PMHS SARS Management Guidelines
Summary - April 17, 2003

1. We are following the following definition of potential cases:

Updated Interim U.S. Case Definition of Severe Acute Respiratory Syndrome (SARS)
April 16, 2003

Suspected Case:
Respiratory illness of unknown etiology with onset since February 1, 2003, and the following criteria:

- Measured temperature greater than 100.4° F (greater than 38° C) **AND**

- One or more clinical findings of respiratory illness (e.g. cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of either pneumonia or acute respiratory distress syndrome) **AND**

- Travel† within 10 days of onset of symptoms to an area with documented or suspected community transmission of SARS (see list below; excludes areas with secondary cases limited to healthcare workers or direct household contacts)
  OR
  Close contact* within 10 days of onset of symptoms with a person known to be a suspect SARS case.

† **Travel** includes transit in an airport in an area with documented or suspected community transmission of SARS
*** 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 known to be suspect SARS case.

Areas with documented or suspected community transmission of SARS: Peoples' Republic of China (i.e., mainland China and Hong Kong Special Administrative Region); Hanoi, Vietnam; and Singapore
Note: Suspect cases with either radiographic evidence of pneumonia or respiratory distress syndrome; or evidence of unexplained respiratory distress syndrome by autopsy are designated "probable" cases by the WHO case definition.

2. Patient Triage

To facilitate identification of patients who may have SARS in ambulatory care settings, targeted screening questions concerning fever, respiratory symptoms, and recent travel should be included at triage or as soon as possible after patient arrival.

- All patients with respiratory symptoms presenting to the ED or outpatient area should be questioned about travel to endemic areas: Peoples' Republic of China (i.e., mainland China and Hong Kong Special Administrative Region); Hanoi, Vietnam, Singapore and Eastern Canada (particularly Toronto region)

- All patients with respiratory symptoms should be questioned about exposure to a known or suspected case or SARS in the preceding 10 days.

- If no history is obtainable, the patient should be assessed for fever and lung findings consistent with infection and SARS case criteria applied in the differential workup.

If a patient meets the suspected case definition, the healthcare staff is required to:

1) Place a surgical mask on the patient in whom SARS is suspected and initiate Airborne/Contact Precautions (e.g., gloves, gown, N95 mask and goggles)

2) Transfer to an isolation room with negative pressure relative to the surrounding area and use of an N-95 filtering disposable respirator, or respirators of equivalent filtering efficiency, for persons entering the

room). If a negative pressure room is not available in the outpatient setting, a private exam room is required. Arrangements should be made for transfer to a negative-pressure room as soon as possible. Where N95 respirators are not available, healthcare personnel evaluating and caring for suspect SARS patients should wear a surgical mask.

3. Institute the following precautions:

- Standard precautions (e.g., **hand hygiene**); in addition to routine standard precautions, health-care personnel should wear eye protection for all patient contact.
- Contact precautions (e.g., use of **gown** and **gloves** for contact with the patient or their environment)
- Airborne precautions (e.g., a **negative pressure isolation room** and use of an **N-95 filtering disposable respirator** for persons entering the room, **Goggles** or other eye protection are required)

Contact Infection Control on pager #1008 (412-391-2337 #1008) or #1469 (412-232-7798).

4. Identification and Notification

Infection Control will notify the Infectious Disease physician and/or the Medical Director of Infection Control, the State and/or Local Health Department (on weekend, night or holiday), Admissions and the Centers for Disease Control and Prevention (CDC). The Medical Director of Infection Control and/or Chairperson will be responsible for informing medical leadership.

IC Notification responsibility:
1a.Medical Director, **Mercy** Hospital- Dr. Robert Lumish. pager #1529
If Dr. Lumish is unavailable, the Mercy Operator can contact the Infectious Disease Physician on call Infectious Disease Service- Pittsburgh Infectious Diseases, LTD. 412-347-0057

1b. Medical Director- **Mercy Providence** – Dr. Nicholas De la Pena

2. Administrator on call
3. Nursing supervisor
4. Director of Nursing- Sister Carolyn Schallenberger or Betsy Yetiskul
5. Clinical Laboratory
6. Medical Leadership- Dr. Brungo
7. ACHD
8. Housekeeping Department
9. Respiratory Therapy
10. Risk Management
11. Safety Officer
12. Security
13. Media Relations

5. Room management- If the suspicion of SARS arises while a patient is hospitalized, the patient's current room will be closed to admissions until terminally cleaned. The patient (while wearing a surgical mask) will be moved as soon as possible to an isolation bed in a negative pressure room with a private anteroom. This room should have dialysis capability if the patient requires it, as the patient will not be able to leave the room unless absolutely necessary. If this room is not immediately available, transfers must be made expeditiously to make one available.

6. Required precautions MASK/GOWN/GLOVES/EYE PROTECTION

1. Persons entering the room will wear a disposable gown, gloves, N95 respirator (or PAPR), and eye protection. Goggles are recommended over face shields.

2. Gowns, gloves, eye protection and N95 respirator (or PAPR) will be removed before leaving the isolation room. Disposable items should be disposed into a red biohazard bag. Goggles should be washed with soap and water and left to dry on a paper towel.

3. Hands must be washed with an approved antimicrobial soap or alcohol based hand sanitizer used in the anteroom prior to leaving the room.

7. ***The number of health care workers (HCW) having contact with the patient will be limited.***

1. One nurse should care for the patient per shift if possible.
2. A log of all personnel exposed to the case should be kept outside the patient room as a reference for any staff exposed to the patient. The information will be documented on the *Personnel Log (See Attachment A)*.

8. PROCEDURES/TRANSPORT

1. Any noncritical diagnostic or therapeutic procedure should be postponed. Others will be done portable in the isolation room.

2. If the patient must be transported, nurses or a physician providing direct care will accompany the patient, providing information and direction as needed. Those having contact with the patient must wear a gown, N95 respirator or PAPR, eye protection and gloves. The chart must not be placed with the patient. Persons having direct contact with the patient during transport or during a medical procedure must be added to the personnel log as described above.

3. The patient will:
   a. be placed on a stretcher and/or wheelchair layered with clean sheets
   b. wear a surgical mask

4. Any item or equipment (including stretcher or wheelchair) coming in direct contact with the patient must be cleaned thoroughly with a hospital approved disinfectant before being used on the next patient (visible soilage must be removed with soap and water prior to applying disinfectant).

9. SPECIMEN COLLECTION AND HANDLING

Diagnostic specimens for SARS <u>should not</u> be transported through the pneumatic tube. They must be hand carried in double bags to the Microbiology or the Kenna Labs.

Diagnostic Specimens
The following specimens will be required before submission to CDC. Due to the precautions and time involved in handling and packing these diagnostic specimens, we will not ship samples piecemeal to CDC but will require a complete **diagnostic set** of specimens as follows:

1. Oropharyngeal Swab **AND** Nasopharyngeal Swab combined together in a tube of viral transport medium. Note a nasopharyngeal swab is NOT the same as those collected to screen for MRSA carriage. The swab needs to be inserted into the nose until the handle is parallel with the palate. A physician should collect these specimens.

OR

2. Respiratory Secretions, preferably a BAL. Half of the specimen should be centrifuged and the pellet fixed in formalin. The other half should be put in a leak-proof tube.

Accompanied by

1. Buffy coat cells- prepared in the lab from blood collected into citrate or heparin vacutainer.

2. Acute phase serum (red top)
3. Whole Blood –collected in an EDTA (purple top)
4. Urine – cell pellet collected by centrifugation of 50ml of urine.
5. Stool –five to 10 ml of stool in a leak-proof container.

Biosafety
The above specimens must be prepared under BSL-2 laboratory conditions using BSL-3 work practices. Specifically, the handling and packing of specimens will occur in a biological safety cabinet while wearing gloves, disposable gowns, and N-95 masks or a PAPR. All centrifugation will be done in aerosol-proof centrifuges using tubes with O-ring seals. Spill control and cleanup can employ standard disinfectants.

Specimens will ideally be transported to the ACHD laboratories for further testing.

Routine Respiratory Cultures (e.g. for bacterial and fungal pathogens) must be inoculated using the same BSL-2 conditions with BSL-3 work practices described above. The laboratory will accept no more than one specimen a day for such studies from patients suspected of having SARS unless the patient is under the care of the Infectious Disease Service. The examination of incubated bacterial and fungal cultures may be carried out under regular BSL-2 laboratory conditions.

Blood Specimens for Routine Serology, Chemistry and Hematology: These specimens may be handled using standard precautions. Laboratory workers should wear protective equipment including disposable gloves, laboratory coats, eye protection and a surgical mask or face shield to provide a barrier to mucosal surface exposure. Centrifugation should be carried out using sealed centrifuge tubes or using rotors that are loaded and unloaded in a biological safety cabinet.

10. DURATION OF ISOLATION

1. Isolation precautions will be utilized through the patient's entire hospitalization or until discontinued by Infection Control.

11. EQUIPMENT AND SUPPLIES

1. There will be dedicated equipment.
2. Sharing of general supplies (tape, 4 x 4s, betadine) and equipment (I.V. poles, BP cuff, stethoscope, thermometer) is not permitted.
3. The equipment is dedicated for use with this patient until discharge. Any permanent equipment which enters the room must be thoroughly cleaned with hospital approved disinfectant before removing from the room.
4. All supplies other than reusable equipment are discarded.
5. **Respiratory Therapy will determine appropriate equipment for use on SARS patients, in accordance with CDC recommendations.**

12. ENVIRONMENTAL SERVICES

1. Housekeepers will be instructed on the required personal protective equipment.
2. The room will be cleaned daily by Environmental Services using a hospital-approved disinfectant.
3. The mop head must not be used in other rooms.
4. Cleaning cloths will be discarded after use.
5. A laundry hamper for linen will be kept in the isolation room.
6. Once the linen is bagged, it can be handled per routine.
7. If the room has cubicle curtains, remove and launder.

8. Terminal isolation cleaning procedures should be used for all areas (patient room, procedure areas etc.).

13. DIETARY

1. Trays/dishes must be removed from patient room by staff following isolation procedure. It is recommended that nursing staff assigned to the patient remove the trays, in order to reduce the number of personnel entering the room.

14. SIGNAGE/COMMUNICATION

1. Special Airborne/Contact signage will be placed in order to minimize confusion with our normal Contact Precautions for Multi-Resistant organisms. Isolation will be prominently marked on the Kardex.

2. An immediate consult with an Infectious Disease physician is strongly recommended.

15. EDUCATION

1. Infection Control will provide inservice education for the staff as needed.
2. An Infection Control Practitioner will provide education and counseling for the patient and family.
3. Discharge instructions will be in conjunction with the CDC recommendations.

16. VISITORS/FAMILY MEMBERS

1. Visitors and/or family members will be encouraged to maintain limited visitation.
2. Visitors in appropriate barrier attire will be permitted as per guidelines.
3. Visitors will be screened for signs and symptoms of respiratory infection. Symptomatic visitors will be restricted from entering the hospital. Family members and contacts of the patient should be informed of this requirement and not attempt to come to the hospital if they are ill.

17.. SURVEILLANCE for Secondary Cases

A. Quarantine of potential contacts

1. Quarantine of symptomatic contacts begins the day a SARS case has been identified prior to initiation of precautions.
2. If a contact investigation is warranted, a determination of potentially exposed patients/staff (prior to implementation of barriers) will be made. HCWs who develop fever or respiratory symptoms during the ten days following an unprotected exposure to a SARS patient should be excluded from duty. Occunet will follow up with symptomatic staff members. HCWs should stay at home and report their symptoms by phone to the employee health. Exclusion from duty is not recommended for exposed HCWs who do not have signs or symptoms of SARS; however any unprotected exposure to a SARS patient should be reported to Infection Control.
3. If there was a roommate, the patient and their physician should be informed of the exposure. Symptomatic roommates should be placed in a private room in Airborne/contact precautions (N95 respirator, gown, eye protection and gloves required when entering room) and followed for 10 days for the development of respiratory symptoms.
4. If there are additional cases, the unit will be closed to new admissions.

REFERENCES

CDC Interim Domestic Infection Control Guidance in the Healthcare and Community Setting for Patients with SARS at http://www.cdc.gov