



## SEVERE ACUTE RESPIRATORY SYNDROME

### GUIDELINES AND RECOMMENDATIONS

## Guidance about SARS for Airline Flight Crews, Cargo and Cleaning Personnel, and Personnel Interacting with Arriving Passengers

This guidance is intended to assist commercial passenger airlines and the Transportation Security Administration (TSA), Bureau of Customs and Border Protection (BCBP), and other relevant agencies in establishing appropriate SARS-related precautions. Recommendations are based on standard infection control practices and on available epidemiologic information about the virus that causes SARS.

To supplement the general information provided here, the following sections provide information related to specific job functions:

- Guidance for Airline Flight Crews about Management of Passengers with Possible SARS
- Guidance about SARS for Airline Cleaning Personnel
- Guidance about SARS for Airline Cargo Personnel
- Guidance about SARS for Personnel Who Interact with Passengers Arriving from Areas with SARS

### *Overview of SARS*

Severe acute respiratory syndrome (SARS) is a respiratory disease caused by a virus called SARS-associated coronavirus (SARS-CoV). SARS was recognized as a global threat in March 2003, after first appearing in Southern China in November 2002. Over the next few months, the illness spread to more than two dozen countries in North America, South America, Europe, and Asia before the outbreak was contained.

Most of the cases of SARS that occurred in the 2003 outbreak involved persons who cared for or lived with someone with SARS or who had direct contact with infectious material (for example, respiratory secretions) from a person who had SARS. The primary way that SARS appears to spread is by close person-to-person contact.\* SARS-CoV is thought to be transmitted most readily by respiratory droplets (droplet spread) produced when an infected person coughs or sneezes. Droplet spread can happen when droplets from the cough or sneeze of an infected person are propelled a short distance (generally up to 3 feet) through the air and deposited on the mucous membranes of the mouth, nose, or eyes of persons who are nearby. The virus can also spread when a person touches a surface or object contaminated with infectious droplets and then touches his or her mouth, nose, or eye(s). It is also possible that SARS can be spread more broadly through the air or by other ways that are not known.

### *General Infection Control Precautions*

Airline personnel should always follow basic infection control precautions to protect against all types of infectious diseases:

- The first line of defense against infectious diseases is careful hand hygiene. As a general rule, it is good practice to wash hands frequently with soap and water or an alcohol-based hand rub.

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- In a healthcare-related emergency, personnel should wear disposable gloves for direct contact with blood or body fluids of any passenger or crew member. **However, gloves are not intended to replace proper hand hygiene.** Immediately after activities involving contact with body fluids, gloves should be carefully removed and discarded and hands should be cleaned. Gloves must never be washed or reused.

CDC does not recommend the routine use of personal protective equipment (PPE) such as respirators, gloves, or surgical masks for protection against SARS exposure, except in healthcare-related situations.

### *Management of Possible Exposures to SARS*

- All airline personnel, especially those who have been exposed to a person who might have SARS, should be aware of the symptoms of the disease [www.cdc.gov/ncidod/sars/factsheetcc.htm](http://www.cdc.gov/ncidod/sars/factsheetcc.htm).
- Personnel who think they have been exposed to SARS and who develop SARS-like symptoms during travel should take the following precautions:
  - Notify your employer for help in locating a healthcare provider. Inform the employer about the possible exposure to SARS, and ask about healthcare options. If you become ill while outside the United States, the U. S. embassy or consulate can also provide names and addresses of local physicians.
  - Do not travel while sick. Limit contact with others as much as possible to help prevent the spread of any infectious illness.
  - Before visiting a doctor's office, clinic, or emergency room, alert the healthcare provider in advance about the possible exposure to SARS so that arrangements can be made to prevent transmission to others in the healthcare setting.
- Personnel who think they have been exposed to SARS and who develop SARS-like symptoms after returning home should take the following precautions:
  - Contact your healthcare provider. Before visiting a doctor's office, clinic, or emergency room, tell the healthcare provider about the possible exposure to SARS and the history of recent travel so that precautions can be taken to prevent transmission to others in the healthcare setting.
  - Do not travel while sick. Limit contact with others as much as possible to help prevent the spread of any infectious illness.
  - Persons who develop symptoms of SARS [www.cdc.gov/ncidod/sars/factsheet.htm](http://www.cdc.gov/ncidod/sars/factsheet.htm) within 10 days of being in close contact with someone with known or possible, or within 10 days of arriving from an area where SARS cases have been reported, should follow the precautions described in [www.cdc.gov/ncidod/sars/exposuremanagement.htm](http://www.cdc.gov/ncidod/sars/exposuremanagement.htm).
  - Persons who have been exposed to SARS and who have SARS-like symptoms should not go to work, school, church, or other public areas. Ill persons should seek healthcare evaluation promptly.

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### Guidance for Airline Flight Crews about Management of Passengers with Possible SARS

Crew members on a flight with a passenger who is ill with a fever or respiratory symptoms and who is traveling from an area in which SARS cases have been reported should follow these additional precautions:

- Keep the ill person separated from close contact\* with others as much as possible.
- A surgical mask can reduce the number of droplets coughed into the air. Ask the sick person to wear a mask if the person can tolerate it (that is, if the sick person does not have such severe difficulty breathing that s/he cannot use a mask). When a sick person is unable to wear a surgical mask, personnel should wear surgical masks when working directly with that person. If a surgical mask is not available, provide tissues, and ask the sick person to cover the mouth and nose when coughing.
- Personnel should wear disposable gloves for direct contact with the ill person's blood or body fluids. **However, gloves are not intended to replace proper hand hygiene.** Immediately after activities involving contact with body fluids, gloves should be carefully removed and discarded and hands should be cleaned. Gloves must never be washed or reused.
- The captain of an airliner bound for the United States is required by law to report to the nearest U. S. Quarantine Station [www.cdc.gov/ncidod/dq/quarantine\\_stations.htm](http://www.cdc.gov/ncidod/dq/quarantine_stations.htm) any ill passengers who meet specified criteria [a257.g.akamaitech.net/7/257/2422/05dec20031700/edocket.access.gpo.gov/cfr\\_2003/octqtr/42cfr71.1.htm](http://a257.g.akamaitech.net/7/257/2422/05dec20031700/edocket.access.gpo.gov/cfr_2003/octqtr/42cfr71.1.htm). The ill passenger should be reported before arrival or as soon as the illness is noted. Quarantine officials will help arrange for appropriate medical assistance to be available when the airplane lands and will notify state and local health departments and appropriate CDC headquarters officials. Quarantine officials will work with the airline and health department officials to assist with medical transportation of the patient upon arrival, disease control and containment measures, passenger and crew notification and surveillance activities, and airline disinfection procedures.
- Persons who develop symptoms of SARS [www.cdc.gov/ncidod/sars/factsheet.htm](http://www.cdc.gov/ncidod/sars/factsheet.htm) within 10 days of being in close contact\* with someone with known or possible SARS should follow the precautions described in [www.cdc.gov/ncidod/sars/exposuremanagement.htm](http://www.cdc.gov/ncidod/sars/exposuremanagement.htm).
- Persons who have been exposed to SARS and who have SARS-like symptoms should not go to work, school, church, or other public areas. Ill persons should seek healthcare evaluation promptly. Before going to a doctor's office, clinic, or emergency room, the ill person should inform the healthcare provider about the possible exposure to SARS so that precautions can be taken to prevent the spread of infection in the healthcare setting.

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### **Guidance about SARS for Airline Cleaning Personnel**

#### ***Hand Hygiene***

SARS is transmitted by close contact\* with a person who has SARS and who is experiencing fever or respiratory symptoms. Once passengers have left an aircraft, the main source of infection will have been removed. However, infection may occur if infectious particles, such as droplets from coughing, remain on surfaces of the aircraft interior and if those particles come into direct contact with a person's eyes, nose, or mouth (e.g., by touching a contaminated surface and not washing hands). Therefore, hand hygiene ([www.cdc.gov/handhygiene/](http://www.cdc.gov/handhygiene/)) is of primary importance for all personnel working on commercial passenger aircraft.

#### ***Notification of Ground and Cleaning Crew***

The captain of an airliner bound for the United States is required by law to report any ill passengers who meet specified criteria to the nearest U. S. Quarantine Station

[www.cdc.gov/ncidod/dq/quarantine\\_stations.htm](http://www.cdc.gov/ncidod/dq/quarantine_stations.htm) before arrival or as soon as the illness is noted.

Quarantine officials will help arrange for appropriate medical assistance to be available when the airplane lands and will notify state and local health departments and the appropriate CDC headquarters officials. Quarantine officials will work with the airline and local and state health departments to assist with medical transportation of the patient upon arrival, disease control and containment measures, passenger and crew notification and surveillance activities, and airline disinfection procedures.

The airline's ground and cleaning crews should be notified at the same time so that preparations can be made for appropriate cleaning of the aircraft after passengers have disembarked.

#### ***Cleaning and Disinfection***

Personnel performing routine post-flight cleaning of passenger aircraft should practice appropriate hand hygiene to minimize risks of disease transmission. Cleaning of aircraft used for air medical (air-ambulance) transport of active SARS patients requires higher level cleaning, as described in the air medical transport guidance [www.cdc.gov/ncidod/sars/airtransport-sarspatients.htm](http://www.cdc.gov/ncidod/sars/airtransport-sarspatients.htm).

When cleaning commercial passenger aircraft after a flight with a possible SARS patient:

- Do not use compressed air, which might re-aerosolize infectious material.
- Wear non-sterile disposable gloves while cleaning the passenger cabin and lavatories.
- Remove and discard gloves if they become soiled or damaged and after cleaning activities are concluded.
- Clean hands with soap and water or an alcohol-based hand rub immediately after gloves are removed.
- Wipe down passenger lavatory surfaces and frequently touched surfaces in the passenger cabin such as armrests, seat backs, tray tables, light and air controls, and adjacent walls and windows with an EPA-registered low- or intermediate-level chemical household germicide.<sup>1</sup> Allow surfaces to air dry in accordance with manufacturers' instructions.

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<sup>1</sup> No disinfectant products are currently registered by the U .S. Environmental Protection Agency (EPA) specifically for the inactivation of SARS-CoV. However, related viruses with physical and biochemical properties similar to SARS-CoV are known to be readily inactivated by EPA-registered chemical germicides that provide low- or intermediate-level disinfection during general use.

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- Special cleaning of upholstery, carpets, or storage compartments is not indicated. There currently is no evidence to suggest that special vacuuming equipment or procedures are necessary.

### ***Management of Possible Occupational Exposures***

Cleaning crew managers should be aware of the symptoms of SARS

[www.cdc.gov/ncidod/sars/factsheet.htm](http://www.cdc.gov/ncidod/sars/factsheet.htm). Cleaning personnel who develop symptoms within 10 days of cleaning an aircraft after a flight with a possible SARS patient on board should report the illness to their occupational health service.

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### **Guidance about SARS for Airline Cargo Personnel**

There is no evidence that SARS is spread through contact with objects or packages, including those arriving from areas where SARS cases have been reported [www.cdc.gov/ncidod/sars/travel.htm](http://www.cdc.gov/ncidod/sars/travel.htm). Special handling of objects or packages, including those arriving from areas where SARS cases have been reported, is therefore not indicated.

- Cargo handlers should practice frequent hand hygiene [www.cdc.gov/handhygiene/](http://www.cdc.gov/handhygiene/) for prevention of all infectious diseases.
- CDC does not recommend the routine use of personal protective equipment such as respirators, gloves, or surgical masks for protection against SARS except for healthcare workers providing medical care to known or possible SARS patients.

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### Guidance about SARS for Personnel Who Interact with Passengers Arriving from Areas with SARS

Transportation Security Administration (TSA), Bureau of Customs and Border Protection (BCBP), and other personnel who interact with passengers arriving from areas with a SARS do not require protective measures beyond those already in use for interacting with the general public. As with all infectious illnesses, the first line of defense is careful hand hygiene. As a general practice, personnel should wash hands frequently with soap and water or an alcohol-based hand rub.

- Personnel who have to detain or assist a passenger who appears to have a respiratory illness and who might have traveled from an area where SARS cases have been reported should try to keep the ill passenger separated from the other passengers as much as possible. Personnel should immediately contact the appropriate authorities, such as the U.S. Quarantine Station with local jurisdiction [www.cdc.gov/ncidod/dq/quarantine\\_stations.htm](http://www.cdc.gov/ncidod/dq/quarantine_stations.htm) and Emergency Medical Services (EMS). In the interim, provide the ill passenger with a surgical mask to reduce the number of droplets coughed into the air, if the passenger can tolerate a mask. When an ill passenger is unable to wear a surgical mask, personnel should wear surgical masks when working directly with the sick person. If a surgical mask is not available, provide tissues, and ask the sick person to cover the mouth and nose when coughing.
- Personnel should wear disposable gloves for direct contact with blood or body fluids. **However, gloves are not intended to replace proper hand hygiene.** Immediately after activities involving contact with body fluids, gloves should be carefully removed and discarded and hands should be cleaned. Gloves must never be washed or reused.
- Persons who develop symptoms of SARS [www.cdc.gov/ncidod/sars/factsheet.htm](http://www.cdc.gov/ncidod/sars/factsheet.htm) within 10 days of being in close contact\* with someone with known or possible SARS should follow the precautions described in [www.cdc.gov/ncidod/sars/exposuremanagement.htm](http://www.cdc.gov/ncidod/sars/exposuremanagement.htm).
- Persons who have been exposed to SARS and who have SARS-like symptoms should not go to work, school, church, or other public areas. Ill persons should seek healthcare evaluation promptly. Before going to a doctor's office, clinic, or emergency room, the ill person should inform the healthcare provider about the possible exposure to SARS so that precautions can be taken to prevent the spread of infection in the healthcare setting.

### Related Links

SARS information for travelers: [www.cdc.gov/ncidod/sars/travel.htm](http://www.cdc.gov/ncidod/sars/travel.htm)

For more information, visit [www.cdc.gov/sars](http://www.cdc.gov/sars) or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

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\* Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or briefly sitting across a waiting room or office.