positive PCR test for CCHF; **OR**

3.2.2 Positive ELISA test for CCHFV antigen or anti-CCHFV antibodies.

3.3 Confirmed Positive Case: Any vertebrate from which CCHFV has been isolated and identified at the National Veterinary Services Laboratories.

4. Reporting Criteria: Crimean-Congo hemorrhagic fever is a U.S. foreign animal disease (FAD) that is immediately reportable under the APHIS [National List of Reportable Animal Diseases \(NLRAD\)](#).

4.1 NLRAD reporting in accordance with the [NLRAD Standards](#) for notifiable diseases; and by APHIS to the [World Organisation for Animal Health](#) (WOAH); **AND**

4.2 For FAD or Emerging Disease Incidents also follow standard procedures according to the [Policy for the Investigation of Potential Foreign Animal Disease/Emerging Disease Incidents](#).