

Kings County Hospital Center
Biohazard Preparedness (BP) Plan

Table of Contents:

1. Purpose	2
2. Agents	2
3. Resource Allocation	3
4. Education	6
5. Response	6
6. Appendix A: Management of SARS	10
7. Appendix B: Telecommunications	24
8. Appendix C: Screening and Triage	27
9. Appendix D: Microbiology Lab Protocol	40

Biohazard Preparedness (BP) Plan

PURPOSE: To enable the hospital and its staff to respond appropriately in the event that a biologic agent with the potential to cause widespread disease and panic is released into the community. The BP Plan is part of the overall Kings County Hospital Center's (KCHC) Disaster Plan. The department of Infection Control will quarterly provide a written report to the Department of Safety on biological events and any needed plan modifications. It is made up of three components:

- 1) Resource assessment and allocation
- 2) Education
- 3) Response

In all instances the Office of the Hospital Epidemiologist (OHE) or designee will provide input, guidance and coordinate activities with the general oversight of the Chief Operating Officer of the Hospital, the Medical Director of the Hospital, and the KCHC Disaster Committee Chairperson

The plan recognizes that each activity will differ based upon the pathogen in question and the scale of the emergency. The plan also recognizes that in the event of such an emergency overall direction of the plan may be altered at the discretion of the local authorities.

Review of the most likely pathogens: (for more complete descriptions refer to www.cdc.gov)

- 1) **Anthrax-** is a non-contagious disease state caused by the gram positive bacillus *Bacillus anthracis*. It may cause either a severe inhalational disease, cutaneous disease or gastrointestinal disease. It is treatable provided antibiotics are started early after exposure or onset of disease. No special isolation precautions are necessary for patients with this disease. It is the most likely agent to be used in a bioterrorist event. Diagnostic tests include routine bacterial culture and gram stain.
- 2) **Smallpox-** is a highly contagious viral infection not seen in the United States for decades. It causes a characteristic rash and systemic symptoms. Except for

individuals who recently participated in the smallpox vaccination program the entire population is considered non-immune to this agent. There is a 30% mortality rate for naive populations. Strict airborne isolation precautions must be taken for individuals with this infection. Although in vitro studies suggest some antiviral agents may be useful for the treatment of individuals with this disease this should be considered highly experimental. There is therefore no widely available active antiviral agent for the treatment of smallpox. Smallpox vaccine is available in only very limited quantities and is controlled by the US government. Supplies are expected to increase over the next two years. In the event of a smallpox case smallpox vaccination may be reinstituted.

- 3) **Pneumonic plague-** is caused by the bacteria *Yersinia pestis*. It is most often seen as a sepsis syndrome associated with the bite of an infected flea. Plague can be aerosolized to be used as a bioweapon. In this setting it can cause a severe pneumonia and life threatening sepsis syndrome. Plague pneumonia is transmissible in droplet form. It may be treated with aminoglycosides such as streptomycin and gentamicin. Tetracyclines and fluoroquinolones can be substituted.
- 4) **Botulinum toxin-**This product is one of the most powerful toxins found in nature. Its primary effect is to impair the release of acetylcholine from nerve endings. This results in a classic descending bulbar and flaccid paralysis. Toxin can be detected using a bioassay. Equine derived anti-toxin is available through the CDC.
- 5) **SARS** – See Appendix A

Resource Assessment and Allocation:

- 1) **Pharmaceuticals-** The Hospital Epidemiologist in conjunction with the Director of Pharmacy will be responsible for determining the adequacy of pharmaceutical supplies (i.e. medication, vaccines etc) to deal with the most likely biohazard events. Decisions about such stocks will take into account current events and recommendations from the public health authorities. Decisions will also take into account the scale of expected biohazard events, treatment of the acutely ill from the community and the prophylaxis of hospital employees. Access to supplies from the national antibiotic stockpile and from outside vendors will be assessed.

The status of the hospital stockpile will be reviewed on a yearly basis by the Director of Pharmacy in conjunction with the Bioterrorism Coordinator. A report on the hospital stockpile will be submitted yearly to the hospital Disaster Committee with estimated surge ability.

- 2) **Ventilators**- The Hospital Epidemiologist in conjunction with the Director of Respiratory Therapy will assess the inventory of respirators available to the institution in order to respond and care for individuals with respiratory failure as a result of a biohazard event. The Director of Respiratory Therapy will submit a quarterly report of ventilator resources to the Disaster Committee with report of use and surge capacity.

- 3) **Housekeeping and Laundry**: The handling of waste and laundry for patients with presumed or suspected agents of bioterrorism will follow guidelines as outlined by the Centers for Disease Control and Prevention (www.cdc.gov)

- 4) **Personal Protective Equipment**- In conjunction with the Director of Central Supplies the Hospital Epidemiologist will assess the adequacy of the inventory of gloves and masks appropriate to the care of varying numbers of individuals who are victims of a biohazard event. A yearly report of inventory and surge capacity to be submitted to the Disaster Committee.

- 4) **Isolation and Cohorting Facilities**- In conjunction with the Director of Nursing Services and the Chief of Facilities, the Hospital Epidemiologist will be responsible for assessing the adequacy of isolation rooms in the hospital in the event of a need to place victims of a biohazard event in respiratory isolation. The number of working respiratory isolation rooms will meet current NYS-DOH requirements. The adequacy of negative pressure in these rooms will be maintained according to protocol set by the Department of Health. The hospital will maintain a supply of portable HEPA filters which can be used if the number of isolation rooms is not adequate. These portable HEPA filters will be stored, maintained and supplied by Central Supply. The Director of Central Supply or designate will be responsible for tracking these units. They will submit a report on portable HEPA filter inventory on a yearly basis to the Disaster Committee with the report of surge use. If isolation facilities plus portable HEPA filters are not

Deleted:

adequate to the scale of the number of patients requiring care, then efforts will be made to cohort patients in Nursing Station A42. Noncritical well worried patients cleared after triage will be referred to the Urgent Care Center & outside related clinics. Unexposed hospitalized patients will be transferred within the facility to KCHC Building A station 42 (a standby unit). This will clear isolation beds in D& South, built as an isolation ward, which has a minimum of 21 available beds. The decision to use Nursing Station A42 will be made by the Medical Director in conjunction with the Hospital Epidemiologist (or designate). When Nursing Station A42 is used for this purpose all patient doors will be kept closed at all times except when staff enter or leave the room. Corridor fire doors leading off the unit will also be closed. Movement by staff onto this unit once so designated will be restricted by Hospital Police in conjunction with the Medical Director and the Hospital Epidemiologist. Provision of negative air flow in the unit will be assessed by Facilities at the request of the Medical Director and Hospital Epidemiologist.

Patients placed in isolation due to known or presumed exposure to agents of bioterrorism will be allowed visitors only at the discretion of the Incident Command Center in conjunction with the Hospital Epidemiologist (or designate). In-hospital transportation of patients placed in isolation due to known or presumed exposure to agents of bioterrorism will not routinely be allowed except at the discretion of the Incident Command Center which should be opened in the event of bioterrorism.

- 5) **Diagnosis-** Diagnostic tests for pathogens related to bioterrorism will be conducted in accordance with NYC-DOH guidelines.

- 8) **Exposure Reporting-** The recording of potential in-hospital exposure of patients, staff and visitors to individuals with known or presumed agents of bioterrorism will be conducted by staff from the Department of Epidemiology in conjunction with Public Safety personnel. This information will be shared with representatives of the NYC- Department of Health and Mental Hygiene.

9) LAB REPORTING

Lab personnel are trained to obtain the name and pager number for the requesting clinician, and all relevant patient information when testing for a

biological agent. The lab is to contact the supervisor and Director of microbiology immediately regarding the request. The supervisor or director of microbiology will then inform director of Clinical laboratory and infection control department. If a particular agent could not be ruled out, NYC-DOH must be called immediately for specimen referral.

Education

The OHE will be responsible, with the support of Hospital Administration and the Disaster Committee to coordinate education activities in the institution as they relate to a biohazard event. The OHE will maintain close contact with public health authorities and will provide information to all sectors of the hospital community on an ongoing basis regarding the latest information on expected or actual biohazard events. This will be done through a variety of means including letters, web publications, lectures, videos etc. The Disaster Committee organizes and provides on going training on HEICS and all hazards to Department of Emergency medicine Attending, Residents, Nurses and rotating Medical Students, as well as Hospital Police, Facilities Management, Perioperative Services, and Hospital Administration on an annual basis. These trainings are tested through drills and actual events at least twice a year. The department of Safety trains all new employees on each individual's role in the disaster response. Each department further trains their employees on their departmental plan.

Response:

- 1) In the setting of a BH event the Incident Command Center will be opened. The MCO will be the Chief of Infectious Diseases, or the Infectious Diseases Attending on service as determined by availability.
- 2) The response to any biohazard event will be determined by the scale of the event and the pathogen involved.
- 3) An **internal biohazard event** (i.e. a single or limited number of cases identified after hospitalization) will be managed as would any infectious etiology requiring disease or condition specific isolation precautions. It would not require implementation of the hospital disaster plan except in certain unusual circumstances. An internal BH event might involve any of the agents listed above but could include other agents as well. It will be the responsibility of the MCO (OHE), in consultation with Hospital Administration, to see that the NYC-DOH is notified regarding any suspicious or verified BH event and Incident Command Center opened to plan for possible longitudinal disaster.

- 4) In the event of an **external BH event** the OHE (MCO for BH) will be notified. The need for implementation of the Hospital Disaster Plan will be determined after consultation with Hospital Administration and with representatives of the New York City Department of Health and Mental Hygiene. The need to activate the Hospital Disaster Plan will be determined by the scale of the event and the assessment of surge needs and planning.

If a BH event results in implementation of the Hospital Disaster Plan:

- a) Hospital lock down will occur
- b) Access will only be provided through the ED and 'D' Building entrance where preliminary screening as to the need to report to the Emergency Department will be the responsibility of the Emergency Department
- c) The MCO will confer with the ED Director regarding the screening and triaging of incoming patients
- d) The MCO will confer with Hospital Administration, Director of Nursing Services and Facilities regarding the allocation of hospital beds and the need to cohort patients based on their presumptive diagnosis.
- e) The MCO, Director of Pharmacy and the Director of Employee Health Services will confer regarding the provision of prophylactic antibiotics to hospital staff.
- f) Universal standard precautions will at a minimum be observed.
- g) The Department of Communications will activate its disaster plan. See Appendix B.

Anthrax- not contagious therefore no special measures for isolation or cohorting will be necessary except as it relates to the ease of management. Universal standard precaution will be followed. Decontamination will not ordinarily be necessary since patients who are ill with anthrax will likely have been exposed many days before presentation. The clinical microbiology laboratories should be notified at the first indication of anthrax so that safe specimen processing under biosafety level 2 conditions can be undertaken. A number of disinfectants used for standard hospital infection control, such as hypochlorite, are effective in cleaning environmental surfaces contaminated with infected bodily fluids. Laundry should be bagged as biohazard material and laundered in soap and water.

Smallpox- negative pressure, airborne pathogen isolation measures will be necessary.

All staff will be considered at risk of exposure to individuals with the rash of smallpox (except in the circumstance of recent vaccination). Patients arriving at the ED will need to be rapidly screened outside of the ED and if infected moved rapidly to isolation facilities. In consultation with public health authorities consideration should be given to isolation of patients at home. Contacts should be identified for surveillance. These people will be defined as those in the same household as well as those who have had face to face contact. In consultation with public health authorities plans should be made for the vaccination of exposed health care workers as well as those enlisted to care for patients who are sick. Staff caring for these patients will need to wear latex gloves and N95 (or higher filtration) respirators (fit testing will be necessary). Disposable gowns should also be worn and left in the room. Staff and others inadvertently exposed to smallpox case will need to be observed for 17 days. This can be done at home or in the facility. Temperature elevation will signal the onset of the rash within 48-72 hours and will require isolation. In the event that not enough negative pressure airborne isolation rooms are available, cohorting may be done (i.e. 2 patients per room). In the event that this is not enough, regular hospital rooms with portable HEPA filters. If this is not enough then a common large space whose air supply can be vented properly through HEPA filtration with doors that can be closed will be used. All laundry and waste should be placed in biohazard bags and autoclaved before being laundered or incinerated. Laboratory examination requires high containment BL-4 facilities and should not be undertaken at UHB. All bedding and clothing of smallpox patients should be bagged in biohazard containers, autoclaved and laundered in hot water with bleach. Standard hospital disinfectants are effective for cleaning contaminated surfaces.

Plague- Pneumonic plague may be spread through respiratory droplets. Patients with known or suspected plague should be triaged from the emergency area with a disposable surgical or other face mask to the hospital ward promptly. There they should be placed on droplet precautions (respiratory isolation). Prophylaxis should be considered for all close contacts. Those refusing prophylaxis should be monitored for the development of fever or other signs of infection. Patients should remain in isolation for 48 hours after the initiation of treatment and until clinical improvement is noted. Patients requiring transport should wear surgical face masks. Standard procedures for cleaning of bedding and environmental surfaces should be followed. The clinical microbiology

laboratory should be alerted when specimens are sent with presumed *Yersinia pestis*. Specimens should be processed in a BL-2 facility.

Botulinum toxin- Since exposure might result in illness within hours, it is necessary that patients presenting as victims of an intentional release of botulinum toxin have their clothes removed and washed and their skin washed with soap and water. Contaminated surfaces may be cleaned with 0.1% hypochlorite bleach solution. Medical personnel caring for patients with suspected botulism should use standard universal precautions. Isolation is not necessary.

SARS – See Appendix A

Appendix A

UNAPPROVED DRAFT

KINGS COUNTY HOSPITAL CENTER

INFECTION CONTROL POLICY AND PROCEDURE FOR THE MANAGEMENT OF SEVERE ACUTE RESPIRATORY DISTRESS SYNDROME (SARS)

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I. Introduction

The description in 2003, of Severe Acute Respiratory Syndrome (SARS) in travelers from Asia has created a need to develop policies regarding how patients who might have the illness should be managed and how hospitals should operate should a widespread outbreak develop in the community or in the hospital.

This document provides guidelines for the screening and isolation of patients based on recent information from the CDC and the New York City Department of Health and Mental Hygiene. The NYCDOHMH urges all acute care and primary care facilities ensure that triage procedures are in place to rapidly recognize and isolate any potential SARS patients presenting for care.¹

SARS is an acute infection, caused by a Coronavirus, which manifests itself following an incubation period of approximately 5-7 days and rarely more than 10. Illness starts acutely with fever and aches which rapidly progresses to pneumonia, often severe, or acute respiratory distress syndrome. Upper respiratory symptoms such as rhinorrhea or sneezing are unusual. The white blood cell count is usually low or normal. Approximately 6% of patients with SARS have died of it.

II. Case Definition

SARS is defined operationally¹ by clinical, epidemiologic, and laboratory criteria.:

Clinical Criteria:

- a). Asymptomatic, mild or moderate respiratory illness
- b). Measured temperature $>100.4^{\circ}\text{F}^2$ ($>38^{\circ}\text{C}$)*, *and*

¹[http://www.cdc.gov/ncidod/sars/Updated Interim U.S. case definition for SARS 5/23/2002](http://www.cdc.gov/ncidod/sars/Updated%20Interim%20U.S.%20case%20definition%20for%20SARS%205/23/2002)

² A measured documented temperature of $>100.4^{\circ}\text{F}$ ($>38^{\circ}\text{C}$) is preferred. However, clinical judgement should be used when evaluating patients for whom a measured temperature of $>100.4^{\circ}\text{F}$ ($>38^{\circ}\text{C}$) has not been documented. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. These factors must be considered before classifying patients who do not strictly meet the clinical criteria for this case definition.

- c) One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia).
 - d) Severe respiratory illness
 - e) Temperature of 100.4° F (>38° C)*, *and*
 - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia), *and*
 - Radiographic evidence of pneumonia, *or*
 - Respiratory distress syndrome, *or*
 - Autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause.
2. Epidemiological Criteria:³
- a) Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or previously documented or suspected community transmission of SARS,⁴ *or*
 - b) Close contact⁵ within 10 days of onset of symptoms with a person known or suspected to have SARS.
3. Laboratory Criteria⁶
- a) Confirmed
 - Detection of antibody to SARS-CoV in specimens obtained during acute illness or > 21 days after illness onset, *or*
 - Detection of SARS CoV RNS by RT-PCR confirmed by a second PCR assay, by using a second aliquot of the specimen and a different set of PCR primers, *or*

³ The WHO has specified that the surveillance period for China should begin on November 1, 2002; the first recognized cases in Hong Kong, Singapore and Hanoi (Vietnam) had onset in February 2003. The dates for Toronto and Taiwan are linked to CDC's issuance of travel recommendations. The last date for illness onset is 10 days (i.e., one incubation period) after removal of a CDC travel alert. The case patient's travel should have occurred on or before the last date the travel alert was in place.

⁴ China (mainland); Hong Kong; Hanoi, Vietnam; Singapore; Toronto, Canada; and Taiwan.

⁵ Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (< 3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across the waiting room or office for a brief period of time.

⁶ Assays for the laboratory diagnosis of SARS-CoV infection include enzyme-linked immunosorbent assay, indirect fluorescent antibody assay, and reverse transcription polymerase chain reaction (RT-PCR) assays of appropriately collected clinical specimens (Source: CDC, Guidelines for collection of specimens from potential cases of SARS, available at http://www.cdc.gov/ncidod/sars/specimen_collection_sars2.htm) Absence of SARS-CoV antibody from serum obtained \geq 21 days after illness onset, a negative PCR test, or a negative viral culture does not exclude coronavirus infection and is not considered a definitive laboratory result. In these instances, a convalescent serum specimen obtained \geq 3 days after illness is needed to determine infection with SARS-CoV. All SARS diagnostic assays are under evaluation.

- Isolation of SARS-CoV.

b) Negative

- Absence of antibody to SARS-CoV in a convalescent serum obtained > 21 days after symptom onset.

c) Undetermined

- Laboratory testing either not performed or incomplete.

III. Case Classification⁷

1. **Probable case:**

A probable meets the clinical criteria for severe respiratory illness of unknown etiology and epidemiologic criteria for exposure; laboratory criteria confirmed, negative, or undetermined.

Suspect case:

meets the clinical criteria for moderate respiratory illness of unknown etiology and epidemiological criteria for exposure; laboratory criteria confirmed, negative, or undetermined.

Exclusion Criteria

A case may be excluded as a suspect or probable SARS case if:

- An alternative diagnosis can fully explain the illness.⁸
- The case was reported on the basis of contact with an index case that was subsequently excluded as a case of SARS (e.g., another etiology fully explains the illness) provided other possible epidemiologic exposure criteria are not present.
- More than 10 days has elapsed since the last contact with risk of transmission. The incubation period for SARS is deemed to have an upper limit of 10 days. Accordingly, asymptomatic patients who have been in the USA for the previous 10 days and during that period have not been in contact with a recent immigrant from one of these areas can be deemed not to be at risk for having SARS. Those who have been in close contact (by the above definition) with an immigrant from an area reporting SARS transmission within the past 10 days may be at risk.

⁷ Asymptomatic SARS-CoV infection or clinical manifestations other than respiratory illness might be identified as more is learned about SARS-CoV infection.

⁸ Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS, the specificity of the diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

IV. Infection Control Practices For Symptomatic Patients

Patients with undiagnosed respiratory disease who are at risk of SARS by virtue of travel or close contact with travelers and are suspected of having SARS should be promptly isolated. The on-call I.D. Resident and the Hospital Epidemiologist should be contacted at once to confirm the diagnosis, notify the Department of Health and provide guidance for further measures.

1. Personal Protective Equipment (PPE)

a) Respirators

- **N-95** - Staff should wear the N-95 respirator if they need to enter the patient's room. **The respirator should be worn for one time and discarded when leaving the room.** This is different from the policy used with normal Airborne precautions for suspect/diagnosed TB, Rubeola and Varicella.
- **N-100** - respirators are worn by Respiratory Care staff for aerosol generating procedures such as sputum induction.
- **Gowns and gloves** - Staff are to put on gowns and gloves before entering the room of a patient who is suspected of having or has been diagnosed with SARS. PPE is to be discarded into the non-regulated waste stream if it is not saturated with blood or body fluids.
- **Eye protection** - Eye protection must be worn when entering the room of someone suspected of having SARS.
- **Shoe covers** - used only if the patient has heavy respiratory cough or diarrhea and is not, or is unable to be compliant with containing the excretions (covering the mouth when coughing, wearing a surgical mask, or incontinent of feces).

2. Waste

Waste is handled according to the policies for Regulated Medical, and non-regulated waste. (Items soiled with blood and/or body fluids are discarded into RMW, other items are discarded into the normal waste stream.) Refer to the Infection Control Manual, Section 3 for a complete listing of both types of waste.

V. Guidelines for Management of Health Care Workers (HCW) who may have been exposed to SARS in Health Care Settings

1. Asymptomatic HCW Exposures

a. **Unprotected High Risk Exposure**

- **Definition** - being in the same room as a *probable* SARS patient during a high-risk aerosol-generating procedure or event (such as, aerosolized medication treatments, diagnostic sputum induction, bronchoscopy, endotracheal intubation, airway suctioning, close facial contact during a coughing paroxysm), **IF infection control precautions were either breached or absent (for example, if the Health Care Worker's [HCW] N-95 mask accidentally slipped off during the procedure or eye protection was not worn).**
- **Management of Asymptomatic HCWs with an Unprotected High Risk Exposure**

HCWs who have unprotected high-risk exposures to SARS should be excluded from duty for 10 days following the exposure. During this time, the HCW should stay at home and not go to work or to other public areas. If they are asymptomatic (without fever or respiratory symptoms), they do not need to follow any additional infection control precautions while at home.

b) **Unprotected Non-high risk Exposure**

- **Definition** - being in the same room as a suspect SARS patient with without the use of appropriate personal protective equipment.
- **Management of Asymptomatic HCWs with an Unprotected, Non-High Risk Exposure**

HCWs with unprotected, non-high risk exposures to SARS need not be excluded from duty, but should monitor their temperature twice daily during the 10 days following the exposure. During this time period, the HCW should be interviewed by Employees' Health, Infection Control or other appropriate department at the facility and have their temperature taken before reporting to work each day.

2. **Symptomatic, Exposed HCWs**

- **Definition**- HCWs who were in contact with a client with suspect or probable case of SARS and now are symptomatic.
- **Management of Symptomatic, Exposed HCWs**

- HCWs who develop fever OR respiratory symptoms within 10 days after caring for or being exposed to a SARS patient should not report for duty and should notify the appropriate contact person at the health care facility. The HCW should stay home for 72 hours, start infection control precautions, and monitor their symptoms for improvement or for progression to the SARS clinical case definition.
- If symptoms improve or resolve within 72 hours after the first symptom developed, the person may be allowed, after consultation with Infection Control and the NYC DOHMH, to return to duty. If the symptoms progress to meet the SARS case definition during the 72-hour period, the person needs to be managed as all other SARS patients, with continued isolation and infection control precautions until 10 days AFTER the fever resolves and respiratory symptoms improve or have resolved.
- If the symptoms neither improve nor progress to meet the SARS clinical case definition during this 72-hour period, then the HCW should remain in isolation and monitor his/her symptoms for an additional 72-hour period.
- If after this second observation period, the person neither improves nor progresses to meet the SARS clinical case definition, consultation needs to be initiated between the patient's clinician, and the NYC DOHMH to decide whether to maintain or discontinue isolation and infection control precautions. Factors that may be considered include: the nature of the potential exposure to SARS, degree of contact with others at the health care facility, and evidence for an alternative diagnosis.

3. **Revised CDC recommendations for management of persons (other than HCWs) exposed to SARS:**

Currently in the United States, the majority of reported suspect cases of SARS have been related to travel in a country with known community-transmission of SARS. At this time:

- a) **Individuals who return from SARS-affected areas are being advised to monitor for symptoms for 10 days after exposure.**
 - Persons who develop mild symptoms that do not yet meet the clinical case criteria for SARS - with fever OR respiratory symptoms (such as cough, difficulty breathing) – are asked to stay at home and follow infection control

precautions for at least 72 hours to be sure that their illness does not progress to meet the clinical criteria for SARS.

- If the symptoms resolve, these persons may return to work or school. If symptoms progress to meet the SARS clinical case definition, then the person needs to be managed as a SARS case with isolation until 10 days after the resolution of fever and improvement or absence of respiratory symptoms.
- If the mild symptoms persist for more than 72 hours and neither improve nor progress to meet the SARS clinical case definition during this 72-hour period, then the patient should remain in isolation adhering to guidelines on infection control precautions and monitor his/her symptoms for an additional 72 hours.
- If after this second observation period, the person continues neither to improve nor progress to meet the SARS clinical case definition, consultation needs to be initiated between the patient's clinician, and the NYCDOHMH to determine whether to maintain or discontinue the isolation precautions.

VI. Triage for Rapid recognition and isolation of any potential cases presenting to acute care or primary care facilities:

It is not possible to predict whether SARS will be self limited or pose a continuing threat to health. It is, therefore essential that we remain vigilant. The experience in other countries highlights the risk that even one highly infectious patient ("superspreader") may initiate both widespread nosocomial and community transmission, if the disease is not recognized early.

Triage procedures to rapidly recognize and isolate any potential SARS patients presenting for care must be maintained. Posters or signage should be prominently displayed at the entrance to the Emergency Department and all acute/primary care clinics advising patients with fever and respiratory symptoms who have recently traveled to go directly to the receptionist or triage desk.

1. All patients who present with fever or respiratory symptoms should be screened for recent travel history or exposure to a SARS patient. If the screen is positive:
 - a) Put on a N-95 respirator.
 - b) Place a surgical mask on the client.
 - c) Notify the receiving area to place the client in a room at negative pressure with respect to the surrounding area ("TB" isolation room).

- Institute Airborne and Contact Precautions. Remove all equipment and supplies not stored or contained in a covered cabinet prior to admitting the suspected SARS patient.
- Notify the charge nurse and physicians to evaluate the client expeditiously.
- Screen the close contacts, accompanying the suspected case, for fever or symptoms of respiratory infection.
 - If any have fever or respiratory infection, evaluate as potential clients. Those who have mild symptoms should be advised to stay home for 72 hours to determine if their illness progresses.
- Symptomatic contacts (with symptoms consistent with the CDC clinical case definition) need to be placed on precautions (either at home if the symptoms are not severe, or admitted) until 10 days after the resolution of the fever and absence of respiratory symptoms.
- Asymptomatic contacts (no fever or respiratory symptoms) should be advised to monitor for symptoms for 10 days after the exposure.
- Asymptomatic close contacts of the suspected SARS patient may go to the registration area to register the patient.
- If the suspected SARS client is unaccompanied, registration staff may enter the negative pressure room after donning the N-95, gown and gloves, and eye protection if they have been fit-tested for an N-95 and have been taught the proper protocols.

VII. Procedures for Larger Outbreaks Which May Overwhelm Organizational Resources.

In the event that a community-wide or intra-hospital outbreak of SARS should occur and threaten to overwhelm the hospital's ability to provide care, the hospital will institute the procedures outlined in the hospital's *Disaster Plan*. The following SARS-specific measures may also be implemented as needed.

1. Dedicated SARS Units for Adult Patients

If necessary, A42 will be converted to a dedicated SARS unit. It is currently not used for patient care and can accommodate patients with SARS or other disease transmitted via droplet nuclei. It is a secure unit with restricted access and restricted movement.

In order to prepare this unit to be used exclusively for care of patients with suspected or confirmed SARS the following steps will be followed:

- a) An assessment of the usage of the isolation (negative pressure) rooms throughout the house will be made by clinical staff. Any patients who do not need negative pressure isolation rooms will

- be evaluated for rapid discharge or transfer to another location within the hospital or to another facility.
- b) For those patients who require special security precautions due to non-compliance with treatment or DOHMH “hold” it will be provided at their assigned room via nursing 1:1 or HP.
- c) Vacated rooms will be cleaned by Environmental Services following normal protocols, negative pressure function will be confirmed by Facilities Management, and the room will be left vacant for 45 minutes to assure complete safety from exposure to TB droplet nuclei prior to re-occupying.
- d) Patients with suspected or confirmed SARS will then be admitted.
- e) Patients will be cohorted to the greatest degree possible on D7S in order to contain the disease and make maximum use of available space and resources.
- f) If D7S reaches capacity patients can be placed in those rooms of the D building which have negative pressure, after following the same procedures as above for relocation of existing patients. If this occurs rooms in A42 will be opened.
- g) Equipment for patient care will be individualized (eg. *stethoscopes, etc*) and kept by the individual patients bedside. For equipment that cannot be kept at bedside, such as portable xray, it should be thoroughly cleaned and disinfected after use with an EPA registered hospital disinfectant eg. quaternary ammonium compounds or sodium hypochlorite (*1:10 dilution of household bleach*).

2. Dedicated SARS Unit for Pediatric Patients

Kings County Hospital recognizes the special needs of children for treatment and for their care environment. Isolation facilities for children at Kings County will be determined by the Command Center. An isolated case of pediatric SARS may be cared for in existing isolation facilities using the appropriate precautions, however in the event that SARS is prevalent in the community and it is anticipated that multiple pediatric cases of SARS will require inpatient care, a dedicated care team will be formed to exclusively care for those with SARS.

Patient Care Practices as outlined below will be followed for pediatric patients as well as adults.

VIII. Patient Care Practices

1. Stocking of Equipment

All personal protective equipment (*e.g. gowns, gloves, and particulate respirators*) will be stocked in the isolation cart at the point of use outside the door to the patient’s room. Hand hygiene products such as disinfectant gels will be stocked for use by all staff and visitors.

2. Hand Hygiene

All personnel and visitors will wash their hands before exiting the patient room or care area to the hallway or elevator lobby.

3. Patient Care Activities

- a). As per standard precautions, eye protection or a face shield to protect mucous membranes of the eyes should be worn for all procedures or patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions or excretions (*e.g respiratory suctioning*)
- b) Diagnostic, treatment and care activities will be performed at the patient's bedside whenever possible rather than transporting the patient to other areas of the hospital.
- c) Dedicated equipment (*e.g blood pressure cuffs and stethoscopes*) will be used for care of the patient and left in the patient's room. Use disposable items whenever possible.
- d) If equipment must be used for other patients (*e.g portable x-ray machine*) it will be meticulously cleaned and disinfected EPA-registered hospital disinfectants (*e.g quaternary ammonium compounds*) or sodium hypochlorite (*1:10 dilution of household bleach*) after use by SARS patients.

4. Waste, Linen, and Used Items

- a) After use, all non-sharps waste including disposable protective equipment (gowns, gloves, and particulate respirators) will be placed in biohazard bags for disposal or transport for incineration.
- b) Biohazard waste bags will be kept in an anteroom space or in the room of the patient for pick-up.
- c) Anyone handling patient's linen or laundry should wear gown, gloves and respirator.
- d) All used laundry and linen should be handled carefully to prevent aerosolization of infectious material. **No not drop linen down the linen chute.**

5. Laboratory Tests

Personnel should understand that the risk of SARS infection from handling clinical specimens is very low when specimens are handled correctly.

- a) Laboratory requests should be limited to those tests that are essential for patient management.

- b) Clinical specimens should be **hand carried** to the laboratory. **The pneumatic tube system should NOT be used.**
- c) Specimens should be bagged and labeled according to the standard procedure.

6. Patient Transport

- a) In the event that a patient with suspected or confirmed SARS must be transported from one hospital area to another the following procedure will be followed:
- b). The department receiving the patient for the medical procedure (*e.g radiology or surgery, etc.*) will be notified prior to transport so that appropriate arrangements can be made for direct access to the procedure room and immediate care of the patient. The elevator operator will be notified and no other passengers will be permitted on the elevator when the patient is transported. The patient will wear a mask and the elevator operator and transporter wear an N95 respirator.
- c) Receiving personnel will be prepared and garbed in appropriate PPE.

- d) An N-95 respirator (TB mask) or surgical mask should be placed on the patient and a sheet used to cover his/her skin as much as possible. The sheet should be tucked under the stretcher or wheelchair to minimize patient movement and manipulation of infectious material.
 - e) If staff transporting the suspect patient who have direct contact with him/her (*e.g contact with skin or oral secretions*) when moving the suspect patient to a stretcher or wheelchair will change their gowns and gloves before transporting the patient.
 - f) After transport of the SARS patient, equipment used for transport (*e.g stretcher or wheelchair*) and equipment in the procedure room (*e.g x-ray table*) that has been contaminated (*secretions from patient's cough or direct contact with the patient's skin lesions*) will all be cleaned with EPA-registered hospital disinfectants (*e.g quaternary ammonium compounds*) or sodium hypochlorite (*1:10 dilution of household bleach*).
- 7) Visiting
- a) Visiting will be limited to one asymptomatic adult family member, guardian, or significant other. For pediatric cases this rule may be relaxed to one visitor-at-a-time.
 - b) Special consideration will be given to parents or caretakers of pediatric patients to allow them to spend as much time as possible with their child. Appropriate clinical specialties will coordinate any assessments or precautions that may have to be taken to arrange this.
 - c) No person will be allowed to enter the patient's room who is at high risk for transmission of disease, particularly those with HIV or other immunosuppressive conditions.
 - d) Health Care Workers who enter the patient's room or anteroom will be as limited to those essential for care.
 - e) All hospital staff and visitors must don contact and airborne personal protective equipment prior to entering the patient's room (*e.g. disposable gloves and gown and an N-95 or higher respirator*).
 - f). Clinical personnel assigned to the care of the patient will ensure that all family members and visitors entering the room are instructed in the meaning of contact, airborne and standard precautions. Visitors will be provided with necessary PPE. and instructed in its use.

- g) All hospital staff should have previously undergone fit testing for appropriate respiratory protection (*N95 particulate respirator [TB mask]*). If fit testing is required for staff members contact the Safety Department, ext. 5218. It is not required that non-hospital personnel (visitors) be fit tested for respirator use.
- h) As per standard precautions, eye protection or a face shield to protect mucous membranes of the eyes, nose and mouth should be worn for all procedures or patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions or excretions (e.g *respiratory suctioning*).

IX Questions and Reporting

Refer any questions about the infection control practices to Infection Control
Any suspect or probable case of SARS should be reported immediately to Infection Control and the Bureau of Communicable Disease:

1. During business hours (from 9:00 a.m. to 5:00 p.m.):
 Infection Control - please call 1-718-245-3923 or
 Page the ID Fellow at (917) 760-1051 or (917) 760-0150
 NYCDOHMH - please call 1-212-788-9830.
2. After hours and on weekends, cases should be reported to:
 The duty officer for the Hospital Epidemiologist, or
 Infection Control 917-760-0151 or 917) 760-0150
 and
 The NYC Poison Control Center at 212-764-7667 or
 1-800-222-1222.

X References:

1. A complete version of the exposure guidance revised CDC guidelines can be found at: <http://www.cdc.gov/ncidod/sars/exposureguidance.htm>
2. A complete version of the exposure management revised CDC guidelines can be found at:
<http://www.cdc.gov/ncidod/sars/exposuremanagement.htm>
3. Complete guidelines on reporting and collection of laboratory specimens are available on the DOHMH website at <http://www.nyc.gov/html/doh/html/cd/sars1.html>. In addition, all SARS-related patient and provider materials, including prior Health Alerts, template posters for patients and providers, and the latest Patient Fact Sheets on SARS, are posted on the NYCDOHMH website. All patient materials have been translated into Chinese and Vietnamese.
4. For additional information on this evolving outbreak, please check the following sites:

- a) Centers for Disease Control and Prevention:
<http://www.cdc.gov/ncidod/sars/>
- b) World Health Organization: <http://www.who.int/en/>
- c) CDC, as above, and "Updated Interim U.S. Case Definition for Severe Acute Respiratory Syndrome (SARS), 5/23/03; *and*
- d) NYCDOHMH alerts including 2003 Alert # 17 (May 9, 2003), and Alert # 18 (May 24, 2003); *and*
- e) NYU University "Protocol for Suspected SARS case in Emergency Department."

Appendix B

Telecommunications **Emergency Procedures and** **Contingency Plans**

PURPOSE: To establish a procedure for response to a failure of the Telecommunications systems.

PROCEDURE:

Partial Telecommunication Failure:

If the Clinical Center telecommunications systems fail the operator will use the back up phone lines located throughout the medical center. This telephone system bypasses the Hospital Switch Board and allows communication outside the medical center.

Assignments are as follows to inform the Hospital to use the backup system:

Hospital Operator will page

- Administrator of telecommunications or his designee
- AOD
- Nursing Supervisor
- Hospital Police
- ED clerk and Attending in the ED

The ED Clerk will page the following

- Medical Director of E: Orlando Adamson, MD
- Senior Administrator of ED: Patricia Hinds, RN
- Dept of EM Disaster Coordinator: Bonnie Arquilla, DO

The AOD will notify

- Senior Administrator on-call
- The AOD is also to open the Command Center

The Nursing Supervisor is to notify the nursing units

When the primary system is restored, the operator will overhead page the following message. "The main telephone system is now in service, please return to normal procedures".

Total Telecommunication Failure

If there is a failure of both the primary and the emergency back-up systems, in the Hospital the operator will then notify the Hospital Police by informing the

officer stationed at the nearest exit in person. The hospital police will notify the Administrator of Telecommunications by cellular or public pay phone.

1. Notification of the complete telecommunications failure will be made by paging the same people in plan A either through cellular phones or payphones.
Each will then act as they did during a partial telecommunications failure.

2. Hospital Police will initiate their protocols to:

Deploy an officer to the following key departments to provide emergency communications (handheld radio transmission) at the command center and the following locations:

Locations:	CCU
ED	SICY
OR	L&D
MICU	PICU

- Advise each nursing station to inform a medical house officer is to remain on the station in the event of a code blue or other patient care emergency.
- The command center will establish a personnel pool in the Nursing office for runners to supplement handheld radios.
- All unassigned personnel are to be instructed to report to this pool for assignment as in the MCI plan.
- Following restoration of the telecommunications system the operator will overhead page the following message. "The main telephone system is now in service, please return to normal telephone procedures."

TELEPHONE OPERATORS' EMERGENCY FIRE AND DISASTER PROCEDURES

A. Emergency Fire Procedure

1. Immediately upon receiving notice of fire by telephone, notify the Hospital Police at extension 4300 and give the exact location of fire. If a fire is reported to the telephone operator over the hospital telephone system, the telephone operator will instruct the caller to pull the nearest institution fire alarm box and the telephone operator will immediately notify the Hospital Police exact location of fire to direct NYC fire department personnel without any loss of time. If notice of fire is by the fire alarm system, contact Hospital Police at extension 4300 to seek status.
2. Immediately upon receiving a call from Hospital Police informing the operator of a fire, and/or upon hearing the alarm bells, the operator will announce the following over the overhead page system (the message is repeated three times).

"Code red nursing station _____ room _____."
"Code red nursing station _____ room _____."
"Code red nursing station _____ room _____."

If the location is other than at a nursing station, give the proper location of the fire by announcing (the message is repeated three times):

"Code red location _____."
"Code red location _____."
"Code red location _____."

All subsequent overhead announcements for fire emergencies will be
Originated from the hospital administration office.

3. Notify the Hospital Administrator, giving location of fire and other information received relating to the fire emergency.

Note: The KCHC Hospital fire alarm boxes are not connected to the FDNY, or any other outside fire department. It is an internal alarm only. The FDNY and NYPD must be alerted separately of a fire or emergency condition. Notification of the FDNY and NYPD is usually done by the Hospital Police, but operators should be aware of the need, and be prepared to make emergency 911 calls.

B. Disaster procedure

If an internal disaster should strike Kings County Hospital Center, follow the emergency fire procedure and the disaster signal sounded via the fire alarm system: 2-2-2-2

Upon hearing this signal all personnel should consult the university hospital disaster plan. The operators will make the following initial announcement notifying all personnel of the disaster situation: (Repeat three times)

"Code Yellow all personnel please respond to your assigned area."
"Code Yellow all personnel please respond to your assigned area."
"Code Yellow all personnel please respond to your assigned area."

Telephone operators must seek guidance from the hospital administrator on duty and the Incident Command Center about establishment of the Command Center. Notify the Telecommunications Administrator immediately, either in person, at home, page or cellular phone, upon institution of the disaster procedure plan.

C. "All Clear" Signal Procedure

Upon receiving notification from Hospital Police that the fire or disaster condition is over, the operator will sound the "All Clear" by pressing the fire alarm bell four times, once every 10 seconds, 1-1-1-1, and announce on the overhead paging system.

Appendix C:

KCHC Triage Plan

A. Pre-Hospital and ED

Traffic Pattern and Set Up

Traffic flow routes predetermined with NYPD for mass transit, ambulances, employees, and press will be set up. In coordination/cooperation with New York Police Department (NYPD) and hospital police from both institutions (KCH and UHB) the main street between the facilities (Clarkson ave) will be shut down to traffic immediately. Police will begin towing/flat bedding any vehicles on the street between the two hospitals within the hour. Lanes for ambulance triage will be set up with wooden barricades. Traffic will be diverted to streets south of the hospital as per NYPD. City Bus routes will likewise be diverted around the Hospitals to Linden blvd. The street immediately north (Winthrop) will be closed except for arrival of supplies, equipment, employee parking, and the dialysis access. This traffic flow will allow ambulance and patient flow to be directed toward the centralized triage station, while diverting press and the convergence phenomenon to the periphery and around the hospitals, away from the emergency entrances. Waterproof signs to identify key areas kept by KCHC hospital police will be posted designating the triage areas, etc. Ambulatory patients will be directed into a central ambulatory triage. In the event of chemical or other toxic exposure this will help ensure safety of hospital personnel and avoid contamination of the treating facility plant. Location of central/ambulatory triage is in front of the D building of KCHC, under the canopy if inclement weather. Here in this central location patients are equidistant from the entrances of UHB and KCH, and can be sent to either as designated.

Joint Triage

The staff and facilities of Kings County Hospital Center (KCHC), SUNY University Hospital of Brooklyn (UHB), Kingsbrook Jewish (KBJ), and Kingsboro Psychiatric (KPC) will be integrated with consideration of patient services available, resulting in better patient flow and distribution. Duplication of services will be minimized in order to maximize resources. No need for prehospital personnel to make designation decisions because unique/individual resources of each of the institutions are familiar to the triage staff, therefore patients can be brought to one centralized triage area.

After receiving notification, the Command centers will activate joint ambulatory triage, and a single ambulance triage station will be set up between KCHC and UHB. The first arriving casualties will be directed toward the site where the exterior triage will be established, so as to not contaminate the facilities. All exposed and potentially exposed individuals should receive an initial brief triage, performed by medical personnel in PPE, before decontamination. Decontamination must be performed on all victims and responders before they cross into noncontaminated areas. (See Hazmat or Nuclear Protocols)

KCHC will provide three nurses and one attending for ambulatory triage. UHB will provide two attendings, two nurses and a technician with monitors for blood pressure, pulse oximetry, and temperature, a polaroid camera, triage forms, and ID badges. Gloves, masks and protective equipment necessary are supplied in the Disaster Cabinet in case a chemical, biological, radioactive, or unknown agent is involved in the disaster. Additional supplies will be provided by Central Sterile Department. Because this triage station is outdoors, accumulation and ventilation of contaminants is not a great concern.

A single ambulance triage will also be set up between the two institutions for quick review in each ambulance by the triage physician, who will designate which

hospital to deposit the patient and in what order. The ambulance triage physician will have a recorder to keep track of the number of patients sent to each facility.

Triage is a dynamic process therefore, all available wheelchairs and stretchers with transporters are set aside at the ambulatory site for upgrades of previously stable patients, or if an occasional “immediate” is brought by civilian means, to be transported to the critical area.

Centrally (strategically) placed observers are used to watch ambulatory patients from one spot to another, not escorts, which are, too labor intensive. Clear lanes of traffic are (cordoned off) set up connecting the key areas for this purpose. Ambulatory patients presenting by taxi, walk in etc. will be funneled to ambulatory triage by NYPD, city and state hospital police and signage. The front lobby of D building can serve as holding areas for triage in inclement weather at the direction of the command center, given no Hazmat hazard. Triage personnel are identified with labeled vests.

Two decontamination tents will be deployed, each in front of the respective institutions ED ambulance entrance*. The tent in front of the KCHC C-building trauma bay holds fewer patients, but can accommodate stretchers. The decontamination tent for UHB is designed/set up for higher volume ambulatory patients. Both tents are staffed by trained personnel with PPE, and suit/equipment supporters directed by the Hazmat commander.

The Simple Triage and Rapid Treatment (START) triage will be used. The standard four-color triage categories are used; red for immediate, yellow for urgent, green for minor injuries, black for deceased. Separate treatment areas are designated for specific types of injury, see appendix. Triage tags are made up of three copies. One,

* KCH tent will be in court yard 30 feet from ambulance bay. UHB tent will be on 37th street between Lenox and Clarkson. The UHB tent will be replaced by permanent showers in the ambulance bay when construction is completed.

of course stays with the patient, the triage officer keeps one, and one is given to the institution designated by triage at the time of arrival to that hospital.

The ambulance triage officer will have a recorder assigned to him or her, (a clerk, medical student, etc.) to keep track of names, if possible sex and approximate age, number of total ambulance patients, and how many went to each institution with a breakdown of adult, psych, pediatrics, etc. The Triage officers have radios to be on channel 2 to communicate to the ED, so that the above information is readily accessible to the Incident Command Center.

Ambulance triage occurs away from the ED arrival bay, at the center of Clarkson Ave, so as to not congest access. There are two ambulance lanes, critical and delayed, in this way vehicles carrying higher priority patients will have unencumbered access to the ED. Ambulances approach from the west, stopping in front of the Medical school for triage. A senior resident or attending will perform ambulance triage. Rapid evaluation (30 seconds or less) consisting of 1) type of injury ex. Penetrating, burn, crush, etc. 2) Anatomic location ex. Head, torso, extremity. 3) vital signs as presented by EMS. The ambulance triage officer will then make a determination of 1) critical/immediate – open lane into ambulance bay of facility with the appropriate resources. 2) delayed – slower lane, waiting in line 3) walking wounded – ambulate to ambulatory triage.

The ambulance triage officer will proceed from vehicle to vehicle tagging or retagging the patients, and designating the facility. In general multi-trauma patients will be admitted to KCHC, and isolated trauma and ambulatory patients, patients with isolated extremity fractures and orthopedic injuries not requiring hemodynamic stabilization will be directed to UHB and KBJ depending on the institutions level of stress and patient volume.

Psychiatric patients and distraught patients who are medically stable will be triaged to KBC. Hospital transport vans will be made available at the triage area to

transport ambulatory patients to the other receiving facilities. Patients will be decontaminated before being transported for obvious reasons. Communication between the command centers facilities will convey how many casualties are being directed to which institution and what types of injuries are to be expected.

Primary Triage and Patient Flow: All victims should be received through the ambulance entrance to the Primary Triage area.

Any disaster victim exposed to radioactive and/or other contaminated materials or poisons will be transported to the decontamination area prior to being transported to the general treatment area. (see HAZMAT Protocol)

The Triage Officer and Triage Nurse will assign patients at triage to one of the following categories:

Triage Priority and Tags:

- **Red:** Critical patients in need of immediate life-saving care
- **Yellow:** Relatively stable patients in need of prompt medical attention
- **Green:** Minor injuries that can wait for appropriate treatment
- **Black:** Deceased patients and those who have no chance of survival. These patients will be taken to a curtained off section of the ED and taken to the morgue.

From Primary Triage the patient will be taken to:

- **Major Casualty and Critical (Red tags)** will be taken to C1

- **Prompt Care Noncritical (Yellow tags)** will be taken to the main ER

Major Casualty/Critical Peds and Prompt/Noncritical Peds (Red and Yellow Tags) will be seen in the Peds ED

- **Minor Casualties (Green tags)** will be sent to the Treatment Room area until it is overwhelmed. The U-Bldg outpatient clinics will be used to see the patient overflow. Those patients with only behavioral health issues that are triaged to KCHC will be referred to G-Bldg psychiatric ER.

Minor Casualty Peds (Green tags) will be seen in the Pediatric urgent care area

PRE-TRIAGE SCREENING POLICY: HIGHLY CONTAGIOUS/HIGHLY DANGEROUS INFECTIOUS DISEASES

Purpose:

In the event of a biological event that threatens the hospital community a pre-triage screening will be activated by the Incident Command Center (ICC).

The goals of the activation of the pre-triage screening is to prevent the spread of diseases such as SARS (Severe Acute Respiratory Syndrome), plague, smallpox, influenza, Ebola and other hemorrhagic fever viruses, as well as, any new emerging infectious diseases.

Kings County Hospital Center will insure early detection and treatment of persons with these highly infectious agents, and interruption of their transmission to others by appropriate screening and adherence to specific precautions.

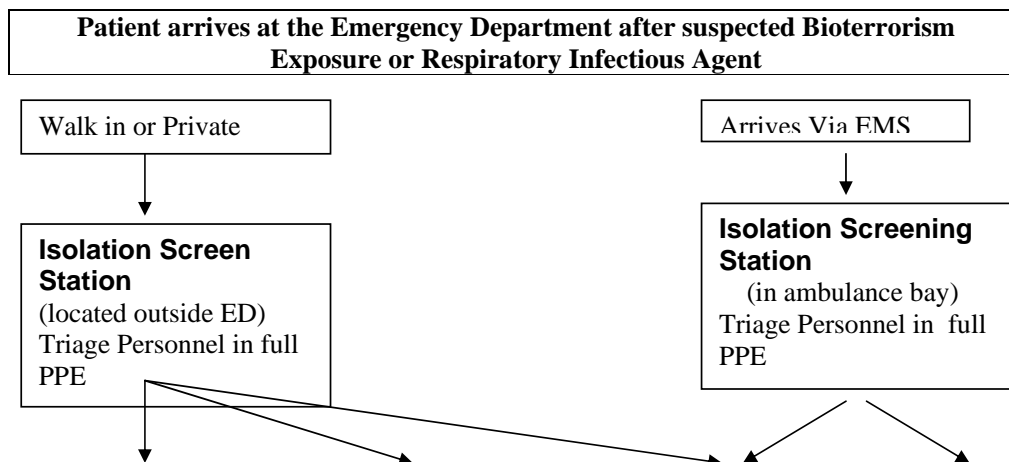
This policy provides a guide for pre-triage screening of highly contagious/highly dangerous infectious diseases,

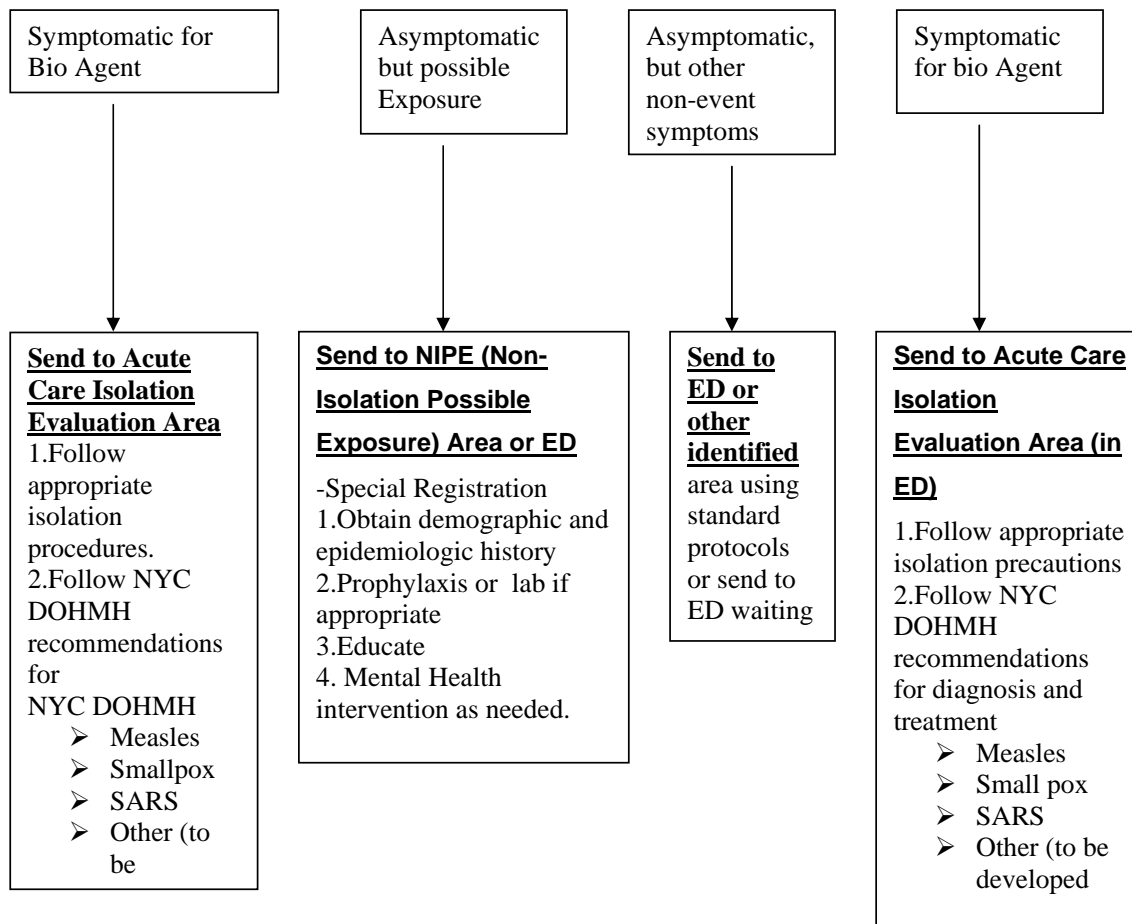
Procedure:

1. Upon notification by the MCO and Hospital Police will lock down all entrances.
 - All Entrances will be closed except the ambulance bays of Adult and Pediatric EDs, the main doors to Building D on Clarkson Ave (ambulatory adult) and the side entrance to Building A (employee use only).
 - Hospital Police manning the B-Building entrance will move outside the facility in PPE to direct employees to the Side entrance of Building A.
 - Ambulatory patients will be directed to the screening nurse and if necessary to isolation.
 - Clinic areas may be closed to normal functions at the direction of the MCO and Incident Command Center.
 - Elective admissions may be cancelled at the direction of the MCO and Incident Command Center.
 - Early discharge plan may be activated at the discretion of the MCO and Incident Command Center.
2. At the entrance to Building D the RN and Hospital Police will be in PPE (level D) and establish if the patient needs isolation.
 - If the patient is in need of isolation (symptomatic) he/ she will be given a mask and directed to continue into the Building D waiting area [Acute Care Isolation Evaluation Area]. In-depth triage will take place in that waiting area. If the patient can be downgraded as a BT risk then they can go to regular waiting area or taken directly to the main Emergency Department (See diagram)

Pediatric ambulatory patients will be prescreened in the outpatient trailer located outside the entrance to Peds ER and OPD.

- If the patient is in need of isolation (symptomatic) he/ she will be given a mask and directed to the Urgent Care exam rooms [Acute Care Isolation Evaluation Area]. In-depth triage will take place in that area. If the patient can be downgraded as a BT risk then they can go to regular waiting area or taken directly to the Peds Emergency Department (See diagram)
3. For Ambulance patients there will be a RN or a Physician in the PPE at the C-Building ambulance entrance who will determine if the incoming patient needs to stay on a stretcher and/or needs isolation.
- If the patient is in need of isolation (symptomatic) he/she will be masked in the ambulance bay and proceed to the acute care area-designated isolation rooms to be triaged and registered
 - If the patient does not need isolation but does need a stretcher the patient will proceed to the main Emergency Department and will be triaged and registered.
 - If the patient does not need isolation, or stretcher care the patient will go to ambulatory triage and proceed with registration
- Pediatric ambulance patients will be screened under the canopy at the entrance to the Peds ER and OPD entrance.
- If the patient is in need of isolation (symptomatic) he/she will be masked in the ambulance bay and proceed to the Area D OPD exam rooms to be triaged and registered.
 - If the patient does not need isolation but does need a stretcher the patient will proceed to the Peds Emergency Department and will be triaged and registered.
 - If the patient does not need isolation, or stretcher care the patient will go to pediatric ambulatory triage and proceed with registration.
4. In the event that the Emergency Department becomes overwhelmed the surge capacity plan will be enacted at the direction of the Incident Command Center (MCO).





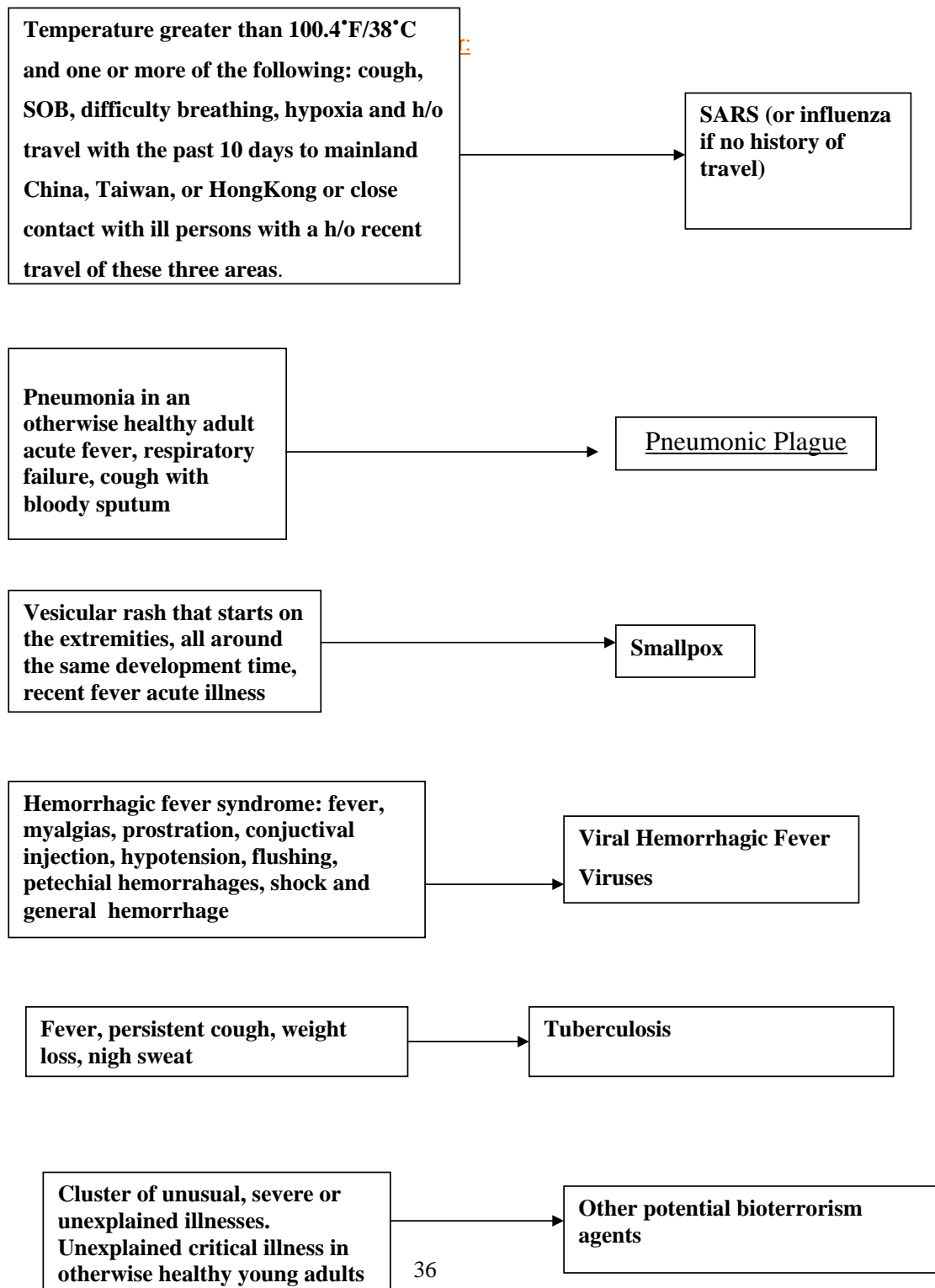
*** If Acute Care Isolation Evaluation Area overwhelmed-overflow to Adult Waiting Area. Asymptomatic patients for screening/triage will be directed to OPD Lab Waiting Area and out of the Adult Waiting Area.**

Admitting

Admit to respiratory isolation beds as needed

Activate Respiratory Isolation Unit (as per protocol) if needed.

Consider:



Signage:

Signs, stating the main signs and symptoms of significant conditions listed above, shall be posted in the triage/waiting areas. The purpose of the signs is to encourage incoming patients to report to the triage nurse, as soon as possible conditions that might require special precautions.

The signs will state:

- **TELL THE TRIAGE NURSE IF YOU HAVE FEVER, RASH AND/OR SIGNS OF BLEEDING**
- **TELL THE TRIAGE NURSE IF YOU HAVE FEVER, PERSISTENT COUGH, WEIGHT LOSS, NIGHT SWEATS**
- **SARS WARNINGS WILL BE POSTED IN MULTIPLE LANGUAGES AS THEY ARE PREPARED AND MADE AVAILABLE BY PUBLIC HEALTH AGENCIES**

Personal Protective Equipment:

If a nurse/medical staff member suspects that a patient has a disease that spreads by the air or droplets, he/she will immediately don an N95 particulate filter respirator. The patient will don a surgical mask (or non-rebreather oxygen mask if they cannot tolerate the surgical mask), and will be covered as necessary before being transported to an isolation room. If SARS is suspected, the staff member will also put on goggles and a protective gown/suit. The charge nurse and the ED physician in charge must be notified immediately.

Quarantine of the Receiving Area:

A patient suspected of having one of the conditions listed above should not be moved until it is safe to do so (patient covered/mask in place, clear path to an available isolation room). The area the patient arrived to and where he/she was assessed may be quarantined, or it may be used for triage/care of patients with similar diseases.

The ED attending in charge will make the initial and immediate isolation/quarantine decision. All ED personnel will don N95 masks and appropriate personal protective equipment. For SARS, this will include gowns/suits and eye protection.

Bioterrorism Act/Outbreak:

If a large-scale disease outbreak or Bioterrorism Act is suspected, the Hospital's Emergency Response Plan will be activated.

The Emergency Department will utilize the ED isolation rooms first. If needed, the Incident Commander will make a decision to activate existing negative pressure rooms on the 6th floor. Activated rooms will be utilized next.

The Incident Command Center may elect to utilize particular areas predetermined in the Surge Plan.

At the direction of the Incident Commander, Security will stop all non-essential personnel from entering the Emergency Department. They will take the name and phone number of everyone who was in the Emergency Department or waiting area at the time the patient or patients arrived.

If patients were placed in the common waiting room in the Emergency Department before their condition was recognized, the names of all patients, visitors and staff who may have been exposed to them will be recorded for appropriate follow-up as for the DOHMH's requirement.

If required to provide additional protective barriers against biological agents, Biomedical Engineering will collect portable HEPA filters (Microcons) and bring them to requested locations.

Notification and Report:

Infectious Disease, Infection Control, the Emergency Department and hospital leadership must be notified immediately should any suspected or confirmed case of smallpox, plague, SARS, viral hemorrhagic fever occur.

Those conditions must be treated as Public Health Emergency and immediately reported to the New York City Department of Health and Mental Hygiene at:

(212) 788-9630 during business hours
(800) 222-1222 during nights and weekends

B. IN-HOSPITAL

1. Transporting Patients

Patients should only be transported from the Emergency Department to the identified appropriate isolation rooms in the hospital. When patients are transported, they must wear a surgical mask for the containment of respiratory secretions, or a non-rebreather mask if they are oxygen dependent. The patient should also be covered with a sheet or a blanket, completely covering the body from the neck and including feet during transport.

Individual elevators should be designated for such patients. Security will assist with control of elevators.

Patients should not be transported to other areas of the hospital unless absolutely necessary.

2. In patients identified with a Highly Dangerous/Highly Contagious Disease

If an in-patient is identified with one of the conditions addressed by this policy, the following steps should be taken:

- a) The Infectious Disease and the Infection Control departments must be immediately contacted.
- b) All the traffic to and from the affected unit must be stopped.
- c) Staff must don the appropriate PPE
- d) PPE will be considered for patients and visitors that must remain in the area to reduce their risk of exposure.
- e) The department manager or his/her designee will collect the names and phone numbers of potentially exposed individuals before they leave the unit.
- f) The department manager or his/her designee will notify the administrator on duty who will determine the need for the activation of the hospital Emergency Response Plan.
- g) Patient will be transferred to a negative pressure isolation room on the same floor. If this is not possible, a private room with a HEPA filter unit should be utilized.
- h) Engineering will verify the inward flow of air in the negative pressure rooms.
- i) Outside agencies will be notified as appropriate by the FCC.

3. Outbreak

If a large number of infectious patient are identified, or are expected:

- a) The Hospital Emergency Response Plan will be activated.
- b) The rapid discharge of possible patients will be initiated.
- c) Nursing Station D7 South will be evacuated, and will be prepared to receive contagious patients.
- d) Engineering will confirm by smoke test that this area is negatively pressured.
- e) Nursing Station A42 will be evacuated and prepared to receive contagious patients when nursing station D7 South is at capacity.

Appendix D:

Microbiology Laboratory Protocol

BIOTERRORISM PREPAREDNESS LABORATORY PROCEDURE

INTENDED USE

For laboratory personnel to:

- a) Be able to give instruction on collection, handling and transporting suspected Specimens.
- b) To recognize requests that should not be processed by the laboratory and make arrangement to send and report it to local health authority.
- c) To be able to recognize possible Bioterrorism bacterial agents in culture.

PROCEDURE:

If a request is received to rule out a particular agent of bioterrorisms, do the following steps in order.

- 1) Obtain the name and pager number for the requesting clinician, and all relevant patient Information.
- 2) Inform the supervisor and Director of microbiology immediately regarding the request. The supervisor or director of microbiology will then inform director of Clinical laboratory and infection control department.
- 3) Follow table-1 for instruction on collection and handling suspected specimens.
- 4) Follow table-2 for microscopic, growth and biochemical characteristics of the main bacterial agents of bioterrorism.
- 5) Refer to the flowcharts and photographs provided for each bacterial agent to suspect Or to rule out a particular agent.
- 6) If a particular agent could not be ruled out, NYC-DOH must be called immediately for specimen referral.

The NYC-DOH phone # is 212-788-9830 (During business hours) and 212-764-7677 (after hours).

REFERENCES:

1. Bioterrorism Response Training Seminar. The role of the level A laboratory NYC-DOH, Feb 26, 2003. (Manual is available in supervisor office)
2. CDC protocols for the presumptive identification of
Bacillus anthracis
Brucella species
Yersinia pestis
Francisella tularensis
Centers for Disease Control and Preventive
“ Protocols are included in this manual”

Table. 1 Collection and Handling of Specimens Suspected to Contain Bioterrorism Organisms

ORGANISM	Disease		ACCEPTABLE SPECIMENS	Special Instruction	Specimen Receiving and Processing	REJECTED SPECIMENS		
Bacillus anthracis	Anthrax	Cutaneous	Vesicular fluid, Eschar's materials	1. Notify the microbiology laboratory before collecting and sending the specimen. 2. Request, the name of person collecting and time of collection must be documented and must be accurate. A telephone and or pager number of physician must be included. 3. Do not send suspected specimens with routine specimen. Send with messenger and obtain the signature of the person transporting the specimen. (You may chose a chain of custody form available in the laboratory or any log form you may have in your floor) 4. When tissues are collected, they	1.Document receipt immdeiatly and notify supervisor and director. 2. Follow standard operating procedure for setting up the culture, and presumptive identification 3. Must do so	1.Swabs of any source 2.Environmental, specimens from anounced event (Contact NYC health Dept directly) 3. Incomplete		
		Inhalational	Sputum, Blood culture					
		Gastro-intestinal	Stool, Blood culture					
Brucella species	Brucellosis	Blood culture, Bone marrow culture, liver or spleen biopsies .						
Burkholderia mallei	Glanders	Blood culture, urine, skin abscess, tissue aspirate, or sputum depending on the clinical presentation						
Burkholderia Pseudomallei	Mellioidosis							
Francisella tularensis	Tuleremia	Septicemic	Blood culture					
		Lympho-cutaneous	Tissue aspirate, biopsy or scraping from ulcer					

<i>Yersinia pestis</i>	Plague	Pneumonic	Bronchial wash, Transtracheal aspirate	5. must be placed in sterile saline. Collect all specimens in sterile, leak-proof, screw cap container. Must contact the laboratory before sending the specimen. 6. Transport at R.T. immediately. If trnsport is not possible within 2 h., Store at 2-8°C if needed.	under biosafety cabinet (BSL2)	documentation 4. Improper packaging
Septicemic		2 sets of Blood culture				
Bubonic		Tissue aspirate or biopsy				
Botulinum Toxin	Botulism		Enema fluid, serum, stool or food samples	Follow all special instructions above	Do not attempt to perform any diagnostic test, Instead notify your supervisor and director immediately, so proper arrangement can be made with NYC-DOH. 212-788-9830	
Variola	Small Pox		Biopsies, vesicular fluid, or scabs	Follow all special instructions above		
Dengue fever virus Ebola virus Hanta virus Lassa virus Marburg virus Yellow fever virus	Viral Hemorrhagic Fever (VHF)		Serum			

Table 2. Recognition of Organisms Suspected In Bioterrorism.

Organism	Gram Stain	Growth On ¹			Key Biochemical Tests ²						Auto-ID. ³	If Criteria Present Proceed as Follows
		BA	Mac	Other	Ox	Ur.	Ca t	Mot	XV	Other s		
<i>Bactillus anthracis</i>	Large Gram positive rod, encapsulated, sporulated and often in long chain	Non hemolytic, wavy border, (ground glass appearance), tenuous.	No growth				P	N				B.anthraxis could not be ruled out. Must notify supervisor and director immediately.
<i>Brucella species</i>	Tiny, faintly stained, Gram negative coccobacilli ,	Small , non pigmented, non hemolytic, Punctate after 48 h.	No or poor growth	Small colonies on CA, TM	P	P (<2 h)	P	N	N		Not R. Not S.	Brucella could not be ruled out. Must notify supervisor and director immediately.
<i>Burkholderia mallei</i>	Faintly stained, Gram negative rods may be slightly curved	No growth after 24 h. Smooth, gray, translucent after 48h	Light pink after 72 h.	PC agar Growth at 42°C: N	V	N		N		TSI: K/K		<i>Burkholderia mallei</i> could not be ruled out. Must notify supervisor and director immediately.

Burkholderia Pseudomallei	Gram negative rods with bipolar staining	Smooth, creamy after 24 h, become dry and wrinkled after 48h.	Light pink or colorless after 24-48 h	PC agar Growth at 42° C: P	P	V	P	P		TSI: K/K		<i>Burkholderia Pseudomallei</i> could not be ruled out. Must notify supervisor and director immediately
Francisella tularensis	Tiny, poorly stained, pleomorphic Gram negative coccobacilli , which may resemble Haemophilus	May grow first, but fail sub-cultures on BA (Requires Cysteine)	No growth	Small colonies on BCYE, CA, TM.	N	N	W P or N	N	N	β-lact-emas e. Pos.	Not R. Not S	<i>F.tularensis</i> could not be ruled out. Must notify supervisor and director immediately.
Yersinia pestis	Plump shape (Bipolar) medium size Gram negative rods mainly single or short chains	Gray-white, translucent. Too small after 24 h. Opaque and fried egg appearance after 48 h. Colonies also described as hammered copper .	Small Non lactose fermenter	In Broth : Clumbs, folccular, when settle looks like cotton fulff.	N	N	P	N	N		Not R. Not S.	<i>Y.pestis</i> could not be ruled out. Must notify supervisor and director immediately

Abbreviations:

1. Growth media: BA: Blood Agar, BCYE: Buffered charcoal Yeast Extract, CA: Chocolate Agar, Mac: MacConkey, PC: Pseudomonas Cepacia agar, TM: Thayer Martin,
2. Biochemical Tests: Cat: Catalase, Mot: Motility, Ox: Oxidase, Ur: Urease, XV: X and V factor requirement
3. Auto ID: Automated identification: Not R: Not reliable, Not S: Not safe

Note: All procedure must be performed under a biological safety cabinet.