



# World Health Organization

## Case Definitions for Surveillance of Severe Acute Respiratory Syndrome (SARS)

Areas with recent local transmission of SARS, 29 May 2003

### Objective

To describe the epidemiology of SARS and to monitor the magnitude and the spread of this disease, in order to provide advice on prevention and control.

### Case definitions (revised 1 May 2003)

#### Introduction

The surveillance case definitions based on available clinical and epidemiological data are now being supplemented by a number of laboratory tests and will continue to be reviewed as tests currently used in research settings become more widely available as diagnostic tests. [Preliminary clinical description of Severe Acute Respiratory Syndrome](#) summarizes what is currently known about the clinical features of SARS. Countries may need to adapt case definitions depending on their own disease situation. Retrospective surveillance is not expected.

**Clinicians are advised that patients should not have their case definition category downgraded while awaiting results of laboratory testing or on the bases of negative results.** See [Use of laboratory methods for SARS diagnosis](#).

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#### Suspect case

1. A person presenting after 1 November 2002<sup>1</sup> with history of:
  - high fever (>38 °C)

AND

- cough or breathing difficulty

AND one or more of the following exposures during the 10 days prior to onset of symptoms:

- **close contact**<sup>2</sup> 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

2. A person with an unexplained acute respiratory illness resulting in death after 1 November 2002,<sup>1</sup> but on whom no autopsy has been performed

AND one or more of the following exposures during to 10 days prior to onset of symptoms:

- **close contact**,<sup>2</sup> 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

### **Probable case**

1. A suspect case with radiographic evidence of infiltrates consistent with pneumonia or respiratory distress syndrome (RDS) on chest X-ray (CXR).
2. A suspect case of SARS that is positive for SARS coronavirus by one or more assays. See [Use of laboratory methods for SARS diagnosis](#).
3. A suspect case with autopsy findings consistent with the pathology of RDS without an identifiable cause.

### **Exclusion criteria**

A case should be excluded if an alternative diagnosis can fully explain their illness.

### **Reclassification of cases**

As SARS is currently a diagnosis of exclusion, the status of a reported case may change over time. A patient should always be managed as clinically appropriate, regardless of their case status.

- A case initially classified as suspect or probable, for whom an alternative diagnosis can fully explain the illness, should be discarded after carefully considering the possibility of co-infection.
- A suspect case who, after investigation, fulfils the probable case definition should be reclassified as "probable".
- A suspect case with a normal CXR should be treated, as deemed appropriate, and monitored for 7 days. Those cases in whom recovery is inadequate should be re-evaluated by CXR.
- Those suspect cases in whom recovery is adequate but whose illness cannot be fully explained by an alternative diagnosis should remain as "suspect".
- A suspect case who dies, on whom no autopsy is conducted, should remain classified as "suspect". However, if this case is identified as being part of a chain transmission of SARS, the case should be reclassified as "probable".
- If an autopsy is conducted and no pathological evidence of RDS is found, the case should be "discarded".

<sup>1</sup> The surveillance period begins on 1 November 2002 to capture cases of atypical pneumonia in China now recognized as SARS. International transmission of SARS was first reported in March 2003 for cases with onset in February 2003.

<sup>2</sup> **Close contact:** having cared for, lived with, or had direct contact with respiratory secretions or body fluids of a suspect or probable case of SARS.

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## Reporting procedures

- **All probable SARS cases should be managed in the same way for the purposes of infection control and outbreak containment** See [Management of Severe Acute Respiratory Syndrome \(SARS\)](#).

- **At this time, WHO is maintaining surveillance for clinically apparent cases only ie probable and suspect cases of SARS.** (Testing of clinically well contacts of probable or suspect SARS cases and community based serological surveys are being conducted as part of epidemiological studies which may ultimately change our understanding of SARS transmission. However, persons who test SARS CoV positive in these studies will not be notified as SARS cases to WHO at this time).

- Where laboratory tests are not available or not done, probable SARS cases as currently defined above should continue to be reported in the agreed format.

- Suspect cases with positive laboratory results will be reclassified as probable cases for notification purposes **only if the testing laboratories use appropriate quality control procedures.**
- No distinction will be made between probable cases with or without a positive laboratory result and suspect cases with a positive result for the purposes of global surveillance. WHO will negotiate sentinel surveillance of SARS with selected partners to collect detailed epidemiological, laboratory and clinical data.
- Cases that meet the surveillance case definition for SARS should not be discarded on the basis of negative laboratory tests at this time.

### **Rationale for retaining the current surveillance case definitions for SARS**

The reason for retaining the clinical and epidemiological basis for the case definitions is that at present there is no validated, widely and consistently available test for infection with the SARS coronavirus. Antibody tests may not become positive for three or more weeks after the onset of symptoms. We do not yet know if all patients will mount an antibody response. Molecular assays must be performed using appropriate reagents and controls under strictly controlled conditions, and may not be positive in the early stages of illness using currently available reagents. We are not yet able to define the optimal specimen to be tested at any given stage of the illness. This information is accruing as more tests are being performed on patients with known exposures and/or accompanied by good clinical and epidemiological information. We hope that in the near future an accessible and validated diagnostic assay(s) will become available which can be employed with confidence at a defined, early stage of the illness.

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