



POLICY AND PROCEDURE

SECTION: INFECTION PREVENTION & CONTROL		NUMBER: IC.402
TITLE: PREVENTING TRANSMISSION OF EPIDEMIC AND PANDEMIC-PRONE VIRAL RESPIRATORY INFECTIONS (SARS, MERS, Pandemic Influenza)		ORIGINATED: 7/04
		REVISED: 1/06, 01/08, 9/09, 5/17
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APPROVALS		
Responsible Person: Manager Infection Prevention & Control	Approved by: Treatment & Surveillance Date: 2/14, 6/17	Approved by: Medical Executive Committee Date: 2/14, 6/17 Approved by: Board of Trustees Date: 2/14, 6/17

I. Applies to:

All RCH hospital staff

II. Policy:

The primary strategies for preventing the spread of pandemic respiratory diseases such as SARS, MERS, or Avian Flu or any new pandemic influenza are the same as those for seasonal influenza: vaccination, early detection & treatment with antiviral medications, and the use of Infection Prevention & Control measures to prevent transmission during patient care. Patients with pandemic respiratory diseases that may require hospitalization should be placed in the appropriate isolation per Center for Disease Control (CDC) and California Dept of Public Health (CDPH) recommendations for the particular disease involved. Contact the Administrative Liaison for further assistance in isolating the patient appropriately. He/she will contact the Infection Prevention & Control staff for further guidance if needed. Suspect patients who meet the Surveillance Case Definition(s) should be reported to the local health department.

III. Definitions:

1. **SARS:** Severe Acute Respiratory Syndrome
2. **MERS:** Middle East Respiratory Syndrome
3. **Pandemic Influenza:** a global disease outbreak
4. **Airborne Infection Isolation (All) Precautions:** Airborne Isolation Precautions
5. **Surveillance Case Definition:**
 - Patients requiring hospitalization who meet the current case definition defined for the type of influenza that is causing the epidemic/pandemic and have influenza-like illness, which includes fever greater than 100 degrees F° AND cough.
 - OR--
 - Employment in an occupation associated with a risk for respiratory exposure (e.g., healthcare worker with direct patient contact; worker in a laboratory that contains novel viruses *or* part of a cluster of cases of atypical pneumonia without an alternative diagnosis

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IV. General Framework

A. Surveillance and triage

1. Screen patients using the Surveillance Case Definition criteria.
2. Be alert for clusters of pneumonia among two or more healthcare workers who work in the same facility.
3. Visual alerts will be posted at all facility public entrances instructing patients to inform healthcare personnel of lower respiratory symptoms when they first register for care and to practice respiratory hygiene/cough etiquette.
4. Clinicians should promptly report a potential novel respiratory case to Infection Control at *83482, and the Riverside County Health Department – daytime phone (951) 358-5107 or after hours/emergencies (951) 358-5245.
5. In the event of ongoing person-to-person transmission anywhere in the world, Infection Control will:
 - a. regularly update clinicians and intake and triage staff on the status of the pandemic disease transmission locally, nationally, and internationally. Up-to-date information may also be obtained on the internet at www.flu.org
 - b. provide Department Directors and Supervisors with updated training information needed to train intake and triage staff on how to assess for pandemic respiratory disease risks and to use any applicable screening tools.
 - c. provide Department Directors and Supervisors with updated information needed to educate clinical healthcare providers about the signs and symptoms of and current risk factors for pandemic disease (e.g., locations where there is pandemic respiratory disease transmission).
 - d. collaborate with Employee Health to identify, evaluate, and monitor the health of staff and patients who are potentially exposed to pandemic respiratory diseases.
 - e. determine the threshold at which screening of persons entering the facility will be initiated and at what point screening will escalate from passive (e.g., signs at the entrance) to active (e.g., direct questioning).
 - f. collaborate with Administration, Risk Management, Engineering, and Public Health to determine at what point the facility will open a designated “pandemic respiratory disease evaluation center” for evaluation of possible affected patients, to separate potential patients from other patients seeking care at the healthcare facility
 - g. Report cases that meet the screening criteria, in accordance with health department instructions.

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B. Clinical Evaluation of Symptomatic Person

1. In the absence of person-to-person transmission worldwide, diagnosis of pandemic respiratory disease should be considered only in patients who require hospitalization for radiographically confirmed pneumonia (or acute respiratory distress syndrome) of unknown etiology **and** who have an epidemiologic history that raises the suspicion for pandemic respiratory disease. Evaluation of these patients should be done using the attached algorithms.
2. In the presence of person-to-person pandemic respiratory disease transmission anywhere in the world, in addition to B.1, all patients with fever or lower respiratory symptoms should be given a mask.
3. For persons with a high risk of exposure to pandemic respiratory disease, the clinical criteria should be expanded to include, in addition to fever or lower respiratory symptoms, the presence of other early symptoms of disease including:
 - a. myalgia and headache as early symptoms which may precede the onset of fever by 12-24 hours
 - b. diarrhea, sore throat, and rhinorrhea may also be early symptoms of disease
4. Potential patients need to be evaluated and managed in a way that protects healthcare workers, other patients, and visitors (See Expanded Precautions for MERS/SARS)).
5. Typical symptoms of pandemic respiratory disease may not always be present in elderly patients and those with underlying chronic illnesses. Therefore, the diagnosis should be considered for almost any change in health status when such patients have strong risk factors.
6. Assign only trained and respirator fit-tested staff to evaluate possible patients.
7. Healthcare workers who have cared for or been exposed to a pandemic respiratory disease patient and who develop symptoms(s) within 1-7 days after exposure or patient care should immediately:
 - a. contact Employee Health, Infection Prevention & Control, or the Administrative Supervisor
 - b. be managed as per section F2 of this policy.. Decisions on return to work will be guided by policies or regulations defined by the facility and/or health department on a case-by-case basis.

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C. Infection Control and Respiratory Hygiene/Cough Etiquette

1. Suspected pandemic respiratory disease patients must be cared for with strict adherence to and proper use of standard Infection Control measures, especially hand hygiene and isolation.
2. Sick visitors will be sent home. When possible, patients with symptoms and pandemic respiratory disease risk factors should be instructed to report to a specified screening and evaluation site such as rooms equipped with portable HEPA filter units or possibly outdoors prior to entering the facility.
3. Inform patients and visitors about the importance of respiratory hygiene/cough etiquette practices for preventing the spread of respiratory illnesses by referring them to the signage posted in the facility.
4. Isolation Precautions for suspected patients includes Standard, Airborne, Droplet, and Contact precautions depending on the type of respiratory disease. (see SARS/MERS algorithm).
5. Personal Protective Equipment (PPE) including the use of an N95 or PAPR respirator is required whenever working directly with a suspected pandemic respiratory disease patient or upon entering their isolation room.
6. PPE must be donned and removed according to the using the sequence described by the CDC's posters titled "Sequence for Donning PPE" and "Sequence for Removing PPE"
Key points to remember are :
 - a. PPE must be removed and discarded in the anteroom, or if there is no anteroom at the doorway prior to exiting the room.
 - b. The sequence of removal is gloves first, then goggles or face shield (unless face shield is part of the PAPR), then gown, and finally the respirator.
 - c. When removing PPE, the equipment should be handled towards one's back, which is considered to have the least amount of contamination, removing the back parts first, being careful not to touch the front parts of the equipment.
 - d. the respirator should be removed inside the room at the door. N95 respirators should be disposed after each use unless there is a severe shortage. Guidance on reuse of N-95's will be distributed if there is a need. PAPR hoods and hardware should be removed using freshly gloved hands. Once removed, the PAPRs should be taken directly to a designated area such as a soiled utility room where they can be sprayed with a hospital-approved disinfectant, wiped down (using gloved hands) , and then stowed in a clean area for later reuse. Hand hygiene should be done after disinfecting PAPRs.
 - e. Hand hygiene should be done immediately after removing all PPE, prior to leaving the isolation room and whenever there is a possibility that hands may have become contaminated.
 - f. Infection Prevention & Control, Employee Health, or a departmental designee will provide training on proper use of PPE prior to initial use and on an ongoing basis.

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- g. Infection Prevention & Control, Employee Health and Departmental Managers/Supervisors will be responsible for monitoring staff for appropriate use of PPE and observance of isolation precautions. Retraining will be provided if deficiencies of proper technique are observed.

D. Patient Placement, Isolation, and Cohorting

1. Possible pandemic respiratory disease patients will be masked, triaged, evaluated, diagnosed, and isolated in negative air rooms as soon as possible.
2. It is preferable to place patients with known or suspected novel diseases in a room with negative air pressure. Follow current CDC, state, or local guidelines on the type of pandemic respiratory disease for further guidance.
3. Rooms that can be made to have negative air pressure through the use of portable HEPA filter units are also acceptable to admit patients into.
4. If there are no negative air pressure rooms available and/or a need to concentrate Infection Control efforts and resources, patients may be cohorted on a floor in single room
5. Admit patients only when medically indicated or if appropriate isolation in the community is not possible.
6. If a patient with pandemic respiratory disease symptoms and risk factors does not meet the criteria for admission and is to be sent home, discuss the case with the health department to ensure adequate home isolation and follow-up. Report cases to the local health department and Licensing & Certification as required.
7. Limit patient movement and transport outside the isolation room to medically necessary purposes. Whenever possible, use portable equipment to perform x-rays and other procedures in the patient's room.
8. If transport or movement is necessary, ensure that the patient wears a surgical mask, puts on a clean patient gown, and performs hand hygiene before leaving the room. If a mask cannot be tolerated (e.g., due to the patient's age or deteriorating respiratory status), apply the most practical measures to contain respiratory secretions.
9. Limit contact between pandemic respiratory disease patients and others by using less traveled hallways and elevators when possible.
10. Limit the amount of patient-care equipment brought into the room to only what is medically necessary. Provide each patient with patient-dedicated equipment. If equipment must be used that is shared between patients, make sure that the equipment is thoroughly disinfected with the appropriate hospital approved disinfectant.
11. Limit staff to the number sufficient to meet patient-care needs.

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12. Medical waste has not been implicated in the transmission of pandemic respiratory disease. Therefore, no special handling procedures are recommended for this type of contaminated medical waste.
13. Limit visits to patients with known or possible disease to persons who are necessary for the patient's emotional well being and care. Instruct visitors on use of PPE and other precautions (e.g., hand hygiene, limiting surfaces touched) while in the patient's room.

E. Engineering and Environmental Controls

1. Engineering and Infection Prevention & Control will monitor negative air pressure rooms to ensure they are functioning properly.
2. Determine how non-Airborne Isolation rooms designated for pandemic respiratory disease patient care might be modified to achieve appropriate airflow direction and/or air exchanges.
3. Determine the best location in the hospital for a pandemic respiratory disease unit in which patients and the staff caring for them can be cohorted. Determine how to modify existing rooms/units/floors as needed to meet the engineering requirements for this type of unit.
4. Determine needed ventilation, imaging, laboratory, and restroom facilities, water supply, etc., for the evaluation center.
5. Determine appropriate traffic routes and modes of transport for patients who must be transported from the evaluation center to the healthcare facility
6. Designate an environmental/housekeeping specialist to verify that cleaning and disinfection methods and staff are appropriately prepared to provide patient care to those affected with pandemic disease at the facility.

F. Exposure Reporting and Evaluation

1. High risk unprotected exposure occurs when a healthcare worker is in a room or patient-care area with a pandemic disease patient during a high-risk procedure and the recommended Infection Control precautions are either absent or breached. If a healthcare worker has an unprotected high-risk exposure but has no symptoms of disease, the worker:
 - a. Should be evaluated for signs and symptoms based on CDC or CDPH guidelines.
 - b. Because a healthcare worker with an unprotected high-risk exposure has been exposed to a known pandemic respiratory disease patient, the worker should be monitored not only for fever or lower respiratory symptoms but also for the presence of the other early symptoms of disease (subjective fever, chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea).
 - c. Decisions regarding activity restrictions (e.g., quarantine, home/work restrictions) outside the facility should be discussed with the health department.
2. Low risk unprotected exposure occurs when a healthcare worker is in a room or patient-care area with a pandemic respiratory disease patient (not during a high-risk procedure) and the

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recommended Infection Control precautions are either absent or breached. After a low risk exposure the healthcare worker need not be excluded from duty, but should be monitored and be subject to activity restrictions as F.1.b and F.1.c above.

3. Healthcare workers who develop symptoms during the follow-up period should:
 - a. Contact Infection Prevention & Control, Employee Health, or a designee in each facility where they work -- and --
 - b. Be evaluated in accordance with directions in sections F1 and F2.

G. Staffing needs and personnel policies

1. Determine if staff need to be cohorted with the type of pandemic patients that are being seen. If cohorting is necessary, determine the minimum number and categories of personnel needed to care for a single patient or a small group of patients on a given day. Determine whether a small group of staff, including ancillary staff (perhaps divided into multiple teams), could be assigned the responsibility for providing initial care for pandemic disease patients. If no cohorting is necessary, then continue regular staffing plan.
2. Determine how staffing needs will be met as the number of pandemic disease patients and/or staff become ill or are quarantined.
3. Ensure the availability of a sufficient number of infection control practitioners to allow for daily monitoring and assessment of all pandemic disease patient-care areas.
4. When patients are isolated, staff members are to monitor and reinforce compliance with PPE measures.
5. Healthcare workers should be informed that they are expected to follow all Infection Prevention & Control and Public Health recommendations and that these recommendations may change as an outbreak progresses.
6. Criteria for work restrictions for healthcare workers will follow current recommendations by the CDC and CDPH.
7. A system for follow-up of healthcare workers following unprotected exposures to pandemic disease patients will be developed by Infection Prevention & Control and Employee Health according do CDC, CDPH, and local health department guidelines for the particular disease.
8. Healthcare workers will be instructed to notify Employee Health if they are working for other facilities providing care to pandemic disease patients.
9. A “working quarantine” may be considered as an exposure-management tool to ensure adequate staffing levels. Healthcare workers on working quarantine should travel only between home and the healthcare facility for the duration of the restriction.

H. Access controls

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1. In the event of a known or suspected pandemic event, access to the facility may be limited as directed by Public Health.
2. Limitation of access to the facility will be carried out as described in the Disaster Preparedness Plan.

I. Supplies and equipment

1. A determination will be made of the availability of and the anticipated need for supplies and equipment that would be used in a pandemic disease outbreak. Examples would include hand hygiene supplies, respirators, goggles, faces shields, gowns, gloves, surgical masks, ventilators, portable HEPA filtration units, and portable x-ray units.
2. Establish contingency plans in the event of limited supplies.

J. Communication and reporting.

1. The Health Department should be contacted as early as possible when a pandemic disease case is suspected. The hospital will follow directions by CDPH and local health department regarding ongoing reporting.
2. The Infection Prevention & Control Department will serve as coordinator to assist with planning and response efforts and serve as the facility's point of contact for communication internally and externally, along with the facility's Public Information Officer. The Public Information Officer will work with the Infection Prevention & Control Department or designee to ensure clarity and accuracy of any release of information.
3. Regular communications with the Health Department will be conducted about pandemic disease related activities.
4. Depending on the extent of the pandemic, or type of disease, a reporting process to review discharge planning of pandemic disease patients and information on exposed patients and healthcare workers with Public Health may need to be established.
5. The Health Department will provide direction as to which lab specimens will need to be obtained.
6. Updates will be provided to the Infection Prevention & Control and Employee Health staff and Administration regarding pandemic disease activity in the facility and the community. The frequency of these updates will be done according to the severity of the event.
7. Communication regarding events at RCH will follow the Disaster Preparedness Plan to include:
 - a. internal notification and communication with patients and healthcare workers
 - b. external communication with media and the public, coordinated with local public health officials
 - c. developing templates for frequently asked questions, notification, press releases, and other communication tools

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8. Consider establishing a pandemic disease hotline for public inquiries.

III. **Procedure:**

N/A

IV. **Exceptions/Clinical Alerts:**

None

V. **References:**

CDC flu website, <http://www.flu.gov/professional/hospital/index.html>

CDC's Public Health Guidance for Community-Level Preparedness and Response to SARS Version 2 (January 8, 2004) found at the following website:

<https://www.cdc.gov/sars/guidance/index.html>

The CDC's pandemic flu plan

<https://www.cdc.gov/flu/pandemic-resources/index.htm>

CDC Middle East Respiratory Syndrome Resources for Preparedness (July 13, 2016) found at the following website: <https://www.cdc.gov/coronavirus/mers/preparedness/resources-preparedness.html>

CDC Guidelines for Isolation Precautions, 2007

California Dept Health Services: Pandemic Influenza Preparedness & Response Plan, 9/08/2006

TJC Standards

VI. **Attachments:**

SARS/MERS ALGORITHM

Patient presents to the Emergency Dept.
or other Hospital department



Use SARS/MERS screening criteria (CDC case definition)

Patient must have--

- Measured temp greater than 100.4 F **AND**
- One or more clinical findings of respiratory illness (i.e. cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of either pneumonia or acute respiratory distress syndrome **AND**

One of the following-----

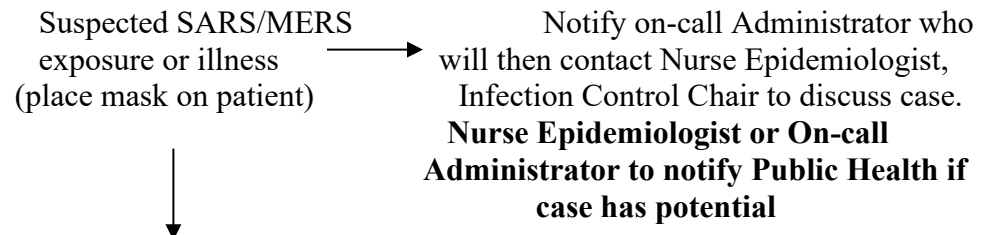
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1. SARS

- Travel-- includes transit in an airport in an area with documented or suspected community transmission of SARS (areas with documented or suspected transmission are: Mainland China and Hong Kong, Hanoi, Vietnam, and Singapore, Canada **OR**
- Close contact (having cared for, having lived with, or having direct contact) with respiratory secretions and/or body fluids of a patient known to be suspect SARS case.

2. MERS

- Travel – a history of travel from countries in or near the Arabian Peninsula within 14 days before symptom onset, or close contact with a symptomatic traveler who developed fever and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula **OR**
- Close contact (having cared for, having lived with, or having direct contact) with a confirmed MERS case while the case was ill **OR**
- A member of a cluster of patients with severe acute respiratory illness requiring hospitalization of unknown etiology in which MERS-CoV is being evaluated, in consultation with the local health department.



Immediately place patient into negative pressure room

- **All staff entering the room must wear eye goggles, N95 mask, gowns and gloves. Paper trays will be used for food. Linen and trash are handled in the normal fashion. Use only dedicated equipment for this patient. If a patient must leave a room for a procedure, then a surgical mask will be placed on the patient. If going in an elevator, all persons in the elevator must wear an N95 mask.**

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Pt will need the following lab work done:

- CXR, Pulse oximetry, blood cultures, sputum culture, Influenza rapid test, and RSV rapid test.

In addition, the following specimens need to be sent to the Riverside County Public Health Lab (will be forwarded from there to the state viral lab).

SARS -

- 2 nasopharyngeal swabs (NP) in viral transport media **AND**

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- serum from 10 cc of whole blood **AND**
- stool sample (in sterile container) or rectal swab in viral transport media

Follow-up with the patient is important since in the convalescent phase of illness, an NP swab and serum sample are requested > 28 days after the onset of fever

MERS-

- one lower respiratory specimen (sputum or bronchial lavage) and one upper respiratory specimen are preferred but collecting naso- or oropharyngeal swab in viral transport media is acceptable **AND**
- 5-10cc of whole blood