

EDITORIAL



## Case Clusters of the Severe Acute Respiratory Syndrome

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Just over three weeks ago, the World Health Organization (WHO) issued a worldwide notice about the severe acute respiratory syndrome (SARS). It described a rapidly progressive, sometimes fatal pneumonia that appears to have arisen from Guangdong Province in southern China. At the time of the WHO notice, there were known SARS cases in China (both the mainland and the special administrative region of Hong Kong), Vietnam, Singapore, and Canada. As of the end of March, there are more than 1600 cases and more than 50 deaths in over a dozen countries. At this time, it is impossible to forecast how many cases there will be in 10 or 100 days. Because the disease picture is changing rapidly, we are using our electronic pages to bring information of importance to the community of health care professionals.

It is becoming quite clear that SARS is an infectious disease. Case clusters in Canada and Hong Kong, as reported in our electronic pages,<sup>1,2</sup> make a noninfectious environmental cause highly unlikely and implicate a novel coronavirus and a novel metapneumovirus in its pathogenesis. We await the definitive information on this virus. SARS has spread rapidly because during the incubation period, which appears to be between 1 day and 11 days, with a median of about 5 days, patients can transmit the disorder to others. There are now documented primary, secondary, and tertiary cases; I am sure that the chain will extend much further before it is broken.

As the virology becomes better understood, many of the questions about the mode of transmission and early case detection will pass from the realm of the unknown to the known. Tests will be developed to put case definition on a laboratory rather than a clinical basis; the hope is that we will

identify effective treatments. Although progress has been extraordinarily rapid because of unprecedented worldwide scientific cooperation (<http://www.who.int/csr/outbreaknetwork/en/>), there is still a lot to be learned.

For now, we know that the condition appears to be highly but not uniformly contagious. The index patient in the Hong Kong cluster<sup>2</sup> returned from southern China to Hong Kong and went sightseeing and shopping with his brother-in-law; he was admitted to the hospital the following day and was dead 11 days later. The index patient in the Toronto outbreak<sup>1</sup> stayed on the same floor of the hotel in Hong Kong as the Hong Kong source patient but had no known close contact with that person. In each of these case series, there are people with presumably similar levels of exposure in whom clinical disease did not develop.

SARS has spread throughout the world because people can be exposed in one place and be half a world away a day later when they become symptomatic. Once patients get further into the illness, they are sick enough that they are likely to seek medical attention. Medical personnel, physicians, nurses, and hospital workers are among those commonly infected. Sadly, Dr. Carlo Urbani, the 46-year-old WHO physician and infectious disease specialist whose work defined SARS, died on March 29 of SARS. Perhaps when the causative virus is isolated it could bear his name.

We all hope that this disease will burn itself out soon, but it is foolish to rely on hope alone. The key word now for medical personnel around the world is caution but not panic. Beware of the protean symptoms of SARS and follow the advice available at the WHO Web site (<http://www.who.int/csr/sars/guidelines/en/>) or the CDC Web site (<http://www.cdc.gov/sars/>).

cdc.gov/ncidod/sars/clinicians.htm) if you encounter a suspected case. Take the isolation precautions for known cases very seriously. Finally, as we begin to see fourth- and fifth-order cases, keep a high index of suspicion, since the epidemiologic link to known cases may be blurred. I would err on the side of obtaining oxygen saturation values and obtaining chest radiographs for patients with equivocal or abnormal findings on physical examination.

Since our understanding of SARS is changing on a daily basis, stay with our Web site. It will have the latest information and links to other key infor-

mation portals. SARS is moving too fast for traditional medical journals to stay on top of the story, but our electronic pages are open and available to all who seek the information they need to provide better care for their patients.

This article was published at [www.nejm.org](http://www.nejm.org) on March 31, 2003.

1. Poutanen SM, Low DE, Henry B, et al. Identification of severe acute respiratory syndrome in Canada. *N Engl J Med* 2003;348:1995-2005.
2. Tsang KW, Ho PL, Ooi GC, et al. A cluster of cases of severe acute respiratory syndrome in Hong Kong. *N Engl J Med* 2003;348:1977-85.

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