

DOE - SEVERE ACUTE RESPIRATORY SYNDROME (SARS) UPDATE – June 12, 2003

I have been monitoring the SARS situation and provide the following information that is current as of **Wednesday, June 12, 2003**, 0800 hours, EDT. Information presented is routinely taken from the Centers for Disease Control and Prevention (CDC), <http://www.cdc.gov/ncidod/sars/index.htm>, The World Health Organization (WHO), <http://www.who.int/csr/sars/en/>, the Department of Defense Global Emerging Infections Surveillance and Response System site, (DoD-GEIS)-<http://www.geis.ha.osd.mil/>, and other credible sources. You will find the most current information in this document up-front.

WHO - Update on cases and countries

As of **11 June 2003**, 14:00 GMT+2, a cumulative total of 8435 probable SARS cases with 789 deaths (9.35% mortality, see charts and map, pp 3-4) has been reported from 29 countries. This represents an increase of 5 new cases since WHO's last update on 10 June. **No new deaths were reported.**

Recent news

On 10 June, the **CDC updated its Questions and Answers: Travel and Quarantine** - <http://www.cdc.gov/ncidod/sars/qa/travel.htm>. On June 4, CDC downgraded the traveler notification for **Hong Kong from a travel advisory to a travel alert**, meaning that *there is no recommendation against nonessential travel to the area* - http://www.cdc.gov/ncidod/sars/travel_alertadvisory.htm. **On 2 June**, WHO added **Inner Mongolia to its list of areas with recent local transmission, for which, travellers should consider postponing all but essential travel**. Effective **Saturday 31 May**, **Singapore was removed** from the WHO list of areas with recent local transmission of SARS. **On 23 May 2003**, the **CDC reinstated their Travel Alert for Toronto, Ontario, Canada** - http://www.cdc.gov/travel/other/sars_can.htm. As of **21 May**, **WHO** has removed the **Philippines** from its list of areas with recent local transmission and has added **Taiwan**.

WHO Update 78 – Situation in Toronto

11 June 2003 - http://www.who.int/csr/don/2003_06_11a/en/

WHO is deeply concerned by the resurgence of SARS cases in Toronto, reported to WHO on 22 May, and is following the situation closely. Toronto, which had been removed from the list of areas with recent local transmission on 14 May, was again added to the list on 26 May following evidence that more than one generation of new cases had occurred. Since the disease first resurged in Toronto, over 90 new probable cases have been reported.

Health authorities in Toronto are again on high alert, and are treating all hospital-associated clusters of patients with fever or respiratory symptoms as possible SARS cases until proven otherwise. Possible cases are immediately isolated. All contacts are being traced and, when warranted, placed in home quarantine. Infection control measures are being followed in all affected facilities. WHO welcomes these precautionary measures.

Canadian authorities have most recently reported a possible cluster of SARS patients in a hospital east of Toronto. Although no clear epidemiological link has been established that could explain this new cluster, officials have adopted a cautious approach. Over the last 3 days, 15 dialysis patients at the Lakeridge Health Centre in Whitby exhibited respiratory and febrile illnesses. After clinical review and laboratory investigations to detect other causative agents, around half of these patients have now been excluded from consideration as possible SARS cases. The remaining patients are being closely monitored.

These and other investigations are ongoing and many questions remain to be answered before firm conclusions can be reached.

WHO is also awaiting further information on cases in other countries that may have been exported from Toronto. WHO is not yet convinced that such cases have been conclusively documented.

One of the most dangerous stages in the evolution of any outbreak, and most especially one caused by a new and poorly understood disease, occurs when cases begin to decline and previous levels of high alert and precautionary measures likewise begin to level off. Much about the clinical behaviour of SARS and its mode of transmission requires further research. Until knowledge improves, precautionary measures such as those being followed in Toronto are the best approach from a public health perspective.

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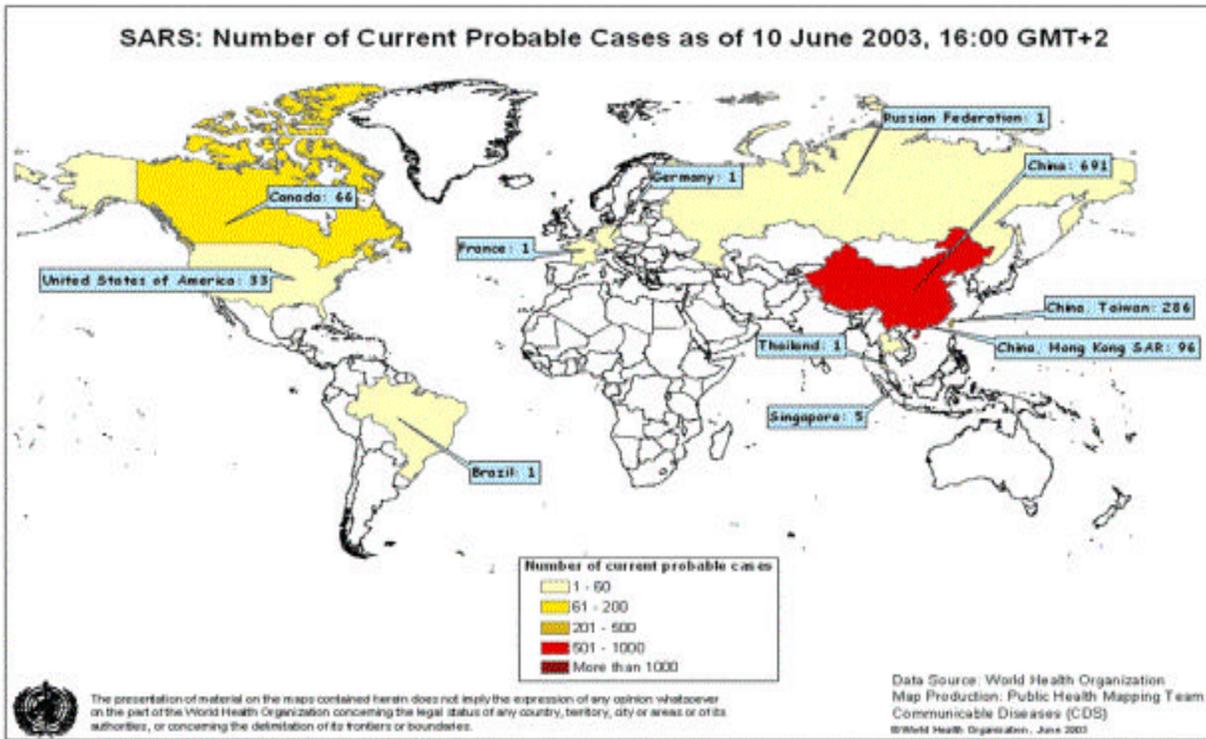
WHO - SARS Travel Recommendations Summary Table

11 June 2003 - http://www.who.int/csr/sars/travel/2003_05_30/en/

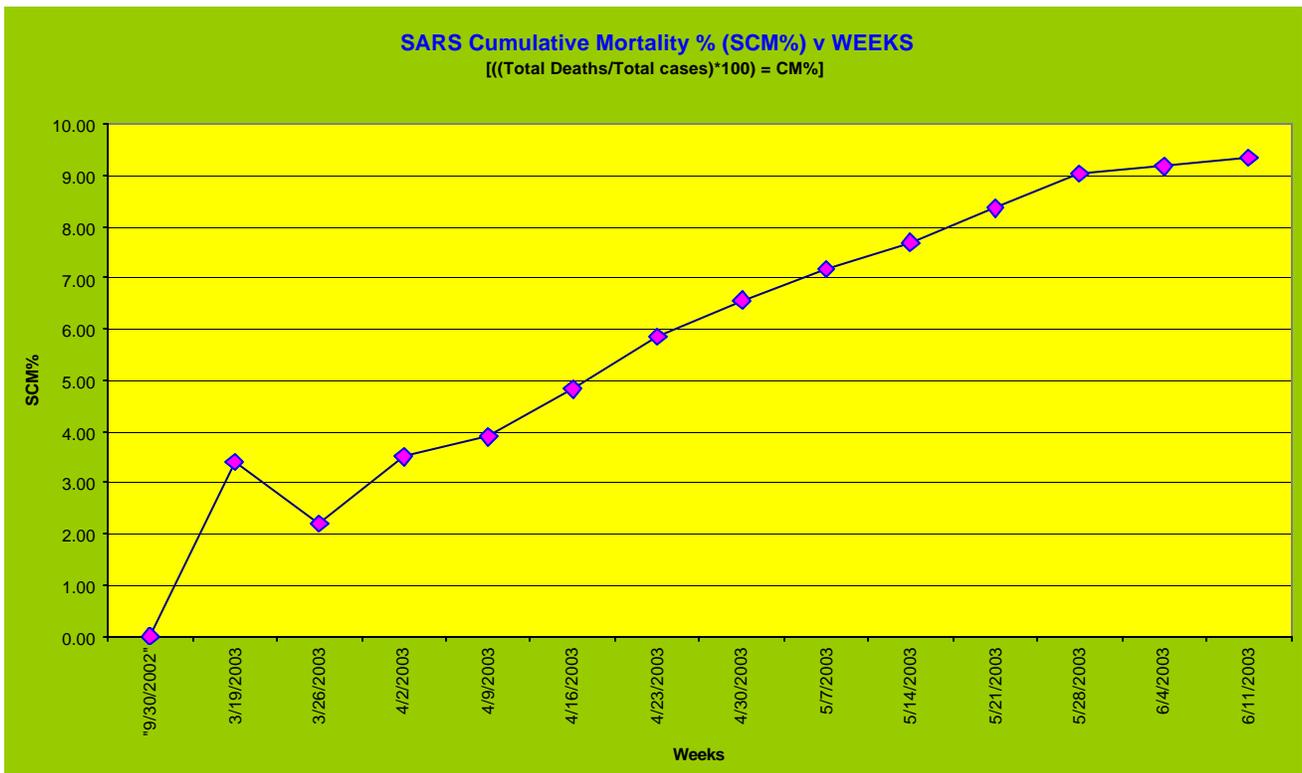
This table, updated daily, indicates those areas with recent local transmission of SARS for which WHO has issued recommendations pertaining to international travel. All international travellers should be aware of the main features of SARS and the areas of the world where local transmission has been reported. This table summarizes those areas of the world for which further specific measures have been recommended. [Summary of WHO measures related to international travel](#)

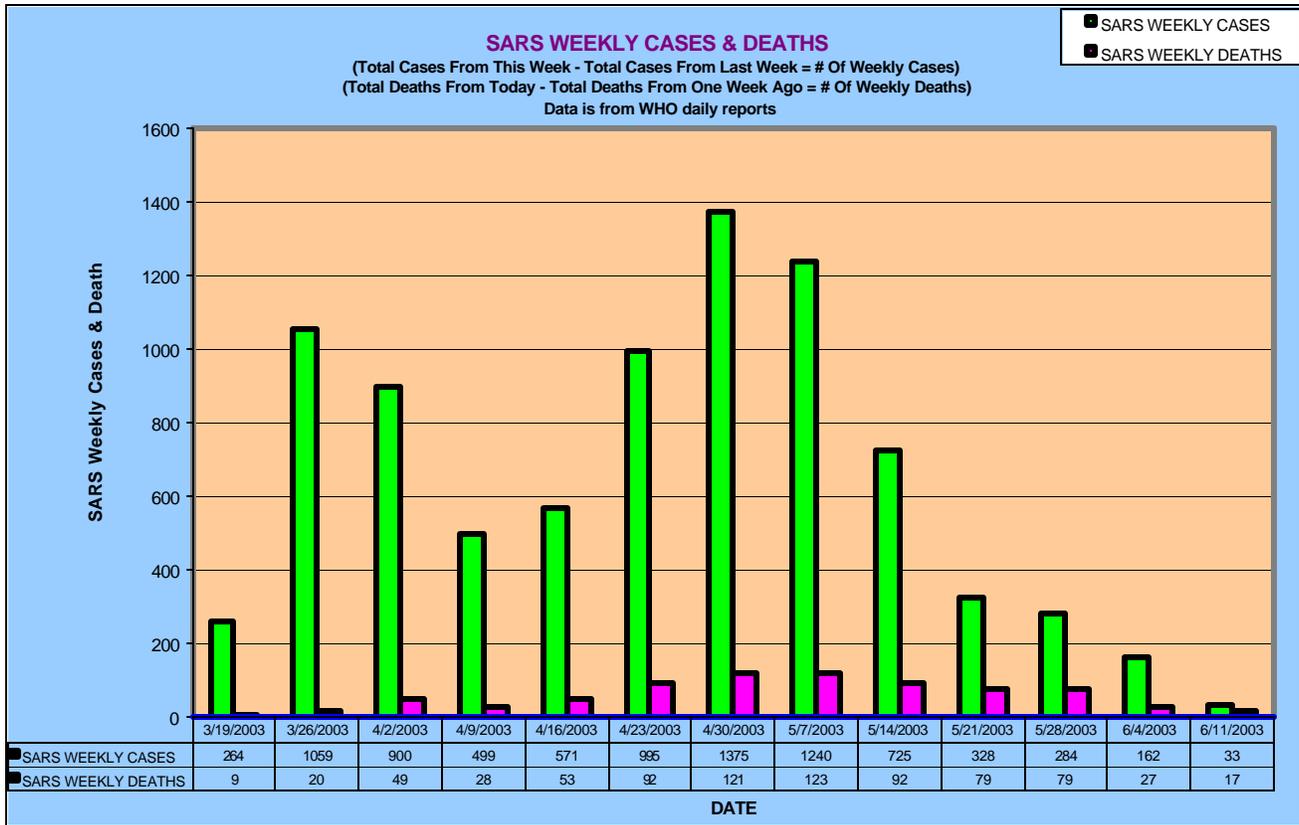
Country	Area	Exit screening for international travellers departing the area	Traveller to consider postponing all but essential travel to the area
Canada	Toronto	YES	NO
China	Beijing	YES	YES
China	Guangdong	YES	NO
China	Hebei	YES	YES
China	Hong Kong Special Administrative Region of China	YES	NO
China	Inner Mongolia	YES	YES
China	Jilin	YES	NO
China	Shanxi	YES	YES
China	Tianjin	YES	YES
China	Taiwan	YES	YES

http://www.who.int/csr/sars/map2003_06_11.jpg



http://www.who.int/csr/sars/map2003_06_11.jpg





CDC FACT SHEET - Basic Information About SARS

June 4, 2003 - <http://www.cdc.gov/ncidod/sars/factsheet.htm>

| [Español](#) | [Français](#) |

[Download PDF version formatted for print](#) (329 KB/2 pages)

A new disease called SARS

Severe acute respiratory syndrome (SARS) is a respiratory illness that has recently been reported in Asia, North America, and Europe. This fact sheet provides basic information about the disease and what is being done to combat its spread. To find out more about SARS, go to www.cdc.gov/ncidod/sars/ and www.who.int/csr/sars/en/. The Web sites are updated daily.

Symptoms of SARS

In general, SARS begins with a fever greater than 100.4°F [$>38.0^{\circ}\text{C}$]. Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also experience mild respiratory symptoms. After 2 to 7 days, SARS patients may develop a dry cough and have trouble breathing.

How SARS spreads

The primary way that SARS appears to spread is by close person-to-person contact. Most cases of SARS have involved people who cared for or lived with someone with SARS, or had direct contact with infectious material (for example, respiratory secretions) from a person who has SARS. Potential ways in which SARS can be spread include touching the skin of other people or objects that are contaminated with infectious droplets and then touching your eye(s), nose, or mouth. This can happen when someone who is sick with SARS coughs or sneezes droplets onto themselves, other people, or nearby surfaces. It also is possible that SARS can be spread more broadly through the air or by other ways that are currently not known.

Who is at risk for SARS

Most of the U.S. cases of SARS have occurred among travelers returning to the United States from other parts of the world with SARS. There have been very few cases as a result of spread to close contacts such as family members and health care workers. Currently, there is no evidence that SARS is spreading more widely in the community in the United States.

Possible cause of SARS

Scientists at CDC and other laboratories have detected a previously unrecognized coronavirus in patients with SARS. The new coronavirus is the leading hypothesis for the cause of SARS.

What CDC is doing about SARS

CDC is working closely with the World Health Organization (WHO) and other partners in a global effort to address the SARS outbreak. For its part, CDC has taken the following actions:

- * Activated its Emergency Operations Center to provide round-the-clock coordination and response.
- * Committed more than 700 medical experts and support staff to work on the SARS response.
- * Deployed medical officers, epidemiologists, and other specialists to assist with on-site investigations around the world.
- * Provided ongoing assistance to state and local health departments in investigating possible cases of SARS in the United States.
- * Conducted extensive laboratory testing of clinical specimens from SARS patients to identify the cause of the disease.
- * Initiated a system for distributing health alert notices to travelers who may have been exposed to cases of SARS.

CDC RECOMMENDATIONS

CDC has issued recommendations and guidelines for people who may be affected by this outbreak.

For individuals considering travel to areas with SARS:

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. CDC updates information on its website on the travel status of other [areas with SARS](#) as the situation evolves.

For individuals who must travel to an area with SARS:

CDC advises that travelers in an area with SARS should wash their hands frequently to protect against SARS infection. In addition, CDC advises that travelers may wish to avoid close contact with large numbers of people as much as possible to minimize the possibility of infection. CDC does not recommend the routine use of masks or other personal protective equipment while in public areas. For more information, read the Interim Guidelines about Severe Acute Respiratory Syndrome (SARS) for [Persons Traveling to Areas with SARS](#).

For individuals who think they might have SARS:

People with symptoms of SARS (fever greater than 100.4°F [$>38.0^{\circ}\text{C}$] accompanied by a cough and/or difficulty breathing) should consult a health-care provider. To help the health-care provider make a diagnosis, tell them about any recent travel to places where SARS has been reported or whether there was contact with someone who had these symptoms.

For family members caring for someone with SARS:

CDC has developed [interim infection control recommendations for patients with suspected SARS in the household](#). These basic precautions should be followed for 10 days after respiratory symptoms and fever are gone. During that time, SARS patients are asked to limit interactions outside the home (not go to work, school, or other public areas).

For health-care workers:

Transmission of SARS to health-care workers appears to have occurred after close contact with sick people before recommended infection control precautions were put into use. CDC has issued [interim infection control recommendations for health-care settings](#) as well as for the [management of exposures to SARS in health-care and other institutional settings](#).

For more information, visit [CDC's SARS Web site](#), or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

CDC - Frequently Asked Questions and Answers on SARS

June 3, 2003 - <http://www.cdc.gov/ncidod/sars/faq.htm>

Travel and Quarantine

June 10, 2003, 12:00 PM ET - <http://www.cdc.gov/ncidod/sars/qa/travel.htm>

GENERAL INFORMATION

THE ILLNESS

What is SARS?

Severe acute respiratory syndrome (SARS) is a respiratory illness that has recently been reported in Asia, North America, and Europe. For additional information, check the World Health Organization's (WHO) SARS Web site or visit other pages on [CDC's SARS Web site](#).

What are the symptoms and signs of SARS?

The illness usually begins with a fever (measured temperature greater than 100.4°F [$>38.0^{\circ}\text{C}$]). The fever is sometimes associated with chills or other symptoms, including headache, general feeling of discomfort and body aches. Some people also experience mild respiratory symptoms at the outset. After 2 to 7 days, SARS patients may develop a dry, nonproductive cough that might be accompanied by or progress to the point where insufficient oxygen is getting to the blood. In 10 percent to 20 percent of cases, patients will require mechanical ventilation. For more information, see the [MMWR dispatch](#). **If I were exposed to SARS, how long would it take for me to become sick?**

The incubation period for SARS is typically 2 to 7 days; however, isolated reports have suggested an incubation period as long as 10 days. The illness usually begins with a fever ($>100.4^{\circ}\text{F}$ [$>38.0^{\circ}\text{C}$]) (see signs and symptoms, above).

Do some people who recover from SARS become sick again or relapse?

At this time we do not have a full understanding of the natural course of illness in persons infected with the SARS coronavirus (SARS Co-V). It will be important to learn what factors might influence illness progression and recovery. Such factors could be related to the virus itself, how the body's immune system reacts to the virus, how infection with the virus is treated, or other possibilities. CDC and other scientists are trying to learn the answers to these important questions.

What medical treatment is recommended for patients with SARS?

CDC currently recommends that patients with SARS receive the same treatment that would be used for any patient with serious community-acquired atypical pneumonia.

Is the use of ribavirin (or other antiviral drugs) effective in the treatment of patients with SARS?

At present, the most efficacious treatment regimen, if any, is unknown. In several locations, therapy has included antivirals such as oseltamivir or ribavirin. Steroids also have been given orally or intravenously to patients in combination with ribavirin and other antimicrobials. In the absence of controlled clinical trials, however, the efficacy of these regimens remains unknown. Early information from laboratory experiments suggests that ribavirin does not inhibit virus growth or cell-to-cell spread of one isolate of the new coronavirus that was tested. Additional laboratory testing of ribavirin and other antiviral drugs is being done to see if an effective treatment can be found.

The Spread of SARS

<http://www.cdc.gov/ncidod/sars/qa/spread.htm>

How is SARS spread?

The primary way that SARS appears to spread is by close person-to-person contact. Potential ways in which SARS can be spread include touching the skin of other people or objects that are contaminated with infectious droplets and then touching your eye(s), nose, or mouth. This can

happen when someone who is sick with SARS coughs or sneezes droplets onto themselves, other people, or nearby surfaces. It also is possible that SARS can be spread more broadly through the air or by other ways that are currently not known.

What does "close contact" mean?

The primary way that SARS appears to spread is by close person-to-person contact. Close contact might occur when between people live together in the same household or if someone is providing care to a SARS patient. Examples include kissing or embracing, sharing eating or drinking utensils, close conversation (within 3 feet), physical examination, and any other direct physical contact between people. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief period of time.

How can I protect myself against SARS?

There are some common-sense measures that you can take to prevent the spread of SARS that apply to many infectious diseases. The most important is frequent hand washing with soap and water or use of alcohol-based hand rubs (See [Guideline for Hand Hygiene in Health-Care Settings](#)). In addition, you should avoid touching your eyes, nose, and mouth with unclean hands and encourage people around you to cover their nose and mouth with a tissue when coughing or sneezing.

How long is a person with SARS infectious to others?

Information to date suggests that people are most likely to be infectious when they have symptoms, such as fever or cough. However, it is not known how long before or after their symptoms begin that patients with SARS might be able to transmit the disease to others.

Who is most at risk of contracting SARS?

Most of the U.S. cases of SARS have occurred among travelers returning to the United States from other parts of the world affected by SARS. There have been very few cases as a result of spread to close contacts such as family members and health care workers. Currently, there is no evidence that SARS is spreading more widely in the community in the United States.

Should I wear a surgical mask to protect myself from getting SARS?

CDC does not recommend routine use of surgical masks when people are in public to prevent SARS.

Are there any times when a surgical mask should be worn to prevent the spread of SARS?

People who have -- or think they might have -- SARS should cover their mouth and nose with a tissue when coughing or sneezing. If possible, they also should wear a surgical mask during close contact with people who are not infected (for example, household members) to prevent the spread of infectious droplets. When a person with SARS is unable to wear a surgical mask, household members should wear surgical masks when in close contact with the patient. Surgical masks should fit snugly around the mouth and nose. Masks are intended for use by one person only and should not be shared. Masks should be discarded when soiled or moist; changing masks daily is a good rule of thumb. Hand hygiene should be performed after handling a soiled mask. For additional information, see [infection-control precautions for SARS patients and their close contacts in households](#).

NEW! Should I be concerned about buying items which are made in countries where SARS has been found?

SARS appears to be transmitted mainly by direct contact with infectious material, including large respiratory droplets spread in the air when an infected person coughs or sneezes. Touching objects contaminated with infectious droplets and then touching your eye(s), nose, or mouth could result in transmission of SARS. Contamination of environmental surfaces would be a particular concern in health-care settings and households where patients with SARS would be receiving care. Furniture, clothing, and other items imported from countries where SARS has been found would be expected to pose little, if any, risk of transmission of SARS.

TESTING FOR SARS

Is there a test for SARS?

Several laboratory tests can be used to detect the SARS-associated coronavirus (SARS-CoV). A reverse transcription polymerase chain reaction (RT-PCR) test can detect SARS-CoV in clinical specimens, including blood, stool, and nasal secretions. Serologic testing also can be performed to detect SARS-CoV antibodies produced after infection. Finally, viral culture has been used to detect SARS-CoV. Currently, all serologic testing for SARS-CoV in the United States is being done at CDC. However, CDC has begun to make coronavirus testing materials available to state health departments and other laboratories.

What is a PCR test?

PCR (or polymerase chain reaction) is a laboratory method for detecting the genetic material of an infectious disease agent in specimens from patients. This type of testing has become an essential tool for detecting infectious disease agents.

What does serologic testing involve?

A serologic test is a laboratory method for detecting the presence and/or level of antibodies to an infectious agent in serum from a person. Antibodies are substances made by the body's immune system to fight a specific infection.

What does viral culture and isolation involve?

For a viral culture, a small sample of tissue or fluid that may be infected is placed in a container along with cells in which the virus can grow. If the virus grows in the culture, it will cause changes in the cells that can be seen under a microscope.

CAUSE OF SARS

What is the cause of SARS?

Scientists at CDC and other laboratories have detected a previously unrecognized coronavirus in patients with SARS. This new coronavirus is the leading hypothesis for the cause of SARS.

What are coronaviruses?

Coronaviruses are a group of viruses that have a halo or crown-like (corona) appearance when viewed under a microscope. These viruses are a common cause of mild to moderate upper-respiratory illness in humans and are associated with respiratory, gastrointestinal, liver and neurologic disease in animals.

How long can the SARS coronavirus (SARS Co-V) survive in the environment? **NEW!**

Preliminary studies in some research laboratories suggest that the virus may survive in the environment for several days. The length of time that the virus survives likely depends on a number of factors. These factors could include the type of material or body fluid containing the virus and various environmental conditions such as temperature or humidity. Researchers at CDC and other institutions are designing standardized experiments to measure how long SARS Co-V can survive in situations that simulate natural environmental conditions. Data on survival of SARS Co-V outside of the human body emphasize the importance of frequent handwashing with soap and water or use of alcohol-based hand rubs if hands are not visibly dirty. See the "[Guideline for Hand Hygiene in Health-Care Settings](#)" for more details on hand hygiene.

What kills the virus that causes SARS? **NEW!**

Right now, there are no disinfectant products registered by the U.S. Environmental Protection Agency (EPA) for use on environmental surfaces that are specifically listed as having the ability to kill the new coronavirus associated with SARS. However, related viruses that have similar physical and biochemical properties can be killed with bleach, ammonia or alcohol, or cleaning agents containing any of these disinfectants. Cleaning agents should be used according to the manufacturer's instructions.

If coronaviruses usually cause mild illness in humans, how could this new coronavirus be responsible for a potentially life-threatening disease such as SARS?

There is not enough information about the new virus to determine the full range of illness that it might cause. Coronaviruses have occasionally been linked to pneumonia in humans, especially

people with weakened immune systems. The viruses also can cause severe disease in animals, including cats, dogs, pigs, mice, and birds.

Has new information about coronavirus changed the recommendations for medical treatment for patients with SARS?

The possibility that coronavirus is the cause of SARS has not changed treatment recommendations. The new coronavirus is being tested against various antiviral drugs to see if an effective treatment can be found.

What about reports from other laboratories suggesting that the cause of SARS may be a paramyxovirus?

Early on in the SARS investigation, researchers from several laboratories participating in the WHO network have reported the identification of a paramyxovirus in clinical specimens from SARS patients. Later findings indicated that a new coronavirus is the most likely cause of SARS.

THE OUTBREAK

What is the status of the SARS outbreak in the United States?

In the United States, cases of SARS continue to be reported primarily among people who traveled to affected areas; a small number of other people have gotten sick after being in close contact with (that is, having cared for or lived with) a SARS patient while in the United States. Currently, there is no evidence that SARS is spreading more widely in the community in the United States.

To minimize the risk for SARS among U.S. residents, the public health system is taking careful and thorough precautions to stop the spread of SARS. People who are suspected of having SARS are being isolated from others and getting care. People arriving from affected parts of the world (who might have been exposed to SARS) are receiving information about SARS and instructions on what they should do if they become ill. SARS patients and their contacts are being monitored to help prevent spread of the disease.

What is the status of the SARS outbreak outside the United States?

Most cases of SARS have been reported from China. In addition, SARS cases have been reported from more than 20 other countries. Measures to control the spread of SARS continue to be used in countries worldwide so that the outbreak can be contained. Visit [WHO's SARS page](#) for daily updates on case reports in the United States and other countries.

What is the difference between a "probable" SARS case and a "suspect" SARS case?

Suspect SARS cases have fever, respiratory illness, and recent travel to an affected area with community transmission of SARS and/or contact with a suspect SARS patient. Probable cases meet the criteria for a suspect case and also have evidence (e.g., chest X-ray) of pneumonia or respiratory distress syndrome.

CDC Updated Interim U.S. Case Definition of Severe Acute Respiratory Syndrome (SARS)

May 23, 2003, 10:00 PM ET - <http://www.cdc.gov/ncidod/sars/casedefinition.htm>

[Download PDF version formatted for print](#)  (126 KB/3 pages)

The previous CDC SARS case definition (published May 20, 2003) has been updated as follows:

- In the Epidemiologic Criteria, the last date of illness onset for inclusion as reported case for Toronto, Canada is now "ongoing."

Clinical Criteria

- Asymptomatic or mild respiratory illness
- Moderate respiratory illness
 - Temperature of >100.4° F (>38° C)*, and

- One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia).
- Severe respiratory illness
 - Temperature of >100.4° F (>38° C)*, and
 - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia), and
 - * radiographic evidence of pneumonia, or
 - * respiratory distress syndrome, or
 - * autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause.

Epidemiologic Criteria

- Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or previously documented or suspected community transmission of SARS (see Table), or
- Close contact§ within 10 days of onset of symptoms with a person known or suspected to have SARS

Travel criteria for suspect or probable U.S. cases of SARS		
Area	First date of illness onset for inclusion as reported case‡	Last date of illness onset for inclusion as reported case†
China (mainland)	November 1, 2002	Ongoing
Hong Kong	February 1, 2003	Ongoing
Hanoi, Vietnam	February 1, 2003	May 25, 2003
Singapore	February 1, 2003	Ongoing
Toronto, Canada	April 23, 2003	Ongoing
Taiwan	May 1, 2003	Ongoing

Laboratory Criteria¶

- Confirmed
 - Detection of antibody to SARS-CoV in specimens obtained during acute illness or >21 days after illness onset, or
 - Detection of SARS-CoV RNA by RT-PCR confirmed by a second PCR assay, by using a second aliquot of the specimen and a different set of PCR primers, or
 - Isolation of SARS-CoV.
- Negative
 - Absence of antibody to SARS-CoV in convalescent serum obtained >21 days after symptom onset.
- Undetermined
 - Laboratory testing either not performed or incomplete.

Case Classification**

- Probable case: meets the clinical criteria for severe respiratory illness of unknown etiology and epidemiologic criteria for exposure; laboratory criteria confirmed, negative, or undetermined.
- Suspect case: meets the clinical criteria for moderate respiratory illness of unknown etiology, and epidemiologic criteria for exposure; laboratory criteria confirmed, negative, or undetermined.

Exclusion Criteria

A case may be excluded as a suspect or probable SARS case if:

- An alternative diagnosis can fully explain the illness***

- The case was reported on the basis of contact with an index case that was subsequently excluded as a case of SARS (e.g., another etiology fully explains the illness) provided other possible epidemiologic exposure criteria are not present

Also see:

- [MMWR: Updated Interim Surveillance Case Definition for Severe Acute Respiratory Syndrome \(SARS\)— April 29, 2003](#)

* A measured documented temperature of >100.4° F (>38° C) is preferred. However, clinical judgment should be used when evaluating patients for whom a measured temperature of >100.4° F (>38° C) has not been documented. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Reporting authorities should consider these factors when classifying patients who do not strictly meet the clinical criteria for this case definition.

§ 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 sitting across a waiting room or office for a brief period of time.

‡ The WHO has specified that the surveillance period for China should begin on November 1; the first recognized cases in Hong Kong, Singapore and Hanoi (Vietnam) had onset in February 2003. The dates for Toronto and Taiwan are linked to CDC's issuance of travel recommendations.

† The last date for illness onset is 10 days (i.e., one incubation period) after removal of a CDC travel alert. The case patient's travel should have occurred on or before the last date the travel alert was in place.

¶ Assays for the laboratory diagnosis of SARS-CoV infection include enzyme-linked immunosorbent assay, indirect fluorescent-antibody assay, and reverse transcription polymerase chain reaction (RT-PCR) assays of appropriately collected clinical specimens (Source: CDC. Guidelines for collection of specimens from potential cases of SARS. Available at http://www.cdc.gov/ncidod/sars/specimen_collection_sars2.htm). Absence of SARS-CoV antibody from serum obtained ≤21 days after illness onset, a negative PCR test, or a negative viral culture does not exclude coronavirus infection and is not considered a definitive laboratory result. In these instances, a convalescent serum specimen obtained >21 days after illness is needed to determine infection with SARS-CoV. All SARS diagnostic assays are under evaluation.

** Asymptomatic SARS-CoV infection or clinical manifestations other than respiratory illness might be identified as more is learned about SARS-CoV infection.

*** Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS, the specificity of the diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

CDC - Interim Guidelines about Severe Acute Respiratory Syndrome (SARS) for Persons in the General Workplace Environment

May 8, 2003, 5:00 PM ET - <http://www.cdc.gov/ncidod/sars/workplaceguidelines.htm>

[Download PDF version formatted for print](#)  (132 KB/1 page)

The Centers for Disease Control and Prevention (CDC) is investigating the spread of a respiratory illness called severe acute respiratory syndrome (SARS). CDC has issued various levels of advice for people traveling to [areas with SARS](#). For some areas, CDC has issued travel advisories, recommending against nonessential travel. You can learn more about SARS from the [World Health Organization](#). These websites will be updated as soon as new information is learned.

SARS is an infectious illness that appears to spread primarily by close person-to-person contact, such as in situations in which persons have cared for, lived with, or had direct contact with respiratory secretions and/or body fluids of a person known to be a suspect SARS case. Potential ways in which infections can be transmitted by close contact include touching the skin of other persons or objects that become contaminated with infectious droplets and then touching your eyes, nose or mouth.

Workers, who in the last 10 days have traveled to a known SARS area, or have had close contact with a co-worker or family member with suspected or probable SARS could be at increased risk of developing SARS and should be vigilant for the development of fever (greater than 100.4° F) or respiratory symptoms (e.g., cough or difficulty breathing). If these symptoms develop you should not go to work, school, or other public areas but should seek evaluation by a health-care provider and practice infection control precautions recommended for the home or residential setting; **be sure to contact your health-care provider beforehand to let them know you may have been exposed to SARS so arrangements can be made, as necessary, to prevent transmission to others in the healthcare setting.** For more information about the signs and symptoms of SARS, please visit CDC's website. More detailed guidance on management of symptomatic persons who may have been exposed to SARS, such as how long you should avoid public areas is available at the exposure management page.

As with other infectious illnesses, one of the most important and appropriate preventive practices is careful and frequent hand hygiene. Cleaning your hands often using either soap and water or waterless alcohol-based hand sanitizers removes potentially infectious materials from your skin and helps prevent disease transmission.

The routine use of personal protective equipment (PPE) such as respirators, gloves, or, using surgical masks for protection against SARS exposure is currently not recommended in the general workplace (outside the health-care setting).

WHO - First data on stability and resistance of SARS coronavirus compiled by members of WHO laboratory network

4 May 2003 - http://www.who.int/csr/sars/survival_2003_05_04/en/index.html

This information has been provided by Members of the [WHO multi-center collaborative network on SARS diagnosis](#). The major conclusions from these studies are:

Virus survival in stool and urine

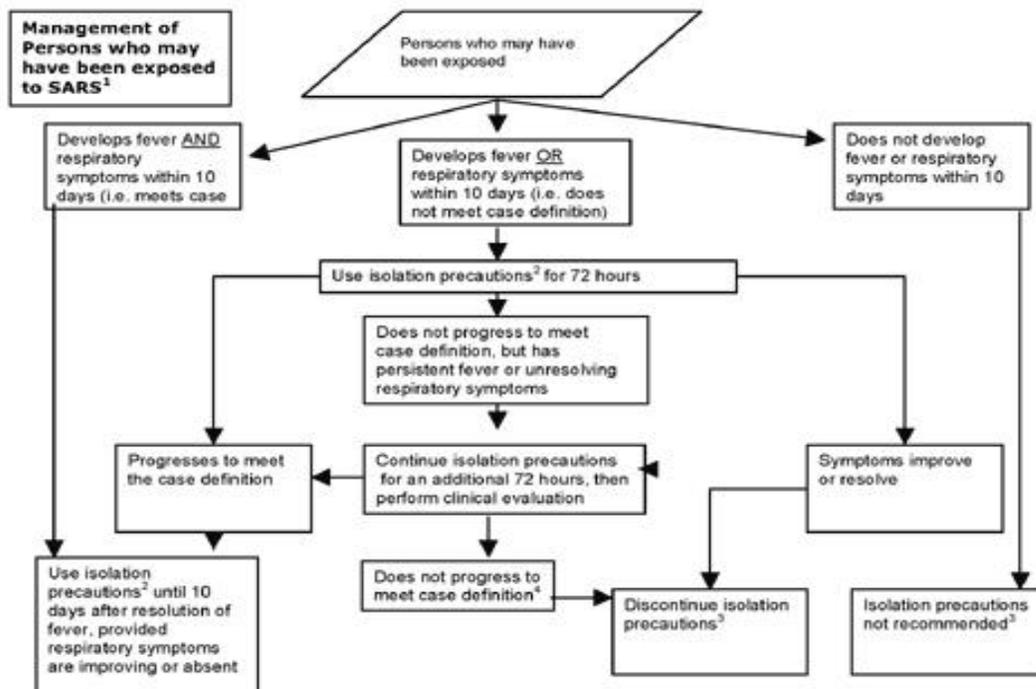
- **Virus is stable in faeces (and urine) at room temperature for at least 1-2 days.**
- **Virus is more stable (up to 4 days) in stool from diarrhea patients (which has higher ph) than in normal stool where it could only be found for up to 6h.**

Disinfectants and fixatives (for use in laboratories)

- Virus loses infectivity after exposure to different commonly used disinfectants and fixatives.

Virus survival in cell-culture supernatant

- Only minimal reduction in virus concentration after 21 days at 4°C and -80°C.
- Reduction in virus concentration by one log only at stable room temperature for 2 days. This would indicate that the virus is more stable than the known human coronaviruses under these conditions.
- Heat at 56°C kills the SARS coronavirus at around 10000 units per 15 min (quick reduction).



¹Exposure includes travel from areas with documented or suspected community transmission of SARS (link to case definition) or close contact with persons who have SARS: 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 sitting across a waiting room or office for a brief period of time.

²Isolation precautions include limiting patient's interactions with others outside the home (e.g. should not go to work, school, out of home day care, church or other public areas), and following infection control guidelines for the home or residential setting (link) if not admitted to hospital for care.

³Persons need not limit interactions outside of home (e.g., need not be excluded from work, school, out of home day care, church or other public areas).

⁴Discontinuation of isolation precautions for patients who have not met the case definition 6 days following onset of symptoms, but who have persistent fever or respiratory symptoms should be done only after consultation with local public health authorities and the evaluating clinician. Factors that might be considered include the nature of the potential exposure to SARS, nature of contact with others in the residential or work setting, and evidence for an alternative diagnosis.