

Severe Acute Respiratory Syndrome

Report Immediately
by Phone

Also known as: SARS

Responsibilities:

Hospital: Immediately by phone

Infection Preventionist: Interview patient for risk factors

Lab: Report immediately by phone. Specimens should be sent to the State Hygienic Laboratory (SHL)

Physician: Report immediately by phone

Local Public Health Agency (LPHA): Immediate follow-up required

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

SARS is caused by a member of the family coronaviridae, called SARS-associated coronavirus (SARS-CoV). The disease was first reported in Asia in 2003.

B. Clinical Description

Symptoms: SARS begins with a flu-like syndrome characterized by fever ($>100.4^{\circ}$ F), fatigue, headache, chills, myalgia, malaise, anorexia and, in some cases, diarrhea.

Onset of SARS occurs 3-10 days after infection with acute onset of fever. Dry cough and respiratory symptoms may begin 2 –7 days later.

Complications: Most patients develop pneumonia.

C. Reservoirs

Cave-dwelling bats in the genus *Rhinolophus* (Chinese horseshoe bats) are a reservoir of SARS-like coronaviruses closely related to those responsible for the SARS epidemic.

D. Modes of Transmission

Person-to-person: The virus that causes SARS is thought to be transmitted most readily by respiratory droplets produced when an infected person coughs or sneezes.

Fomite: The virus also can spread when a person touches a surface or object contaminated with infectious droplets and then touches his or her mouth, nose, or eyes.

Airborne: It is possibly spread more broadly through the air or by other ways that are not currently known.

E. Incubation Period

The incubation period for SARS is typically 3 –10 days, although in some cases it may be as long as 10 days. In a very small proportion of cases, incubation periods of up to 14 days have been reported.

F. Period of Communicability or Infectious Period

Persons with SARS are most likely to be contagious only when they have symptoms, such as fever or cough. Patients are most contagious during the second week of illness. Maximum period of communicability is less than 21 days.

G. Epidemiology

SARS is a viral respiratory illness recognized as a global threat in March 2003, after first appearing in Southern China in November 2002. During November 2002 through July 2003, 8,098 people worldwide became sick with SARS. Of these, 774 died. In the U.S., eight cases of SARS were laboratory-confirmed during the 2003 outbreak. The cases all had either a history of travel to countries where SARS was occurring or close contact to a confirmed case.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting

- To assess the magnitude of the disease in different areas and among different risk groups.
- To identify outbreaks as soon as possible.
- To monitor for the emergency of SARS in new areas and new risk groups.
- To implement control or prevention.

B. Laboratory and Healthcare Provider Reporting Requirements

Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the healthcare provider report any suspected or confirmed cases of SARS. The reporting number for IDPH Center for Acute Disease Epidemiology (CADE) is (800) 362-2736. If calling after business hours, call the Iowa State Patrol Office at (515) 323-4360 and they will page a member of the on-call CADE staff.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation

- a. Case investigation of SARS disease in Iowa residents will be directed by IDPH, Center for Acute Disease Epidemiology (CADE).
- b. Following notification of IDPH, the LPHA(s) may be asked to assist in completing the case investigation. Contact CADE for proper forms. Interviewing the case and others who may be ill to provide pertinent information will help in completing forms.
- c. Contact tracing will be needed and people assessed as soon as possible, along with initiation of isolation or quarantine, if applicable.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

In healthcare settings, suspected SARS patients should be immediately triaged and placed in airborne isolation, including negative pressure rooms. Healthcare providers must wear masks (N95 if available), eye protection, gowns and gloves.

- In some instances, contacts of SARS patients may be managed by using passive or active monitoring. Monitoring consists of direct contact – by phone or in person – with the health department or a designee at least once a day to assess the affected person for symptoms and address any needs. Frequent monitoring (e.g., twice a day) can reduce the interval between the onset of symptoms and the institution of precautions. Passive monitoring relies

on the affected person to contact health authorities if symptoms develop. Persons with high-risk exposures (e.g., healthcare workers involved in aerosol-generating procedures on a SARS patient) may require activity restrictions in addition to monitoring.

- Quarantine of contacts may be used during a large outbreak or in situations of high-risk exposures (e.g., if transmission from a particular case has been demonstrated by emergence of secondary cases among one or more contacts).

B. Protection of Contacts of a Case

- All close contacts of SARS cases should be in quarantine and should be advised to:
 - Be vigilant for fever (e.g., measure temperature twice a day), respiratory symptoms, and other symptoms of early SARS-CoV illness for 10 days after exposure.
 - Contact a designated health department staff member if symptoms develop so that clinical evaluation can be performed without delay.
 - Inform the healthcare provider in advance of a visit to a healthcare facility about possible exposure to SARS-CoV.

C. Managing Special Situations

Reported Incidence Is Higher than Usual/Outbreak Suspected:

Refer to healthcare facility SARS plan or IDPH SARS Response Plan.

Exposure of a Laboratory Worker

- Clinical laboratories performing routine hematology, urinalysis, and clinical chemistry studies, and microbiology laboratories performing diagnostic tests on serum, blood, or urine specimens, should follow standard laboratory practices, including standard precautions, when handling potential SARS-CoV specimens. For additional information, see www.osha.gov/SLTC/bloodborne pathogens/index.html
- Microbiology and pathology laboratories performing diagnostic tests on stool or respiratory specimens should handle potential SARS-CoV specimens using standard Bio-safety Level (BSL)-2 work practices in a Class II biological safety cabinet.

SARS transmission has occurred in several researchers working with SARS virus. All laboratorians must take appropriate precautions when handling specimens to be tested for SARS. Send all specimens to SHL. Do not perform tests in the hospital laboratory.

D. Preventive Measures

Preventive Measures/Education

- All healthcare providers should know and follow appropriate isolation precautions when caring for a suspect or confirmed SARS patient.
- Contacts of SARS patients should be educated on signs and symptoms and who to contact should symptoms occur.
- Isolation and quarantine should be instituted as indicated.

4) ADDITIONAL INFORMATION

The Council of State and Territorial Epidemiologists (CSTE) surveillance case definitions for SARS can be found at: www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top

CSTE case definitions should not affect the investigation or reporting of a case that fulfills the criteria in this chapter. (CSTE case definitions are used by the state health department and the CDC to maintain uniform standards for national reporting.)

References

MMWR December 12, 2003/52 (49) 1202-1206, Revised U.S. Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS) and Update on SARS Cases ---United States and Worldwide, December 2003

Heymann, D.L., ed. *Control of Communicable Diseases Manual, 19th Edition*. Washington, DC, American Public Health Association, 2008.

Additional Resources

CDC SARS web site, www.cdc.gov/ncidod/sars/index.htm

WHO SARS web site, www.who.int/csr/sars/en/