

International Association of Fire Fighters  
**Severe Acute Respiratory Syndrome  
(SARS)**

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**Informational Bulletin for Emergency Responders**



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# About this document

The following information is provided to assist firefighters in identifying people who may transmit Severe Acute Respiratory Syndrome (SARS) and to advise all those with potential SARS exposure to use infection control precautions to protect their own health and that of the public.

This document was last updated on June 16, 2003.



# What is SARS?

## About SARS

Severe Acute Respiratory Syndrome (SARS) is a viral illness, spread person to person through close contact with respiratory secretions. The severity of illness is highly variable, from mild illness to death.

## Causes of SARS

Scientists at the CDC and other laboratories have detected a previously unrecognized coronavirus in patients with SARS. The new coronavirus has been confirmed to cause SARS.

The definitive evidence came from experiments in which monkeys infected with the coronavirus developed symptoms similar to those of human SARS patients. If the SARS virus behaves like other coronaviruses, it may become part of the seasonal rhythm of respiratory illnesses, such as colds and flu.

## Tests for SARS

Researchers are working towards developing fast and accurate laboratory tests for the SARS. However, until those tests have been adequately tested and shown to be reliable, the initial diagnosis of SARS continues to depend on the clinical findings of an unusual pneumonia and a history of exposure to a person suspected of having SARS.

National reference laboratories are currently able to test for SARS using a PCR test (polymerase chain reaction). The ability of PCR tests to accurately detect SARS depends on the specimen and the time of testing during the course of the illness.

## Transmission

Although the infectivity of SARS is incompletely understood, only persons with symptoms are contagious and can transmit the disease. Close contact is required for transmission. Close contact means having cared for, lived with, or had direct contact with respiratory secretions or body fluids of a suspect or probable case of SARS. The transmission pattern of SARS is similar to that seen in diseases spread by large, virus-laden droplets that travel only a few meters. Because it is not spread by small, airborne particles, SARS is not likely to spread through building ventilation systems.

Transmission of SARS to healthcare workers appeared to occur after close contact with SARS patients under conditions of incomplete infection control. In Toronto, nine health care workers were infected by a single patient who coughed heavily while a breathing tube was inserted into his throat. A subsequent investigation revealed that some workers' face masks did not fit snugly. Also, some workers did not fully

understand how to safely remove their contaminated gloves, gowns, masks and protective eyewear.

The incubation period for SARS is usually from 2-7 days, but up to 10 days. A 3-5 day incubation period is most common. Contact with aerosolized respiratory secretions from an infected person appears to be important. Also, there is evidence that the SARS virus survives for a prolonged time in fecal material. The World Health Organization (WHO) confirmed that the virus probably spread through a Hong Kong apartment building through leaky plumbing. It is unknown whether other body fluids are infectious, therefore, all body secretions from suspected SARS patients should be handled only while wearing appropriate protection (hand hygiene, gloves, respirator, eye protection, gown).

Canadian scientists have reported that pigs and chickens cannot be infected with the SARS virus. Therefore, farm animals were probably not the original source of SARS and do not provide a "reservoir" for the virus as previously suspected.

World Health Organization (WHO) researchers have discovered SARS-like viruses in several small mammals from southern China, including a civet cat that is sometimes eaten as a delicacy. It is unknown, however, whether these animals are the source of the human SARS outbreak. It is possible that the civet cats became infected by feeding on other small mammals, e.g. rats and mice, or that the animals contracted SARS from infected humans. Until the role of animals in SARS transmission is better defined, it will be important to control the handling and geographic movements of the affected animal species.

Because the SARS virus could theoretically be transmitted by blood transfusion, the WHO issued recommendations for health authorities and potential blood donors. These guidelines are available at <http://www.who.int/csr/sars/guidelines/bloodsafety/en/>

## **Treatment for SARS**

While some medicines have been tried, no drug can, at this time, be recommended for definitive treatment of SARS. Treatment regimens have included a variety of antibiotics to presumptively treat known bacterial agents of atypical pneumonia. In some locations, therapy has also included antiviral agents such as ribavirin. Steroids have also been given to patients in combination with ribavirin. At present, the most effective treatment is unknown. Data available to WHO indicates that 95-96% of persons developing SARS recover with supportive care. Most people with SARS begin to improve approximately one week after developing symptoms.

American researchers are testing thousands of drugs for their effectiveness against SARS. So far, results have not been promising. Some researchers believe that it may take years to develop a medication that can successfully combat SARS. WHO is coordinating international efforts to evaluate results of various therapeutic regimens that have been used internationally.

# What is the cause for concern about SARS?

## The Spread of SARS

On March 16, 2003 the World Health Organization (WHO) issued a Global Alert regarding the SARS epidemic. The Alert was issued because this disease was not previously recognized, it caused great risk to exposed health care workers, and it began to spread internationally. **There is no indication that SARS is linked to bio-terrorism.**

## North American Cases and Deaths

In Canada, one fire fighter of IAFF Local 388 had an early, confirmed case of SARS. Ten members of the local and 208 paramedics were quarantined. As of mid-May, Canadian health officials had advised voluntary isolation for more than 3,000 people.

On May 29, 2003, more than 5,000 additional people were ordered into quarantine in Ontario, following a resurgence of SARS cases in a Toronto hospital.

The total number of reported SARS cases in Canada (November 1, 2002 - June 11, 2003) is as follows: 230 probable cases, 32 deaths, 134 recovered. The most recent probable

SARS case was reported on June 10, 2003. According to WHO, an important consideration is whether 20 days have passed since the last locally acquired case was isolated or died. If no further SARS cases have occurred for 20 days (twice the maximum incubation period), the chain of transmission is considered broken.

In mid-May, public health officials believed that the spread of SARS in Toronto was contained. On May 14, 2003, the WHO removed the city from its list of SARS-affected areas. On May 20, CDC's travel alert for Toronto, Ontario, Canada, was lifted because more than 30 days (three SARS incubation periods) had elapsed since symptoms developed for the most recent SARS case. However, on May 22, Health Canada reported a new hospital-based cluster of probable SARS cases. CDC then reissued a travel alert for Toronto. The latest SARS transmission in Toronto involved predominantly patients and health-care workers at several hospitals and is still under investigation. All contacts are being traced and placed in home quarantine as needed. The names of the affected hospitals and dates of potential at-risk exposure are available at [www.hc-sc.gc.ca/pphb-dgsp/sars-sras/eu-ae/sars20030525\\_e.html](http://www.hc-sc.gc.ca/pphb-dgsp/sars-sras/eu-ae/sars20030525_e.html).

When asked what caused SARS to re-emerge in Toronto, Jon Burstein of the Harvard School of Public Health replied: "A single slip in infection control allows an epidemic to re-ignite."

In the United States, as of June 11, 2003, the total number of reported SARS cases was: 71 probable cases, 0 deaths, 36 recovered. The most recent probable case was reported on June 10, 2003. Public health evidence to date continues to indicate that SARS is spread among people who have traveled in geographic locations where the

infection is most common, in family members of such travelers, or in health care workers who have cared for them.

## **Worldwide Cases**

As of June 11, 2003, a cumulative total of 8435 probable SARS cases and 789 deaths have been reported from 29 countries. The total number of people who have recovered from SARS totals 6581. The WHO continues to issue a daily report on cumulative numbers of SARS cases and deaths on Monday through Friday.

China is regarded as the epicentre of the SARS outbreak and presently accounts for almost two thirds of all reported cases worldwide. The first cases were detected in China during mid-November of last year.

In an earlier report, a WHO assessment team reached this conclusion: "If SARS is not brought under control in China, there will be no chance of controlling the global threat of SARS. Achieving control of SARS is a major challenge especially in a country as large and diverse as China. Effective disease control and reporting are the cornerstones of any strategy to do this."

On June 12, 2003, China's Executive Vice Minister of Health, Mr Gao Qiang, and Dr. David Heymann, WHO's Executive Director for Communicable Diseases, briefed the press on the situation of SARS control in China. Dr. Heymann praised the openness with which the WHO team was welcomed by the Chinese Ministry of Health, and described the measures now in place to control and prevent SARS as "excellent."

# When should I suspect a case of SARS?

## Symptoms and Location

There are two situations in which you should suspect SARS. The following is a description of the first situation.

You should suspect that a person may have SARS if the following conditions apply:

- Measured temperature > 100.5° F (>38°C) **AND**
- One or more observable findings of respiratory illness (cough, shortness of breath, difficulty breathing, hypoxia, or X-ray finding of pneumonia) **AND**
- One of the following exposures during the 10 days prior to symptom onset:
  - Close contact with a person who is a suspect or probable case of SARS;
  - History of travel, to an area with recent local transmission of SARS;
  - Residing in an area with recent local transmission of SARS.

**Note:** Do not rely on a history of foreign travel/contact with foreign travelers in order to don protective gear. (See "How can I protect myself?" for more information about protecting yourself from SARS.)

## Close Contact

There are two situations in which you should suspect SARS. The following is a description of the second situation.

- You should suspect SARS in a person who was in **close contact** with a person having SARS, or a person with a respiratory illness who traveled to a SARS area.
- **Close contact** is defined as having cared for, having lived with, or having direct contact with respiratory secretions and/or body fluids of a patient suspected of having SARS. The close contact should have occurred within 10 days of symptom onset.

**Note:** Do not rely on a history of foreign travel/contact with foreign travelers in order to don protective gear. (See "How can I protect myself?" for more information about protecting yourself from SARS.)



# How does the illness progress?

SARS usually begins with fever ( $> 100.5^{\circ}$  F), sometimes with chills or other, nonspecific symptoms (headache, muscle aches). Typically, rash and neurologic or gastrointestinal findings are absent; however, some patients have reported diarrhea during the fever phase.

After 3-10 days, a lower respiratory phase begins, with a dry cough or shortness of breath, which may be associated with diminished blood oxygen level. Chest x-rays may be normal during the fever phase and throughout the course of illness.

However, in many patients, patchy dense areas, known as infiltrates, are seen on the chest x-ray. In 10-20% of cases, the respiratory illness is severe enough to require intubation and mechanical assistance with breathing. The case-fatality rate among persons meeting the above definition of SARS is approximately 4%. Data available to the World Health Organization (WHO) indicates that 95-96% of persons developing SARS recover with supportive care. Of the persons who died, many had a pre-existing condition, such as diabetes, that weakened their immune systems and made them susceptible to complications of an infection.

Some close contacts of SARS patients have reported a mild illness with fever, without respiratory signs, suggesting the illness does not always progress to the respiratory phase.

Ninety per cent of people who have contracted SARS have improved and were in a recovery phase at day seven after disease.



# How can I protect myself?

## Overall Care

The best protection against SARS is **strict adherence to infection control procedures**. Follow **universal precautions**, including respiratory precautions and other PPE, when SARS is suspected.

Additionally, fire department should have an Infection Control program that meets the minimum requirements of NFPA **1581**, *Standard on Fire Department Infection Control Program* (<http://www.nfpa.org>).

## Respirators

Don a P100 respirator (either disposable model or a full or half facepiece air purifying respirator with a HEPA filter/canister) as a **minimum** respiratory protection. A respirator with a higher level of respiratory protection, e.g. Powered Air-Purifying Respirator with a HEPA filter, may be used.

When properly fitted, maintained and used, a P100 respirator (or a full or half face air purifying respirator with a HEPA filter) provides excellent protection from inhalation of infectious airborne droplets. However, there are NO safe exposure levels (i.e. the amount you can inhale without adverse health effects) for biological aerosols. Respirators can reduce inhalation exposures but cannot eliminate the risk of contracting infection, illness, or disease. Additionally, the type of respirator facepiece and filter class required does vary depending activities and risk of exposure. Many have suggested that N95 respirators be used for protection from this disease for public and hospital use. The IAFF does not believe that this type of respirator will afford fire fighter and emergency medical personnel proper protection. Accordingly, the IAFF recommends for emergency response, as a minimum, a P100 respirator be used.

Of note, the effectiveness of any respirator is highly dependent on having respirators that are well-fitted to fire fighters' faces. Respirators that leak may offer essentially no respiratory protection. All respirator use must be administered as part of a comprehensive Respiratory Protection Program (RPP), according to the Occupational Safety and Health Administration (OSHA). The RPP contains provisions for training respirator users, selecting and maintaining respirator equipment, conducting fit-checks and fit tests. For additional information, see the Respiratory Protection Standard (29CFR 1910.134), under the Laws and Regulations link at <http://www.osha.gov>.

One of the easiest ways of transmitting a viral infection from one person to another is through a hand-shake that transfers virus from the hand of one person who may have rubbed his nose to another person's hand. The second individual then touches his/her nose or mouth and later develops an infection. A respirator is not a guarantee of protection against any disease. However, if a high-filtration respirator is worn with eye protection and gloves, a high degree of protection is conferred.

## P100 Respirator

For air purifying respirators (APRs) there are nine classes of particulates filters (three levels of filter efficiency, each with three categories of resistance to filter efficiency degradation). The most common commercially available cartridges are the "N-95" (not oil resistant and 95% efficient) and "P-100 (oil-proof and 100% efficient).

The three levels of filter efficiency are 95%, 99%, and 99.97% and are labeled either as 95, 99 and 100. Higher filter efficiency means lower leakage, hence greater protection. Since there are no safe or threshold levels where exposure to a biological agent (bacteria, virus, or spore) is considered safe, the particulate filter that offers the highest level of protection must be used. The 99.97% (100) filter efficiency recommendation is consistent with NIOSH recommendations for emergency response to biological agent incidents.

The three categories of resistance to filter efficiency degradation relate to the presence or absence of oil particles in the work environment are labeled either as N- (non oil resistant), R- (oil resistant) or P- (oil proof). NIOSH generally recommends the following in choosing an N, R or P category filter:

- If no oil particles are present in the work environment, use a filter of any series (i.e., N-, R-, or P-series filter).
- If oil particles (e.g., lubricants, cutting fluids, glycerine, etc.) are present, use an R- or P-series filter.
- If oil particles are present and the filter is to be used for more than one work shift, use only a P-series filter.
- If it is unknown whether oil particles are present, use only a P-series filter.

Based on the above considerations, fire fighters and emergency medical personnel shall use as a minimum, a P-100 APR or a HEPA filter PAPR respirator for protection against SARS. This requirement is consistent with the specifications contained in the World Health Organization's Hospital Infection Control Guidance for SARS (<http://www.who.int/csr/sars/infectioncontrol/en>).

Consequently, the widely distributed N-95 respirator is not appropriate for emergency response.

Powered air-purifying respirators [PAPRs] require high-efficiency particulate air [HEPA] filters. Such filters are equivalent to a P-100.

Disposable respirators shall not be reused. If PAPRs are used, the filters shall not be reused and the respirator must be sterilized in accordance with manufacturers' instructions.

## Hand Care

In situations where the patient has a high fever and any respiratory signs, take the following precautions:

- Don disposable gloves prior to making any patient contact.
- Use of disposable gloves should be considered for any direct contact with body fluids of a SARS patient. However, **gloves are not intended to replace proper hand hygiene**. Immediately after activities involving contact

with body fluids, gloves should be removed and discarded and hands should be cleaned. Gloves must never be washed or reused.

- Upon completion of all patient care procedures, remove gloves and cleanse hands with alcohol-based cleanser. Avoid touching hands to face until a thorough washing of hands takes place. As soon as possible following completion of patient care, thoroughly wash hands with soap and water.
- As stated above, the use of gloves does not eliminate the need for hand hygiene. Likewise, the use of hand hygiene does not eliminate the need for gloves. Gloves reduce hand contamination by 70 percent to 80 percent, prevent cross-contamination and protect patients and health care personnel from infection. Antiseptic handrubs should be used before and after each patient just as gloves should be changed before and after each patient.
- When using an alcohol-based handrub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. Note that the volume needed to reduce the number of bacteria on hands varies by product.
- Personnel should avoid wearing artificial nails and keep natural nails less than one quarter of an inch long, particularly if they come in contact with patients at high risk of acquiring infections.

## Eye Care

In situations where the patient has a high fever and any respiratory signs, take the following precautions:

- Don protective eyewear in situations where bodily fluids may be splashed. Splash-protective eyewear must be worn for all patient care within 6 feet of the patient. Corrective eyeglasses alone are not appropriate protection.

## Patient Care

In situations where the patient has a high fever and any respiratory signs, take the following precautions:

- Apply a disposable surgical mask (or disposable respirator if surgical mask is not available) to all suspected SARS cases not requiring oxygen therapy.
- Each patient with suspected SARS should be advised to cover his or her mouth and nose with a facial tissue when coughing or sneezing. If possible, a SARS patient should wear a surgical mask during close contact with uninfected persons to prevent spread of infectious droplets. When a SARS patient is unable to wear a surgical mask, household members should wear surgical masks when in close contact with the patient.
- When a patient requires rescue breathing, use a **bag-valve-mask** — NEVER use direct mouth-to-mouth or mouth-to-mask resuscitation.

# Patient Transport

- When transporting persons suspected of having SARS, do not allow air to recirculate within the vehicle, especially do not use the recirculation (Maximum) control on the vehicles heating/air conditioning system. When possible open windows/vents for improved ventilation.
- Respirators may not be removed to eat or drink while in the transport vehicle. Personal activities that require removal of respirators should not be performed in the patient-care cabin.
- The patient may wear a paper surgical mask to reduce droplet production, if tolerated.
- Oxygen delivery with simple and non-rebreather facemasks may be used for patient oxygen support during transport.
- A full facepiece respirator or a respirator with goggles (or face-shields) must be worn for all patient care within 6 feet of the patient. Corrective eyeglasses alone are not appropriate protection.
- Patient care personnel should not wear leather or other non-medical gloves while transporting patients.
- Eating, drinking, application of cosmetics, and handling of contact lenses should not be done in the immediate patient care area.
- Handling or storage of medication or clinical specimens should not be done in areas where food or beverages are stored or prepared.

On April 11th, CDC updated their advisory document, "Interim Guidance: Pre-Hospital Emergency Medical Care and Ground Transport of Suspected Severe Acute Respiratory Syndrome Patients" on their web site (<http://www.cdc.gov/ncidod/sars/emtguidance.htm>).

CDC's recommendations are consistent with the information contained in this document, with the exception of the selection and use of appropriate respiratory protection. CDC's recommendation suggesting the use of N-95 respirators will place EMS employees at greater risk than the minimum use of a P-100 respirator as recommended by the IAFF.

Additionally, CDC recommends:

- Suspected SARS patients should be transported using the minimum number of EMS personnel and without non-SARS patients or passengers in the vehicle.
- Receiving facilities must be notified prior to arrival of suspected SARS patients to facilitate preparation of appropriate infection control procedures and facilities.

- Concerns regarding movement of possible SARS patients in the United States should be discussed with appropriate local, state and federal health authorities, including the Centers for Disease Control and Prevention (CDC) (24 hour response number: (770) 488-7100).

## Decontaminating equipment

- Dispose of disposable respirator, respirator filters, gloves and other disposable equipment/supplies used at the scene as bio-hazardous waste.
- If the turnout gear is visibly contaminated by bodily fluid, it should be placed in a biohazard bag at the scene and washed following prescribed laundry procedures. Chlorinated bleach shall not be used with any fire fighter protective clothing. Fire departments should follow the decontamination guidelines in NFPA 1851 *Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles* (<http://www.nfpa.org>).
- Non-disposable respirators shall be cleaned and disinfected in accordance with manufacture's recommendation.
- For decontamination of non-disposable equipment, follow manufacturer and departmental standard operating procedures.
- Vehicles used to transport persons suspected of having SARS should be cleaned by staff wearing protective equipment, using a disinfectant cleanser.

## Inform contacts of suspected SARS patients

- When possible, in advance of the evaluation, healthcare providers should be informed that the individual is a close contact of a SARS patient. Patients presenting to health care facilities who require assessment for SARS should be diverted to a room designated for respiratory isolation.
- Sharing of eating utensils, towels, and bedding between SARS patients and others should be avoided, although these items can be used by others after routine cleaning (e.g., washing with soap and hot water). Environmental surfaces soiled by body fluids should be cleaned with a household disinfectant according to manufacturer's instructions; gloves should be worn during this activity.
- Household members or other close contacts of SARS patients who develop fever or respiratory symptoms should seek healthcare evaluation.
- At this time, in the absence of fever or respiratory symptoms, household members or other close contacts of SARS patients need not limit their activities outside the home. Within an affected household, facial tissues and other waste from SARS patients may be discarded as normal household waste.

## **Workers' Compensation**

If you contract SARS or are quarantined, you should be recorded as a line-of-duty injury/illness case and covered by your employer's workers' compensation program. Fire fighters and emergency response personnel must not suffer financially because they have contracted SARS or been exposed to the threat of SARS and quarantined. Fire fighters and emergency medical personnel who are quarantined must not suffer any loss of pay nor should they be required to utilize either medical, sick or vacation leave. The IAFF recommends that all IAFF local affiliates immediately address this issue with their employer.

# What precautions are being taken?

## WHO Recommendations for International Gatherings

WHO recommends that those hosting persons arriving from an area with recent local transmission of SARS follow the following principles:

1. A person who is symptom free and has not been in close contact with a suspected SARS patient may travel freely without a mask or any other precautions. However, he or she should remain vigilant for symptoms. If signs of illness develop within 10 days of arrival, contact the Medical Service of the hosting Organization/Institution in the country.
2. A person who has been in close contact or thinks he or she has been in close contact with a person suspected of SARS over the last 10 days, should not leave his/her country and should contact the national health authorities of his/her country.

If however, the person has already left his/her country, he or she should contact the Medical Service of the hosting Organization/Institution in the country to be placed under active surveillance for 10 days after the date of his/her contact with a case and according to the standardized procedures of the hosting country.

3. A person who develops symptoms within ten days of arrival in the hosting country (including sudden fever above 38°C, dry cough, shortness of breath, and/or difficulty in breathing), should do the following:
  - Not leave his/her room;
  - Call the Medical Service of the hosting Organization/Institution to ensure that proper isolation can be carried out according to the standardized procedures of the hosting country.

Updated WHO guidelines are available at:  
<http://www.who.int/csr/sars/guidelines/gatherings/en/>

## CDC Health Alerts

In response to the SARS epidemic, CDC has issued two types of notices to travelers: advisories and alerts. A travel advisory recommends that nonessential travel be deferred; a travel alert does not advise against travel but informs travelers of a health concern and provides advice about specific precautions. Interim definitions and criteria for travel alerts versus advisories and guidelines for changing notices are available at [http://www.cdc.gov/ncidod/sars/travel\\_alertadvisory.htm](http://www.cdc.gov/ncidod/sars/travel_alertadvisory.htm)

The CDC has issued alert notices for international travelers arriving in the U.S. from Toronto, Canada ([http://www.cdc.gov/ncidod/sars/travel\\_alertcan.htm](http://www.cdc.gov/ncidod/sars/travel_alertcan.htm)) and from China ([http://www.cdc.gov/ncidod/sars/travel\\_alert.htm](http://www.cdc.gov/ncidod/sars/travel_alert.htm)).

## **SARS Travel Recommendations**

In response to the SARS epidemic, CDC has issued two types of notices to travelers: advisories and alerts. A travel advisory recommends that nonessential travel be deferred; a travel alert does not advise against travel but informs travelers of a health concern and provides advice about specific precautions. Interim definitions and criteria for travel alerts versus advisories and guidelines for changing notices are available at [http://www.cdc.gov/ncidod/sars/travel\\_alertadvisory.htm](http://www.cdc.gov/ncidod/sars/travel_alertadvisory.htm). Travel recommendations are reassessed on a daily basis.

CDC is requesting information from travelers who were on flights with people suspected of having SARS. CDC, with the help of state and local health authorities, is attempting to follow-up with these travelers for 14 days to make sure no one develops symptoms consistent with SARs.

The CDC has issued alert notices for international travelers arriving in the U.S. from Toronto, Canada ([http://www.cdc.gov/ncidod/sars/travel\\_alertcan.htm](http://www.cdc.gov/ncidod/sars/travel_alertcan.htm)) and from China ([http://www.cdc.gov/ncidod/sars/travel\\_alert.htm](http://www.cdc.gov/ncidod/sars/travel_alert.htm)).

As of June 11, 2003, exit interviews are being conducted for international travelers leaving the Toronto area. It is not currently recommended that travel to Toronto be postponed. The only other country for which health screening is being conducted for exiting travelers is China (provinces of: Beijing, Guangdong, Hebei, Hong Kong SAR, Inner Mongolia, Jilin, Shanxi, Tianjin, and Taiwan). Note the updates posted by WHO regarding areas to which travel should be postponed ([http://www.who.int/csr/sars/travel/2003\\_05\\_30/en/](http://www.who.int/csr/sars/travel/2003_05_30/en/)).

## **Quarantine**

On April 4, 2003, President Bush signed an Executive Order adding SARS to the list of quarantinable communicable diseases under the Public Health Service Act. Many levels of government (Federal, State, and local) have basic authority to compel isolation of sick persons to protect the public.

In the event that it is necessary to compel isolation of a sick passenger, CDC will work with appropriate State and local officials to ensure that the passenger does not infect others.

## **Reporting New Cases**

Under international law quarantine regulations, the master of a ship or captain of an airplane coming into the United States from a foreign port is required to report certain illnesses among passengers. The illness must be reported to the nearest quarantine official. If possible, the crew of the airplane or ship will try to relocate the ill passenger or crew member away from others. If the passenger is only passing

through a port of entry on his/her way to another destination, port health authorities may refer the passenger to a local health authority for assessment and care.

## **Blood Donation**

Although no SARS case has been attributed to blood transfusion, a low level of the SARS virus has been detected in blood specimens of SARS patients for up to ten days following the onset of symptoms. Due to the theoretical risk of transmitting SARS through blood transfusion, the World Health Organization (WHO) made the following precautionary recommendations.

1. Deferral of blood donations from donors who may have been exposed to SARS.
2. Blood transfusion services should ask blood donors to report if diagnosed as suspect or probable SARS case within 1 month after blood donation. The transfusion service should recall the blood products still not transfused.
3. Countries with existing systems to trace recipients of blood should follow those recipients who received blood/blood products from donors who developed probable SARS.



# Should I be worried?

## Reasons for Concern

SARS can be severe and, due to global travel, has spread to several countries in a relatively short period of time.

However, SARS is:

- Not highly contagious when protective measures are used.
- Not widespread - the percentage of cases, although significant, is relatively low.
- Transmitted only from infected persons who have signs of an active respiratory illness.

## The Future of SARS

Health authorities around the world are watching closely for, and quickly reporting, suspected cases. Reports of many illnesses coming in from around the world will turn out to represent the normal activity of diseases like influenza, whose early symptoms are similar to SARS. Evidence on the spread of SARS needs to be evaluated daily, therefore, future recommendations may change.



# Where can I learn more?

Updated information on SARS is available on the following web sites:

## **International**

- World Health Organization (WHO) - <http://www.who.int/csr/sars/en/>

## **United States**

- Centers for Disease Control and Prevention (CDC) - <http://www.cdc.gov>
- CDC's FAQ on SARS - <http://www.cdc.gov/ncidod/sars/faq.htm>

## **Canada**

- Health Canada - <http://www.hc-sc.gc.ca>



# Glossary

## A

**aerosolized respiratory secretions:** Liquid droplets, suspended in air, that arise from coughing or sneezing. Aerosolized respiratory secretions are responsible for the transmission of tuberculosis, and are thought to be responsible for the transmission of SARS.

**antibodies:** Proteins produced by the immune system that act against an infecting agent.

## C

**CDC:** Also known as the Centers for Disease Control and Prevention - A United States government agency that seeks to promote health and quality of life by preventing and controlling disease, injury, and disability.

**coronavirus:** A group of viruses that have a halo or crown-like (corona) appearance when viewed under a microscope.

## H

**hypoxia:** A deficiency of oxygen reaching the tissues of the body.

## I

**incubation period:** The period of time between the infection of an individual by a disease-causing agent and the manifestation of the disease it causes.

**intubation:** The introduction of a tube into the trachea to mechanically maintain oxygen flow to the lungs.

## N

**NFPA:** Also known as the National Fire Protection Association - The NFPA seeks to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training, and education.

## P

**Polomerase Chain Reaction (PCR):** A laboratory technique for synthesizing a given strand of DNA (genetic material) from protein. The newly formed DNA is subsequently identified by comparison with known DNA sequences from various organisms.

**PPE:** Personal Protective Equipment

## Q

**quarantine:** A restraint on the activities of persons or the transport of goods that is designed to prevent the spread of disease.

## W

**WHO:** Also known as the World Health Organization - WHO is the United Nations specialized agency for health that seeks the attainment by all peoples of the highest possible level of health. WHO is governed by 192 Member States through the World Health Assembly.

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