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2. Clinical Guidance

A. GENERAL DISEASE BACKGROUND

In mid-February 2003, reports of an outbreak of an atypical pneumonia of unknown etiology referred to as Severe Acute Respiratory Syndrome (SARS) emerged in Asia. Because exposed and infected travelers increase the rate of disease spread, SARS rapidly migrated from its origins in Guangdong Province, China to Singapore, Vietnam, Hong Kong, Taiwan and Toronto, Canada. A smaller number of cases were also reported in the United States and Europe. In April 2003 an unrecognized coronavirus, called SARS-associated coronavirus (SARS-CoV), was identified as the cause of SARS. The syndrome is characterized as a febrile severe lower respiratory illness with symptoms of headache, myalgia, cough, shortness of breath, difficulty breathing and sometimes diarrhea.

In July 2003, SARS cases were no longer being reported, and the SARS outbreaks worldwide were considered contained yet the possibility of SARS re-emerging continues to be of concern. There was one isolated case of SARS confirmed in a laboratory researcher in Singapore in September 2003. It was concluded that the researcher most likely acquired the infection in the laboratory where he had worked.

It is essential that our local and statewide public health efforts continue with its SARS epidemiological surveillance and prevention activities in order to monitor reports of respiratory illness that might be linked to SARS even while there is no SARS activity in the world. The following is a guidance document for the identification, evaluation and prevention of transmission of SARS in the healthcare and community settings.

B. GUIDANCE FOR INFECTION CONTROL

1. Background:

Information from the SARS outbreaks worldwide during the spring of 2003 suggests that SARS is transmitted through close contact with infected persons. SARS is most likely spread by droplet transmission, however, the possibility of airborne transmission and spread through fomites cannot be ruled out. Healthcare procedures that produce aerosols (e.g. nebulized respiratory treatments, intubation/extubation and deep tracheal suctioning) appear to have an impact on the transmissibility of SARS.

The investigations of the SARS outbreaks in Asia and Canada have illustrated the importance of strict adherence to infection control practices. Focused infection control measures for the prevention of transmission of all respiratory infections of unknown etiology is essential to prevent outbreaks of respiratory illnesses, including SARS. In the absence of identified SARS cases in the world, implementing the infection control strategies of Standard and Droplet Precautions for respiratory infections of unknown etiology with the additional incorporation of Standard Respiratory Precautions principles will control transmission without overburdening the healthcare system. Implementation of this strategy will likely impact the transmission of

seasonal circulating infections that are transmitted by respiratory spread (e.g. influenza, adenovirus, respiratory syncytial virus, and *Mycoplasma pneumoniae*).

2. Purpose:

Guidance for infection control and prevention for SARS will be dependant on the emergence of SARS worldwide, nationwide, statewide, and/or locally. Approaching infection control measures according to the level of known SARS activity will enable healthcare facilities to maintain an environment that is safe for the prevention of communicable disease outbreaks, while not overtaxing the healthcare system with intensive isolation procedures and public health notifications. The intention of this document is to assist healthcare facilities in the planning for SARS cases and to provide specific infection control guidance for the following scenarios: no SARS transmission has been identified in the world; SARS transmission identified in the world, but no transmission locally; SARS transmission identified locally; and nosocomial SARS transmission identified. Under conditions where there is no SARS in the world, there is no need for enhanced surveillance of mild respiratory disease. If SARS does re-emerge, subsequent infection control and surveillance guidance follows, according to the level of SARS activity identified.

3. General Guidance:

Early and adequate triage of all patients with respiratory symptoms at all entry points of the healthcare delivery system is a key strategy in preventing outbreaks of respiratory infections. The triage principles for respiratory symptoms should be uniform, regardless of where the patient accesses the system. We appreciate that there are healthcare personnel with varying levels of education that are the first points of contact for patients, depending on the type and size of the facility. Triage of patients with respiratory symptoms utilizing the Standard Respiratory Precautions is integral in preventing the transmission of respiratory infections, including SARS. If the re-emergence of SARS is documented in the United States or abroad, the likelihood that persons with respiratory infections may be infected with SARS will increase significantly. In the presence of SARS worldwide, locally and within healthcare facilities, healthcare facilities must ensure that intake and triage staff are updated regularly on the current status of SARS. Triage and intake staff should be educated to the signs and symptoms of and trained to assess for current risk factors for SARS. At all times intake and triage staff must continue to utilize Standard Respiratory Precautions as described in this document, as it is integral in preventing transmission of respiratory infections, including SARS.

4. Infection Control Preparedness Planning for the Re-emergence of SARS:

- a. Develop strategies for triage and admission that minimize the risk of transmission to staff, patients and visitors.**
 1. Determine how possible SARS patients will be triaged, evaluated, diagnosed, and isolated.
 2. Review admission procedures, and determine how the process can be streamlined to limit the number of patient encounters by healthcare personnel.

3. Develop a plan to screen facility employees and visitors before entering the facility, to be implemented, with guidance from NYSDOH and the local health department, if local or nosocomial transmission of SARS was identified.

b. Develop a patient transport plan to safely move SARS patients within the facility.

1. Identify appropriate paths for entry and movement of SARS patients in the facility that are segregated from main traffic routes.
2. Educate transportation staff on the general principles of infection control.

c. Reinforce infection control education and training of healthcare personnel.

1. Determine how training and education will be provided for all hospital personnel that may be affected by SARS.
2. Educate healthcare personnel about the importance of strict adherence to infection control measures, especially hand hygiene, standard and transmission-based precautions, correct sequence of and methods for donning and removing personal protective equipment, and Standard Respiratory Precautions.
3. Educate on the proper use of personal protective equipment (PPE) as per Standard and Transmission-based Precautions, including donning, removing and disposing of PPE (Guidance from CDC in development).
4. Educate personnel on SARS, including the signs and symptoms, epidemiology, and transmission. Include the risks of transmission involved with procedures that produce aerosols (e.g. bronchoscopy, intubation/extubation, nebulized respiratory treatments, and deep tracheal suctioning).
5. Educate healthcare workers on your facility's procedure for reporting employee exposures.
6. Assure respiratory fit-testing program is in compliance with OSHA guidelines and sufficient numbers of staff have been fit-tested and trained in fit-checking before use. Establish methods to easily identify those employees, patients and/or visitors that had contact with a case of unexplained pneumonia.
7. Develop a strategy for regularly updating clinicians and screening/triage staff on the current status of SARS, including changes in the case definition.

5. Specific Triage Guidance

a. No SARS Transmission Identified Worldwide:

1. Initial presentation into the healthcare delivery system:
 - a. The Standard Respiratory Precautions detailed below should be utilized at all points of entry into the healthcare delivery system:
 - emergency departments;
 - outpatient clinics;
 - physician offices.
 - b. Early detection of patients with respiratory symptoms can take place at triage

areas, reception areas or during the scheduling of appointments.

- c. Health care providers and non-licensed personnel will play an important role in early identification and should all be familiar with and incorporate Standard Respiratory Precautions into their practice.

Standard Respiratory Precautions for Healthcare Facilities

1. Provide surgical masks to all patients with symptoms of a respiratory illness. Provide instructions on the proper use and disposal of masks.
2. For patients who cannot wear a surgical mask, provide tissues and instructions on when to use them (i.e., when coughing, sneezing, or controlling nasal secretions), how and where to dispose of them, and the importance of hand hygiene after handling this material.
3. Provide hand hygiene materials in waiting room areas, and encourage patients with respiratory symptoms to perform hand hygiene.
4. Designate an area in waiting rooms where patients with respiratory symptoms can be segregated (ideally by at least 3 feet) from other patients who do not have respiratory symptoms.
5. Place patients with respiratory symptoms in a private room or cubicle as soon as possible for further evaluation.
6. Implement use of surgical or procedure masks by healthcare personnel during the evaluation of patients with respiratory symptoms.
7. Consider the installation of plexiglass barriers at the point of triage or registration to protect healthcare personnel from contact with respiratory droplets.
8. If no barriers are present, instruct registration and triage staff to remain at least 3 feet from unmasked patients and to consider wearing surgical masks during respiratory infection season.
9. Continue to use droplet precautions to manage patients with respiratory symptoms until it is determined that the cause of symptoms is not an infectious agent that requires precautions beyond standard precautions.

2. Admissions into the healthcare delivery system:

The focus of SARS surveillance in the absence of SARS worldwide is aimed at early detection of cases and clusters of respiratory infections that might signal the re-emergence of SARS. Certain characteristics have been gathered from the epidemiology of SARS, and will signal sentinel events that should be reported to public health. Facilities should anticipate all the varying ways patients are admitted to their hospital (e.g. direct admissions, emergency room, and from other facilities) and target those modes of admission for further screening. All healthcare providers must be trained to utilize the following screening tool to screen all patients hospitalized with pneumonia at all points of entry into the healthcare delivery system:

Screening Tool for Patients Hospitalized with Pneumonia

Screen all patients who require hospitalization for radiographically confirmed pneumonia or acute respiratory distress syndrome without identifiable etiology *and* who have one of the following risk factors in the 10 days before onset of illness:

- *Travel* to mainland China, Hong Kong, or Taiwan, or close contact with an ill person with a history of recent travel to one of these areas, OR
- *Employment* in an occupation associated with a risk for SARS-CoV exposure (e.g. healthcare worker with direct patient contact; worker in a laboratory that contains live SARS-CoV), OR
- Part of a *cluster* of cases of atypical pneumonia without an alternative diagnosis.

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If the patient answers yes to any of the three screening questions, providers should:

- Continue Droplet Precautions (note: as per Standard Respiratory Precautions, all patients with respiratory infections of unknown etiology should be placed on Droplet Precautions);
- Notify their local health department
- Evaluate according to the Algorithm in Appendix 2D.

Additional factors that increase the likelihood of SARS-CoV infection:

- While traveling, visited a healthcare setting.
- While traveling, had close contact with a person with pneumonia of unknown etiology.
- Part of a cluster of unexplained pneumonia in which one case is linked to a previously SARS-affected area or to an ill healthcare or lab worker.

Risk factors from previously SARS affected areas:

- Although less likely, SARS may re-emerge from Hanoi, Singapore or Toronto.
- If ill travelers from these areas are highly suspected to have SARS, providers should evaluate and report.

Infection Control practitioners and other healthcare personnel should also be alert for clusters of pneumonia among two or more healthcare workers who work in the same facility.

Screening of persons requiring hospitalization for radiographically confirmed pneumonia for risk factors suggesting SARS-CoV exposure should be limited to adults, unless there are special circumstances that make the clinician and public health personnel consider a child to be of potentially high risk for having SARS-CoV disease.

3. Key points for admission:

- a. The Standard Respiratory Precautions is the first line of defense for the prevention of transmission of respiratory infections;
- b. If a physician is admitting a patient directly to a hospital, they should follow Standard Respiratory Precautions, including giving the patient a surgical mask to wear, if they can tolerate;
- c. All healthcare workers can implement Standard Respiratory Precautions for a patient admitted with respiratory symptoms;
- d. If the patient is being admitted with a diagnosis of a respiratory infection of unknown etiology, Droplet Precautions are to be instituted until the infection is deemed non-communicable.

b. SARS Re-emerges in the World without Local Transmission:

1. Continue to utilize Standard Respiratory Precautions as described earlier.
2. Continue to screen as in Section 2 above. In addition, screen all patients presenting to a health care facility (emergency room, outpatient clinic, or physician office) with *a fever or respiratory symptoms* (cough, shortness of breath, difficulty breathing) for SARS risk factors within the 10 days prior to symptom onset. Outpatient clinics and physician offices should screen patients at the time of scheduling appointments and again when they arrive to the clinic/office.

SARS risk factors include:

- **A history of foreign travel (or close contact with an ill person with a history of travel) to a location with documented or suspected SARS-CoV, or**
 - **Exposure to a domestic location with documented or suspected SARS-CoV (including a laboratory that contains live SARS-CoV), or close contact with an ill person with such an exposure history.**
 - **Employment as a healthcare worker, or**
 - **Close contact within 10 days of illness onset with a person with confirmed or probable SARS-CoV or SARS-CoV report under investigation.**
3. If a patient with a fever or respiratory infection has a SARS risk factor(s):
 - a. Place on Airborne and Contact Precautions.
 - b. Place the patient in an airborne isolation room (AIIR) or consider cohorting patients if airborne isolation rooms are not available in the facility (*see Infection Control Guidance*).
 - c. In outpatient clinics and physician offices where AIIR may not be available, immediately place patient in private exam room, and
 - d. Notify your local health department

- e. Persons with such an exposure history should be evaluated for SARS-CoV disease according to the algorithm in Appendix 2E.

c. SARS Re-emerges in the World with Local Transmission:

1. Continue to utilize Standard Respiratory Precautions as described earlier.
2. Screen **ALL patients, visitors and employees** entering the facility for fever or respiratory symptoms (cough, shortness of breath and difficult breathing).
3. If fever or respiratory symptoms are present, screen for SARS risk factors.
4. If a patient with a fever or respiratory symptoms has SARS risk factor(s):
 - a. Keep patient masked as per Standard Respiratory Precautions, and institute Airborne and Contact Precautions
 - b. Place in an airborne isolation room (AIIR) or consider cohorting patients if airborne isolation rooms are not available in the facility (*see Infection Control Guidance*)
 - c. In outpatient clinics and physician offices where AIIRs may not be available, immediately place patient in a private exam room, and
 - d. Notify your local health department for further guidance.
5. If an employee with a fever or respiratory symptoms has SARS risk factors, refer to Employee Health Surveillance Guidance Part D of this document.
6. If a visitor with a fever or respiratory symptoms has SARS risk factors, refer to Visitor Guidance Part E of this document.

6. Specific Infection Control Guidance

a. No SARS Transmission Identified Worldwide:

1. Follow the Standard Respiratory Precautions described previously for all patients who present with respiratory symptoms of unknown etiology.
2. Reinforce compliance with hand hygiene by:
 - a. Educating on the importance of hand hygiene for the prevention of transmission of infectious agents;
 - b. Providing easy access to hand hygiene products at the point of care.
 - c. See CDC *Guideline for Hand Hygiene in Health Care Settings* (<http://www.cdc.gov/handhygiene/>) for more details on guidance and suggestions for improving adherence.
3. Assure adequate cleaning of the patient care environment by:
 - a. Assuring the product used for daily routine and discharge cleaning of patient areas is an Environmental Protection Agency (EPA) registered low- or intermediate-level disinfectant and it is used as per the manufacturer's instructions.
 - b. Assessing the protocols used by your facility for daily and discharge cleaning to assure adequacy. They should minimally include:
 - Daily cleaning of:
 - horizontal surfaces (e.g. over-bed table, night stand);
 - frequently touched surfaces (e.g. bed rails, phone);

- lavatory surfaces.
 - Discharge cleaning of:
 - surfaces described above;
 - visibly soiled vertical surfaces (e.g. walls, curtain dividers);
 - frequently touched surfaces such as light switches and door knobs.
 - c. Assess compliance with discharge cleaning by identifying a person in the facility to perform daily rounds to inspect cleanliness.
 - d. See CDC *Guideline for Environmental Control in Health-Care Facilities*, 2003 (<http://cdc.gov/ncidod/hip/enviro/guide.htm>) for specific guidance for maintaining a safe environment for patients.
4. Reinforce the Occupational Safety and Health Administration (OSHA) regulation of no eating and drinking in patient care areas.

b. SARS Re-emerges in the World without Local Transmission:

1. Follow the recommendations in Specific Infection Control Guidance – No SARS Transmission Identified Worldwide.
2. Assign a point person to regularly access CDC Website to obtain updated information on the epidemiology of SARS, and to share the up to date case definition with clinicians and screening/triage personnel.
3. Screen all patients at all points of entry to the facility for fever, respiratory symptoms, and SARS risk factors.
4. For Patients meeting the established SARS case definition:
 - a. Utilize Airborne, Contact, and Standard Precautions, including approved eye protection (e.g. face shield or goggles) for all patients who meet the case definition for suspect or probable SARS.
 - b. When possible, admit patients meeting the SARS case definition to airborne infection isolation rooms (AIIR). Perform a smoke test before admitting to the AIIR to assure negative air flow. See CDC *Guideline for Environmental Control in Health-Care Facilities*, 2003 (<http://cdc.gov/ncidod/hip/enviro/guide.htm>) for detailed specifications for AIIR.
 - c. If an AIIR is not available, place the patient in a private room, wear personal protective equipment as per Airborne, Contact and Standard Precautions, and contact your local health department for further guidance on patient placement.
 - d. Patient procedures:
 - Perform high risk procedures that increase aerosolization (nebulized treatments, deep tracheal suctioning, intubation/extubation only if medically necessary);
 - Perform high risk procedures on AIIR only with staff who have been fit-tested for an N95 respirator or higher protection, and with staff that have received enhanced infection control training on the prevention of transmission of SARS;

- Avoid transport out of the patient's room for procedures (except as above). If transport is necessary, choose a route that will come in contact with the minimum numbers of individuals.
5. If the numbers of suspect or probable SARS cases exceed the availability of AIIRs, a SARS unit may be designated:
 - a. Provide enhanced infection control education to direct patient care staff and assure all staff are fit- tested for and utilize an N95 respirator;
 - b. Consider cohorting suspect or probable SARS cases in private rooms on the same unit;
 - c. Consider adapting the airflow of cohorted unit to negative pressure (with guidance from an engineer specialized in air handling);
 - d. If cohorting as above, AIIRs are still preferred for:
 - Patients who are known to have transmitted SARS to other persons;
 - Patients in whom the risk of SARS is being assessed (to avoid placing non-SARS affected patients on a SARS unit).
 6. Environmental Guidance for rooms occupied by SARS cases:
 - a. Airborne and Contact Precautions (including eye protection) are to be maintained during cleaning by environmental services personnel (housekeeping). Provide training on how to appropriately don and remove personal protective equipment (PPE) and perform hand hygiene.
 - b. Frequently touched surfaces are to be wiped down with an Environmental Protection Agency (EPA) registered low – or intermediate- level disinfectant and allowed to dry as per manufacturer's recommendations.
 - c. Inpatient rooms are to be cleaned and disinfected daily and at the time of patient discharge. Surfaces include:
 - Surfaces to be cleaned daily include:
 - Horizontal surfaces (e.g. over-bed table, night stand)
 - Frequently touched surfaces (e.g. bed rails, phone);
 - Lavatory facilities.
 - Surfaces to be cleaned following transfer or discharge include:
 - Surfaces described above;
 - Obviously soiled vertical surfaces;
 - Frequently touched surfaces such as light cords, switches and door knobs;
 - Curtain dividers should be changed and laundered.
 - d. Solutions used for cleaning should be discarded after use. Thoroughly rinse and clean housekeeping equipment after use after use and allow to dry.

c. SARS Re-emerges in the World with Local Transmission:

1. Follow the recommendations above for Specific Infection Control Guidance – No SARS Transmission Identified Worldwide and SARS Re-emerges in the World without Local Transmission.
2. Designate an area as a SARS evaluation area. These areas should be further divided into patients, visitors and employees.

3. Have hand hygiene products available on entrance and instruct all person being screened to de-germ hands.
4. Actively screen all persons entering the facility for fever or respiratory symptoms and epidemiological risk factors (linked transmission) and fill out screening tool (see appendices 2A and 2B).
5. All personnel at patient evaluation areas should wear gloves, gowns, fit-tested N95 respirators, and face shields for evaluation of patients, visitors and staff. Hand Hygiene is to be performed between contacts.
6. All personnel at visitor and employee evaluation areas are to wear fit-tested N95 respirators and to perform hand hygiene between contacts (rationale: minimal direct contact should occur at these check points).
7. For patients with fever or respiratory symptoms:
 - a. Place a surgical mask on the patient;
 - b. Evaluate need for admission to the hospital;
 - c. If patient is being hospitalized, admit to AIIR (or SARS unit as per I.5) on Airborne and Contact Precautions;
 - d. If patient does not meet the criteria for admission, consult your local health department regarding need for home isolation (note: patient may require admission if home isolation is not possible).
8. For employees who present with fever or respiratory symptoms, see Employee Health Surveillance (part D).
9. For visitors who present with fever or respiratory symptoms, see Visitor Guidance (part E).
10. Designate personnel who have received enhanced infection control training to screen/triage patients, visitors and employees and perform direct patient care with SARS cases.
11. Designate specific SARS patient-flow routes that minimize contact with employees, visitors and other patients.

d. SARS Re-emerges in the World without local transmission, with Nosocomial Transmission:

1. Follow the recommendations above for Specific Infection Control Guidance – No SARS Transmission Identified Worldwide and SARS Re-emerges in the World without Local Transmission.
2. Fax an Infection Control Report form DOH 4018 to the NYSDOH Central Office at 518- 474-7381 and call your NYSDOH Regional Epidemiologist.
3. Screen all inpatients for symptoms of SARS (see appendix 2C).
4. Collaborate with NYSDOH and the local health department on specific infection control measures, including cohorting and patient restrictions.
5. Plan cohorting in the following manner:
 - If the nosocomial transmission can be clearly linked, designate the following cohorts:
 - o Cohort known, suspect and probable SARS patients in private rooms on one unit;

- Modify existing rooms to achieve negative pressure (collaborate with facility engineer and NYSDOH);
 - If rooms cannot be modified, have patients wear surgical masks, if tolerated;
 - Designate staff for cohort.
 - o Cohort patients exposed to known SARS cases, with febrile or respiratory symptoms in private rooms on one unit.
- If the nosocomial transmission cannot be clearly linked, designate the following cohorts:
 - o Afebrile and asymptomatic patients with no close SARS contact discharge as soon as medically indicated;
 - o Afebrile and asymptomatic patients with close SARS contact – discharge with contact restrictions and local health department follow-up;
 - o Febrile or symptomatic patients not meeting the case definition;
 - o Patients meeting the case definition.

e. SARS Re-emerges in the World with local transmission, with Nosocomial Transmission:

1. Follow the recommendations above for Specific Infection Control Guidance SARS Re-emerges in the World with Local Transmission (6c.), and 6d.2-5.

C. CLINICAL EVALUATION OF PATIENTS:

1. General Information:

Since Severe Acute Respiratory Syndrome (SARS) emerged during the winter of 2002 through the spring of 2003, the diagnosis of unexplained pneumonia has become an issue. The clinical assessment of the patient with severe pneumonia will now add emphasis on epidemiologic risk factors. The likelihood of a patient being infected with SARS approaches zero unless certain clinical and epidemiologic risk factors are present. However, to date, there are no specific clinical or laboratory findings that can distinguish SARS with certainty. Therefore, approaching all respiratory illness with appropriate respiratory infection control measures from the initial presentation of the patient becomes critically important. This approach has the added benefit of preventing the transmission of other respiratory diseases as well.

2. Evaluation of Patients

a. No SARS Identified Worldwide:

1. The approach to the patient with respiratory illness when there is no documented SARS in the world will focus on patients who require hospitalization for radiographically confirmed pneumonia or acute respiratory distress syndrome without identifiable etiology with the following criteria:

- Suggestive clinical presentation with radiographically confirmed pneumonia or acute respiratory distress syndrome of unknown etiology
 - Fever, cough, dyspnea and infiltrates on CXR

And

- Epidemiologic features suggesting possibility of exposure to SARS-CoV:
 - *Travel* to mainland China, Hong Kong, or Taiwan, or close contact with an ill person with a history of recent travel to one of these areas, OR
 - *Employment* in an occupation associated with a risk for SARS-CoV exposure (e.g. healthcare worker with direct patient contact; worker in a laboratory that contains live SARS-CoV), OR
 - Part of a *cluster* of cases of atypical pneumonia without an alternative diagnosis.

2. When there is no documented SARS in the world, a careful history of the patient hospitalized with severe pneumonia is key. Droplet precautions should become routine when evaluating a patient with pneumonia (see appendix 2D).
3. Utilize the screening tool in the triage section above for patients admitted with pneumonia.
 - a. If the answers to questions in the screening tool are no, continue the evaluation for community-acquired pneumonia and treat clinically.
 - b. If the answer is yes to one of the three questions in the screening tool:
 - o Notify the local health department
and
 - o Consider the following in the work up and diagnosis:
 - CBC with differential
 - Pulse oximetry
 - Blood cultures
 - Sputum Gram's stain and culture
 - Testing for viral respiratory pathogens such as influenza A and B, respiratory syncytial virus
 - Creatine phosphokinase levels, lactate dehydrogenase levels
 - Specimens for legionella culture and urinary antigen
 - Specimen for pneumococcal urinary antigen
 - Transaminase levels
 - aPTT
 - C-reactive protein

4. If the health department and clinician have a high suspicion for SARS, institute Airborne and Contact Precautions and call the New York State Department of Health Regional Epidemiologist for your area.
5. If after seventy-two hours there is an alternative diagnosis, treat as clinically indicated. If there is not an alternative diagnosis, and the patient is part of a cluster of pneumonia or there is a high index of suspicion of SARS, continue treating pneumonia and consult with the local health department for consideration of SARS-CoV testing.

b. SARS Identified in the World without Local Transmission:

If there has been no exposure to settings with current SARS activity, the risk of disease is still very low. A higher index of clinical suspicion occurs with a patient hospitalized with pneumonia with a travel history to a previously SARS-affected area, clustering, or with a healthcare association. However, exposure to settings with documented SARS activity poses a significant risk and a lower threshold for clinical suspicion for SARS should be maintained.

1. Any patient with either fever OR respiratory systems should be asked about:
 - Recent exposure to a SARS-affected area or close contact with ill persons with exposure to such areas (foreign or domestic)
 - Recent exposure to a person suspected of having SARS
2. SARS should be considered among patients with both:
 - Early clinical features compatible with SARS (i.e. fever OR respiratory symptoms)

AND

- Evidence suggesting potential exposure to SARS CoV
 - o Exposure to areas currently affected by SARS (foreign or domestic)
 OR
 - o Close contact to a suspected SARS case
- 3. When SARS is being considered, institute Airborne and Contact Precautions and notify the Local Health Department.
- 4. Diagnostic testing should include the tests previously described in the work up of community-acquired pneumonia (see Appendix 2E). In patients who have radiographic evidence of pneumonia with a possible exposure, initiate SARS-CoV testing.

SARS-CoV testing includes: (See Laboratory Guidelines for guidelines for collection of specimens; review infection control precautions before collection)

- Blood: (Serum or plasma) RT-PCR testing – should be obtained within 1 week of symptom onset for best results; however, may be useful until day 21 post symptom onset
 - NP swab plus OP swab: RT-PCR testing-During the first week of illness and serial specimens thereafter
 - Stool: Begin collecting stool early in the illness but most likely positive after the first week; may be positive as long as 1 month
5. SARS CoV testing must be done in consultation with the Local and State Health Departments. It will be preferable to collect multiple specimens from different sites and at different times during the illness to accurately make a diagnosis.
 6. If there is no radiographic evidence of pneumonia with a possible SARS exposure:
 - a. Begin Airborne and Contact Precautions and follow for 72 hours.
 - b. If no improvement, re-evaluate and consider SARS testing continuing isolation precautions.
 - c. If radiographic evidence of pneumonia, follow procedures as above. (See appendix 2E)
 7. Elderly patients or those with underlying chronic illness may not present in the same manner as other patients. Also the presentation of children may be different. These populations with SARS risk factors must be considered with a high index of suspicion for SARS. Discussion with public health should be initiated early in the evaluation.

c. SARS Identified in the World with Local Transmission:

1. In the midst of local transmission, if occurring in well-defined settings with all cases linked to other cases, continue as above and consider a diagnosis of SARS in all persons with radiographic evidence of pneumonia (even if not hospitalized) if they:
 - a. Have close contact with a person with documented pneumonia, or
 - b. Have had exposure to hospitals or outpatient clinics in the 10 days prior to symptom onset (includes both healthcare workers and non-healthcare workers).
2. In the midst of a community outbreak in which the transmission is widespread and epidemiologic linkages between cases are not well defined, consider SARS in any patient presenting with fever or respiratory illness.

d. SARS Identified in the World with Nosocomial Transmission:

In hospitals known to or suspected of having nosocomial transmission of SARS, clinicians and public health officials must be particularly vigilant about evaluating fever or respiratory symptoms among inpatients.

D. EMPLOYEE HEALTH SURVEILLANCE and EXPOSURE FOLLOW UP:

1. General Information:

The information gained from the study of SARS clusters worldwide clearly illustrates that health care facilities play a major role in the epidemiology of SARS, and that healthcare workers were at increased risk for acquiring the disease. It is important to prepare for possible re-emergence of SARS during the period of time when there are no SARS cases. Containment depends on early identification of cases, and it is healthcare workers that will be the first to both recognize new cases and to be exposed to SARS.

For this reason it is important to conduct surveillance activities among healthcare workers² (HCW) to ensure the rapid identification and treatment of potential SARS cases. The healthcare community must be vigilant in identifying “sentinel” cases. Sentinel cases would include persons from high-risk groups that are hospitalized for unexplained pneumonia. These high-risk groups include healthcare workers, travelers to areas previously affected by SARS, and any cluster of persons with pneumonia of unclear etiology. When SARS has been identified in the world it is important to maintain an increased awareness among healthcare workers.

2. Surveillance of Health Care Workers

a. No SARS identified worldwide:

The purpose of monitoring health care workers would be to identify any cases of unexplained pneumonia, either single cases or clusters that may signify a new suspect case of SARS. Both hospitals and outpatient facilities need to establish systems for monitoring personnel for respiratory illness by instituting the following:

1. Designate those responsible for the monitoring of employee health concerns in regard to respiratory infections. The most appropriate entity would be an employee health service. If such a service is not available, then a medical director, infection control professional, or other appropriate person should be designated.
2. Instruct all healthcare workers to report respiratory infections with pneumonia to their physician and facility designate.
3. Establish a means performing active surveillance of employee infections to identify clusters of unexplained pneumonia.

b. SARS identified worldwide, without local transmission:

Both hospitals and outpatient facilities need to continue activities initiated when there was no SARS in the world.

1. Include the same surveillance activities instituted when there was no SARS in the world, plus
2. Establish a means of performing active surveillance of employee infections to identify any case of unexplained pneumonia.

c. SARS identified in the local community, not in the facility:

Maintain surveillance activities as above, plus the following:

Actively Screen: (see appendix 2A)

1. All HCWs with direct patient contact should be monitored daily for fever and respiratory symptoms. All those with respiratory symptoms and/or fever > 100.4°F should be furloughed and evaluated according to the SARS algorithm (or other finalized document).
2. HCWs should be monitored daily in regard to possible contact with a SARS patient in another healthcare facility or in the community. If an unprotected contact occurs, the worker should be furloughed and monitored daily for possible symptoms.
3. HCW illness and absenteeism should be monitored and evaluated for links to known SARS cases.
4. A sign-in procedure/log book for all HCW who come in contact with SARS cases should be initiated to track contacts. (see appendix 2F)

d. SARS identified in the facility:

Maintain surveillance activities as above, plus the following:

1. All staff, including those that are not HCWs, should be monitored daily for fever and respiratory symptoms. Those with either fever or respiratory symptoms should be furloughed and evaluated according to the SARS algorithm (or other finalized document).
2. Any staff member that has a possible unprotected exposure to a SARS case should be furloughed and evaluated according to the SARS protocol (or other finalized document).
3. All absent employees should be contacted directly and questioned about their symptoms.
4. Consider home/work restriction of movement for all HCWs or for HCWs that have worked in the area of transmission.

3. Exposure of Healthcare workers-Policy and Procedure:

a. Exposure Policy and Procedure:

1. Establish an exposure reporting process that includes methods for identifying exposed personnel (e.g. self-reporting by employees, logs of personnel entering SARS patient rooms).
2. Establish procedures for managing unprotected high-risk exposures. These exposures occur when a healthcare worker is in the same room as a probable SARS patient during an aerosol-generating procedure and infection control measures are either absent or breached. The policy for exposure to high risk procedures should include:

- The HCW is to be furloughed from work for 10 days following the date of last exposure;
 - The HCW need not limit activities outside of the home if asymptomatic;
 - The HCW is to be counseled on the symptoms of SARS and instructed to record symptoms (e.g. temperature/respiratory symptoms twice daily).
 - The HCW is to report to employee health or designate once a day on health status, or immediately at the onset of symptoms
3. Establish procedure for unprotected exposures that are not high risk. This policy should include:
- Asymptomatic healthcare workers
 - Need not be excluded from duty or limit activities outside the healthcare setting;
 - Should undergo active surveillance for the development of fever and/or respiratory symptoms;
 - Should report daily to employee health or designate
4. Establish procedures for managing symptomatic healthcare workers. Any healthcare worker who has been exposed to a SARS patient and develops symptoms within 10 days of exposure should immediately:
- Contact employee health or designate;
 - Report to predetermined location for a clinical evaluation and wear a surgical mask;
 - Contact local health department for further guidance.

4. Mental Health of Healthcare Workers

Mental Health concerns of all healthcare workers needs to be considered in planning for a SARS outbreak. Working with the threat of a highly contagious and dangerous disease can be extremely stressful for all involved. The necessity of working while wearing PPE and the possibility of quarantine also can take a toll. Preparations need to be made for the possibility of rotating staff whenever feasible, of breaks from patient care and PPE, and the availability of counseling when needed. Once SARS is identified in the world staff concerns may be heightened. Psychological support and mental health services must be available for all HCW.

E. VISITOR GUIDANCE:

1. General Guidance:

A visitor is anyone entering a health care facility site to visit a patient or staff member, attend a meeting or event, or accompanying an individual accessing health care treatment, assessment, examination or investigation. Visitors have a responsibility to behave in a manner that does not put others at risk, and to respond to staff's requests and hospital regulations for the protection of themselves and others.

Guidance for the notification, surveillance and/or restriction of visitors is dependant on the level of SARS activity on the world, national, state and local levels. Healthcare facilities should prepare for each level of SARS activity to assure they can have systems in place quickly in the event access to the facility would need to be monitored and/or restricted.

2. Policy Development/Review:

All healthcare facilities should review or develop visitation policies to assure that visitors, patients, healthcare workers and the general public are protected from the transmission of communicable diseases. The following areas should be covered in the aforementioned policy:

- a. Delineation of where visiting is allowed and visiting hours.
- b. Precautions a visitor must take if visiting a patient in a high-risk area, on transmission-based precautions, or if being trained to assist in providing care.
- c. Identification and exclusion of visitors with communicable diseases.
- d. Instructing visitors to practice hand hygiene.
- e. Reinforcing Standard Respiratory Precautions for those visitors with an upper respiratory infection who must enter the facility.
- f. Post signage in strategic locations in the facility and at entrances enforcing key points of your visitor policy (e.g. hand hygiene, Standard Respiratory Precautions, exclusion of visitors with communicable diseases).

3. Preplanning – Facility Protocols and Procedures Relating to Visitors:

The level of intensity for the identification and screening of visitors will be dependant on the SARS activity identified worldwide, nationwide, statewide and/or locally. Facilities will need to proactively devise a plan to both identify visitors who enter the facility, and screen them for symptoms of respiratory infections. Since the organizational and physical structure of each facility varies, facilities will need to devise their own plan. This plan should minimally include the following elements:

- a. Develop a system in which visitors entering the facility can be traced in the event that they need to be contacted due to an exposure. This can be in the form of written or computerized logging. The information recorded should be specific, designating the area or patient visited, to allow for adequate contact tracing.
- b. Identify one area in the facility where visitors can have access in the event active screening of symptoms must take place. Make provisions for security of the area.
- c. Devise a plan to screen all visitors who enter the facility for symptoms in the event the NYSDOH deems this a necessary precaution.

4. Visitor Guidance

a. Re-emergence of SARS in the World, no local Transmission:

1. Place signs (bi or multilingual depending on facility's patient population) at all entrances and strategic locations detailing the symptoms of and any current

epidemiological risk factors for SARS. These signs should designate visitors who have SARS risk factors and symptoms to don a surgical mask and go to a designated screening area (e.g. Urgent Care or Emergency Department).

2. Visitors who are ill should NOT visit the facility and should be directed to seek appropriate care.
3. Facility staff should be on heightened alert for any visitors who may appear ill and should question the visitor to confirm that they have been screened for SARS.

b. Re-emergence of SARS in the World, with local Transmission:

1. Signs alerting visitors to the need for implementing SARS screening should be posted in strategic locations throughout the facility, at entrances, and at the visitor check-in point. Written notification about the need for SARS screening may also be handed out with visitor passes/badges. Signs should also advise visitors to self-screen for a fever or respiratory illness such as a new cough or shortness of breath. (see appendix 2G)
2. The facility should designate entrances that will remain open and those that will be closed.
3. Visitors should be limited (e.g. one per patient per day).
4. All visitors must complete a SARS visitor entry screening tool/questionnaire at a check-in site prior to each entry into the health care facility using the visitor entry-screening tool. (see appendix 2B)
5. Visitors who meet the SARS criteria and are identified as a health risk on SARS screening may be refused entry to the facility and should be given a surgical mask to wear and directed to contact their health care provider immediately or triaged to an area for further evaluation.
6. The facility should have sufficient security to ensure the safety of patients and visitors and be available to respond to any disruptions that may occur due to concerns about the need for SARS screening and the refusal of entry. If they continue to refuse to leave the local police should be called for assistance.
7. Visitors who are asymptomatic after screening, may enter the facility upon registering at the patient's unit (or other designated area). (See appendix 2H)
8. Visitors who are asymptomatic and allowed to visit a suspect or probable SARS patient must have received education about contact and airborne precautions, Standard Respiratory Precautions and hand hygiene, as well as their responsibility for adherence to them by a facility designate responsible for education.
9. Visitors must wear personal protection equipment (i.e. gloves, gown, eye protection and N95 respirator - instructions on donning the N95 respirator will be provided, but fit testing will not be required for visitors). The facility staff will need to assist any visitors with correct removal of personal protection equipment.

c. Re-emergence of SARS in the World, with Nosocomial Transmission:

1. If nosocomial transmission with clearly identified source:
 - a. Visitation should be limited (e.g. one per patient per day);

- b. Maintain a log of visitors to SARS patients to aid in contact tracing (see attachment #8);
 - c. All visitors should have a fever check and perform hand hygiene upon entering and leaving;
 - d. All visitors should be instructed on the use of personal protective equipment to prevent and exposure.
2. If nosocomial transmission without clearly identified source:
- a. No visitors allowed in the hospital unless necessary (e.g. parents or translators);
 - b. Visitors must receive infection control training