

PANDEMIC INFLUENZA – PHASE 6
INFECTION CONTROL RECOMMENDATIONS TEMPLATE

San Francisco Department of Public Health
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Table of Contents

INTRODUCTION.....	3
CASE DEFINITION	3
A. ISOLATION	3
B. CONTROL AND MINIMIZE SPREAD OF INFECTION	
1. General Recommendations.....	4
2. Masks.....	4
3. Gloves.....	5
4. Eye Protection/Face Shield	5
5. Gowns and Protective Apparel.....	6
6. Cleaning and Disinfection of the Environment.....	6
7. Trash/Waste Disposal	7
8. Patient-care Equipment and Personal Articles	7
9. Dishes, Glasses, Cups, & Eating Utensils	7
10. Laundry and Linen	8
11. Patient Transport	8
12. Visitors	9
13. Vaccination of Healthcare Workers against Human Influenza	10
14. Surveillance and Monitoring of Health Care Workers.....	10
APPENDICES	
A. Sequence for Donning Personal Protective Equipment.....	11
B. Sequence for Removing Personal Protective Equipment.....	12
C. Strategies for Infection Control Supplies Shortages.....	13

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The San Francisco Department of Public Health with the assistance of the San Francisco Infection Control Working Group, the California Department of Health Services, and the CDC has developed the following infection control recommendations for response to an influenza pandemic. Updates to these recommendations will be posted to our website www.sfdph.org/cdcp; check the website for the latest recommendations. Consult the San Francisco Department of Public Health Communicable Disease Control Unit (415) 554-2830, as needed.

These recommendations are intended for implementation when WHO has declared Pandemic Influenza **Phase 6** where there is evidence of increased and sustained human to human transmission and a vaccine against this strain is not yet available. The objective is to maintain continuity of operations as much as possible.

It is estimated that up to 50% of the population will be affected at the peak of the pandemic. During this phase of a pandemic, healthcare facilities would be overwhelmed due to the increased number of ill persons and the decreased number of health care personnel. Healthcare personnel are either sick, staying home to care for the sick, or stay away for fear of being exposed to the sick. Supplies such as gloves and masks may be very limited or exhausted. As supplies run low or are not available, consider using alternative methods to provide the best protection possible under the circumstances. As the number of available personnel is limited, consider performing only essential functions.

Infection Control recommendations for this phase would follow Pandemic Influenza Phase 4 and 5 recommendations to the extent possible. Infection control efforts should focus on maintaining a sanitary environment, ie, having clean water available, removing trash in a timely manner, and maintaining an effective sewage system.

Case Definition – To Be Determined

A. Isolation

1. When resources are limited, consider cohorting isolated patients in the same room with a minimum of 3 feet apart, in the same unit, or in the same wing.
2. Consider housing isolated patients in area where there is adequate ventilation, or the windows can be opened.
3. Staff caring for infected patients should wear a N95 mask if available, or surgical/procedure mask, or improvised cotton mask if nothing else is available. Considerations should be given to re-using masks before supplies run out completely.

4. Extend the use of any available personal protective equipment if possible.
5. Staff caring for infected patients should minimize the duration of face to face contact while providing essential care.

B. Control and Minimize Spread of Infection

1. General Recommendations

- 1.1 Post signs to reinforce covering mouth and nose when sneezing or coughing using a tissue. If tissue is not available, sneeze or cough onto the upper arm.
- 1.2 Avoid face to face contact with the infected. If it is not possible, then keep the duration of contact to a minimum.
- 1.3 Continue to practice good hand washing with soap and water or alcohol based hand sanitizer.
- 1.4 When resources are limited, consider providing personal bar soap and personal cloth towels for hand drying purposes.

2. Masks

- 2.1 Healthcare personnel entering patient's room should wear a N95 mask if available. If not available, then wear surgical/procedure mask. If surgical/procedure mask is not available, then wear cloth towels to cover nose and mouth, or improvised cotton mask.
- 2.2 Visitors should wear a surgical mask while visiting. If supplies are limited, ask visitors to cover mouth and nose with tissue or cloth towels. Visitors must be kept to a minimum and allowed only for the health and well being of the patient.
- 2.3 Masks must be removed and discarded upon leaving the patient's room followed by hand hygiene. When masks are in limited supply, consider extending the use of masks if the masks are not soiled or damaged (see Appendix C). Or, use a shield over the mask to minimize soiling so the mask can be re-used.
- 2.4 For aerosol generating procedures such as intubation and bronchoscopy, use of a powered air purifying respirator (PAPR) is recommended if such procedures cannot be avoided or postponed. All visitors and non-essential personnel should be asked to leave the room during the performance of aerosol generating procedures. PAPRs must be cleaned and disinfected after use according to the manufacturer's recommendation.

3. Gloves

- 3.1 Wear disposable gloves (clean, non-sterile gloves are adequate) when touching blood, body fluids, secretions, excretions, mucous membranes, non-intact skin (rash, abrasion, etc.), and contaminated items if available.
- 3.2 When gloves supply is limited, consider using vinyl, re-usable utility gloves, or plastic bags to handle items that do not require dexterity such as trash, linen, or when handling contaminated equipment. If re-usable utility gloves are used, soak them in 1:10 bleach solution after use for 20 min.
- 3.3 When wearing gloves and working on multiple sites on the same patient, start work with the least contaminated or soiled areas first. Then work toward the most contaminated areas last while changing gloves if available.
- 3.4 Wash hands immediately after glove removal with soap and water or use hand sanitizer if hands are not visibly soiled to avoid transfer of microorganisms to other patients or environments.
- 3.5 After glove removal and hand washing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of microorganisms to other patients or environments.

4. Eye Protection/Face Shield

- 4.1 Eye protectors (face shields or goggles) should be worn when in direct face to face contact with a person suspected or confirmed to have pandemic influenza or their environment to protect mucous membranes of the eyes from direct transmission of the virus onto the eye or from indirect transmission from a contaminated hand touching the eye.
- 4.2 If goggles are used, they should fit snugly (but comfortably) around the eyes.
- 4.3 For aerosol-generating procedures (e.g. nebulizer treatments, intubation), a face shield may be worn over goggles to protect exposed areas of the face but should not be worn as a primary form of eye protection for these procedures.
- 4.4 Clean, disinfect and store re-usable face shields or goggles as recommended by the manufacturer.
- 4.5 When resources are limited, consider assigning each health care worker needing eye protection one eye protection/face shield, consider postponing non-emergency procedures where the use of eye protection is necessary.

5. Gowns and Protective Apparel

- 5.1 Wear a gown (a clean, non-sterile gown that fully covers the front torso and arms and ties in the back is adequate) if available when entering the room if contact with the patient, environmental surfaces, or items in the patient's room is anticipated.
- 5.2 When resources are limited, consider using plastic coverings such as garbage bags to protect clothing from gross contamination of blood and body fluids. Reuse the plastic coverings only if they are not soiled; otherwise discard in trash followed by hand washing.
- 5.3 Remove the gown and wash hands with soap and water, or use hand sanitizer if hands are not visibly soiled, before leaving the patient's environment.
- 5.4 After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces to avoid transfer of microorganisms to other patients or environments.

6. Cleaning and Disinfection of the Environment

- 6.1 Consider performing only essential functions and prioritize based on supplies and available personnel.
- 6.2 Environmental services personnel should wear a N95 if available, gloves, gowns and Eye protection as indicated in this document if available when cleaning rooms occupied by patients with confirmed or suspected pandemic influenza.
- 6.3 Keep cleaning supplies outside the patient room (e.g., in an anteroom or storage area).
- 6.4 Consider using a checklist to promote accountability for the thoroughness of cleaning.
- 6.5 Clean and disinfect patient's rooms at least daily and more often when visible soiling or contamination occurs.
- 6.6 Environmental services personnel should perform all routine and additional cleaning with an EPA-approved disinfectant. If cleaning supplies are limited, frequently touched surfaces such as bedrails, bedside tables, doorknobs, and commodes should have priority.
- 6.7 If use of carpeted rooms cannot be avoided, steam cleaning should be done on a routine basis and when the carpet becomes soiled. Personnel should wear the recommended Personal Protective Equipment (PPE).

- 6.8 Remove and discard mask, gloves, gown and eye protection (if disposable) upon leaving the patient's environment in the order noted in Appendix B – Removing of PPE. Wash hands with soap and water.
- 6.9 Environmental services personnel should be trained in proper procedures for the use and removal of PPE and the importance of hand hygiene. See Appendices A and B for the donning and removing of PPE.

7. Trash/Waste Disposal

- 7.1 Frequency of wastes removal may be re-evaluated based on supplies and available personnel.
- 7.2 Wear N95, disposable gloves, gown, and eye protection when removing waste from the patient's environment if available. Remove and discard (if disposable) PPE upon leaving the patient's room in the order noted in Appendix B – Removing of PPE. Wash hands with soap and water.
- 7.3 After removal of gloves, wash hands with soap and water, or use hand sanitizer if hands are not visibly soiled.

8. Patient-care Equipment and Personal Articles

- 8.1 When possible, dedicate the use of non-critical patient-care equipment (such as stethoscopes, disposable blood pressure cuff, thermometers, etc.) to a single person and avoid sharing between patients.
- 8.2 If use of common equipment or items is unavoidable, then adequately clean and disinfect according to the manufacturer's recommendation before using on another patient.
- 8.3 Keep areas around the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
- 8.4 Identify who will be responsible for cleaning and disinfecting the surfaces of patient-care equipment (e.g., IV pumps, ventilators).
- 8.5 Patient-care equipment should be cleaned, disinfected and/or sterilized as per the manufacturer's recommendations.

9. Dishes, Glasses, Cups & Eating Utensils

- 9.1 Wear disposable gloves (clean, non-sterile gloves are adequate) if available

when handling used patient trays, dishes, and utensils. If supplies are limited, use re-usable utility gloves and disinfect by soaking then in 1:10 bleach solution for 20 min. after use.

- 9.2 Wash reusable dishes and utensils in dishwasher with recommended water temperature and detergent.

10. Laundry and Linen

- 10.1 Frequency to change linen and laundry may be adjusted based on supplies and available personnel.
- 10.2 Bring only as much clean linen as needed for use for the shift into the room.
- 10.3 Wear gloves, gown, and a minimum of N95 if available when directly handling soiled linen and laundry (e.g., bedding, towels, personal clothing). When supplies are limited, consider using re-usable utility gloves, plastic apron, and surgical/procedure masks as mentioned in respective heading (see Appendix C).
- 10.4 Do not shake or otherwise agitate soiled linen and laundry in a manner that might aerosolize infectious particles.
- 10.5 Wash and heat dry laundry in the usual manner.
- 10.6 Wash hands with soap and water or use hand sanitizer if hands are not visibly soiled after removing gloves, gown and N95 that have been in contact with soiled linen and laundry.

11. Patient Transport

- 11.1 Limit the movement and transport of the person outside the isolation room for medically necessary purposes only.
- 11.2 Notify the receiving unit prior to the patient being transported.
- 11.3 If transport or movement is necessary, ensure that the person wears a surgical mask if available, puts on a clean patient gown, and washes hands with soap and water or uses hand sanitizer if hands are not visibly soiled before leaving the room and has tissues available for respiratory secretion containment during transport.
- 11.4 If a mask cannot be tolerated (e.g., due to the patient's age or deteriorating respiratory status) or are not available, apply the most practical measures to contain respiratory secretions such as covering the mouth and nose with tissues or cloth. Transporter should wear an N95 mask if available, or surgical/procedure mask, or a cloth towel.

- 11.5 Limit contact between persons by using less traveled hallways and elevators when possible. Limit non-essential personnel/visitors from riding in the same elevator.

12. Visitors

- 12.1 Restrict visitors to a minimum except for the health and well being of the patient.
- 12.2 Instruct visitors about Standard, Airborne, Contact precautions, and Eye Protection, Respiratory Hygiene/Cough Etiquette and Hand Hygiene strategies, and on the use of Personal Protective Equipment as detailed in this section and on the proper donning and removal of PPE. See Appendices A and B for the donning and removing of PPE
- 12.3 Instruct all visitors to wear surgical mask, disposable gloves and gown if available when entering the patient's room.
- 12.4 Instruct all visitors to wear eye protectors (face shields or goggles) if available when in direct face to face contact to protect mucous membranes of the eyes from direct transmission of the virus onto the eye or from indirect transmission from a contaminated hand touching the eye.
- 12.5 If goggles are used, they should fit snugly (but comfortably) around the eyes.
- 12.6 Instruct all visitors to remove mask, gloves and gown, and wash hands with soap and water or use hand sanitizer if hands are not visibly soiled before leaving the room. After removal, instruct all visitors to ensure that clothing does not contact potentially contaminated environmental surfaces to avoid transfer of microorganisms to other patients or environments.
- 12.7 Instruct visitors not to touch the mucous membranes of their own nose, eye or mouth until after their hands have been washed or sanitized.
- 12.8 For aerosol-generating procedures (e.g. nebulizer treatments, intubation), all visitors should be instructed to leave the room and to remove their Personal Protective Equipment in accordance with Appendices A and B. When supplies are short, they should keep PPE and wait outside the room and re-enter when procedure is completed.
- 12.9 If visitors are the main care givers of the patient and have been exposed to the patient during the infectious period, visitors must wear N95 if available at all times while remaining in the patients' room and while in the healthcare setting. There should be only one designated care giver who stays with the patient for the entire hospitalization.

13. Vaccination of Healthcare Workers against Human Influenza

Healthcare Workers will be offered the vaccine against the pandemic influenza strain when the vaccine becomes available. Depending on the number of doses available, the Department of Public Health, in consultation with CDC and CDHS, will work with individual health care facilities to distribute the vaccine and vaccinate the health care workers.

14. Surveillance and Monitoring of Health Care Workers

- 14.1 Health care workers who have symptoms of influenza should stay home and on Home isolation (see Section II, Infection Control Recommendation in Home Setting) until symptoms resolve or another diagnosis is made.
- 14.2 With the exception of visiting a health care provider, health care workers who become ill should be advised to stay home, unless an alternative diagnosis is established or diagnostic tests are negative for pandemic influenza.
- 14.3 While at home, ill persons should practice good respiratory hygiene to lower the risk of transmission of virus to others as outlined in the Infection Control Precautions for the Home Setting (see Section II).
- 14.4 Health care workers who have been exposed to patients without proper respiratory protection must be vigilant to detect the development of fever (i.e., measure temperature daily before reporting to work) and other symptoms for 10 days after the last exposure to pandemic influenza infected patients prior to reporting to work (see Section II, Infection Control Recommendation in Home Setting).
- 14.5 Health care workers who have been exposed to household members infected with pandemic influenza must be vigilant to detect the development of fever (i.e., measure temperature daily before reporting to work) and other symptoms for 10 days after the last exposure prior to reporting to work (see Section II, Infection Control Recommendation in Home Setting).
- 14.6 Health care workers who require medical care should notify their health care provider prior to seeking care that they have been exposed to patients with pandemic influenza. In addition, employees should notify Occupational Health and Infection Control Personnel, and/or other appropriate departments in their facility.

APPENDIX A

Sequence for Donning Personal Protective Equipment

SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)	SECUENCIA PARA PONERSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)
<p>The type of PPE used will vary based on the level of precautions required; e.g., Standard and Contact, Droplet or Airborne Infection Isolation.</p> <p>1. GOWN</p> <ul style="list-style-type: none"> Fully cover torso (up neck), to knees, arms to end of wrists, and wrap around the back Fasten in back of neck; avoid waist <p>2. MASK OR RESPIRATOR</p> <ul style="list-style-type: none"> Secure ties or elastic bands at middle of head and neck Fit flexible band to secure fit edge Fit snug to face and below chin Fit checked respirator <p>3. GOGGLES OR FACE SHIELD</p> <ul style="list-style-type: none"> Place over face and eyes and adjust to fit <p>4. GLOVES</p> <ul style="list-style-type: none"> Extend to cover wrist of isolating gown 	<p>El tipo de PPE que se debe utilizar depende del nivel de precaución que sea necesario; por ejemplo, equipo estándar y de Contacto o de Aislamiento de Infecciones transmitidas por gotas o por aire.</p> <p>1. BATA</p> <ul style="list-style-type: none"> Cubra con la bata todo el torso desde el cuello hasta las rodillas, los brazos hasta la muñeca y doblela alrededor de la espalda Ajuste por detrás a la altura del cuello y la cintura <p>2. MÁSCARA O RESPIRADOR</p> <ul style="list-style-type: none"> Asegure los corcheros o la banda elástica en la mitad de la cabeza y en el cuello Ajuste la banda flexible en el puente de la nariz Acomódela en la cara y por debajo del mentón Verifique el ajuste del respirador <p>3. GAFAS PROTECTORAS O VISERA</p> <ul style="list-style-type: none"> Colóquelas sobre la cara y ajústelas <p>4. GUANTES</p> <ul style="list-style-type: none"> Extienda los guantes para que cubran la parte del puño en la bata de aislamiento
<p>USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION</p> <ul style="list-style-type: none"> Keep hands away from face Limit surface contact Change gloves when torn or heavily contaminated Perform hand hygiene 	<p>UTILICE PRÁCTICAS DE TRABAJO SEGURAS PARA PROTEGERSE A SÍ MISMO Y LIMITAR LA PROPAGACIÓN DE LA CONTAMINACIÓN</p> <ul style="list-style-type: none"> Mantenga las manos alejadas de la cara Limite el contacto con superficies Cambie los guantes si se rompen o están demasiado contaminados Realice la higiene de las manos

<http://www.cdc.gov/ncidod/sars/pdf/ppeposter148.pdf>

APPENDIX B

Sequence for Removing Personal Protective Equipment

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)	SECUENCIA PARA QUITARSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)
<p>Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.</p> <p>1. GLOVES</p> <ul style="list-style-type: none"> Outside of gloves is contaminated! Grasp outside of glove with opposite gloved hand; peel off Hold removed glove in gloved hand Slide fingers of ungloved hand under remaining glove at wrist Peel glove off over first glove Discard gloves in waste container  <p>2. GOGGLES OR FACE SHIELD</p> <ul style="list-style-type: none"> Outside of goggles or face shield is contaminated! To remove, handle by head band or ear pieces Place in designated receptacle for reprocessing or in waste container  <p>3. GOWN</p> <ul style="list-style-type: none"> Gown front and sleeves are contaminated! Unfasten ties Roll away from neck and shoulder, touching inside of gown only Turn gown inside out Fold or roll into a bundle and discard  <p>4. MASK OR RESPIRATOR</p> <ul style="list-style-type: none"> Front of mask/respirator is contaminated — DO NOT TOUCH! Grasp bottom, free top ties or elastics and remove Discard in waste container 	<p>Con la excepción del respirador, quite el PPE en la puerta o en la antecámara. Quite el respirador después de salir de la habitación del paciente y de cerrar la puerta.</p> <p>1. GUANTES</p> <ul style="list-style-type: none"> El exterior de los guantes está contaminado! Agarre la parte exterior del guante con la mano opuesta en la que todo lo tiene puesto el guante y quítelo Sostenga el guante que se quitó con la mano enguantada Deslice los dedos de la mano sin guante por debajo del otro guante que no se ha quitado todavía a la altura de la muñeca Quite el guante de manera que acabe cubriendo el primer guante Arroje los guantes en el recipiente de desechos <p>2. GAFAS PROTECTORAS O OJETA</p> <ul style="list-style-type: none"> El exterior de las gafas protectoras o de la ojeta está contaminado! Para quitárselas, tómelas por la parte de la banda o de la correa o de las piezas de las ojetas Colóquelas en el recipiente designado para reprocessar materiales o de materiales de desecho <p>3. BATA</p> <ul style="list-style-type: none"> La parte delantera de la bata y las mangas están contaminadas! Desate los cordones Si tienes abotonada el interior de la bata, pásala por encima del cuello y de los hombros Voltea la bata al revés Dóblala o enróllala y deséchala <p>4. MÁSCARA O RESPIRADOR</p> <ul style="list-style-type: none"> La parte delantera de la máscara o respirador está contaminada — ¡NO LA TOQUE! Retire primero la parte de abajo, luego los cordones o bandas elásticas de arriba y por último, quite la máscara o respirador Arrójelo en el recipiente de desechos
<p>PERFORM HAND HYGIENE IMMEDIATELY AFTER REMOVING ALL PPE</p>	<p>EFECTÚE LA HIGIENE DE LAS MANOS INMEDIATAMENTE DESPUÉS DE QUITARSE CUALQUIER EQUIPO DE PROTECCIÓN PERSONAL</p>

<http://www.cdc.gov/ncidod/sars/pdf/ppeposter148.pdf>

APPENDIX C

Strategies for Infection Control Supplies Shortages

Extended use of N95

- ❖ Use face shield to cover N95
- ❖ Cover N95 with cloth towel/handkerchief when splashing/splattering is anticipated
- ❖ Store N95 in zip lock bag when not in use
- ❖ Use the mask until it is moist
- ❖ Consider keeping N95 on for all pandemic influenza patients
- ❖
- ❖ Wear surgical/procedure masks if none is available

Extended use of surgical/procedure masks

- ❖ Use the mask until it is moist
- ❖ Use face shield to cover the mask
- ❖ Store mask in zip lock bag when not in use
- ❖
- ❖ Wear cotton cloth or handkerchiefs if none is available

Gloves substitute

- ❖ Use re-usable utility gloves
- ❖ Use plastic bag
- ❖ Use cotton gloves
- ❖

Eye protection substitute

- ❖ Use personal sports goggles for skiing or bike riding
- ❖ Prescription glasses
- ❖ Non-prescription glasses
- ❖

Gown substitute

- ❖ Use plastic apron
- ❖ Use cotton apron
- ❖ Use large plastic bag
- ❖