SARS (CORONAVIRUS INFECTION): Notes about the Disease

First isolated from chickens in 1937, the coronaviruses were recognized until 2003 as minor causes of the common cold in humans and of a variety of veterinary respiratory and gastrointestinal diseases. In early February 2003, the World Health Organization was alerted by the Chinese government of over 300 cases of a severe respiratory disorder of unknown etiology that had been occurring in southern China since mid-November 2002. Then, later in February, an American businessman who was returning from China sickened and was hospitalized in Hanoi, Vietnam. Within a few days, several of the medical staff at this hospital also became ill with the pneumonia-like illness that had struck the businessman. By mid-March, countries (including the United States and Canada) had been affected by suspected or probable cases of this disease, and the WHO initiated global surveillance.[1]

The name of "severe acute respiratory syndrome" (SARS) was coined for this disease even before the etiologic agent was determined. It was characterized by the sudden onset of high fever with chills, pharyngitis, and myalgias progressing to cough, dyspnea, and pneumonia. Diarrhea at times accompanied the respiratory manifestations. Two striking and alarming features were the frequency with which transmission to health care personnel occurred and a case-fatality ratio of around 10%.

The causative virus for SARS was finally confirmed in April 2003 and dubbed the SARS-associated coronavirus (SARS-CoV).

After spreading to 29 countries and producing over 8,000 probable cases, the 2003 SARS pandemic was declared contained in July. A North Carolina resident who had traveled to Toronto, Canada, was one of the eight serologically confirmed US cases.[2] Of the 161 total US cases (134 classified as suspected, 19 as probable, and eight as laboratory confirmed), NC had three suspected cases in addition to the confirmed case.[3] In contrast to the situation in several other countries, there were no fatalities among the US cases.

Except for a small Chinese laboratory-associated outbreak in early 2004, further cases of SARS have not yet been reported. Regardless, bearing in mind that this has already been documented to be a containable disease, NC public health workers need to be aware of the possibility of recurrence of SARS and, using the revised CDC case definition,[4] continue surveillance. The most efficient methodology for this is still under study.[5]
Prevention of spread needs to take into consideration the possibility of transmission by airborne, droplet, contact, and fomite routes. Lastly, be familiar with the NC SARS Response Plan.[6]

1. Centers for Disease Control and Prevention. [Outbreak of Severe Acute Respiratory Syndrome—Worldwide, 2003]. *MMWR* 52:[226-8], www.cdc.gov/mmwr/preview/mmwrhtml/mm5211a5.htm.

2. Centers for Disease Control and Prevention. [Update: Severe Acute Respiratory Syndrome—United States, June 11, 2003]. *MMWR* 52:[550], www.cdc.gov/mmwr/preview/mmwrhtml/mm5223a5.htm.

3. "Severe Acute Respiratory Syndrome (SARS): Report of Cases in the United States," *Centers for Disease Control and Prevention Office of Enterprise Communication*, 2 October 2003, www.cdc.gov/od/oc/media/presskits/sars/cases.htm.

4. Centers for Disease Control and Prevention. [Revised U.S. Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS) and Update on SARS Cases—United States and Worldwide, December 2003]. *MMWR* 2003;52:[1202-6], www.cdc.gov/mmwr/preview/mmwrhtml/mm5249a2.htm.
5. Centers for Disease Control and Prevention. [SARS Surveillance Project—Internet-Enabled Multiregion Surveillance for Rapidly Emerging Disease]. *MMWR* 2004;53(Suppl):[215-20], www.cdc.gov/mmwr/preview/mmwrhtml/su5301a39.htm.

6. *NC SARS Response Plan,* 22 July 2005, www.epi.state.nc.us/epi/gcdc/sars/state_sars_plan.html.