

ADDENDUM FOR INFECTION PREVENTION AND CONTROL MANUAL

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*Presented by
Diagnostic
Laboratories &
Radiology*

TRIDENT **USA** HEALTH SERVICES

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Please Note: The Table of Contents herein provides guidance as to placement of the new information provided. The Section referenced will be found in the original Diagnostic Laboratories Infection Control Manual. It is the responsibility of each facility to remove information that is no longer current and replace it with the updated information found in this addendum manual.

Disclaimer

Diagnostic Laboratories and Radiology provides information and services as a benefit to our Long-Term Care Facility clients. The material presented in this addendum to our Infection Control Manual has been prepared in accordance with generally recognized infection prevention and control principles and practices and is for general information only. The addendum and the information and materials contained therein are provided “as is”, and Diagnostic Laboratories makes no representation or warranty of any kind, whether express or implied, including but not limited to, warranties of merchantability, noninfringement, or fitness, or concerning the accuracy, completeness, suitability, or utility of any information, apparatus, product, or process discussed in this resource, and assumes no liability therefore.

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Surveillance Program

The role of the Infection Preventionist (IP) in a long-term care facility (LTCF) is to manage the monitoring and tracking of the clinical status of residents to detect and prevent the transmission of infection and disease. Surveillance is a key component of infection prevention and control, whereby, the IP collects data on the residents' clinical condition as it relates to possible infection. In addition to data collection, the IP must analyze the information gathered and then develop strategies on how to prevent further infection transmission.

Once the data is analyzed and issues are identified, the IP must make rounds in the facility to observe the techniques of the staff and to find the origins of the existing problems. After having identified the root cause of the problem the IP should notify the DSD to follow up with appropriate in-services. Education is a key component to an infection control program. The IP, along with the DSD is responsible for educating residents, staff and visitors on good infection control practices.

Surveillance tools, such as individual resident assessments or logs, as are found in this handbook, are needed for collection of data. These tools are excellent forms to be used for investigational purposes and for identifying clusters before they result in full-blown outbreaks.

The revised McGeer's criteria¹, which are definitions of infections for long-term care, were utilized in creating the forms found in this handbook. As you go through the process of surveillance, be sure to summarize your infection numbers on a monthly and quarterly basis for a better understanding of your month to month progress.

Included in the following pages are forms that can be utilized in your tracking and trending for the surveillance program. The forms presented in this handbook are samples of what you can utilize to develop a comprehensive surveillance program. In addition to the forms provided in this handbook, you will find various policies and procedures which you can use to update your current Infection Control Manual. These policies should be reviewed and personalized for your facility and then approved by your Infection Control Committee before implementing.

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¹ Stone ND, Ashraf MS, Calder J, Crnich CJ, Crossley K, Drinka PJ, et al. Surveillance definitions of infections in long-term care facilities: revisiting the McGeer criteria. *Infect Contr and Hosp Epidemiol* Vol 33:10, October, 2012. Pp 965-977.

Role of the Infection Preventionist in Long-term Care Facility

Infection prevention and control should be an interdisciplinary effort. All members of the healthcare team in a skilled facility must participate in providing a safe and sanitary environment for the residents, staff and visitors. However, one qualified person should be assigned the task of overseeing the infection control program. This person is referred to as the “Infection Preventionist” (IP). The IP position is usually assigned to an LVN or an RN.

A long-term care facility (LTCF) should have processes and policies in place for the following:

- Surveillance
- Hand Hygiene Program
- Disease monitoring and reporting
- Standard Precautions and Transmission-based isolation procedures
- Outbreak control
- Immunizations
- Antimicrobial Stewardship Program
- Resident and employee health programs
- Environmental Sanitation
- Education of staff, residents, and visitors

Each facility should have an infection control committee comprised of the medical director, administrator, director of nursing, and infection preventionist. In addition, consider including secondary team members to this committee which can include employees from nursing, housekeeping, and dietary departments. Other members to consider are the pharmacy consultant and a representative from the laboratory to review cultures and antimicrobial usage in the facility.

This committee should convene on a regular basis and discuss the infection rates for the facility, as well as the strategies that can be utilized to prevent, to the extent possible, the onset and spread of infection. Document the discussions and the findings of the infection control committee and plan to review the effectiveness of interventions at future meetings.

Step-By-Step Surveillance Guide

The following is a step-by-step guide for the IP to follow and to understand the responsibilities of that role. This is only a recommended guide and can be revised according to the time allotted for this responsible position.

Daily:

- All licensed nurses are responsible for participating in the infection control data collection process. As residents are identified with possible infection events, the licensed nurse identifying the change in the resident's clinical condition must start an assessment sheet. The IP will oversee this process for accuracy and thoroughness of information collected.
- The IP or assistant to the IP will make rounds and observe the infection prevention and control techniques of all staff members on an on-going basis. Data collected from these observations will be reported to the Infection Control Committee.

Weekly:

- The IP will review the collected data, individual assessment sheets (if unable to do this on a daily basis, weekly review can be done) to determine whether the resident's condition is due to community- associated infection (CAI), hospital-associated infection (HAI) or "does not meet the criteria" category (if criteria for infection according to revised McGeer's criteria is not met, it will not be factored into the infection rate).
- The IP, or assistant to the IP, will make official rounds observing and documenting the hand hygiene and standard precautions compliance of the staff.

Monthly:

- The IP will summarize the day-to-day data collected on infections by numbers per site and then calculate infection rates (new infections) for all units of the facility to be included in the monthly summary report. This data will be reported to the IC Committee. In addition to HAI rate, the IP should calculate the rate of "do not meet criteria" events, and will review which of these were treated with antibiotics. The recommended formula to be used for calculating the incidence of HAI is as follows:

$$\frac{\text{\# of NEW HAI (previously referred to as nosocomial)}}{\text{Total number of resident days}} \times 1000 = \text{number of infections per 1000 days}$$
- The IP will document and report on Hand Hygiene Observations conducted throughout the month.
- The IP will plot infections (color code by site) on floor plan of facility.
- The IP will document any trends or clusters detected during the month and arrange for in-services for the facility staff to address trends observed.

Quarterly:

- A quarterly report will be prepared by the IP to reflect the infection rates for each month of the quarter to be presented at the Infection Control Committee Meeting.
- The IP should be familiar with the antibiogram received from the laboratory and should convey the sensitivity patterns to the nurses in the facility and the prescribing physicians.
- Antimicrobial utilization should be reviewed with the Infection Control Committee.

Ongoing Monitoring:

- IP should review all culture and sensitivity results on each individual resident in order to be familiar with the organisms found in the cultures of their residents.
- The IP should be tracking and logging (separate logs) the various MDROs that are admitted and which are developed in the facility.
- The IP should be checking all inter-shift reporting tools (like report books) to be sure all residents manifesting signs and symptoms of infections are properly logged and identified on the Surveillance forms.

The IP should be working closely with the DSD to frequently educate the staff on the areas which are found to be weak and in need of more training. When trends are identified, the IP can do a quality improvement (QI) study to determine the root cause of the problem and thereby develop a strategy to improve the quality of care.

Table 1. Considerations for Inclusion of Infections in Long-Term Care Facilities (LTCFs) into Facility Infection Surveillance Programs

Points to consider	Infections	Comments
<p>A. Infections that should be included in routine surveillance</p> <ol style="list-style-type: none"> Evidence of transmissibility in a healthcare setting Process available to prevent acquisition of infection Clinically significant cause of morbidity or mortality Specific pathogens causing serious outbreaks 	<p>Viral respiratory tract infections, viral gastroenteritis, and viral conjunctivitis</p> <p>Pneumonia, urinary tract infection, gastrointestinal tract infections including <i>Clostridium Difficile</i>, and skin and soft tissue infections</p> <p>Any invasive group A <i>Streptococcus</i> infection, acute viral hepatitis, norovirus, scabies, influenza</p>	<p>Associated with outbreaks among residents and healthcare personnel in LTCFs.</p> <p>Associated with hospitalization and functional decline in LTCF residents.</p> <p>A single laboratory confirmed case should prompt further investigation.</p>
<p>B. Infections that can be considered in surveillance</p> <ol style="list-style-type: none"> Infections with limited transmissibility in a healthcare setting Infections with limited preventability 	<p>Ear and sinus infections, fungal oral and skin infections, and herpetic skin infections</p>	<p>Associated with underlying comorbid conditions and reactivation of endogenous infection.</p>
<p>C. Infections for which other accepted definitions should be applied in LTCF surveillance (may apply to only specific at-risk residents)</p>	<p>Surgical site infections, central-line-associated bloodstream infections, and ventilator associated pneumonia</p>	<p>LTCF-specific definitions were not developed. Refer to the National Healthcare Safety Network's criteria (http://www.cdc.gov/nhsm/TOC_PSCManual.html).</p>

Table 2. Definitions for Constitutional Criteria in Residents of Long-Term Care Facilities (LTCFs)

<p>A. Fever</p> <ol style="list-style-type: none"> Single oral temperature >37.8 C (>100 F) <p>OR</p> <ol style="list-style-type: none"> Repeated oral temperatures >37.2 C (99 F) or rectal temperatures > 37.5 C (99.5 F) <p>OR</p> <ol style="list-style-type: none"> Single temperature >1.1 C (2 F) over baseline from any site (oral, tympanic, axillary)
<p>B. Leukocytosis</p> <ol style="list-style-type: none"> Neutrophilia (14,000 leukocytes/mm³) <p>OR</p> <ol style="list-style-type: none"> Left shift (6% bands or ≥1,500 bands/mm³)
<p>C. Acute change in mental status from baseline (all criteria must be present; see Table 3)</p> <ol style="list-style-type: none"> Acute onset Fluctuating course Inattention <p>AND</p> <ol style="list-style-type: none"> Either disorganized thinking or altered level of consciousness
<p>D. Acute functional decline</p> <ol style="list-style-type: none"> A new 3-point increase in total activities of daily living (ADL) score (range, 0-28) from baseline, based

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<p>on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence)</p> <ol style="list-style-type: none"> a. Bed mobility b. Transfer c. Locomotion within LTFC d. Dressing e. Toilet use f. Personal hygiene g. Eating

Table 3. Confusion Assessment Method Criteria

Acute onset	Evidence of acute change in resident's mental status from baseline
Fluctuating	Behavior fluctuating (eg, coming and going or changing in severity during the assessment)
Inattention	Resident has difficulty focusing attention (eg, unable to keep track of discussion or easily distracted)
Disorganized thinking	Resident's thinking is incoherent (eg, rambling conversation, unclear flow of ideas, unpredictable switches in subject)
Altered level of consciousness	Resident's level of consciousness is described as different from baseline (eg, hyperalert, sleepy, drowsy, difficult to arouse, nonresponsive)

NOTE: Criteria are adapted from a study by Lim and MacFarlane

Revised McGeer Criteria for LTC

The following definitions have been taken from the original document “Surveillance Definitions of Infections in LTCF: Revisiting the McGeer Criteria”, released in October of 2012.

Constitutional Criteria:

Fever:

1. Single oral temperature of >100F, or
2. Repeated oral temperatures of >99F or rectal temps of >99.5, or
3. Single temperature of >2 degrees Fahrenheit over baseline from any site

Leukocytosis

1. Neutrophilia (>14,000 WBC) or
2. Left shift (>6% bands or \geq 1500 bands/mm³)

Acute change in mental status from baseline (all criteria must be present)

1. Acute onset
2. Fluctuating course
3. Inattention (unable to focus), and
4. Either disorganized thinking or altered level of consciousness

Acute functional decline

1. A new 3-pt increase in total activities-of-daily living score (range 0-28) from baseline based on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence).
 - a. Bed mobility
 - b. Transfer
 - c. Locomotion within facility
 - d. Dressing
 - e. Toilet use
 - f. Personal hygiene
 - g. Eating

Confusion Assessment

Acute Onset—Evidence of acute change in resident’s mental status from baseline

Fluctuating—Behavior fluctuating (eg, coming and going or changing in severity during the assessment)

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Inattention—Resident has difficulty focusing attention (eg, unable to keep track of discussion or easily distracted)

Disorganized thinking—Resident’s thinking is incoherent (eg, rambling conversation, unclear flow of ideas, unpredictable switches in subject)

Altered level of consciousness—Resident’s level of consciousness is described as different from baseline (eg, hyperalert, sleepy, drowsy, difficult to arouse, nonresponsive).

CRITERIA BY SITE OF INFECTION

Respiratory Tract Infections (RTI):

- A. Common cold syndrome/ or pharyngitis (at least 2 criteria must be present) Symptoms must be new and not due to allergies.
 1. Runny nose or sneezing
 2. Stuffy nose (ie, congestion)
 3. Sore throat or hoarseness or difficulty in swallowing
 4. Dry cough
 5. Swollen or tender glands in the neck (cervical lymphadenopathy)
- B. Influenza or influenza-like illness (ILI) –**both criteria 1 and 2** must be present (seasonality no longer needed to meet criteria)
 1. Fever
 2. At least 3 of the following ILI sub-criteria
 - a. Chills
 - b. New headache or eye pain
 - c. Myalgia or body aches
 - d. Malaise or loss of appetite
 - e. Sore throat
 - f. New or increased dry cough
- C. Pneumonia (all 3 criteria must be present)
 1. Interpretation of a CXR as demonstrating pneumonia or presence of a new infiltrate
 2. At least one (1) of the following respiratory sub-criteria
 - a. New or increased cough
 - b. New or increased sputum production
 - c. O₂ saturation <94% on room air or a reduction in O₂ saturation of >3% from baseline
 - d. New or changed lung examination abnormalities
 - e. Pleuritic chest pain
 - f. Respiratory rate of ≥ 25 breaths/minute
 3. At least one (1) of the constitutional criteria
- D. Lower Respiratory tract (bronchitis or trachea-bronchitis) all 3 criteria must be present.

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1. Chest radiograph not performed or negative results for pneumonia or new infiltrate.
2. At least two (2) of the respiratory subcriteria above (a-f)
3. At least one (1) constitutional criteria

NOTE: For both pneumonia and lower RTI, the presence of underlying conditions that could mimic the presentation of RTI (ie, CHF or interstitial lung diseases) should be excluded by a review of clinical records and an assessment of presenting signs and symptoms.

Urinary Tract Infections (UTIs)**A. Residents without an indwelling catheter (both criteria 1 and 2 must be present)**

1. At least one of the following sign or symptom sub-criteria:
 - a. Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate.
 - b. Fever OR leukocytosis (see definition in constitutional criteria) AND at **least one (1) of the following localizing urinary tract subcriteria.**
 1. Acute costovertebral angle pain or tenderness
 2. Suprapubic pain
 3. Gross hematuria
 4. New or marked increase in incontinence
 5. New or marked increase in urgency
 6. New or marked increase in frequency
 - c. In the absence of fever or leukocytosis, **then two (2) or more of the following localizing urinary tract subcriteria**
 1. Suprapubic pain
 2. Gross hematuria
 3. New or marked increase in incontinence
 4. New or marked increase in urgency
 5. New or marked increase in frequency
2. **One (1) of the following microbiologic** subcriteria:
 - a. At least 100,000 cfu/ml of no more than 2 species of microorganisms in a voided urine sample or
 - b. At least 100 cfu/ml of any number of organisms in a specimen collected by in-and-out catheter.

B. For residents with an indwelling catheter (both criteria 1 and 2 must be present) Note: this does not include suprapubic catheters.

1. At least one (1) of the following sign or symptom subcriteria:
 - a. Fever, rigors, or new-onset hypotension, with no alternate site of infection

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- b. Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis
 - c. New-onset suprapubic pain or costovertebral angle pain or tenderness
 - d. Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis or prostate.
2. Urinary catheter specimen culture with at least 100,000 cfu/ml of any organism(s).

NOTE: Urinary catheter specimens for culture should be collected following replacement of the catheter if current catheter has been in place for more than 14 days.

Skin, soft tissue and mucosal infections

- A. Cellulitis, soft tissue or wound infection (**at least one (1)** of the following criteria must be present)
 - 1. Pus present at wound, skin or soft tissue site
 - 2. New or increasing presence of at least four (4) of the following sign or symptom subcriteria:
 - a. Heat at the affected site
 - b. Redness at the affected site
 - c. Swelling at the affected site
 - d. Tenderness or pain at the affected site
 - e. Serous drainage at the affected site
 - f. One (1) constitutional criteria
- B. Scabies (**both criteria 1 and 2** must be present)
 - a. A maculopapular and/or itching rash
 - b. At least one (1) of the following scabies subcriteria:
 - 1. Physician diagnosis
 - 2. Laboratory confirmation (scraping or biopsy)
 - 3. Epidemiologic linkage to a case of scabies with laboratory confirmation
- C. Fungal oral or perioral and skin infections
 - 1. Oral candidiasis (**both criteria a and b must** be present)
 - a. Presence of raised white patches on inflamed mucosa or plaques on oral mucosa
 - b. Diagnosis by a medical or dental provider
 - 2. Fungal skin infection (**both criteria a and b must** be present)
 - a. Characteristic rash or lesions
 - b. Either a diagnosis by a medical provider or a laboratory-confirmed fungal pathogen from a scraping or a medical biopsy.
- D. Herpesvirus skin infections

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1. Herpes simplex infection (**both criteria a and b** must be present)
 - a. A vesicular rash
 - b. Either physician diagnosis or laboratory confirmation
2. Herpes Zoster infection (**both criteria a and b** must be present)
 - a. A vesicular rash
 - b. Either physician diagnosis or laboratory confirmation
- E. Conjunctivitis (**at least one (1)** of the following criteria must be present):
 1. Pus appearing from one or both eyes, present for at least 24 hours
 2. New or increased conjunctival erythema with or without itching
 3. New or increased conjunctival pain, present for at least 24 hours

NOTE: Conjunctival symptoms (“pink eye”) should not be due to allergic reaction or trauma.

Gastrointestinal (GI) Tract Infections

- A. **Gastroenteritis** (**at least one (1)** of the following criteria must be present):
 1. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period.
 2. Vomiting: 2 or more episodes in a 24 hour period
 3. **Both** of the following sign or symptom subcriteria
 - a. A stool specimen testing positive for a pathogen (ie. Salmonella, Shigella, Campylobacter species, rotavirus, or Escherichia coli O157:H7)
 - b. At least one of the following GI subcriteria:
 1. Nausea
 2. Vomiting
 3. Abdominal pain or tenderness
 4. Diarrhea
- B. **Norovirus** gastroenteritis (**both criteria 1 and 2** must be present)
 1. At least one of the following GI subcriteria:
 - a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24-hour period
 - b. Vomiting: 2 or more episodes of vomiting in a 24-hour period
 2. A stool specimen for which norovirus is positively detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing such as PCR (polymerase chain reaction)
- C. **Clostridium difficile** infection (**both criteria 1 and 2** must be present)
 1. One of the following subcriteria:
 - a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24-hour period

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- b. Presence of toxic megacolon (abnormal dilatation of the large bowel, documented radiologically)
- 2. One of the following diagnostic subcriteria:
 - a. A stool sample yields a positive laboratory test result for *C. difficile* toxin A or B, or a toxin-producing *C. difficile* organism is identified from a stool sample culture or by a molecular diagnostic test such as PCR.
 - b. Pseudomembranous colitis is identified during endoscopic examination or surgery or in histopathologic examination of a biopsy specimen.

NOTE: For Infection surveillance purposes, infections should be attributed to a LTCF onset, referred to as HAI, if:

- a. **There is no evidence of an incubating infection at the time of admission to the facility (on the basis of clinical documentation of appropriate signs and symptoms and not solely on screening microbiologic data)**
- b. **Onset of clinical manifestation occurs >2 calendar days after admission.**

Reference:

Stone N, MD, Ashraf M, MD, Calder J, PHD, Crnich CJ, MD, et al. Surveillance Definitions of Infections in Long-Term Care Facilities: Revisiting the McGeer Criteria. *Infect Contr Hosp Epid*, Vol.33 No 10 (October 2012), pp.965-977.

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

RESPIRATORY TRACT INFECTIONS

Temperature: _____ Pulse: _____ Respirations: _____

COMMON COLD SYNDROME OR PHARYNGITIS	INFLUENZA-LIKE ILLNESS
At least 2 criteria must be present	Both criteria 1 and 2 must be present
1. Runny nose or sneezing	1. Fever
2. Stuffy nose (i.e., Congestion)	2. At least 3 of the following influenza-like illness sub-criteria
3. Sore throat or hoarseness or difficulty in swallowing	a. Chills
4. Dry Cough	b. New headache or eye pain
5. Swollen or tender glands in the neck (cervical lymphadenopathy)	c. Myalgias or body aches
	d. Malaise or loss of appetite
	e. Sore throat
	f. New or increased dry cough

TREATMENT

Antibiotic Treatment: _____ Date Started: _____
 Was resident admitted to hospital?: _____ Dates: _____
 Drug / Dosage / Route: _____

 Culture Y / N: _____ Type: _____ Date: _____
 Results: _____
 Isolation / Precaution: _____ Type: _____

DO NOT FILL OUT THIS PART - FOR INFECTION PREVENTIONIST NURSE USE ONLY

Health Associated Infection (**HAI**)

Community Associated Infection (**CAI**)

Additional Notes:

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

RESPIRATORY TRACT INFECTIONS

Temperature: _____	Pulse: _____	Respirations: _____
PNEUMONIA		LOWER RESPIRATORY TRACT (Bronchitis or Tracheobronchitis)
All 3 criteria must be present		All 3 criteria must be present
1. Interpretation of chest radiograph as demonstrating pneumonia or the presence of new infiltrate		1. Chest radiograph not performed or negative results for pneumonia or new infiltrates
2. At least 1 of the following respiratory sub-criteria		2. At least 2 of the respiratory sub-criteria
a. New or increased Cough		a. New or increased Cough
b. New or increased sputum production		b. New or increased sputum production
c. O2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline		c. O2 saturation <94% on room air or a reduction in O2 saturation of >3% from baseline
d. New or changed lung examination abnormalities		d. New or changed lung examination abnormalities
e. Pleuritic chest pain		e. Pleuritic chest pain
f. Respiratory rate of \geq 25 breaths/min		f. Respiratory rate of \geq 25 breaths/min
g. At least 1 of the constitutional criteria (see Table 2)		3. At least 1 of the constitutional criteria (see Table 2)

TREATMENT	
Antibiotic Treatment: _____	Date Started: _____
Was resident admitted to hospital?: _____	Dates: _____
Drug / Dosage / Route: _____	
Culture Y / N: _____	Type: _____ Date: _____
Results: _____	
Isolation / Precaution: _____	Type: _____

DO NOT FILL OUT THIS PART - FOR INFECTION PREVENTIONIST NURSE USE ONLY

Health Associated Infection (HAI)

Community Associated Infection (CAI)

Additional Notes:

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

URINARY TRACT INFECTIONS (UTIs)

For resident without an Indwelling Catheter

Temperature: _____	Pulse: _____	Respirations: _____
Both criteria 1 and 2 must be present		
1. At least 1 of the following sign or symptoms subcriteria		
a. Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate		
b. Fever or leukocytosis (see Table 2) and at least 1 of the following localizing urinary tract sub-criteria		
i. Acute costovertebral angle pain or tenderness		
ii. Suprapubic pain		
iii. Gross hematuria		
iv. New or marked increase in incontinence		
v. New or marked increase in urgency		
vi. New or marked increase in frequency		
c. In the absence of fever or leukocytosis, then 2 or more of the following localizing urinary tract sub-criteria		
i. Suprapubic pain		
ii. Gross hematuria		
iii. New or marked increase in incontinence		
iv. New or marked increase in urgency		
v. New or marked increase in frequency		
2. One of the following microbiologic subcriteria		
a. At least 100,000 cfu/mL of no more than 2 species of microorganisms in a voided urine sample		
b. At least 100 cfu/mL of any number of organisms in a specimen collected by in-and-out catheter		

NOTE: (1) Pyuria does not differentiate symptomatic UTI from asymptomatic bacteriuria. Absence of pyuria in diagnostic tests excludes symptomatic UTI in residents of long-term facilities. (2) cfu= colony-forming units

TREATMENT

Antibiotic Treatment: _____ Date Started: _____
 Was resident admitted to hospital?: _____ Dates: _____
 Drug / Dosage / Route: _____
 Culture Y / N: _____ Type: _____ Date: _____
 Results: _____
 Isolation / Precaution: _____ Type: _____

DO NOT FILL OUT THIS PART FOR INFECTION PREVENTIONIST NURSE USE ONLY

[] Health Associated Infection (HAI)

[] Community Associated Infection (CAI)

Additional Notes: _____

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

URINARY TRACT INFECTIONS (UTIs)

For resident with an Indwelling Catheter

Temperature: _____	Pulse: _____	Respirations: _____
Both criteria 1 and 2 must be present		
1. At least 1 of the following sign or symptoms sub-criteria		
a. Fever, rigors, or new-onset hypotension, with no alternate site of infection		
b. Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis		
c. New-onset suprapubic pain or costovertebral angle pain or tenderness		
d. Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate		
2. Urinary catheter specimen culture with at least 10 ⁵ cfu/mL of any organism(s)*		

NOTE: (1) Pyuria does not differentiate symptomatic UTI from asymptomatic bacteriuria. Absence of pyuria in diagnostic tests excludes symptomatic UTI in residents of long-term facilities. (2) cfu=colony-forming units

***If catheter has been in place for 14 days or longer, change catheter before collecting specimen for culture and sensitivity testing**

TREATMENT

Antibiotic Treatment: _____ Date Started: _____
 Was resident admitted to hospital?: _____ Dates: _____
 Drug / Dosage / Route: _____
 Culture Y / N: _____ Type: _____ Date: _____
 Results: _____
 Isolation / Precaution: _____ Type: _____

DO NOT FILL OUT THIS PART FOR INFECTION PREVENTIONIST NURSE USE ONLY

[] Health Associated Infection (HAI)

[] Community Associated Infection (CAI)

Additional Notes:

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

SKIN, SOFT TISSUE, and MUCOSAL INFECTIONS

Cellulitis, Soft Tissue, or Wound Infection

Temperature: _____	Pulse: _____	Respirations: _____
At least 1 of the following criteria must be present		
1. Pus present at a wound, skin, or soft tissue site		
2. New or increasing presence of at least 4 of the following sign or symptom sub-criteria		
a. Heat at the affected site		
b. Redness at the affected site		
c. Swelling at the affected site		
d. Tenderness or pain at the affected site		
e. Serous drainage at the affected site		
f. One constitutional criterion (see Table 2)		

TREATMENT

Antibiotic Treatment: _____ Date Started: _____
 Was resident admitted to hospital?: _____ Dates: _____
 Drug / Dosage / Route: _____

 Culture Y / N: _____ Type: _____ Date: _____
 Results: _____

 Isolation / Precaution: _____ Type: _____

DO NOT FILL OUT THIS PART = FOR INFECTION PREVENTIONIST NURSE USE ONLY

Health Associated Infection (HAI)

Community Associated Infection (CAI)

Additional Notes:

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

GASTROINTESTINAL (GI) TRACT INFECTIONS

Norovirus Gastroenteritis

Temperature: _____	Pulse: _____	Respirations: _____
Both criteria 1 and 2 must be present		
1. At least 1 of the following GI sub-criteria		
a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24-h period		
b. Vomiting: 2 or more episodes in a 24-h period		
2. A stool specimen for which norovirus is positively detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing such as polymerase chain reaction (PCR)*		

*If stool specimen results not available to confirm norovirus, use Kaplan's Criteria to fulfill Criteria #2. The following are Kaplan's Criteria: (a) vomiting in more than 50% of affected residents (b) Mean incubation period of 24-48 hrs. (c) Mean duration of illness of 12-60 hours (d) No bacterial pathogen in stool culture

TREATMENT	
Antibiotic Treatment: _____	Date Started: _____
Was resident admitted to hospital?: _____	Dates: _____
Drug / Dosage / Route: _____	
Culture Y / N: _____	Type: _____ Date: _____
Results: _____	
Isolation / Precaution: _____	Type: _____

DO NOT FILL OUT THIS PART - FOR INFECTION PREVENTIONIST NURSE USE ONLY

[] Health Associated Infection (HAI) [] Community Associated Infection (CAI)

Additional Notes:

SURVEILLANCE DATA COLLECTION FORM

Resident name: _____ Room#: _____
 Date of Admission: _____ Date of Onset of Symptoms: _____
 Report Completed By: _____

GASTROINTESTINAL (GI) TRACT INFECTIONS

Clostridium Difficile Infection

Temperature: _____	Pulse: _____	Respirations: _____
Both criteria 1 and 2 must be present		
1. One of the following GI sub-criteria		
a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24-h period		
b. Presence of toxic megacolon (abnormal dilatation of the large bowel, documented radiologically)		
2. One of the following diagnostic sub-criteria		
a. A stool sample yields a positive laboratory test result for <i>C. difficile</i> toxin A or B, or a toxin-producing <i>C. difficile</i> organism is identified from a stool sample culture or by a molecular diagnostic test such as PCR		
b. Pseudomembranous colitis is identified during endoscopic examination or surgery or in histopathologic examination of a biopsy specimen		

TREATMENT	
Antibiotic Treatment: _____	Date Started: _____
Was resident admitted to hospital?: _____	Dates: _____
Drug / Dosage / Route: _____	
Culture Y / N: _____ Type: _____ Date: _____	
Results: _____	
Isolation / Precaution: _____ Type: _____	

DO NOT FILL OUT THIS PART - FOR INFECTION PREVENTIONIST NURSE USE ONLY

[] Health Associated Infection (HAI)

[] Community Associated Infection (CAI)

Additional Notes:

Infection Control Monthly/Quarterly Summary Report

FACILITY:	MONTH/YEAR:
<input type="checkbox"/> Monthly Report	<input type="checkbox"/> Quarterly Report

Number of residents transferred to hospitals due to infections:																																					
Number of Healthcare Associated Infections (HAI):	Number of Community Associated infections (CAI):																																				
Rate of HAI per 1000 resident days for month:	Rate of CAI per 1000 resident day for month:																																				
Number of infections cultured:																																					
Number of resident days:																																					
Resident Infection Prevention & Control	Employee Health																																				
<ul style="list-style-type: none"> • # of TB Converters: • # of Influenza Vaccine Administered: • # of Pneumococcal Vaccine Administered: 	<ul style="list-style-type: none"> • # of TB Converters: • # of Employee Infection Reported: • # of Influenza Vaccine Administered: 																																				
MDRO Health Associated Infection (HAI)	MDRO Community Associated Infection (CAI)																																				
# of MRSA HAI:	# of MRSA CAI:																																				
# of VRE HAI:	# of VRE CAI:																																				
# of C Difficile HAI:	# of C Difficile CAI:																																				
# Other MDRO's HAI:	# Other MDRO's CAI:																																				
# HAI: UTI w/o Catheter: UTI with Catheter:																																					
# HAI: URI: Pneumonia: LRI: Influenza or ILI:																																					
# HAI: Skin: GI: Stool: Eye/Ear: Blood:																																					
CDPH Directives (AFL):	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <td style="text-align: center;">Total # of Infections for Quarter:</td> <td style="text-align: center;"><i>UTI w/o Cath</i></td> <td style="text-align: center;"><i>UTI with Cath</i></td> <td style="text-align: center;"><i>Resp</i></td> <td style="text-align: center;"><i>Skin</i></td> <td style="text-align: center;"><i>GI</i></td> <td style="text-align: center;"><i>Stool</i></td> <td style="text-align: center;"><i>Eye/Ear</i></td> <td style="text-align: center;"><i>Blood</i></td> </tr> <tr> <td style="text-align: center;">Month</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: center;">Month</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: center;">Month</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Total # of Infections for Quarter:	<i>UTI w/o Cath</i>	<i>UTI with Cath</i>	<i>Resp</i>	<i>Skin</i>	<i>GI</i>	<i>Stool</i>	<i>Eye/Ear</i>	<i>Blood</i>	Month									Month									Month								
Total # of Infections for Quarter:		<i>UTI w/o Cath</i>	<i>UTI with Cath</i>	<i>Resp</i>	<i>Skin</i>	<i>GI</i>	<i>Stool</i>	<i>Eye/Ear</i>	<i>Blood</i>																												
Month																																					
Month																																					
Month																																					
Policy and Procedure Implementation/Revision/Review:																																					
Care Plan Reviewed:																																					
Issue (s) Identified:																																					

Plan of action based on the issues identified:

Action Plan:	Responsible Staff:	Goal Date:

Follow-up of prior concern:	Resolved: (yes/no)	Comments (reason not resolved and action plan):

The meeting adjourned at: (am/pm)	Infection Preventionist:
Report to: CQI Committee	Medical Director Name::
DNS Name::	Administrator Name:

TREATMENT NURSE OBSERVATION

NURSE

OBSERVED _____ EVALUATOR: _____

DATE: _____

—

OBSERVATION	YES	NO	COMMENTS
HCW performed hand washing prior to handling clean contents of treatment cart			
Treatment cart left outside of the room, locked when nurse not present			
Physician order for treatment reviewed			
All supplies collected before leaving cart and entering resident's room			
Solutions dated and discarded after 24 hours (i.e., normal saline)			
Privacy provided before beginning treatment			
Nurse informed resident of treatment she/he intends to perform			
Nurse changed gloves when appropriate/Proper use of gloves			
Clean field set up at bedside			
Hand hygiene performed with each removal and application of gloves at appropriate times			
Treatment performed with appropriate "no touch" techniques to avoid cross-contamination. Always cleanse wd. from area of least contamination to most contamination			
Observe wound for size, color drainage and appearance (measure wound before application of medication)			
Discard soiled materials appropriately			
Were items used at bedside returned to the treatment cart before sanitizing item (like scissors)			

CONCLUSION _____

INFECTION CONTROL COMPLIANCE CHECKLIST

OBSERVATION DATE _____ **EVALUATOR** _____

NAME of PERSON OBSERVED	ROLE IN FACILITY*	OBSERVATION ROOM NUMBERS	STANDARD PRECAUTIONS USED PPE USED?	HAND HYGIENE USED SOAP & H2O OR ABHR		APPROPRIATE TRANSMISSION-BASED ISOLATION PRECAUTIONS USED (IF APPLICABLE)	GLOVES & LINEN USED APPROPRIATELY (IF NO, LIST CATEGORY OF NON-COMPLIANCE)	PROPER POSTING OF ISOLATION SIGNS	100% COMPLIANCE WITH ISOLATION YES OR NO	
				Before	After				YES	NO

*ROLE IN FACILITY CODE: 1. RN/LVN 2.PHYSICIAN 3. NURSING ASSISTANT 4. RT 5.REHAB 6.DIETARY 7.HOUSEKEEPING 8.OTHER HCW 9.VISITOR **ISOLATION VARIANCE NON-COMPLIANCE TO NOTE IN THE "NO" COLUMN : GLOVES, GOWNS, MASK, OR GOGGLES NOT USED WHEN INDICATED.

POLICIES

SUBJECT:	INFECTION CONTROL page 1 of 5
SECTION:	(REVISED) POLICY FOR MULTI-DRUG RESISTANT ORGANISMS (MDRO)
EFFECTIVE DATE:	

Policy:

It is the policy of _____ to implement infection control measures to prevent the spread of communicable diseases and conditions. In LTC, it is appropriate to individualize decisions regarding resident placement (shared or private), balancing infection risks with the need for more than one occupant in the room, the presence of risk factors that increase the likelihood of transmission, and the potential for adverse psychological impact on the infected or colonized resident. It is therefore appropriate to use the least restrictive approach possible that adequately protects the resident and others. Maintaining isolation longer than necessary may adversely affect psychosocial well-being. This policy has been revised, January 20, 2011 in accordance with the guideline recommended by the California Department of Public Health and California Association of Health Facilities released September 7, 2010. This guideline referred to as “Enhanced Standard Precautions for California Long-Term Care Facilities, 2010” replaces the 1996 “Guideline Prevention and Control of Antibiotic Resistant Microorganisms, California LTCF”.

1. STANDARD PRECAUTIONS—Apply to all contact with resident’s blood, body fluids, secretions and excretions regardless of the presence of visible blood, non-intact skin and mucous membranes.

II Multi-drug Resistant Organisms (MDRO)—include but may not be limited to:

- a. MRSA-Methicillin Resistant Staphylococcus aureus (Oxacillin Resistant)
- b. ARGNB-Aminoglycoside (Gentamycin, Tobramycin, Amikacin) Resistant Gram Negative Bacilli (ex: Pseudomonas aeruginosa)
- c. VRE-Vancomycin Resistant Enterococcus
- d. Clostridium Difficile
- e. ESBL – Extended Spectrum Beta Lactamase gram negative bacilli
- f. CRKP --Carbapenem Resistant Klebsiella pneumoniae or other CRE
- g. NDM Metallo-Beta Lactamase bacilli
- h. Organisms with sensitivity to 2 or less antibiotics (ex: Acinetobacter)

RISK FACTORS:

- A. Widespread use of antibiotics
- B. Prolonged hospitalization
- C. Cardio-thoracic or intra-abdominal surgical procedures
- D. Chronic underlying diseases (e.g. Diabetes and Cardiovascular Disease) induced immunosuppression and neurological illnesses resulting in immobility and incontinence

SUBJECT:	INFECTION CONTROL page 2 of 5
SECTION:	(REVISED) POLICY FOR MDRO

- E. Presence of invasive devices such as gastric tubes, indwelling urinary catheters, naso-gastric tubes, vascular access lines, tracheotomy, etc.
- F. Non-intact skin sites

PREVENTION AND CONTROL OF MDRO TRANSMISSION

- A. Standard Precautions including Contact Precautions.
 1. Standard Precautions are to be applied to all resident contacts regardless of their state of infection. Isolation Precautions are to be implemented for residents with active infections caused by significant pathogens such as MRSA, VRE, ESBL, Clostridium difficile, scabies, norovirus, etc. Each resident should be assessed for active signs and symptoms of infection. If symptoms are absent, isolation is not necessary in a LTCF. Standard Precautions will always be used when handling all residents. Begin isolation when conditions such as scabies or Clostridium difficile diarrhea are **suspected**, even before laboratory confirmation.
 2. Handwashing-before and after resident contact, and after removing gloves is the single most effective infection control measure known to reduce the potential for transmission of microorganisms, including MDROs.
 3. Transmission-Based Precautions will be implemented for known or suspected infections for which are due to MDROs for which the route of transmission is known. The decision to start isolation precautions can be made by a physician, the facility IP, the DON, the assistant DON, or a nursing supervisor. This decision should be based on the clinical assessment of the resident. Timely implementation of isolation can prevent transmission of serious pathogens.
 4. Protective Barriers:
 - i. **Gloves**: Put gloves on immediately prior to anticipated contact with non intact skin or blood and other body fluids or when touching surfaces soiled with blood or other body fluids. Remove gloves when the specific task is completed and wash hands immediately.
 - ii. **Gowns**: Wear gowns when it is anticipated that clothing will become soiled with blood or other body fluids or when contact with soiled surfaces (such as siderails or bed linens of an infected resident) is anticipated. Remove gowns when the procedure is complete and prior to leaving the resident's room.
 - iii. **Masks and Eye Protectors (or faceshield)**: Must be worn if blood or other body fluids may be splashed or sprayed into the mucous membranes of the eyes, nose and/ or mouth.
 - iv. **Note**: In the event the isolated resident has a roommate that does not require isolation, the PPE is to be used when caring for the isolated resident or working within 3 feet of the isolated resident's environment ONLY. Wearing the PPE while caring for this non-isolated roommate is

SUBJECT:	INFECTION CONTROL page 3 of 5
SECTION	(REVISED) POLICY FOR MDRO

- not necessary or indicated. It is against the rights of the non-isolated resident to be cared for while the HCW is wearing PPE if it is not so indicated by his/her clinical condition. This then becomes a dignity issue for the non-isolated resident.
- B. Room Placement: will depend on the epidemiology of the specific microorganisms, the ability of the resident to assist in confining and containing the microorganisms and the temporal relationship of the known infected or colonized residents to newly identified cases. If Standard Precautions are applied universally to all residents, placing MDRO residents in private rooms or cohorting becomes a secondary infection control measure.
NOTE: In the event a resident requires isolation precautions or separation from a roommate, where no other compatible roommate is available, a separation between roommates may be accomplished by keeping the privacy curtain drawn at all times until separation is no longer required when symptoms of active infection have abated.
- C. Environmental and Equipment Protection:
1. Disinfection of soiled surfaces and high touch surfaces (i.e. call lights, siderails) as well as equipment daily or more frequently by the designated staff member(s) should be done in order to prevent the spread of MDRO and other pathogenic microorganism.
 2. Dedicated use of non-critical care equipment (i.e., sphygmomanometer, stethoscope and thermometer) will be provided to MDRO resident(s), when available. This equipment should be disinfected after each use whether dedicated to MDRO resident or shared.
 3. Residents on Contact Precautions due to active MDRO infection will be provided with a cart for easy access of needed supplies.
- D. Linens: Contaminated linens should be handled appropriately whether their source was an isolation room or a non-isolation room. All linen should be handled as if it were highly infectious. **No special bagging of isolation linen required unless otherwise assessed.**
- E. Trash: Trash from a resident on isolation does not require special disposal, such as red bags (as if it were Infectious Waste) unless item is saturated with liquid red blood. Therefore, during dressing change of wounds, the items for disposal can be placed in a regular bag (color of your choosing) and then removed from the room of the isolated resident to be disposed of in a designated area (i.e., utility room trash bin).
- F. Resident Transportation: staff responsible for transporting residents should wear appropriate personal protective equipment if contact with blood or other body fluids are anticipated.
- G. Staff Education: is essential in reducing the transmission of MDROs. Healthcare workers should be informed concerning epidemiology of specific MDROs and the role

SUBJECT	INFECTION CONTROL page 4 of 5
SECTION	(REVISED) POLICY FOR MDRO
EFFECTIVE DATE	

they, the healthcare worker, play in reducing the potential for transmission of these as well as other microorganisms.

H. Surveillance Cultures:

- a. Obtain surveillance cultures of residents or the environment **ONLY** when there is a clear indication that these cultures are indicated. Cultures of the environment are **NOT** routinely recommended unless there is an outbreak and the epidemiology can be linked to an environmental reservoir.
- b. Roommates exposed to a MDRO positive resident will not be subject to a surveillance culture unless evidence of active infection is present. However, residents exposed to MDRO positive roommates will be observed and monitored for 72 hours to rule out possible MDRO infection.

- I. Activities: Residents should be allowed to ambulate, interact with other residents socially and participate in group activities. It is the philosophy of the facility to “isolate the infection (the germ), not necessarily, the resident”. The following precautions should be taken for MDRO residents participating in facility activities:
- a. Cover wounds with a clean barrier dressing prior to group activities.
 - b. Residents’ hands should be washed prior to leaving their room
 - c. Residents with respiratory symptoms should be provided with disposable wipes and a plastic bag to contain secretions. If they have an active cough, they should be encouraged to wear a mask if they insist on leaving their room.
 - d. Clean incontinent residents and use protective disposable pad if fecal incontinence is anticipated (residents with *Clostridium difficile* active diarrhea should not be allowed to leave the room until diarrhea has subsided or “normal” toileting habits have returned).

- I. Visitors: Instruct visitors to wash their hands prior to resident contact, following contact with body fluids, before and after feeding the resident and following contact with other residents. Visitors should also be instructed to wash their hands before leaving the facility.

- J. Handling of Dishes: All tableware, whether used by infected or non-infected residents, should be treated as contaminated and should be sanitized according to facility policy. Disposable dishes or flatware are not necessarily required for isolation residents. Only when it is assessed that a resident’s hygiene may present some risk is it recommended that disposable utensils be used.

TREATMENT OF MDRO:

1. Antibiotics, both oral and parenteral should only be used to treat residents with suspected or documented clinical infections, **NOT COLONIZATION**. The antibiotic treatment of choice will depend upon the culture and sensitivity report.

SUBJECT	INFECTION CONTROL page 5 of 5
SECTION	(REVISED) POLICY FOR MDRO
EFFECTIVE DATE	

2. Antibiotic treatment of culture positive, non-infected residents (colonized) is not recommended and may induce further resistance. If eradication therapy of the nares is attempted with the use of Mupirocin or Bactroban and the resident is asymptomatic this resident need NOT be on isolation.
3. Vancomycin use should be assessed carefully due to the risk of possible emergence of VRE.

TERMINATION OF CONTACT PRECAUTIONS:

1. Contact precautions may be discontinued when MDRO resident becomes asymptomatic. It is not necessary to wait until the completion of the antibiotic. Assess the resident for clinical improvement which is evident by resolution of the symptoms. Good assessment and documentation of each resident's clinical condition is necessary before discontinuing the isolation precautions. Isolation may be discontinued when there is documentation that the resident is free of symptoms for 24 hours or more. At the end of isolation, the resident will then be managed with Standard Precautions.
2. The facility Infection Preventionist should be notified by the charge nurse when a possible termination of special precautions is imminent.
3. The final assessment to terminate isolation precautions will then be conducted by the Infection Preventionist in the facility.
4. Recommendation to terminate Contact Precautions will be relayed to the attending physician.
5. Licensed nurses will address the residents symptoms, or lack thereof, on their weekly charting.
6. If, at any time, symptoms recur, the resident may be placed on Empiric Isolation until the suspected site of infection is cultured and results of that culture is available.

SECTION	INFECTION CONTROL
SUBJECT	POLICY FOR CLEANING STETHOSCOPE
EFFECTIVE DATE	

It has the policy of _____ to provide a safe and sanitary environment for the residents who reside in our facility. Since studies have shown that the environment plays a role in transmission of infections, it is our policy that the stethoscope must be cleaned in between each resident use. Follow the manufacturer's instructions, when available, for cleaning non-critical care items. In the absence of the manufacturer's cleaning instructions, use the following steps to properly clean and disinfect these items between residents.

1. The stethoscope will be cleaned after each use with an alcohol wipe. Remove any visible soil first and then wipe with alcohol or other disinfectant wipe.
2. When the resident is on isolation, dedicate a stethoscope for the sole use of the isolated resident. After isolation is discontinued, or the resident is discharged, clean and disinfect the apparatus with a bleach-based wipe that addresses a wide range of microorganisms including bloodborne pathogens and *Clostridium difficile*.
3. Be sure to allow for proper "contact time" as directed by the product label.

SUBJECT:	INFECTION CONTROL
SECTION:	PROCEDURE FOR WOUND CARE/CHANGE OF DRESSING
EFFECTIVE DATE:	

Procedure:

- Check physician order for current, correct treatment.
- **Wash hands** prior to handling clean contents of treatment cart.
- Take treatment cart to the resident's room (not inside of room, but just outside). Gather and set up supplies in the resident area (create a clean field):
 - Establish a clean field
 - Open supplies onto clean field, including several pairs of clean gloves.
 - Open (and date) and pour solutions into clean container, prepare ointments and medications. Solutions like NS must be dated and discarded every 24 hours.
 - Establish container for soiled dressings, supplies (plastic bag must be lower than clean field)
- Inform resident what you are going to do. Check wrist band for correct resident.
- Provide Privacy. All treatments should be done in the resident's room with the cubicle curtain pulled entirely around the bed, or in the examination room if one exists.
- **Wash hands** (alcohol-based hand rub may be used at this point). Apply clean gloves.
- Remove old dressing and discard in the appropriate disposal bag.
- Remove gloves. **Wash hands** (alcohol-based hand rub may be used at this point). Apply clean gloves.
- Cleanse wound with solution ordered. Use "no touch" technique. Do not directly touch any item that will come in contact with the wound. Wash from the center of the wound to the periphery. Always wash from the area of least contamination to the area of most contamination.
- Observe the wound for size, color, drainage, appearance, and amount of drainage. This is the best time to measure the area, before any medication is applied.
- Remove gloves. **Wash hands** (alcohol-based hand rub may be used at this point.) Apply clean gloves.
- Apply any medication ordered and dress the wound.
- Discard soiled materials in plastic bag. Do not discard in resident's room; remove to appropriate receptacle in utility room.
- Remove gloves and **wash hands (at this point hand washing is preferred over ABHR)**
- Return resident to safe, comfortable position.
- Any items or supplies not used should be discarded. If any supplies such as scissors were brought in to the resident's area it should be disinfected with alcohol before returning to the treatment cart.
- Document treatment given and the wound appearance and changes in nurses' notes and elsewhere as per facility policy.

SECTION	INFECTION CONTROL	Page 1 of 2
SUBJECT	NEBULIZER CLEANING AND DISINFECTION	
EFFECTIVE DATE		

Experts in the field of Infection Prevention and Control have demonstrated that equipment used for resident care as well as the environment of the resident can be a source of transmission of microorganisms which can lead to the development of a hospital-associated infection (HAI).

Purpose: The purpose of this policy is to provide a procedure for a respiratory therapy task with the use of a nebulizer to prevent the development of HAIs.

Preparation: Review the resident's care plan to assess for any special circumstances or precautions related to the resident's care.

Procedure: The following procedure provides guidance for cleaning and disinfecting hand-held nebulizer used for resident care. According to recommendations and guidelines from the CDC and Institute of Healthcare Improvement¹, "it is preferred that sterile water be used for rinsing reusable semi-critical respiratory equipment and devices when rinsing is needed after they have been chemically disinfected. If this is not feasible, rinse the device with filtered water or tap water, and then rinse with isopropyl alcohol and dry with forced air or in a drying cabinet". A solution of vinegar and water may also be used for disinfection.

1. Gather equipment needed (sterile water, if available, alcohol/or vinegar and water solution, gloves, gown, mask, administration "set-up", plastic bag, gauze sponges, alcohol-based hand rub, if needed, for hand hygiene)
2. After completion of nebulizer-use:
 - A. Perform hand hygiene
 - B. Remove the nebulizer container
 - C. Rinse the container with sterile water (or fresh tap water may be used as well)
 - D. Disinfect by placing in bowl with 1 part white vinegar to 2 parts water
 - E. Rinse with water
 - F. Dry on a clean paper towel or gauze sponge
3. Reconnect to the administration set-up when air dried.

¹ CDPH. R02-PSLS Reference Appendix A. Rev 06-08-10

SECTION	INFECTION CONTROL	Page 2 of 2
SUBJECT	NEBULIZER CLEANING AND DISINFECTION	
EFFECTIVE DATE		

4. Caution should be taken to avoid contaminating the internal nebulizer tubes.
5. Wipe the mouthpiece with a damp paper towel or gauze sponge.
6. Store the circuit in a plastic bag, marked with the date and the resident's name, between uses.
7. Perform hand hygiene
8. Discard the administration "set-up" every 7 days.

SUBJECT	INFECTION CONTROL page 1 of 5
SECTION	CLOSTRIDIUM DIFFICILE
EFFECTIVE DATE	

Policy:

It is the policy of _____ to implement infection control measures to prevent the spread of communicable diseases and conditions. This policy is based on the current guidelines and recommendations by the CDC and local public health department for management of Clostridium difficile infection (CDI).

1. **STANDARD PRECAUTIONS**—Apply to all contact with resident’s blood, body fluids, secretions and excretions regardless of the presence of visible blood, non-intact skin and mucous membranes. This standard is to be applied to the care of **ALL** residents regardless of their diagnosis.
2. Clostridium difficile is an anaerobic, gram-positive, spore-forming bacterium. It is the most frequent cause of healthcare-associated infectious (CDI) diarrhea in adults and is associated with symptoms that range from watery diarrhea to life-threatening colitis. According to the CDC, *Clostridium difficile* accounts for 25% of all episodes of hospital-associated diarrhea. Clinicians should consider a diagnosis of CDI in any resident with diarrhea (and /or colitis) who may have been hospitalized and recently received antibiotics. More than 90% of healthcare- associated CDIs occur after or during antibiotic therapy.
3. Risk Factors:
 - A. Antibiotic therapy (either current or in the last 6 months)
 - B. Age greater than 65 years
 - C. Severe underlying disease and/or patient who is immunosuppressed
 - D. Nasogastric intubation
 - E. Confinement in an acute or long-term care hospital
 - F. Anti-ulcer medications (PPIs or H2 Blockers)

SUBJECT	INFECTION CONTROL page 2 of 5
SECTION	CLOSTRIDIUM DIFFICILE
EFFECTIVE DATE	

4. Mode of Transmission

A. *Clostridium difficile* is present in the feces. The major reservoirs of *C. difficile* are infected patients and items or environmental surfaces contaminated with feces. Clostridium spores are transferred to patients primarily via the hands of healthcare personnel who have direct contact with infected patients or who have touched a contaminated surface or item. In order to cause infection, *Clostridium difficile* must be ingested and there must be disruption of the normal colonic flora (due to the antibiotics).

5. Symptoms

A. *Clostridium difficile* infections can cause a range of disease. Infection is most commonly mild and characterized by watery, non-bloody diarrhea (>3 stools per day for 2 or more days), fever, loss of appetite, nausea and lower abdominal pain and cramping. Some patients may experience more severe illness, including pseudo-membranous colitis and may require surgery. Once a patient is treated for CDI he/she may remain colonized with this organism indefinitely. The term “colonized” implies the patient is free of symptoms. Experts have documented that 20% of residents in LTC can be colonized with *Clostridium difficile*. Those colonized DO NOT require treatment nor do they need to be isolated nor cultured unless symptoms recur.

6. Diagnosis

A. In order to accurately diagnose CDI the resident must have active diarrhea. Only a loose diarrhea stool should be collected and sent to the lab for testing. The test to order is a “clostridium difficile toxin test”, not a culture. The culture does not distinguish toxin-producing strains and takes 72 hours as opposed to same day results for EIA or PCR testing.

7. Treatment

A. CDI is usually treated with 10-14 days of either metronidazole or vancomycin. If possible, the healthcare provider should stop the antibiotics to which the patient was previously exposed. Colonized residents (those who are symptom free) should not be treated.

SUBJECT	INFECTION CONTROL page 3 of 5
SECTION	CLOSTRIDIUM DIFFICILE
EFFECTIVE DATE	

PREVENTION AND CONTROL

4. **Hand washing:** All healthcare providers should wash their hands with soap and water after every contact with resident /and his environment who has CDI. **Alcohol gels/rubs are not effective in removing or killing the spores whereby** the soap and water provides mechanical removal of this infectious organism from the hands.
5. **Contact Isolation:** Residents with active diarrhea diagnosed as having CDI should be placed in Contact Isolation. They should remain in their room until the diarrhea resolves or the resident returns to their normal toileting habits. Need for Isolation is not determined by the fact that resident is still on antibiotic therapy. Patients can be grouped (cohorted) with other patients with C. diff. **Individual resident assessment is always necessary to determine appropriate roommates for those with C. diff.** A CDI resident should not share bathroom facilities with someone who does not have CDI. It is not necessary to do any additional stool testing for C. difficile after the diarrhea has resolved to remove a patient from isolation.
 - i. **Linens handling:** All linens, regardless of the resident's diagnosis, should be considered infectious and therefore the linens of a C. diff patient does not require any special handling. Good hand washing after discarding any soiled linens is always required.
 - ii. **Protective equipment needed:** While a resident is in isolation for CDI, gloves and a gown should be worn when giving direct care or having contact with the CDI resident's environment. After the equipment is removed (before exiting the patient's room) hand washing should be performed immediately.
 - iii. **Non-critical care equipment** like thermometers, sphygmomanometers and stethoscopes should be dedicated to the CDI resident.
 - iv. **Room Placement:** Individual assessment of each potential roommate for a CDI resident is necessary. Consideration to sharing a bathroom is an important issue with assessment of each resident's ability to contain the microorganism and to understand the importance of good hand washing practices.
 - v. **Trash** from a resident with CDI will be disposed of as regular trash unless item for disposal is saturated with liquid blood. Then it will require red bagging to be disposed of as medical infectious waste. See Medical Waste Management Act.

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6. **Environmental and Equipment Protection and Disinfection:**
- i. Disinfection of surfaces and equipment daily or more frequently by the designated staff member(s) should be done in order to prevent the spread of *Clostridium difficile*. Special attention should be given to high-touch surfaces like siderails, door knobs and light switches, etc.
 - ii. Due to the spore-forming nature of *C. difficile* and its ability to survive on dry environmental surfaces for many months, the disinfectant recommended for cleaning the environment of this resident is a bleach solution with a dilution of 1:10 (one part bleach to 9 parts water). This is in accordance with HICPAC guidelines and recommendations. * This bleach solution, when mixed is good for 24 hours and then must be discarded. Mop heads and cleaning cloths must be changed after cleaning rooms with CDI residents. Housekeeping staff must wear PPE when entering rooms with CDI resident in order to clean the environment.
 - iii. Residents on Contact Precautions due to active CDI infection will be provided with a cart for easy access of needed supplies.
 - iv. Dedicated use of non-critical care supplies (sphygmomanometer, stethoscope and thermometer) will be provided to CDI resident(s)
1. **Staff Education**
- i. Education is essential in reducing the transmission of *Clostridium difficile*.
 - ii. Healthcare workers should be informed concerning epidemiology of this specific organism and the role the healthcare worker plays in reducing the potential transmission of this as well as other organisms.
2. **Surveillance Laboratory testing**
- iii. Obtain specimen from symptomatic residents to determine the cause of diarrhea. The specimen collected should be loose stool not formed stool. The test to order is a “C. diff toxin test”. Formed stool is not an appropriate specimen for testing for CDI.
 - iv. Environmental cultures are not needed or required unless epidemiologically linked to an outbreak.
 - v. Roommates exposed to a CDI resident will not be subject to cultures or toxin tests unless evidence of active infection is present. However, residents exposed to *C. difficile* infected roommates can be observed and monitored for 72 hours after exposure to rule out possible CDI.
3. **Handling of Dishes**
- vi. All tableware and utensils whether used by infected or non-infected residents should be treated as contaminated and should be sanitized according to facility policy. Disposable dishes or flatware are not necessarily required for isolation residents. Only when it is assessed that a resident’s hygiene may present some risk is it recommended that disposables be used.
4. **Trash:** Trash from a resident on isolation does not require special disposal, such as

*As of November, 2008, APIC ‘s “Clostridium difficile Infection Backgrounder” states that cleaning & disinfection activities using the physical motions of cleaning & use of the routine germicide removes & dilutes spore concentration and is acceptable in the absence of an outbreak.

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red bags (as if it were Infectious Waste) unless item is saturated with liquid red blood. Therefore, during dressing change of wounds, the items for disposal can be placed in a regular bag (color of your choosing) and then removed from the room of the isolated resident to be disposed of in a designated area (i.e., utility room trash bin).

5. **Visitors:**

Instruct visitors to wash their hands prior to resident contact, following contact with body fluids, before and after feeding the resident and following contact with other residents.

D. **Termination of Contact Isolation**

- i. Contact precautions should be discontinued when the resident with *Clostridium difficile* infection no longer manifests symptoms of that infection (is free of diarrhea or has returned to normal toileting habits). At this point, if the resident remains asymptomatic, the physician should be notified and asked to document that the resident is colonized. It is not necessary to perform further stool tests to detect *Clostridium difficile* since a large number of residents remain colonized with this organism. It is then acceptable practice to discontinue the isolation since the basic standard of practice is Standard Precautions.
- ii. The facility Infection Preventionist should be notified by the charge nurse when a possible termination of special precautions is imminent.
- iii. The final assessment for termination of Isolation will then be made by the Infection Preventionist.
- iv. Recommendations to terminate the isolation should be relayed to the attending physician for approval.

SECTION	INFECTION CONTROL
SUBJECT	POLICY FOR CLEANING & DISINFECTING BLOOD PRESSURE MACHINE AND BLOOD PRESSURE CUFF
EFFECTIVE DATE	

It is the policy of _____ to provide a safe and sanitary environment for the residents who reside in this facility. Since studies have shown that the environment plays a role in transmission of infections, it is our policy that the sphygmomanometer, used to measure blood pressure of residents, must be cleaned in between each resident use. Follow the manufacturer's instructions, when available, for cleaning non-critical care items. In the absence of the manufacturer's cleaning instructions, use the following steps to properly clean and disinfect these items between resident use.

1. The blood pressure cuff and gauge will be cleaned after each use with a disinfectant wipe. Remove any visible soil first and then wipe with disinfectant wipe.
2. Clean the inside surface of the blood pressure cuff with the disinfectant wipe as well.
3. When the resident is on isolation, dedicate a blood pressure machine for the sole use of the isolated resident. After isolation is discontinued, or the resident is discharged, clean and disinfect the apparatus with a bleach-based wipe that addresses a wide range of microorganisms including bloodborne pathogens and *Clostridium difficile*.
4. Be sure to allow for proper "contact time" as directed by the product label.

SECTION	INFECTION CONTROL
SUBJECT	CLEANING AND DISINFECTION OF GLUCOMETER
EFFECTIVE DATE	

The CDC states that HBV can survive for several days in dried blood on environmental surfaces or on contaminated instruments and equipment. The following policy provides guidance for cleaning and disinfection of glucometers in between resident use.

1. Clean glucometer surface after **EACH** use by wiping with a cloth dampened with soap and water to remove any organic material from the machine.
2. Disinfect (after each use) after cleaning the exterior surfaces following the **manufacturers'** directions using a cloth/wipe with either an EPA-registered detergent/germicide with a tuberculocidal and HBV/HIV label claim, **or** a dilute bleach solution of 1:10 (one part bleach 9 parts water) to 1:100 concentration.
 - a. Directions for glucometer disinfection vary between manufacturers and models within brands. Alcohol should not be used unless indicated by manufacturer's label and instructions, because it can damage the light emitting diodes (LED) readout, causing "fogging" of the plastic screens.
 - b. Many manufacturers do not recommend the use of quaternary ammonium compounds because of the corroding effects on metal parts. Check with instructions for use of apparatus.
 - c. All manufacturers caution that having the cloth too saturated could allow liquid to get inside the glucometer and cause damage. Screens and ports currently are not sealed on these devices. Therefore, using a bleach-only disinfecting wipe is less likely to cause damage.
3. Fingerstick devices should **never** be used for more than one person. Auto-disabling **single-use** fingerstick devices should be used for assisted monitoring of blood glucose (CDC." Transmission of Hepatitis B Virus Among Persons Undergoing Blood Glucose Monitoring in Long-term Care Facilities"-LA County, 2003-2004. MMWR 2005:54:220-223.)

References:

1. Guideline for environmental infection control in health-care facilities: recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. MMWR, 2003;52(No. R-10):1-44
2. Rutala, WA. APIC guideline for selection and use of disinfectants. American Journal of Infection Control (AJIC) 1996;24:313-42

SUBJECT	INFECTION CONTROL
SECTION	IMMUNIZATION POLICY
EFFECTIVE DATE	

PURPOSE: To reduce mortality and morbidity of residents and employees by offering and administering the recommended/required vaccines (Title 8, section 5199)

POLICY: It is the policy of _____ to offer Influenza Vaccine annually to all residents and employees, in accordance with CDC, CDPH and CAL-OSHA regulations and recommendations.

It is also the policy of this facility to offer MMR, Varicella, Tdap vaccines to all employees who lack immunity to these infectious diseases.

Employees must show documentation of their immunity (by previous vaccination or antibody titer testing) to the following infectious diseases:

Measles, Mumps, Rubella (MMR)

Chickenpox (Varicella)

Pertussis (Tdap)

If no documentation available, the facility will offer the vaccine(s) to the employee to be given during work hours at the convenience of the employee at no cost to the employee. A signed consent or declination (if HCW declines to receive the vaccines) shall be kept on file in the employee health record.

According to CDPH, it is recommended we offer the Tdap vaccine to the residents of this facility. If the resident, or their family, declines this vaccination a declination form will be signed and kept in the resident's medical record.

The following exceptions are reasons to decline the vaccines:

- The vaccine is medically contraindicated as determined by the physician or the resident has cold or flu symptoms.
- Administration of the vaccine is against the resident's personal wishes/beliefs.
- The facility is unable to obtain the vaccine due to a shortage of supply

SUBJECT:	INFECTION CONTROL Page 1 of 7
SECTION:	POLICY FOR MANAGEMENT OF ACINETOBACTER BAUMANNII
EFFECTIVE DATE:	

Policy:

It is the policy of _____ to implement infection control measures to prevent the spread of communicable diseases and conditions. In LTC, it is appropriate to individualize decisions regarding resident placement (shared or private), balancing infection risks with the need for more than one occupant in the room, the presence of risk factors that increase the likelihood of transmission, and the potential for adverse psychological impact on the infected or colonized resident. It is therefore appropriate to use the least restrictive approach possible that adequately protects the resident and others in the facility⁽¹⁾. Maintaining isolation longer than necessary may adversely affect psychosocial well-being of a resident⁽¹⁾. This policy has been revised, January 20, 2011 in accordance with the guideline recommended by the California Department of Public Health and California Association of Health Facilities released September 7, 2010. This guideline referred to as “Enhanced Standard Precautions for California Long-Term Care Facilities, 2010” replaces the 1996 “Guideline Prevention and Control of Antibiotic Resistant Microorganisms, California LTCF.”

Background:

Acinetobacter baumannii (AB) is a species of pathogenic bacteria that is ubiquitous in nature and has been found on or in water, soil, animals or humans. *Acinetobacter* has been known to be recovered from the skin, throat, respiratory tract, and rectum of humans. This organism has been identified as the cause of infections most often seen in critically ill patients (i.e. in ICUs or sub-acute units) receiving invasive medical interventions such as urinary catheters, central lines, arterial lines, and mechanical ventilation. To add to the problem, AB is capable of surviving for extended periods of time (from a few weeks to months) on inanimate surfaces thereby creating opportunity for contact transmission.

Acinetobacter baumannii infections are even more difficult to manage when the infecting strain exhibits multi-drug resistance. In addition, there have been reports of outbreaks with pan-resistant AB (in addition to carbapenems, resistance to polymyxin and colistin)² The expression of this resistance factor may differ from strain to strain. Recently, carbapenem resistance has been one of the main challenges in managing *Acinetobacter* healthcare-associated infections.

Risk Assessment:

The purpose of doing a risk assessment is to evaluate the degree of pathogen transmission or hospital associated infection risk within the facility. An individual risk assessment will assist in developing a case specific strategy to ensure prevention of transmission of colonization and infection risk to residents, staff, and visitors. The risk assessment is based on identified risk

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group/location, surveillance data evaluation, and incidence calculations and rates. Data collection is on-going so that trends in transmission and/or infections are monitored and investigated properly. Evaluation of risk assessment data is linked to clearly defined outcome or process measures for the management of MDR-AB in the facility (2).

1. Risk Factors

- A. Prolonged hospitalization
- B. Length of time spent in ICU
- C. Previous antibiotic treatment
- D. Use of catheters
- E. Surgical procedures
- F. Compromised immune system
- G. Chronic underlying disease
- H. Neurological illness resulting in immobility and incontinence
- I. Presence of invasive devices (IV, GT, central lines)
- J. Non-intact skin

On Admission:

Upon admission each resident's clinical condition will be assessed for signs and symptoms of an active infection. If *Acinetobacter baumannii* has been identified as the pathogen causing an active infection, the most recent culture and sensitivity report will be reviewed for resistance patterns. Until a thorough assessment of the resident has been completed, the resident may be placed on Contact Isolation Precautions. If a private room is available, place the MDR-AB resident in the private room. If not available, cohorting with another resident, colonized or infected, with the same organism is acceptable. If such a roommate is not available, cohort with a resident who has low risk for infection (no invasive procedure sites, intact skin, no infection or on any antibiotics)

Based on the HICPAC MDRO Guideline 2006, use of Contact Precautions for MDROs, including MDR-AB, can be based on the **resident's clinical situation** and facility resources. Many facilities use Contact Precautions if the resident has an **active infection** with MDR AB. However, if the resident is colonized and the clinical situation allows (resident is free of symptoms of an infection) and the resident can maintain good hygiene (whether on his own or with the assistance of nursing staff) and can follow instructions to prevent transmission-- Standard Precautions may be used (3). The quality of life of LTCF residents is associated with socialization and participation in group activities; therefore modifying the type of precautions that can be safely used with MDR AB residents is an important consideration.

Points to Consider:

- A. Review last C&S report for MDR AB resident. Check to which antibiotics the resident is resistant (carbapenems, colistin, aminoglycosides). If resistance is noted to these antibiotics, the facility may consider enhanced standard precautions in management of

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the colonized resident. Close monitoring of this resident's clinical condition may be considered to assure symptoms are identified as soon as they manifest. At that time, contact isolation may be considered appropriate. If the resident with MDR AB has multiple antibiotics that are effective against this MDR AB and the resident does not display any clinical signs of an infection then this resident may be managed with Standard Precautions.

- B. Based on surveillance program, data will be evaluated and incidence rates and prevalence rates will be calculated and analyzed. These residents will be assessed for risk factors and for the possibility that the AB was acquired within the LTCF.
1. In the event that there is an increase in the number of positive AB residents even after infection prevention and control practices are followed, the facility may consider Intensified Interventions. These additional strategies are outlined in the CDPH Enhanced Standard Precautions Guideline, September, 2010.¹ These interventions are:
 - a. Perform Active Surveillance cultures on residents and new residents admitted.
 - b. Cohort residents and staff
 - c. Enhanced environmental cleaning performed (more often, addressing the high-touch surfaces)
 - d. In extreme cases, consider closing the unit affected and do not admit new residents.
 2. Because of the strong environmental component of MDR AB, all aspects of room cleaning should be carefully reviewed, with a determination of how each item in the resident's room is to be cleaned and who is responsible for doing so. Existing protocols should be reviewed and how these protocols are actually put into practice. The Infection Preventionist (IP) should be involved with seeing that appropriate practices are maintained (review of disinfectants used, understanding of "contact-time" needed, and addressing high-touch surfaces in the resident's environment). Regular cleaning of the colonized MDR AB resident's room may require more frequent cleaning. This should be assessed by the IP and discussed with Environmental Services (EVS).

Standard Precautions—Apply to all contact with resident's blood, body fluids, secretions and excretions regardless of the presence of visible blood, non-intact skin and mucous membranes. This is the basic standard of practice to be utilized when caring for **all** residents regardless of their diagnosis.

Transmission-Based Isolation—When MDR AB residents are exhibiting clinical signs and symptoms of an infection Contact Isolation Precautions will be instituted. The duration of this isolation may depend on the conditions that may facilitate transmission such as copious amounts of respiratory secretions, wound drainage or uncontrolled diarrhea. The IP may

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choose to continue isolation for a longer period of time with active MDR AB infection depending on the condition of the resident.

PREVENTION AND CONTROL OF MDR-AB TRANSMISSION

E. **Standard Precautions including Contact Precautions.**(for active infection)

1. **Hand Hygiene**: Before and after resident contact, and after removing gloves is the single most effective infection control measure known to reduce the potential for transmission of microorganisms, including MDROs.
2. **Protective Barriers**:
 - i. **Gloves**: Put gloves on immediately prior to anticipated contact with non intact skin or blood and other body fluids or when touching surfaces soiled with blood or other body fluids. Remove gloves when the specific task is completed and wash hands immediately.
 - ii. **Gowns**: Wear gowns when it is anticipated that clothing will become soiled with blood or other body fluids or when contact with soiled surfaces (such as side rails or bed linens of an infected resident) is anticipated. Remove gowns when the procedure is complete and prior to leaving the resident's room.
 - iii. **Masks and Eye Protectors (or face shield)**: Must be worn if blood or other body fluids may be splashed or sprayed into the mucous membranes of the eyes, nose and/ or mouth.
 - iv. **Note**: In the event the isolated resident has a roommate that does not require isolation, the PPE is to be used when caring for the isolated resident or working within 3 feet of the isolated resident's environment ONLY. Wearing the PPE while caring for this non-isolated roommate is not necessary or indicated. It is against the rights of the non-isolated resident to be cared for while the HCW is wearing PPE if it is not so indicated by his/her clinical condition. This then becomes a dignity issue for the non-isolated resident.

F. **Standard Precautions**: For resident with MDR AB colonization

1. Hand hygiene before entering and before leaving the room
2. Use of PPE if handling blood or body fluids or skin that is not intact.
3. Good environmental cleaning of equipment and all environmental surfaces

G. **Room Placement**: will depend on the epidemiology of the microorganism, the ability of the resident to assist in confining and containing the microorganisms and the temporal relationship of the known infected or colonized residents to newly identified

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cases. If Standard Precautions are applied universally to all residents, placing MDRO residents in private rooms or cohorting becomes a secondary infection control measure.

NOTE: In the event a resident requires isolation precautions or separation from a roommate, where no other compatible roommate is available, a separation between roommates may be accomplished by keeping the privacy curtain drawn at all times until separation is no longer required. Under these circumstances, assigning different CNAs to care for these two roommates is another acceptable prevention strategy.

H. **Environmental and Equipment Protection:**

1. Disinfection of soiled surfaces and high touch surfaces (i.e. call lights, side rails) as well as equipment daily or more frequently by the designated staff member(s) should be done in order to prevent the spread of MDRO and other pathogenic microorganism.
2. Dedicated use of non-critical care equipment (i.e., sphygmomanometer, stethoscope and thermometer) will be provided to MDR AB infected resident(s). This equipment should be disinfected after each use.
3. Residents on Contact Precautions due to active MDR AB infection will be provided with a cart for easy access of needed supplies.

E. **Linens:** Contaminated linens should be handled appropriately whether their source was an isolation room or a non-isolation room. All linen should be handled as if it were highly infectious. **No special bagging of isolation linen required unless otherwise assessed.**

E. **Trash:** Trash from a resident on MDR AB isolation does not require special disposal, such as red bags (as if it were Infectious Waste) unless item is saturated with liquid red blood. Therefore, during dressing change of wounds the items for disposal can be placed in a regular bag (color of your choosing) and then removed from the room of the isolated resident to be disposed of in a designated area (i.e, utility room trash bin).

F. **Resident Transportation:** Staff responsible for transporting infected residents should wear appropriate personal protective equipment while in the resident's room. Keep in mind, PPE should not be worn while in hallways. If transporting an infected MDR AB resident, hand hygiene is required, like with all residents, after reaching your destination with the transported resident.

G. **Staff Education:** is essential in reducing the transmission of MDROs. Healthcare workers should be informed concerning epidemiology of specific MDROs and the role they, the Healthcare worker, play in reducing the potential for transmission of these as well as other microorganisms.

H. **Surveillance Cultures:**

- a. Obtain surveillance cultures of residents or the environment **ONLY** when there is a clear indication that these cultures are indicated. Cultures of the environment are **NOT** routinely recommended unless there is an outbreak and the epidemiology can be linked to an environmental reservoir.

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- c. Roommates exposed to a MDRO positive resident will not be subject to a surveillance culture unless evidence of active infection is present. However, residents exposed to MDRO positive roommates will be observed and monitored for 72 hours to rule out possible MDRO infection.

II. Activities: Residents should be allowed to ambulate, interact with other residents socially and participate in group activities. It is the philosophy of the facility to “isolate the infection (the germ), not necessarily, the resident.” The following precautions should be taken for MDRO residents participating in facility activities:

- b. Cover wounds with a clean barrier dressing prior to group activities.
- b. Residents’ hands should be washed prior to leaving their room
- c. Residents with respiratory symptoms should be provided with disposable wipes and a plastic bag to contain secretions. If they have an active cough, they should be encouraged to wear a mask if they insist on leaving their room.
- d. Clean incontinent residents and use protective disposable pad if fecal incontinence is anticipated.
- e. Be sure to provide hand hygiene opportunities for the resident before going to activities and after participation.
- f. All items/equipment touched by resident should be disinfected after handling

II. Visitors: Instruct visitors to wash their hands prior to resident contact, following contact with body fluids, before and after feeding the resident and following contact with other residents. Visitors should also be instructed to wash their hands before leaving the facility.

J. Handling of Dishes: All tableware, whether used by infected or non-infected residents, should be treated as contaminated and should be sanitized according to facility policy. Disposable dishes or flatware are not necessarily required for isolation residents. Only when it is assessed that a resident’s hygiene may present some risk is it recommended that disposable utensils be used.

TREATMENT OF MDR AB:

1. Antibiotics, both oral and parenteral should only be used to treat residents with suspected or documented clinical infections, NOT COLONIZATION. The antibiotic treatment of choice will depend upon the culture and sensitivity report.
2. Antibiotic treatment of culture positive, non-infected residents (colonized) is not recommended and may induce further resistance.

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TERMINATION OF CONTACT PRECAUTIONS:

7. Contact precautions may be discontinued when MDR AB resident becomes asymptomatic. Assess the resident for clinical improvement which is evident by resolution of the symptoms. Good assessment and documentation of each resident's clinical condition is necessary before discontinuing the isolation precautions. Isolation may be discontinued when there is documentation that the resident is free of symptoms for 24 hours or more. At the end of isolation, the resident will then be managed with Standard Precautions. Individual assessment of appropriate time to discontinue isolation should be done by the IP. Document the justification for extending or discontinuing the isolation.
8. The facility Infection Preventionist should be notified by the charge nurse when a possible termination of special precautions is imminent.
9. The final assessment to terminate isolation precautions will then be conducted by the Infection Preventionist in the facility. This can be done by the Director of Nursing or the Medical Director or attending physician as well.
10. Recommendation to terminate Contact Precautions will be relayed to the attending physician.
11. Licensed nurses will address the residents symptoms, or lack thereof, on their weekly charting.
12. If, at any time, symptoms recur, the resident may be placed on Empiric Isolation until the suspected site of infection is cultured and results of that culture is available.

References

¹Cahill, C. Chen S, Rosenberg J, Harriman K. Enhanced standard precautions. California Department of Public Health (CDPH). AFL 10-27. September 7, 2010.

² Rosenbaum P, Aureden K, Cloughessy M, Goss L, Kassai M, Streed S. Guide to the elimination of multidrug-resistant Acinetobacter baumannii transmission in healthcare settings. An APIC Guide 2010.

3. Siegel JD, Rhinehart E, Jackson M, Chiarello L. Management of multi-drug resistant organisms in healthcare settings, 2006. HICPAC, CDC.

SECTION	INFECTION CONTROL
SUBJECT	POLICY FOR USE OF REVISED McGEER CRITERIA¹ IN SURVEILLANCE PROGRAM FOR LTC
EFFECTIVE DATE	

PURPOSE: To provide a process whereby each resident's clinical symptoms are evaluated and qualified with consistent definitions of infection. These criteria are to be used as a surveillance tool for documentation, not for diagnostic or treatment purposes. These are the definitions recommended by APIC (Association of Professionals in Infection Control), CDC, and SHEA (Society for Healthcare Epidemiology of America) as a standard of practice in Long-term Care Facilities. By using these criteria, each resident's condition will be evaluated and judged with consistency.

It is the policy of _____ to track, trend and monitor residents for signs and symptoms of infections to prevent and control the spread of infections to others in the facility.

PROCEDURE:

1. Residents manifesting signs and symptoms of a possible infection will be assessed by a licensed nurse. The symptoms will be recorded on a log or individual assessment sheet.
2. The doctor will be notified of the resident's change of condition.
3. The Infection Preventionist will be notified.
4. Orders for laboratory testing or radiology will be noted and followed. If antimicrobial therapy is ordered, this, too, will be noted and followed.

The designated Infection Preventionist in the facility will evaluate each resident's entry of "possible infection" and determine if the resident has a community acquired infection (one in which S/S were present on admission or manifested within the first 2 calendar days after admission) or an HAI, previously referred to as nosocomial infection, (one in which S/S manifested after the first 2 calendar days of admission), or "Does Not Meet The Criteria," according to the Revised McGeer's Criteria (October, 2012). When the "possible infection event" is qualified as "Does Not Meet The Criteria" the resident's S/S do not meet the site-specific definitions laid out in the Revised McGeer Criteria and will not be counted in the infection rate.

5. See the Revised McGeer Criteria (October, 2012) for site specific definitions.

¹ Stone ND, Ashraf MS, Calder J, Crnich CJ, Crossley K, Drinka PJ, et al. Surveillance definitions of infections in long-term care facilities: revisiting the McGeer criteria. *Infect Contr and Hosp Epidemiol* Vol 33:10, October, 2012. Pp 965-977.

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SUBJECT	POLICY ON LICE (PEDICULOSIS)	
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PURPOSE: The purpose of this policy is to assign actions and responsibilities for confirming an exposure of pediculosis, identifying those people exposed to this condition and determining the appropriate follow-up activities.

Background: The louse is a parasitic insect that can be found on the head, eyebrows, and eyelashes of people. Head lice feed on human blood several times a day and live close to the human scalp. Head lice are not known to spread disease. Head lice move by crawling; they cannot hop or fly. Head lice are spread by direct contact with the hair of an infested person. Anyone who comes in head-to-head contact with someone who already has head lice is at greatest risk.

POLICY: It is the policy of _____ to prevent, assess and treat lice of residents and employees. It is also our policy to report suspicious itching of residents (head or other parts of the body) to the physician to obtain treatment orders.

PROCEDURE:

- A. Clinical presentation:** Head lice infestation of the hair, eyebrows, and eyelashes is caused by *Pediculosis humanus capaitis*. Infestation by body lice, *Pediculosis humanus corporis*, is rarely found on the body, rather on the clothing of an infested person, especially along seams of the clothing inner surfaces. Crab lice are caused by *Phthirus pubis*. Infestation is usually of the pubic area but in heavy cases may also be present in facial hair and eyelashes. Infestation of any type may result in severe itching, fever and excoriation of the scalp or body. Diagnosis is made by visual identification of the lice or eggs on the infested person either with the naked eye or with the assistance of a hand held magnifying lens or microscope.

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SUBJECT	POLICY ON LICE (PEDICULOSIS)	
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B. Transmission: For head and body lice transmission is facilitated by direct contact with an infested person and/or objects used by them. In addition, body lice may be spread by indirect contact with the personal belongings of infested persons, especially shared clothing and headgear. Head and body lice survive only about one week without a good water source, crab lice only one to two days. Crab lice are usually spread via sexual contact. Humans are the only natural reservoirs for head, body and pubic lice. All household members and other close contact should be checked; those persons with evidence of an active infestation should be treated. The period of communicability is as long as lice or eggs remain alive on the infested person or on fomites. The life span of the adult louse is one month. Lice eggs (nits) remain viable on clothing for one month.

Treatment Agents: Head and pubic lice may be treated with 1% permethrin cream rinse and 1% gamma benzene hexachloride lotions. Gamma benzene hexachloride resistance has been reported in a number of countries and should be used only for patients who are intolerant of other approved therapies. None of these are 100% effective so re-treatment may be necessary after an interval of 7-10 days if eggs survive. Apply shampoo or lotion liberally to affected area for amount of time specified by package insert, then rinse thoroughly. Pediculocides may not destroy all nits. Following application of the pediculocide, manual removal of the nits with a nit removal comb is crucial to preventing recurrence and pesticide resistance.

C. Environmental Decontamination: Potentially contaminated clothing and bedding (those worn or slept in within the last 3 days before treatment) of infested residents should be washed using the hot water cycle of an automatic washing machine (temperature at least 160 degrees) and then dried in the dryer (temperature at least 110 degrees) for 20 minutes. Combs or brushes used by the infested resident shall be discarded. Vacuum all carpets and upholstered furniture and wipe down surfaces in the resident's environment.

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SUBJECT	POLICY ON LICE (PEDICULOSIS)	
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D. Guidelines for Resident Care:

1. Resident should be placed on Contact Isolation until 24 hours after application of an appropriate pediculocide. Gloves and long sleeve gown should be worn for direct patient care contact. Thorough washing of all health care provider skin surfaces that have contact (including forearms) with the resident or his environment is the primary means of preventing transmission to healthcare providers.
2. Apply shampoo or lotion liberally to affected area for amount of time specified by package insert, then rinse thoroughly. If the resident wears a wig or hairpiece this too should be shampooed. A new comb and brush should be assigned to the resident after discarding the old one.
 - a. Do not apply to open areas or acutely inflamed skin or to the eyes, mucous membranes or urethral meatus.
 - b. Notify physician immediately if skin irritation or hypersensitivity develops.
3. Bed linen should be changed immediately after application of topical agent for bed patients and during shower time for those residents who are able to get out of bed. Gloves and gowns must be removed and discarded in regular trash receptacles after use. Linen should be bagged at the site (in the room) and sent to laundry (no special handling linen is necessary since all linens are considered to be infectious) for washing.
4. Nursing should notify patient's family.

References

1. American Journal of Infection Control 1982: 10 (4); page 44A Communicable Disease Protocol: Scabies and Lice
2. California Morbidity, 11.30.90, No 47/48
3. LA County Public Health Letter January 1987:9 (1) Scabies in Healthcare Facilities
4. The National Pediculosis Association; <http://www.headlice.org/>

SECTION	INFECTION CONTROL	Page 1 of 3
SUBJECT	HAND HYGIENE PROGRAM	
EFFECTIVE DATE		

As required by the Health and Safety Code, Section 1279.7, all employees in the facility, including those who have direct resident contact and those in administrative positions, should be educated during new employee orientation and on an annual basis about the importance of hand hygiene. Visitors, volunteers, and residents should also be instructed in hand hygiene procedures. Because approximately 1 million skin cells containing viable organisms are shed daily from normal intact skin, surfaces such as bed linens, furniture, countertops, privacy curtains and all high-touch areas in the residents' environment are also contaminated.³ Therefore, any contact with the resident or surfaces in their immediate environment can contaminate the gloved and ungloved hands as well as the clothing worn by the healthcare worker.

Guidelines for conducting an effective facility hand hygiene program have been published by the Centers for Disease Control (CDC) and the World Health Organization (WHO). Essential elements of the hand hygiene education and monitoring program should include:

- Rationale for hand hygiene: Prevent transmission of infectious agents
- Hand hygiene when performed with soap and water should be done for 15-20 seconds and should address the nails, scrubbing around the wrists and thumbs. There is no CDC recommendation for decontaminating the bare skin between the wrist and the elbow following close resident contact. However, following activities such as lifting, moving, and turning immobile residents, the forearms should be washed with soap and water, if gowns are not worn.¹ Hand Hygiene should be performed in the area where the hands were contaminated (this may be done in the resident's bathroom if the resident or the environment/equipment of the resident was handled)
- Indications for performing hand hygiene
 - ✓ Before and after contact with resident or the their environment
 - ✓ Before and after glove use
 - ✓ Before handling clean linen
 - ✓ After disposal of soiled linen
 - ✓ After using the restroom (or assisting resident to use restroom)
 - ✓ Before and after preparing food (includes before eating or serving food to residents)
 - ✓ Before and after dressing changes
 - ✓ When hands are visibly soiled
 - ✓ After coughing or sneezing (using Respiratory Etiquette)

³ Cahill, C. Enhanced standard precautions for long-term care facilities. CAHF and CDPH. September, 2010.

SECTION	INFECTION CONTROL	Page 2 of 3
SUBJECT	HAND HYGIENE PROGRAM	
EFFECTIVE DATE		

- ✓ After touching items that are likely to be contaminated (bedpans, urinals)
- Techniques for hand hygiene
 - ✓ Demonstration of amount of product to be used and duration of process.
 - ✓ How to prevent from recontamination of hands through turning off faucets or opening doors
 - ✓ Location of where hand hygiene should be conducted
 - ✓ Which products to use (i.e. soap and water or ABHR)
 - ✓ Demonstration should be given on correct technique for washing hands with soap and water as well as proper use of ABHR. Return demonstration is an essential component to this training to assure the trainee understands all the steps involved.
- Maintaining the integrity and health of the skin
- Indications for and limitations of glove use (not to replace hand hygiene)
 - ✓ **NOTE: Gloves should always be changed between residents and between clean and contaminated sites on the same resident. Glove use does not preclude the need for hand hygiene after removing gloves**
- Monitoring and documenting compliance with hand hygiene and aspects of infection prevention and control techniques (i.e. use of PPE).
 - ✓ Observation of many different staff members (nurses, housekeepers, dietary workers, NPs and MDs) on different days and shifts should be performed to ensure observations are as representative as possible of normal practice at the facility.
 - ✓ Determine the number of observations to be conducted each month (i.e. 30 per month or more)
 - ✓ Quantify the number of times a staff member performs hand hygiene (when indicated) over the total number of “opportunities” observed when hand hygiene was warranted.

Example: If 40 observations were done and of those 40 opportunities hand hygiene was performed only 30 times, the formula to use is $30/40 \times 100 = 75\%$. This would be the compliance rate for hand hygiene for the month.
- As part of hand hygiene observations, observers should evaluate whether there are sufficient supplies of soap, paper towels, and alcohol-based hand rubs.
- Reporting outcomes of observations to the Infection Control Committee and sharing this information with other members of the healthcare team.

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SUBJECT	HAND HYGIENE PROGRAM	
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Feedback of rates of adherence with proper hand hygiene protocols is crucial to improvement. Facilities should consider posting and/or reporting aggregate rates to staff members regularly so they may track rates over time.

- Training on proper use of alcohol-based hand rubs
 - ✓ Use of ABHR is an acceptable product which can be used to decontaminate hands.
 - ✓ Times when ABHRs are **NOT** recommended are:
 - When preparing food
 - When hands are visibly soiled
 - When handling residents with *Clostridium difficile* diarrhea or norovirus
 - ✓ ABHR can be used for HH for _____ times before it is advised to wash hands with soap and water, as long as the HCW has no contact with blood or body fluids of a resident.

LONG-TERM CARE FACILITY BEST PRACTICE ASSESSMENT

(4) 100% implemented (3) Partial implementation (2) Implementation considered (1) Unknown (N/A) Not applicable

Assessed By _____

Date _____

		Best Practice <small>*Items which can be evaluated by clinical observation</small>	Written Plans & Goals	Policies & Procedures	Education Process (job specific)	Standard Documentation	Monitoring of Process & Outcomes	Accountability Assigned
	1	Hand Hygiene						
*	2	Clinical staff demonstrates understanding of hand hygiene rationale, indications and methods						
*	3	Alcohol-based hand rubs and gloves are available at point of care						
*	4	Gloves are changed between residents & between clean and dirty activities on the same resident						
*	5	Hand washing is performed with soap and water when hands are visibly soiled						
*	6	Hand hygiene is performed before and after resident care						
*	7	Hand Hygiene is performed before donning and after removing gloves						
*	8	Hand hygiene is performed after handling soiled laundry						
*	9	The facility has an individualized program to monitor hand hygiene compliance						
*	10	Residents and families are knowledgeable about hand hygiene						
		Total Score						

Opportunities for Improvement _____

Approaches to integrate strategies for future higher compliance _____

SUBJECT	INFECTION CONTROL 1 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY
EFFECTIVE DATE	

Policy:

It is the policy of _____ to implement infection control measures to prevent the spread of communicable diseases and conditions. In LTC, it is appropriate to individualize decisions regarding resident placement (shared or private), balancing infection risks with the need for more than one occupant in the room, the presence of risk factors that increase the likelihood of transmission, and the potential for adverse psychological impact on the infected or colonized resident. It is therefore appropriate to use the least restrictive approach possible that adequately protects the resident and others in the facility⁴. Maintaining isolation longer than necessary may adversely affect psychosocial well-being of a resident¹. This policy has been created in accordance with the guideline recommended by the California Department of Public Health and California Association of Health Facilities released September 7, 2010. This guideline referred to as “Enhanced Standard Precautions for California Long-Term Care Facilities, 2010” replaces the 1996 “Guideline Prevention and Control of Antibiotic Resistant Microorganisms, California LTCF.” In addition, this policy reflects recommendations and guidance from the CDC toolkit for “Control of Carbapenem-Resistant Enterobacteriaceae (CRE)” released in 2012.⁵

Background:

Enterobacteriaceae is a large group of gram-negative organisms that are commonly found in the GI tract (i.e. *E. coli* or *Klebsiella species*.) Historically, these organisms have been treatable with antibiotics, but over the last decade we have encountered a growing number of these enterobacteriaceae that are resistant to all of the available antimicrobial medications, including carbapenems. Typically, carbapenems had been the last line of defense for treating these organisms, and so the development of resistance to these last-line agents has been a significant issue throughout the healthcare system. Approximately 4% of US hospitals had at least one patient with CRE infection during the first half of 2012, and about 18% of long-term acute care hospitals had one.⁶ The acronym CRE is a broad and general category which encompasses organisms like *Klebsiella p.*, which then would be referred to as CRKP or KPC. Other organisms can be considered CRE, so it is incumbent upon the licensed nursing staff to review the results of all culture and sensitivities to ascertain if other strains are present in the facility.

⁴ Cahill, C. Chen S, Rosenberg J, Harriman K. Enhanced standard precautions. California Department of Public Health (CDPH). AFL 10-27. September 7, 2010.

⁵ CDC. Guidance for control of carbapenem-resistant enterobacteriaceae (CRE). 2012

⁶ CDC. Making health care safer: stop infections from lethal CRE germs now. Vital Signs. March 2013.

SUBJECT	INFECTION CONTROL 2 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

Risk Assessment:

The purpose of doing a risk assessment is to evaluate the degree of pathogen transmission or hospital-associated infection risk within the facility. An individual risk assessment will further assist in developing a case specific strategy to ensure prevention of transmission of colonization and infection risk to residents, staff, and visitors. The risk assessment is based on identified risk group/location, surveillance data evaluation, and incidence calculations and rates. Data collection is on-going so that trends in transmission and/or infections are monitored and investigated properly. Evaluation of risk assessment data is linked to clearly defined outcome or process measures for the management of CRE in the facility⁷

1. Risk Factors

- Prolonged or frequent hospitalizations
- Length of time spent in ICU
- Previous antibiotic treatments
- Use of catheters or other invasive devices (IV, GT, central lines)
- Surgical procedures
- Compromised immune system
- Chronic underlying disease
- Neurological illness resulting in immobility and incontinence
- Non intact skin

2. On Admission

- Upon admission, each resident's clinical condition will be assessed for signs and symptoms of active infection. Each case must be assessed on its own individual merit. Nurse will review all data on the inter-facility transfer form from the acute care hospital for any diagnosis of MDROs. Until a thorough assessment of the resident is completed, the resident **may** be placed on Empiric Contact Precautions (using gloves and gowns when in close contact with resident or resident's environment) if there is doubt of MDRO colonization versus infection. If a private room is available the CRE resident can be placed there, however, since private rooms are limited and may not be available, the facility will place the CRE resident in a room with others who have similar organism, if available. If the resident, through risk assessment, is determined to need a private room and none is available, it is acceptable to

⁷ Rosenbaum P, Aureden K, Cloughessy M, Goss L, Kassai M, Streed S. Guide to the elimination of multidrug-resistant *Acinetobacter baumannii* transmission in healthcare settings. An APIC Guide 2010.

SUBJECT	INFECTION CONTROL 3 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

draw the privacy curtain between 2 residents (which will act as the separation of the two residents) and then will notify the staff that this division remain in place until otherwise instructed. When cohorting a resident is necessary, choose a resident who is at low risk for acquiring infection (no invasive procedure sites, one whose skin is intact, one who does not have any infection and is not on any antibiotics.) In addition, the two residents who require separation will be assigned different care givers, if possible, to assure that transmission of the MDRO does not occur.

- Based on the HICPAC MDRO Guideline 2006, use of Contact Precautions for MDROs, including CRE, can be based on the **resident's clinical situation** and facility resources. Facilities may use Contact Precautions when the resident has an **active infection** with a CRE organism. However, if the resident is colonized (free of symptoms) and the resident can maintain good hygiene (whether on his own or with the assistance of nursing staff) and can follow instructions to prevent transmission, then Standard Precautions may be used. The quality of life of LTCF residents is associated with socialization and participation in group activities; therefore modifying the type of precautions that can be safely used with CRE residents is an important consideration.
- **Points to consider:**
 - ✓ Check the CRE prevalence at acute care facilities that admit residents to your facility, if this information is available. Consider doing cultures on residents admitted from high risk units (ICUs)
 - ✓ Close monitoring of the colonized CRE resident's clinical condition may be considered to assure early identification of active signs of infection. When symptoms manifest, implement Contact Precautions at the earliest opportunity (even before C & S results are received).
 - ✓ If additional cases of CRE are identified, it may be wise to do active surveillance cultures (rectal swabs are the recommended site) on all high-risk residents that are admitted to a high risk unit.
 - ✓ Check the disinfectants used to clean environmental surfaces. Check that the products used have appropriate "kill-claim" or claim of effectiveness against the organism that is causing infection (i.e. with CRKP-the carbapenem-resistant *Klebsiella pneumoniae* organism. The label should state the disinfectant is effective against the *Klebsiella pneumoniae* organism, it need not state the carbapenem resistant strain of the KP).
 - ✓ Based on surveillance program, data will be evaluated and incidence rates and prevalence rates of CRE will be calculated and then analyzed. These residents will then be assessed for risk factors and for the possibility that the CRE was facility acquired.
 - ✓ In the event that there is an increase in the number of positive CRE residents, even after infection prevention and control practices have

SUBJECT	INFECTION CONTROL 4 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

been followed, the facility may consider implementing “intensified interventions”. These additional strategies are outlined in the CDPH Enhanced Standard Precautions Recommendations, September, 2010. These interventions are:

- Perform active surveillance cultures on existing residents and new residents that are admitted (rectal swabs are the site recommended)
 - Cohort residents and staff
 - Enhanced environmental cleaning performed (more frequent cleaning of CRE colonized/infected residents’ rooms, addressing the high-touch surfaces)
 - In extreme cases, consider closing the unit affected and do not admit new residents.
- ✓ Because the environment can be implicated in transmission of multi-drug resistant organisms, all protocols for cleaning rooms should be reviewed by the IP in conjunction with environmental services (EVS). The IP should be involved with seeing that appropriate practices are maintained and that the EVS staff is monitored for their correct use of disinfectants, their understanding of “contact time” of disinfectants, and their understanding of “high-touch surfaces in the residents’ environment.

Standard Precautions (SP)

Standard Precautions applies to all contact with residents’ blood, body fluids, secretions, and excretions, non-intact skin and mucous membranes. This is the basic standard of practice to be used when caring for **all** residents, regardless of their diagnosis.

Transmission-Based Isolation (TBI)

When CRE residents are exhibiting clinical signs and symptoms of an infection, Contact Isolation Precautions (CP) will be implemented in addition to SP. The duration of this isolation may depend on the conditions that may facilitate transmission, such as copious amounts of respiratory secretions, wound drainage or uncontrolled diarrhea. The IP may choose to continue isolation for a longer period of time with active CRE infection depending on the condition of the resident.

PREVENTION AND CONTROL OF CRE TRANSMISSION

A. Contact Precautions, in addition to SP (for active CRE infection)

- a. Hand Hygiene (HH): Hand hygiene will be performed before and after every resident contact or contact with the resident’s environment. In addition, all times usually requiring HH will be enforced.
- b. Protective Barriers: Gloves, gowns, mask (if infection is respiratory) , and eye protection (if splashing in eyes is probable) must be worn with each entry into the resident’s environment (approximately within 3 feet of the environment).

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SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

B. Standard Precautions (for colonized CRE colonized)

- a. Hand Hygiene before entering room and before leaving the room.
- b. Use of PPE, if handling blood or body fluids or skin that is not intact is anticipated.
- c. Good environmental cleaning of equipment and all environmental surfaces using EPA approved disinfectant products.

C. Room Placement:

- a. A private room can be considered for the CRE colonized or infected resident, **if available**. Reserve private rooms for those residents who have been assessed to have the highest risk for transmission (i.e. profuse wound drainage, etc)
- b. If no private room is available, place CRE resident in a room with a similar organism or with someone at low risk for developing infection. When needed to separate the CRE resident from a roommate, consider keeping the privacy curtain drawn at all times. Be sure to notify the staff of this infection control strategy.

D. Chlorhexadine Bathing

- a. Chlorhexadine bathing (CB) has been used successfully to prevent certain types of HAIs and to decrease colonization with MDROs.
- b. Can be used to reduce the prevalence of CRE during an outbreak
- c. Bathe resident with diluted liquid chlorhexadine (2%), according to product label, or 2% chlorhexadine-impregnated wipes. Do not use above the jawline or on open wounds.
- d. When CRE identified in a specific unit, consider bathing all residents in that unit with the chlorhexadine protocol.

E. Environmental and Equipment Protection:

- a. Dedicate non-critical care equipment (i.e. stethoscope, sphygmomanometer and thermometer) to the CRE infected resident. Equipment should be disinfected after each use.
- b. Disinfection of soiled surfaces and high-touch surfaces (i.e. call lights, siderails, light switches, doorknobs, etc) as well as equipment in the room should be done frequently by the designated staff members.
- c. Residents on CP due to active CRE infection will be provided with a cart for easy access of needed supplies and PPE.

F. Linens:

- a. Contaminated linen from the room of a CRE resident, whether colonized or infected, should be handled like all other linen. **ALL LINEN SHOULD BE HANDLED THE SAME, AT THE HIGHEST LEVEL OF PROTECTION, AS IF IT WERE HIGHLY INFECTIOUS!**

SUBJECT	INFECTION CONTROL 6 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

- b. Special handling of isolation patient's linen is not necessary unless otherwise assessed. No special bagging needed, unless the outside of the bag is visibly soiled.

G. Trash:

- a. Trash from a CRE resident, whether colonized or infected, does not require special disposal (i.e. such as a red bag) unless it contains saturated items with liquid red blood. During dressing change of wounds the items for disposal can be placed in a regular bag (color of your choosing) and then removed from the room of the isolated resident to be disposed of in a designated area (i.e. utility room trash bin).

H. Resident Transportation:

- a. Staff responsible for transporting the isolated resident should wear appropriate PPE while in the resident's room. (PPE to be removed before entering the hallways)
- b. When transporting the infected CRE resident, hand hygiene is required, like with all resident care, after reaching your destination with the transported resident.

I. Staff Education:

- a. Staff, visitor, and resident education is essential to reducing the transmission of CRE and other MDROs.
- b. HCW should be informed of epidemiology of specific MDROs and the role they, the HCW, play in reducing the potential for transmission of these microorganisms.

J. Surveillance Cultures:

- a. Obtain surveillance cultures of residents or the environment **ONLY** when there is clear indication for the need (i.e. due to outbreak)
- b. Cultures of the environment are **NOT** routinely recommended unless there is an outbreak and the epidemiology can be linked to an environmental reservoir
- c. Roommates exposed to CRE positive residents will **not** be subject to a surveillance culture unless evidence of active infection is present and there is suspicion of cross transmission of the CRE. However, roommates exposed to positive CRE resident will be observed for 72 hours to rule out possible CRE infection.
- d. Active Surveillance Cultures (ASC): Considered a supplemental measure for facilities that have identified CRE transmission in their facility.
Consider:
 1. Screening residents transferred from facilities known to have CRE at admission.
 2. Screening high risk residents at admission and/or periodically during their facility stay for CRE. Empiric CP can be used while results of admission surveillance cultures are pending

SUBJECT	INFECTION CONTROL 7 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

3. Suggested sites to culture when doing ASC for CRE are rectal or peri-anal area, wounds, and urine. (CDC 2012 CRE toolkit)

K. Activities:

- a. Residents should be allowed to ambulate, interact with other residents socially and participate in group activities. It is the philosophy of the facility to “isolate the germ” not necessarily the resident. The following precautions should be taken for CRE residents participating in facility group activities:
 1. Cover wounds with a clean barrier dressing prior to activity
 2. Resident’s hands should be washed prior to leaving room.
 3. Residents with respiratory symptoms should be provided with disposable wipes and tissues and a plastic bag to contain secretions. If the resident has an active cough with CRE the resident should be encouraged to stay in their room or else they should wear a mask if they insist on leaving the room.
 4. Clean incontinent residents and use protective disposable briefs if fecal incontinence is anticipated.
 5. Be sure to provide HH opportunities for the resident before going to activities and after participation.
 6. All items/equipment handled by the resident should be disinfected after use.

L. Visitors:

- a. Instruct visitors to perform HH prior to resident contact, following contact with body fluids, before and after feeding the resident, and following contact with all residents.
- b. Instruct visitors how to use PPE with the actively infected CRE resident.
- c. Visitors should be instructed to perform HH before leaving the facility.

M. Handling of Dishes and Flatware:

- a. All tableware, whether used by colonized or infected CRE resident, should be treated as contaminated and should be disinfected according to facility dietary policy. No special handling is required
- b. Disposable dishes or flatware are not routinely required for isolation residents including CRE. Only when it is assessed that the resident’s hygiene may present some risk is it recommended that disposable utensils be used.
- c. When dietary trays are removed from the room of a CRE infected resident they should be handled by the CNA with appropriate PPE and placed directly onto the dietary cart outside the resident’s room.

SUBJECT	INFECTION CONTROL 8 of 8
SECTION	CRE (Carbapenem-Resistant Enterobacteriaceae) MANAGEMENT POLICY

TERMINATION OF CONTACT PRECAUTIONS:

- A. Clinical assessment of the resident must be performed before discontinuing Contact Precautions. When the symptoms of the CRE infected resident have abated, or the resident is considered “clinically improved” discontinuation of CP can be considered. Isolation precautions can be discontinued when the CRE resident is free of signs or symptoms of infection for 24-48 hours. At this time, Standard Precautions will be enforced when caring for the colonized CRE resident. Document the justification for discontinuing or the rationale for extending Contact Precautions.
- B. The facility IP should be notified by the charge nurse when a possible termination of special precautions is imminent.
- C. The final assessment to terminate isolation precautions will then be conducted by the IP. This assessment can be done by the DON, the Medical Director or attending physician of the resident. Notify attending physician.
- D. Recommendation to terminate CP will be relayed to the attending physician.
- E. Licensed nurses will address the resident’s symptoms, or lack thereof, on their weekly charting.
- F. If, at any time, symptoms recur, the resident may be placed on Empiric Isolation Precautions until the suspected site of infection is cultured and results of that culture is available.

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SECTION	ANTIMICROBIAL STEWARDSHIP	
EFFECTIVE DATE		

Definition:

Antimicrobial stewardship may be defined as the effective and responsible management of the use of antimicrobials in a given setting by review of data to monitor the appropriate use of the antibiotics prescribed.

Background:

Due to increases in MDROs, review of the use of antibiotics (which includes comparing prescribed antibiotics with available susceptibility reports) is a vital aspect of the infection prevention and control program. It is the physician's (or other appropriate authorized licensed healthcare practitioner's) responsibility to prescribe appropriate antibiotics and to establish the indication for the use of specific medications. As part of the medication regimen review, the consultant pharmacist can assist with the oversight by identifying antibiotics prescribed for resistant organisms or for situations with questionable indications, and reporting such finding to the director of nursing and the attending physician. See CMS State Operations Manual, section 483.65, Tag F329 (use of medication without adequate indication for use) and 483.65, Tag F428 (regarding medication regimen review, P.12), and F441. Retrieved on May 29, 2013 from <http://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R51SOMA.pdf>

In the CDC's Campaign to Prevent Antimicrobial Resistance, antimicrobial stewardship strategies are listed in the following steps.

- A. Review antimicrobial utilization in the facility (Antimicrobial Review Committee)
- B. Use local data (antibiograms for patient population)
 1. Share this information with nurses and physicians in the facility.
- C. Treat Infection, not contamination
 1. Use proper techniques in culture collections
- D. Treat Infection not Colonization
 1. Treat pneumonia, not the tracheal aspirate
 2. Treat bacteremia, not the catheter tip or hub
 3. Treat urinary tract infection, not the indwelling catheter
- E. Stop antimicrobial treatment:
 1. When infection is resolved (signs and symptoms have abated)
 2. When infection is not diagnosed.

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SECTION	ANTIMICROBIAL STEWARDSHIP	

3. When cultures are negative and infection is unlikely (this does not imply the need for “clearance cultures” at the end of antibiotic therapy.)

Components of an Antimicrobial Stewardship Program to consider:

- A. **Education:** Provide information to physicians based on facility antibiogram based on susceptibility reports through a newsletter or quarterly memo. Licensed nurses should receive education in this area as well.
- B. **Formulary restriction:** Pharmacy consultant should be involved. Formulary choices should be based on facility antibiogram and local trends, in addition to site and pathogen-specific incidence data. Review periodically for adjustments.
- C. **Streamlining or de-escalation of empiric therapy:** Switch from broad-spectrum empiric therapy to narrow-spectrum antimicrobial, whenever possible, once C & S results are available. Also, assess for changing from IV delivery of antibiotic to oral route (po) medication.
- D. **Time-Out:** Reassess resident for need for antibiotic once culture and sensitivity results (C&S) available (if resident is asymptomatic, contact physician to discuss stopping antibiotic.) This practice is recommended by the CDC.

SECTION	INFECTION CONTROL
SUBJECT	POLICY FOR CLEANING & DISINFECTING TRANSFER LIFT AND SLING
EFFECTIVE DATE	

POLICY:

It is the policy of _____ to provide a safe and sanitary environment for the residents who reside in this facility. Since studies have shown that the environment plays a role in transmission of infections, it is our policy to clean and disinfect the lift and the sling, used to transfer and lift residents in between each resident use. Follow the manufacturer's instructions, when available, for cleaning non-critical care items such as this. In the absence of the manufacturer's cleaning instructions, use the following steps to properly clean and disinfect these items in between resident use.

1. The hydraulic lift and sling will be cleaned after each use with a disinfectant wipe. Remove any visible soil first and then wipe with disinfectant wipe.
2. For the *Clostridium difficile* infected residents (with active diarrhea) clean the apparatus with a disinfectant wipe that kills non-vegetative spores of *Clostridium difficile* after each use.
3. When the resident is on isolation, dedicate a sling for the sole use of the isolated resident, whenever possible. After isolation is discontinued, or the resident is discharged, clean and disinfect the lift and sling with a bleach-based wipe that addresses a wide range of microorganisms including bloodborne pathogens and *Clostridium difficile*. Send the sling to be laundered.
4. Be sure to allow for proper "contact time" as directed by the product label.

ISOLATION & ENHANCED STANDARD PRECAUTIONS

Introduction

Implementation and adherence to infection control practices are the keys to preventing the transmission of healthcare-associated infections. Each LTCF must establish and maintain an Infection Prevention and Control Program designed to provide a safe and comfortable environment for the residents⁸. This program should be geared to help prevent the development and transmission of disease and infection.

In the LTC setting it is necessary to weigh the risk factors for spreading infection to residents with the risk for potential adverse psychosocial impact. It is necessary to do an individual assessment for each resident admitted with infection or colonization with a multi-drug resistant organism (MDRO) or other significant pathogenic organism (i.e. Scabies, norovirus or influenza). Whereas, residents may come to the LTCF from an acute care hospital having been on isolation, it is necessary for the LTCF to do their own individual assessment of the resident for signs of active infection (manifested by clinical symptoms). Policies in acute care may differ from those in LTC. The CDC defines the LTCF as a “non-hospital” setting and therefore must follow the “least restrictive” measures possible to manage residents with colonization/infection.

Enhanced Standard Precautions⁹ (ESP) were developed by the California Department of Public Health in collaboration with the California Association of Health Facilities and released in September, 2010. Full document available www.cdph.ca.gov/certlic/facilities/Documents/LNC-AFL-10. This advisory guideline was developed to assist LTCFs in developing a rational approach to reducing the potential for transmission of pathogens among the LTCF residents. The ESP guideline utilizes a three-tiered system for managing residents and isolation.

It is the policy of this facility to utilize Standard Precautions as a foundation of standard of care for all residents regardless of diagnosis. When a resident is suspected to be infected with a significant pathogen or is identified to have active signs or symptoms of an infection caused by such an organism, it is the policy of this facility to begin transmission-based isolation (TBI) precautions. Isolation need not be ordered by a physician but can be started by the facility Infection Preventionist, Director of Nursing or other licensed nurse if the resident is suspected of having clinical signs of an infection caused by an MDRO or other significant pathogen. Isolation should be maintained as long as the resident manifests clinical symptoms of the infection. Once the symptoms have abated, isolation may be discontinued. Documentation by the nursing staff

⁸ CMS Interpretive Guidelines. September 30, 2009.

⁹ Cahill, C, Joint Infection Prevention & Control Guidelines, Enhanced Standard Precautions (ESP), California LTCF, 2010

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should reflect the symptoms have resolved before discontinuing isolation (for 24-48 hours symptom free). Maintaining isolation longer than clinically necessary may adversely affect the psychosocial well-being of the resident.

The three-tiered system of Enhanced Standard Precautions:

- **Standard Precautions**
- **Transmission-based Precautions**
- **Intensified Interventions**

Standard Precautions (SP)

Standard Precautions are based on the principle that blood, body fluids and secretions, excretions (not including sweat), non-intact skin or lesions, and mucous membranes may contain transmissible infectious organisms. Standard Precautions will be practiced by all personnel and will be used for all residents at all times.

Standard Precautions is comprised of a group of infection prevention practices that apply to all residents regardless of their state of infection and are to be utilized in all healthcare settings. The elements of this system of precautions are: hand hygiene, use of gloves, gown, mask, eye protection or face shield depending on the anticipated exposure. Safe injection practices are also included in Standard Precautions. It is the responsibility of the healthcare provider to determine if any, or all, of these elements of SP are needed in every delivery of care opportunity.

Transmission-Based Precautions (Isolation) (TBP)

Transmission-Based Precautions will be implemented for known or suspected infections for which the route of transmission is known. The transmission-based categories are the following:

- Airborne
- Droplet
- Contact

The TBP may be instituted by a physician, the infection preventionist, the director of nurses, the assistant director of nurses, or by the nursing supervisor and may be discontinued only by one of the above. Isolation Precautions are considered a nursing assessment and judgment. Decisions for infection control practices such as isolation, concerning the resident should be delegated to the appointed Infection Preventionist (IP) or designee (i.e. resident care unit charge nurse). A resident may be placed in isolation without a physician's order. Be sure to notify the IP.

Intensified Interventions (II)*

Intensified Interventions is the third tier suggested for implementation by the CDC under these circumstances:

- When an unusual infectious agent is circulating in the community, or

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- When a common infectious agent with an unusual resistance pattern is identified, or
- When the incidence of new cases of a specific infectious agent is either increasing or fails to decrease despite the implementation of and adherence to standard infection prevention procedures

Essentially these situations would indicate that an outbreak is occurring. The following are the intensified interventions recommended:

- Cohorting infected and colonized residents with dedicated staff
- Restricting new admissions or closing affected nursing units, and
- Increased attention to environmental sanitation
- Active Surveillance cultures

Procedure for Isolation Initiation

1. Determine the category of Isolation Precaution required (refer to type and duration of precautions)
 - A. **Standard Precautions:** Use SP when providing care for all residents, regardless of the diagnosis or presumed infection status. Healthcare providers should consider the need of barrier protections such as gloves, gown, mask, and goggles when exposure to blood or any moist body fluid is anticipated.
 - B. **Transmission-Based Precautions:** Refer to the CDC HICPAC Guidelines for Isolation Precautions, Appendix A, to determine the infective materials, precautions needed, and duration of precautions recommended. These guidelines are available at www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.AppendixA.html .
 1. **Airborne:** In addition to Standard Precautions, use Airborne Precautions for residents known or suspected to be infected with microorganisms transmitted by the airborne route; organisms that can remain suspended in the air and can be widely dispersed by air currents within a room or over a long distance. Example of infectious diseases that require Airborne Precautions are tuberculosis, measles, varicella (chickenpox), and disseminated herpes zoster (disseminated shingles)
 2. **Droplet Precautions:** In addition to Standard Precautions, use Droplet Precautions for a resident known or suspected to be infected with microorganisms transmitted by droplets that can be generated by the resident sneezing, coughing, talking, etc., and drop from the air. Examples include bacterial infections such as invasive H. influenza, invasive Neisseria meningitides, Mycoplasma pneumonia, Streptococcus infection, and some viral infections, including adenovirus, influenza, mumps and rubella. Spatial separation of 3 feet or more and drawing the curtain between resident beds is especially important in multi-bed rooms with infections transmitted by the droplet route.

- 3. Contact Precautions:** In addition to Standard Precautions, use Contact Precautions for residents known or suspected to be infected with microorganisms that can be easily transmitted by direct or indirect contact, such as handling environmental surfaces or resident-care items. There may be occasion to place colonized residents on Contact Precautions. This may be the case when a draining wound cannot be contained or when a resident exhibits non-compliant behaviors with stool or other body fluid containment or when a resident has very poor personal hygiene. Contact Precautions are to be used when there is evidence of epidemiologically significant organisms (such as MDROs) causing clinical symptoms. Organisms included in this category are, but are not limited to, MRSA (multi-drug resistant *Staphylococcus aureus*), VRE (vancomycin resistant *Enterococcus*), ESBL (extended spectrum beta-lactamase), MDR-GNB (multi-drug resistant gram negative bacteria), CRE (carbapenem resistant enterobacteriaceae), *Clostridium difficile*, norovirus, impetigo, scabies, pediculosis, herpes simplex or zoster (shingles), and other conditions such as a rash of unknown origin, conjunctivitis, draining wounds, etc.
2. The resident and family should be informed about the need for Isolation Precautions. Education on Isolation management should be provided to the resident and family members to assure compliance of isolation policies and procedures and to reassure all that care will continue.
 3. Inform staff members of the need for Isolation Precautions. Explain procedures that must be initiated and followed by members of the staff. Provide education as deemed appropriate on policies and procedures to be followed.
 4. Equipment needed for maintaining isolation
 - Provide table/cart for access to 24-hour supply of masks, gowns, gloves, etc. which will be needed to maintain isolation precautions. These items must be covered and maintained in a clean environment to avoid contamination of the PPE before use.
 - Provide appropriate signage and post outside the door frame where the sign may be easily seen. No resident name or name of organism should appear on the sign.
 - Check room for hygiene supplies, toiletries, hand washing soap, and paper towels.
 - Provide thermometer and any other non-critical care equipment, such as stethoscope and sphygmomanometer that will be dedicated to the resident's care.
 5. Notify other departments that resident is in isolation precautions (for example, environmental services, so that appropriate daily and terminal cleaning may be completed).
 6. At the end of the shift:
 - Replenish supplies of personal protective equipment for the next shift's use.
 - Replenish hand hygiene products like paper towels and soap.

Strategies to Consider:

- Hand hygiene is the single most important precaution to prevent the transmission of infection from one person to another. According to the CDC², studies have found hand antisepsis reduces the incidence of healthcare-associated infections.
- Hands should be washed with soap and water before and after each resident contact and after contact with resident's belongings and environmental surfaces as well as equipment. Alcohol-based-hand rubs (ABHR) can be used as an adjunct to handwashing at times when soap and water are not easily accessible. The only time ABHR **should be avoided** is: (1) when caring for a resident with *Clostridium difficile* infection diarrhea, (2) norovirus diarrhea, (3) when hands are visibly soiled or (4) when preparing food.
- Gather all equipment and supplies needed before entering the resident's room. Only take needed supplies into the room.
- No special precautions or equipment (such as disposable trays) are needed for dishes, cups, glasses, or eating utensils for a resident on isolation precautions.⁽⁹⁾
- Dispose of any soiled water or body fluids in the toilet in the room. If soiled linen must be removed from the room for rinsing, transport the soiled linen in a plastic bag to prevent contamination of the environment.
- All faucets and handles are considered to be contaminated, as are sinks and hoppers.
- Do not shake or agitate soiled linen; instead fold it upon itself and hold linen away from your body during transportation.
- All PPE should be used **once** and discarded in either the trash or used linen receptacle before leaving the room.
- Glass or disposable thermometer should be left in the room (in bedside stand) and may be cleaned with alcohol wipes until Isolation Precautions are discontinued and then should be discarded. Disinfect after each use.
- Trash such as wound dressings from an infected resident with an MDRO can be disposed of as regular trash. **Red bag is needed only if the dressing is saturated with liquid red blood.** Otherwise, place in a trash bag and dispose of in utility room trash barrel. Refer to your state regulations for defining infectious waste.

Policies for Airborne, Contact and Droplet Isolation Procedures¹⁰

Airborne Precautions

1. Private room is required which meets the following standards:
 - Monitored negative air pressure in relation to surrounding areas
 - 6-12 air changes per hour
 - Air discharge to outdoors or monitored high-efficiency particulate air (HEPA) filtration of room air before it is circulated to other areas.
2. Door to the resident's room to be closed and the resident must remain in the room.
3. When a private room is not available, resident is to be placed in a room with another resident with the same infection, but with no other infections (cohorting).
4. Healthcare personnel caring for residents on Airborne Isolation Precautions should wear gown and gloves before entering the room.
5. Respiratory protection, N95 respirator or PAPR (powered air-purifying respirator), is needed before entering the room of a resident who is known to have, or suspected of having pulmonary tuberculosis or other airborne infections. All respiratory protective equipment shall be approved by the National Institute for Occupational Safety and Health (NIOSH) The NIOSH Certified Equipment list is found at <http://www.cdc.gov/niosh/npptl/topics/respirators/cel/cel.html> Before use of an N95 respirator mask to provide care to residents on Airborne Isolation Precautions, the HCP will:
 - A. Fill out a health questionnaire for medical clearance
 - B. Participate in a medical clearance examination by a Physician or Licensed Healthcare Professional (PLHCP)
 - C. Attend training session on respirator use and be properly fit tested
6. Instruct the resident to cough into a tissue, if possible, and provide receptacle for disposal of infected materials at bedside.
7. Limit the movement and transport of the resident as much as possible. If transport is necessary place a surgical mask on the resident during transport.
8. Residents who have varicella (chickenpox) or rubeola or rubella (measles) will be cared for only by those with known immunity to the infection. This means they have already had the infection or have had adequate immunization with documented immunity.
9. Employees with documented immunity need not wear respiratory protection when caring for the airborne isolated resident (does not apply to pulmonary TB).
10. Residents with disseminated herpes zoster (disseminated shingles) will be transferred to a specially equipped facility, if possible; if that is not possible, then Droplet and Contact Precautions will be utilized.

NOTE: If the facility does not have a negative air pressure room that meets all of these above criteria, residents with suspected pulmonary tuberculosis will be transferred as soon as possible to an appropriate facility. Have the resident wear a surgical mask, during transport, while in waiting areas, or in the presence of others.

¹⁰ CDC-2007 Isolation Precautions-HICPAC at www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html

Droplet Precautions

1. Private room is desirable, if available; the door may remain open.
2. In the event a private room is not available, resident may be placed in a room with another resident with the same infection, and with no other infections (cohorting). When cohorting is not an option, maintain separation of a least 3 ⁽¹¹⁾ feet between the infected resident and other residents, staff and visitors. The privacy curtain may be drawn to prevent droplet transmission.
3. Wear a surgical mask when providing direct care for the isolated resident when within 3-6 feet¹¹ of the resident or his environment.
4. Limit the movement and transport of the resident, but if transport is necessary, have the resident wear a surgical mask.

Contact Precautions

1. Private room is desirable, if available. If not available, resident requiring Contact Precautions can be cohorted with other residents colonized or infected with the same organism and without other infections. In some circumstances, the resident on Contact Precautions (CP) can be placed in a room with a resident without infection or colonization of the organism as long as a risk assessment is done for both residents. Consider the epidemiological pattern of the microorganism and resident population when determining resident room placement. Risk assessment will address behaviors, hygiene, underlying health conditions of both residents. The roommate of the CP resident (without history of the same organism) should have no invasive procedure sites, should have intact skin and should be immunocompetent.
2. **Do not place a resident with MRSA infection or colonization in a room with another resident who has VRE infection or colonization.**
3. A sign will be posted outside the resident's room to indicate special precautions are in place and needed when coming within 3 feet of the isolated resident's environment. Resident's name and infectious organism will NOT be posted on the sign.(CMS F Tag 241, section 483.15 (a))
4. Personal Protective Equipment will be stocked on or in a covered cart (to avoid contamination before use) outside the isolated resident's room for easy access before caring for isolated resident. Cart for PPE should not block egress from resident room.
5. Hand hygiene before donning personal protective equipment.
6. Don the appropriate PPE (gloves, gown at a minimum and add a mask if indicated) if planning to be within 3 feet of the resident or the resident's environment. Contact with environmental surfaces such as side rails, cubicle curtains etc. require donning of PPE as does contact with any of the resident care equipment.
7. During care, change gloves after having contact with infective material (i.e. fecal material or wound drainage which may contain high concentrations of microorganisms). Change gloves when moving from one site to another (i.e. oral care, dressing change). Double-gloving is not an acceptable practice to avoid a glove change or a hand hygiene opportunity. Hand hygiene should be performed before donning and after removal of gloves each time gloves are used.
8. Before leaving the room, remove gloves, gown and other PPE.

¹¹ Department of Public Health Center for Healthcare Quality HAI Program. Recommendations for the prevention and control of Influenza, California long-term care facilities. Revised December, 2011.

9. Wash hands immediately with soap and water or use an alcohol-based hand rub. If the organism being isolated is *Clostridium difficile* or *norovirus*, soap and water is the recommended hand hygiene method.
10. Limit resident movement and transport. When movement within the facility is necessary, ensure that precautions are maintained and that infective material is contained. Hand hygiene of the resident's hands should be encouraged. For residents with active infection of *Clostridium difficile* diarrhea, resident should remain in the room as long as diarrhea is still present. The same applies to MRSA of the respiratory tract. Residents with MRSA of the respiratory tract who are still symptomatic and coughing should be encouraged to remain in the room until the clinical symptoms have subsided or until the resident is "clinically improved."
11. When possible, dedicate non-critical care equipment such as stethoscope and sphygmomanometer to a single resident or cohorted residents. If equipment must be removed from the room, it must be adequately cleaned and disinfected before another resident's use.
12. In long-term care, when the condition that facilitates transmission of the microorganism causing infection has resolved (the resident no longer exhibits signs or symptoms of the infection) isolation can be discontinued. This is considered a safe practice as long as Standard Precautions are routinely followed. According to CMS, "it is appropriate to use the least restrictive approach possible that adequately protects the resident and others. Maintaining isolation longer than necessary may adversely affect psychosocial well-being." ^{(8) (9)} Therefore, when a resident's clinical symptoms have resolved isolation may be discontinued even while the resident is still on antibiotic therapy.
13. According to California Department of Public Health, Enhanced Standard Precautions Guideline, it is not necessary to perform "test-for-cure" or "clearance cultures" after completion of antimicrobial therapy ⁽⁹⁾.
14. The documentation needed for colonizing a resident with an MDRO following antimicrobial therapy is the assessment (and documentation in the chart) of the licensed nurse as to the absence of clinical signs and symptoms. A follow-up culture (test-for-cure) is not proof of colonization and therefore not needed or recommended.

ENVIRONMENTAL SERVICES

Environmental Services

Environmental hygiene in long-term care facilities (LTCF) is becoming a priority for many infection preventionists (IP). “Over the past decade, there has been a growing appreciation that environmental contamination makes an important contribution to hospital-acquired infection with MRSA and VRE. More recently, contaminated environmental surfaces have been shown to play an important role in acquisition of infection with *C. difficile*, norovirus and *Acinetobacter* species.”¹² “Recent studies have demonstrated that several major pathogens are shed by patients and contaminate hospital surfaces at concentrations sufficient for transmission, survive for extended periods of time, persist despite attempts to disinfect or remove them, and can be transferred to the hands of healthcare workers.”¹³

While most infections are not directly transmitted to residents from environmental surfaces, these surfaces frequently come in contact with the hands of healthcare workers. Low hand hygiene compliance is a problem in healthcare facilities, therefore, regular cleaning and disinfection of environmental surfaces is critical to controlling surface contact transmission of infections.

The following are definitions of terms commonly used in environmental services:

Definitions:¹⁴

Antiseptics: Chemicals that kill microorganisms on living skin or mucous membranes.

Bactericidal: Chemical agents capable of killing bacteria. Similarly agents that are virucidal, fungicidal or sporicidal are agents capable of killing these organisms.

Bacteriostatic: Chemical agents that inhibit the growth of bacteria but do not necessarily kill them.

Cleaning: The process of physical removal of foreign material, i.e., dust, soil, organic material such as blood, secretions, excretions and microorganisms. Cleaning generally removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. The terms decontamination and sanitation may be used for this process in certain settings, i.e., central service or dietetics. Cleaning reduces or eliminates the reservoirs of potential pathogenic organisms.

Critical items: Instruments and devices that enter sterile tissues, including the vascular system. Critical items present a high risk of infection if the item is contaminated with any microorganisms. Reprocessing critical items involves meticulous cleaning followed by sterilization.

Decontamination: The removal of disease-producing microorganisms to leave an item safe for further use.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Disinfectants are used on inanimate objects in contrast to antiseptics which are used on living tissue. Disinfection usually involves chemicals, heat or ultraviolet light. The nature of chemical disinfection varies with the type of product used.

¹² Weber DJ, Rutala WA. Environment plays significant role in *C. difficile* acquisition. *Infection Control Today*. March 2011.

¹³ Otter J, Yezli S, French GL. The role played by contaminated surfaces in the transmission of nosocomial pathogens. *Infect Contr Epidemiol*, 2011 July;32(7):687-699

¹⁴ Gamage B, BC Centre for Disease Control. A guide to selection and use of disinfectants. 2003

High level disinfection: High level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non lipid) viruses, but not necessarily bacterial spores. High level disinfectant chemicals must be capable of sterilization when contact time is extended. Items must be thoroughly cleaned prior to high level disinfection.

Intermediate level disinfection: Intermediate level disinfectants kill vegetative bacteria, most viruses and most fungi but not resistant bacterial spores.

Low level disinfection: Low level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses (i.e. hepatitis B and C, Hantavirus and HIV). Low level disinfectants do not kill mycobacteria or bacterial spores. Low level disinfectants are typically used to clean environmental surfaces.

Non-critical care items: Items which come in contact with resident's intact skin (not mucous membranes) or environmental surfaces. Reprocessing of non-critical items involves cleaning and/or low level disinfection.

Sanitation: A process that reduces microorganisms on an inanimate object to a level below that of infectious hazard (i.e. dishes and eating utensils are sanitized).

Semi-critical items: These are devices that come in contact with non-intact skin or mucous membranes but ordinarily do not penetrate them. Reprocessing semi-critical items involves meticulous cleaning followed by, preferably, high level disinfection.

Sterilization: The destruction of all forms of microbial life including bacteria, viruses, spores and fungi. Items should be cleaned thoroughly before effective sterilization can take place.

Terminal disinfection: Refers to the deep cleaning of hospital rooms following discharge or transfer of patient to another area or level of care (i.e. removal from isolation)

Selection Criteria ¹⁵

The selection of a disinfectant should be based on the function the disinfectant is expected to perform. Usually, disinfectants are "cidal" in that they kill the susceptible potential pathogen. Ideally, a disinfectant should be broad spectrum (eliminates bacteria, viruses, protozoa, fungi and spores), non-irritating, non-toxic, non-corrosive and reasonably priced. Decision to use a particular agent should include effectiveness against the potential pathogen, safety to people and impact on equipment and the environment.

Factors to consider when selecting a disinfectant:

- Type of contaminating organism. Each disinfectant has unique antimicrobial properties. If targeting a specific pathogenic organism, disinfectant label should claim to kill that organism.
- Degree of contamination. This determines the quality of disinfectant required and time of exposure. Check label for "contact-time". This may vary by product selected.
- Amount of proteinaceous material present. High protein based materials absorb and neutralize some chemical disinfectants. Cleaning is required to remove proteinaceous material before disinfecting.
- Presence of organic matter and other compounds such as soaps may neutralize some disinfectants.
- Chemical nature of disinfectant. It is important to understand the mode of action in order to select the appropriate disinfectant.

¹⁵ Gamage B. BC Centre for Disease Control. A guide to selection and use of disinfectants. 2003.

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- Concentration and quantity of disinfectant. It is important to choose the proper concentration and quantity of disinfectant that is best suited to each situation. Ensure that staff is properly trained on how to mix solutions.
- Contact time and temperature. Sufficient time and appropriate temperature must be allowed for action of the disinfectant (kill-time) and may depend on the degree of contamination and organic matter load.
- Residual activity and effects on fabric and metal should be considered for specific situations.
- Application temperature, PH and interactions with other compounds must be considered.
- Toxicity to the environment and relative safety to people that may be exposed.

Selection and Use of Disinfectants

Table 1. Disinfectant Uses, Advantages and Disadvantages (15)

Disinfectant	Use	Advantages	Disadvantages
Alcohols	Intermediate level disinfectant Disinfect thermometers, external surfaces of some equipment (i.e. stethoscopes) Used as a skin antiseptic	Fast acting No residue Non-staining	Volatile Evaporation may diminish concentration May harden rubber or cause deterioration of glues Intoxicating
Chlorine	Intermediate level disinfectant Disinfect hydrotherapy tanks, dialysis equipment, environmental surfaces. Effective disinfectant following blood spills; aqueous solutions (5000 ppm 1:10 bleach) used to decontaminate areas after blood has been removed. Undiluted bleach can be used as a high level disinfectant	Low cost Fast acting Readily available	Corrosive to metals inactivated by organic material Irritant to skin and mucous membranes Use in well-ventilated areas Shelf life shortens when diluted (1 part bleach to 9 parts water=1:10 dilution) Mix and change mixture every 24 hours
Formaldehyde	Very limited use as chemisterilant Sometimes used to reprocess hemodialyzers Gaseous form used to decontaminate laboratory safety cabinets	Active in presence of organic materials	Carcinogenic Toxic Strong irritant Pungent odor
Glutaraldehydes	2% formulations—high level disinfection for heat sensitive equipment Most commonly used for endoscopes, respiratory therapy equipment and anesthesia equipment	Non-corrosive to metal Active in presence of organic material Compatible with lensed instruments Sterilization may be accomplished in 6-10 hours	Extremely irritating and toxic to skin and mucous membranes Shelf life shortens when diluted (effective for 14-30 days depending on formulation) High cost Monitor concentrations in reusable solutions Where ventilation is unable to control the user's exposure to fumes, PPE such as a respirator may be necessary
Hydrogen Peroxide	Low level disinfectant (3%) Cleans floors, walls and	Strong oxidant Fast acting	Can be corrosive to aluminum, copper, brass or

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	furnishings High level disinfectant (6%) Effective for high level disinfection of flexible endoscopes, foot care equipment Disinfection of soft contact lenses Higher concentration used as chemisterilants in specially designed machines for decontamination of heat sensitive medical devices Stabilized hydrogen peroxide (0.5%) is used as a high level surface disinfectant	Breaks down into water and oxygen	zinc Surface active with limited ability to penetrate
Iodophors	Intermediate level disinfectant for some equipment (hydrotherapy tanks, thermometers) Low level disinfectant for hard surfaces and equipment that does not touch mucous membranes (i.e. IV poles, w/c, beds, call lights)	Rapid action Relatively free of toxicity and irritancy	Antiseptic Iodophors are not suitable for use as hard surface disinfectant Corrosive to metal unless combined with inhibitors Disinfectant may burn tissue Inactivated by organic materials May stain fabrics and synthetic materials
Paracetic Acid	High level disinfectant or sterilant for heat sensitive equipment Higher concentrations used as chemical sterilants in specialty designed machines for decontamination of heat sensitive medical devices	Innocuous decomposition (water, oxygen, acetic acid and hydrogen peroxide) Rapid action at low temperature Active in presence of organic materials	Can be corrosive Unstable when diluted
Quaternary ammonium compounds	Low level disinfectant Clean floors, walls and furnishings	Generally, non-irritating to hands Usually have detergent properties Non- corrosive	DO NOT USE to disinfect instruments Limited use as disinfectant due to narrow microbial spectrum
Phenolics	Low/intermediate level disinfectants Clean floors, walls and furnishings Clean hard surfaces and equipment that does not touch mucous membranes (i.e. IV poles, w/c, beds & call lights)	Leaves residual film on environmental surfaces Commercially available with added detergents for one-step cleaning and disinfecting	Do not use in nurseries Not recommended for use on food contact surfaces May be absorbed through skin or by rubber Some synthetic flooring may become sticky with repetitive use.

Proper environmental service management is essential to resident quality of life and for infection prevention and control. The long-term care facility (LTCF) is a complex environment that contains a large diversity of microbial flora, many of which may pose a risk to the residents, staff and visitors in the environment. Transmission of the microorganisms within a LTCF is intricate and very different from transmission outside the facility. Residents in LTCFs are particularly susceptible to infection due to their age-related decline in immunologic function. In addition, they may have a variety of conditions that predispose them to infection such as thinning of the skin, decreased mobility, gastric achlorhydria, urinary retention, impaired mental

status, and a number of underlying diseases such as diabetes mellitus and malignancies.¹⁶ Consequences of transmission of these microbes may be more severe in LTC due to the compromised immune status of the nursing home resident.

The environment of the LTCF has been shown to be a reservoir for infectious agents such as bacteria (i.e. MRSA, VRE, *Clostridium difficile*, *Acinetobacter baumannii*) viruses (i.e. influenza, norovirus, rhinovirus—the common cold) and fungi (i.e. *Aspergillus* spp.). The environmental services (EVS) staff must adhere to practices that work under the premise that all residents, their secretions, excretions and body fluids and their environment might potentially be contaminated with harmful organisms. By following preventive practices at all times regardless of whether or not an illness is “known,” staff will be protecting residents and themselves from an unknown, undiagnosed infectious risk. Routine practices related to environmental cleaning include:

- Hand hygiene
- Use of personal protective equipment when indicated, and
- Standardized cleaning protocols
- Use of Isolation Precautions

Hand Hygiene

Hand hygiene is the most important and effective infection prevention and control measure to prevent the spread of healthcare-associated infections (HAI). Hand hygiene must be practiced:

- Before initial contact with residents or their environment (before entering the resident’s room or bed space).
- After potential body fluid exposure (after cleaning bathroom, handling soiled linen, equipment or waste)
- After resident or resident environment contact (after cleaning resident room, after cleaning equipment such as commodes and after changing mop heads)
- Before donning gloves and after removal of gloves.

It is important to note that gloves do not provide complete protection against hand contamination therefore, it is important to perform hand hygiene before donning and after removing gloves. The use of gloves does not replace the need for hand hygiene.

Alcohol-based hand rubs (ABHR) are recommended when hands are not visibly soiled, as they provide for the rapid kill of most transient microorganisms and the ABHRs are more easily accessible. ABHR is **NOT** recommended when working with residents infected with *Clostridium difficile* or norovirus organisms. Hand washing with soap and water is the recommended process of hand hygiene,

Cleaning and Disinfection Practices

The facility has policies and procedures that ensure:

- Cleaning is an on-going process in the facility.
- Cleaning procedures incorporate the principles of infection prevention and control.
- Cleaning standards, frequency and accountability for cleaning are clearly defined.
- Cleaning schedules ensure that no area or item is missed from routine cleaning.

Routine cleaning of horizontal surfaces:

¹⁶ Smith PW, Rusnak PG. Infection prevention and control in the long-term care facility. SHEA/APIC position paper. Infect Contr and Hosp Epidem 1997;18:831-849

- All horizontal surfaces such as tabletops, window ledges, bedside stands, counters, sinks, tubs, shower floors, toilet seats, floors, etc. will be cleaned daily with an EPA approved hospital grade disinfectant/germicide. This procedure will vary with the item being cleaned. Follow the manufacturer's recommendations and the recommendation of the infection preventionist.
- Cleaning, the physical removal of microbial contamination of any kind is the first and most important step prior to the disinfection process. Items that have not been cleaned first cannot be disinfected properly.
- Use a one-step process and an EPA-registered hospital disinfectant designed for housekeeping purposes in patient care areas where 1) uncertainty exists about the nature of the soil on the surfaces (e.g., blood or body fluid contamination versus routine dust or dirt); or 2) uncertainty exists about the presence of multidrug resistant organisms on such surfaces¹⁷⁽¹⁸⁾.
- Horizontal surfaces will also be cleaned as needed when spills or soiling occurs.
- All carpets will be vacuumed daily and as needed to maintain a safe, clean and sanitary environment. Carpets will be cleaned as needed.
- Cleaning of walls, curtains, blinds, etc. will be completed when dust/soil is visible and when otherwise needed.
- Wet dust horizontal surfaces daily by moistening a cloth with a small amount of an EPA-registered hospital-grade detergent/disinfectant to remove organism-laden particles from the surfaces in the resident area.⁽¹²⁾
- High-touch surfaces will be cleaned daily and more often as needed during outbreaks. These surfaces are those that the HCW or resident touches frequently such as side rails, over bed table, nightstand, call light, remote control device, telephone, cubicle curtain, closets, drawers, light switches, doorknobs, handrails, bath rails, sink handles, and keyboards. This may be especially needed during cold and flu season to help prevent transmission of these and other illnesses from one person to another.
- All horizontal surfaces in a resident's environment will be vigorously cleaned daily and upon discharge in preparation for a new resident admission. Refer to terminal cleaning section.
- Friction (scrubbing) will be used in addition to a germicide to remove surface soil from contaminated items prior to disinfection.
- Care will be taken to ensure the correct dilution of disinfectants/germicides, adequate contact time, and appropriate environmental conditions, as these conditions may greatly affect the adequacy of disinfection. See manufacturer's recommendations for products used.
- Remember to always change cleaning cloths in between each resident room.
- All chemicals used in the facility must have an approved EPA registration number; be labeled with the product name, product action and correct use. Safety concerns and the emergency response needed in case of accidental exposure/ingestion are listed in the Material Safety Data Sheet (MSDS) book.
- All chemicals must be stored in a locked or secured area when not in use.
- All cleaning supplies should be kept in the original containers when possible. If chemicals must be transferred from one container to another, a face shield or

¹⁷ Rutala WA. Weber DJ. Guideline for disinfection and sterilization in healthcare facilities. HICPAC 2008.

goggles should be worn to prevent splashing of chemicals into the eyes, and the new container should be adequately labeled with a factory label (not handwritten on the container).

Terminal Room Cleaning¹⁸

Terminal cleaning refers to the cleaning and disinfection of a room after a resident is discharged or transferred. All surfaces that might have been contaminated during resident care should be cleaned and disinfected. This includes the frequently touched surfaces mentioned earlier. It also includes wiping down mattresses and headboards with an EPA-approved disinfectant, and removing privacy curtains, placing in a bag in the room and then transporting to the laundry facility for cleaning.

- EVS staff will perform hand hygiene and don PPE upon entering the room to be cleaned.
- EVS personnel will properly handle infectious waste and contaminated linen.

REMEMBER: unused items such as toilet paper, towels etc. are considered contaminated and should be handled accordingly (discarded or washed). All linen that is found in a resident's room, used or unused, is considered contaminated and, therefore, infectious and sent to the laundry for washing.

- When a resident is discharged, the unit should be stripped (including the cubicle curtain).
- Inspect pillows and mattress. If holes are found, send for replacement.
- When a resident is removed from isolation precautions, the resident's unit should be cleaned with the same procedures used for residents on Standard Precautions, unless the infecting microorganism(s) and the amount of environmental contamination indicates special cleaning (i.e., CRE, VRE, acinetobacter, Clostridium difficile) such as terminal cleaning. In addition to thorough cleaning, adequate disinfection of bedside equipment and environmental surfaces (i.e., bedrails, bedside tables, carts, commodes, doorknobs, faucet handles) is indicated for certain pathogens especially enterococci, which can survive in the inanimate environment for prolonged periods of time. Residents admitted to hospital rooms that were previously occupied by residents infected or colonized with such pathogens are at increased risk of infection from contaminated environmental surfaces and bedside equipment if they have not been cleaned and disinfected properly. The methods, thoroughness, and frequency of cleaning and the products used are determined by facility policy.
- Bed frame, mattress, bedside stand, closet (inside and out), over bed table, chairs, lights and switches, walls and bathroom will all be aggressively cleaned with disinfectant/germicide, and the unit will be made up in anticipation of admission of a new resident.

¹⁸ CDC. Guidelines for environmental infection control in healthcare facilities; Recommendations of CDC and HICPAC, 2004.

- Use a hospital-grade EPA-approved disinfectant on **ALL** environmental surfaces and high-touch surfaces. Do not overlook inside and the bottom of drawers and closets, equipment cords, call lights, remote controls, soap and toilet paper dispensers, toilets, urinals, sinks and bathroom fixtures. Contact time of disinfectant should be according to manufacturer's recommendations. Check labels of products.
- For rooms occupied by residents with *Clostridium difficile*, the recommended disinfectant is sodium hypochlorite (household bleach) 1:10 dilution. This bleach solution should be discarded and remixed/changed every 24 hours. If products other than bleach are used, check the manufacturer's claim on the label. Product should be sporicidal. Check label for recommended contact.
- Cleaning is needed to remove the organic materials (bio burden) in the environment before disinfecting with bleach solution as well as other products.
- Before leaving the terminally disinfected room, the EVS staff will remove the PPE and perform hand hygiene.

Alternative Technologies for Terminal Cleaning

A number of alternative technologies have been developed for terminal cleaning of resident rooms in healthcare settings. These technologies focus on killing multi-drug resistant pathogens on hospital environmental surfaces through various mechanisms:

- Ultraviolet (UV) light (UV-C destroys microorganisms by creating thymine dimers and inhibiting replication. This process has been used for years to reduce microbial contamination)¹⁹
- Hydrogen peroxide vaporization (generates vapor of hydrogen peroxide which is completely dispersed throughout the room. At the end of the process the hydrogen peroxide is broken down catalytically to water vapor and oxygen. EPA considers this process a fumigant)²⁰
- Hydrogen peroxide aerosolization (generates a fine mist by aerosolizing a solution containing 5% hydrogen peroxide. The EPA considers this to be a "fogging" process. After exposure, the aerosol is left to decompose spontaneously)⁽¹⁹⁾

These newer methods for room decontamination may warrant further investigation to determine their cost-effectiveness and their role in terminal room disinfection.

Monitoring, Cleaning and Disinfecting Practices

The EVS department is responsible for ensuring the quality of cleaning maintained in the healthcare setting meets appropriate infection prevention and control best practices. Visual inspection of hospital rooms may not give reliable information about the cleanliness of environmental surfaces. Multiple studies have shown that housekeepers wipe only about 50%

¹⁹ Boyce J. When the patient is discharged: Terminal disinfection of hospital rooms. *Medscape*. June 11, 2010.

²⁰ Otter JA, Havill NL, Boyce JM. Hydrogen peroxide vapor is not the same as aerosolized hydrogen peroxide. *Infect Cont and Hosp Epidemiol*. Vol. 31, No.11 (November 2010)pp 1201-1202

of surfaces targeted for cleaning²¹. For that reason it is important to incorporate elements of quality improvement into the program including monitoring, auditing and providing feedback to the staff and management. Monitoring should be an ongoing process built into the routine cleaning regimen.

Using checklists and audit tools will assist supervisory staff in monitoring and documenting cleaning and disinfection. (See checklists in this section) Feedback of results to EVS staff has been shown to increase motivation and engagement with resulting improvements.⁽²⁰⁾

There are several methods to evaluate the adequacy of cleaning to determine if effective cleaning has taken place. See Table 2. These methods are:

- Direct and indirect observation (i.e. visual assessment, observation of performance, resident satisfaction surveys)
- Residual bio burden (i.e. environmental culture, adenosine triphosphate-ATP bioluminescence) and
- Environmental marking tools (i.e. fluorescent marking)

Table 2. Advantages and Disadvantages of Cleanliness Assessment Methodologies²²

Method	Advantage	Disadvantage
Observation of individual performance (direct and indirect assessment)	<ol style="list-style-type: none"> 1. Ease of implementation & maintenance 2. Cost-effective 3. Durability of results 4. Staff engagement 5. May reduce HAI rates over time 	<ol style="list-style-type: none"> 1. Difficulty in standardizing methodology 2. Labor intensive 3. Results might be impacted by Hawthorne effect
Resident satisfaction survey	<ol style="list-style-type: none"> 1. Indicates resident's perception of the services rendered 2. Not costly to obtain 	<ol style="list-style-type: none"> 1. Subjective 2. Not always indicative of the services provided 3. No benchmark for comparison
Environmental culture	<ol style="list-style-type: none"> 1. May be helpful as part of an epidemiological or outbreak investigation 2. Provides quantitative measure of surface contamination 3. May be useful for monthly sampling of water & dialysate in 	<ol style="list-style-type: none"> 1. Not routinely recommended 2. Not cost effective (cost of culture media & technician time) 3. Presence of organism does not necessarily confirm it is the cause of resident infection. 4. Results in 48 hours

²¹ Vearncombe M, Armstrong I, Baker D. Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practices for environmental cleaning for prevention and control of infections in all healthcare settings. Dec. 2009

²² Boyce JM, Havill NL, Mangione E et al. Comparison of fluorescent marker systems with 2 quantitative methods of assessing terminal cleaning practices. *Infect Contr Epidemiol.* 2011 July;32 (12):1187-1193

	hemodialysis units	
ATP luminescence	<ol style="list-style-type: none"> 1. This method is quantitative which reflects amount of bioburden 2. Easy to perform 3. Can provide instant feedback 4. Can be used to evaluate novel cleaning methods 	<ol style="list-style-type: none"> 1. Results not qualitative which would indicate type of bioburden present (organism) 2. Cost of swabs and luminometer
Fluorescent marking tools	<ol style="list-style-type: none"> 1. Inexpensive 2. Easy to perform with minimal equipment 3. Results readily available 	<ol style="list-style-type: none"> 1. Does not provide data as to level of bacterial contamination 2. No quantitative assessment of cleanliness

Cleaning Schedules

A schedule of cleaning tasks and the employee responsible for these tasks is to be maintained by the EVS supervisor. Perform regular observations and audits of housekeeper's cleaning practices and correct use of infection control practices. (See checklists)

Cleaning Equipment

- Mop heads will be changed when they appear to be soiled or after cleaning an isolation room. Some manufacturers recommend changing the mop head at least every day.
- Floor-cleaning water in bucket is to be changed after every 3-4 rooms.
- The mop head and water should be changed after cleaning a room in which the resident has *Clostridium difficile* infection or any other MDRO infection.
- Cleaning cloths are to be changed after each resident. Different cloths are to be used for cleaning the bathrooms. New methods for cleaning and disinfection are continually evolving. For surface cleaning and mopping, the use of microfiber technology has been quite successful and now widely used. These newer products, used in healthcare settings, must be weighed against current products in terms of efficacy, ease of implementation, toxicity, effects on resident care, ergonomic considerations, and cost implications. The infection preventionist along with the EVS department should be involved in decision-making relating to changes in cleaning and disinfection products and technologies. For more information on the benefits of microfiber products and a comprehensive cost analysis refer to the U.S Environmental Protection Agency's fact sheet, available at <http://www.ciwmb.ca.gov/wpie/healthcare/epamicromop.pdf>.

Trash

- Trash will be removed from all areas of the building daily and stored in a secured area away from animals. The trash will be collected from this area in a regular and timely manner.
- Trash containers should be removed once they are $\frac{3}{4}$ full and replaced with an empty container lined with a clean trash bag.
- All trash collection containers will be lined with plastic bags to prevent leakage into the primary container. Tight-fitting lids should be available and in place for the containers. This is for the protection of the housekeeping staff during collection and transfer.
- A cleaning schedule for trash containers should be maintained and the EVS supervisor will designate the employee responsible for this task.

Medical Waste

- There is no uniform national standard for defining the wastes that comprise the category of regulated medical waste. However, there are five federal agencies that have established regulated waste definitions. These agencies are (1) US Environmental Protection Agency (EPA; 40 CFR Part 60.51c), the US Department of Transportation (DOT; 49 CFR Part 173.134), the Occupational Health and Safety Administration (OSHA; 29 CFR Part 1910.1030(b), the United States Postal Service (USPS; 39 CFR Part 111.1), and the US Public Health Service (PHS; 42 CFR Part 72.3). ⁽²¹⁾
- The Occupational Safety and Health Administration has published a definition, which is termed regulated waste. This definition specifically includes wastes that meet the following criteria²³:
 - Liquid or semi-liquid blood or other potentially infectious materials (“other potentially infectious materials” means the following human body fluids; semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and all body fluids where it is difficult or impossible to differentiate between body fluids”)
 - Contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed
 - Items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling
 - Contaminated sharps
 - Pathological and microbiological wastes containing blood or other potentially infectious materials
- Medical wastes require careful disposal and containment before collection. The Occupational Safety and Health Administration (OSHA) has dictated initial measures for discarding regulated medical-waste items. These measures are designed to protect the workers who generate medical wastes and who manage the

²³ Salkin IF, Krisiunas E, Turnberg WL. Medical and infectious waste management. Anthology of biosafety II: Facility Design Considerations, chapter 10, pp140-160. 2000.

wastes from point of generation to disposal. A single leak-resistant biohazard bag is usually adequate for containment of regulated wastes, provided the bag is sturdy and the waste can be discarded without contaminating the exterior of the bag. All bags should be securely closed for disposal. Puncture-resistant containers located at the point of use (i.e., sharps containers) are used as containment for discarded slides or tubes with small amounts of blood, scalpel blades, needles, syringes, and unused sterile sharps. To prevent needlestick injuries, needles and other contaminated sharps should not be recapped, purposefully bent, or broken by hand. CDC has published general guidelines for handling sharps.⁽²⁰⁾⁽²²⁾

- Healthcare facilities are instructed to dispose of medical wastes regularly to avoid contamination. Medical wastes requiring storage should be kept in labeled, leak-proof, puncture-resistant containers under conditions that minimize or prevent foul odors. The storage area should be well ventilated and be inaccessible to pests. Any facility that generates regulated medical wastes should have a regulated waste management plan to ensure health and environmental safety as per federal, state, and local regulations.²⁴
- On addition to federal definitions, the regulated community must also consider the definitions developed by the individual state legislatures and governments. Before developing a Medical Waste Management Plan, each facility should obtain and review all pertinent local and state regulations.

Hand Hygiene facilities

- Hand hygiene facilities will be inspected each day for adequate functioning and for supplies. Replenish supplies as needed.
- On Friday afternoon, if hand washing supplies appear low, replenish or replace so as not to deplete supplies over the weekend (soap, hand towels). Check ABHR dispensers.

Isolation Rooms

- EVS personnel will be trained to clean isolation residents' rooms and bathrooms. EVS staff will consult their supervisors, the nurse manager, or the infection preventionist about proper isolation precautions to be followed and necessary PPE (i.e., gloves, gowns, mask, and goggles or face shield) to be worn.
- Emphasize the need for hand hygiene before and after caring for the isolated resident's environment and for the need to wear PPE when working in the isolated resident's room.
- Special attention should be paid to the cleaning of environmental surfaces in the isolation room, as these surfaces are implicated in the transmission of infection from one person to another.
- After cleaning the isolation room, remove gloves, goggles, gown and mask carefully and discard appropriately. Hand hygiene should be performed before proceeding to the next task.
- If resident has *Clostridium difficile* infection, the mop head and water should be changed after cleaning this room.

²⁴CDC. Guidelines for environmental infection control in healthcare facilities: Recommendations of CDC and HICPAC 2004.

- EVS supervisor will oversee and monitor housekeeping staff on an on-going basis for proper infection control performance of duties during routine cleaning of resident rooms and bathrooms as well as terminal disinfection of rooms and bathrooms when needed. (See audit tools for EVS at end of this chapter)

General Cleaning of other areas

- EVS is responsible for maintaining and cleaning common areas within the facility like the lobby, dining halls, recreation/activity rooms, nursing stations, rehabilitation room, public bathrooms, conference rooms and administration offices. Included in this category of surfaces are the frequently touched areas handled by the HCP i.e. keyboards of electronic devices, infusion pumps, etc. Follow manufacturer's recommendations for cleaning and disinfecting of electronic devices.
- Floors are to be wet-mopped daily. Vacuum daily. Damp dusting daily will be done to remove organism-laden particles from the air and from surfaces in public areas.
- Doorknobs, handrails throughout the facility, bath/shower rails, water faucets, sink handles etc. will be cleaned daily and more often as needed. This is especially important during cold and flu season and during outbreaks to help prevent transmission of infections from one person to another.
- Trash will be emptied daily or as needed.
- Items that are broken, torn, cracked or malfunctioning are to be replaced.
- In the event, there is a spill of food or liquid, EVS is to be notified to clean the spill according to facility policy.
- Priority for cleaning should be given to resident care areas, rather than administrative or public areas.
- Cleaning practices are monitored and audited with feedback and education (same standard applies whether EVS staff is provided in-house or contracted out.) See audit tools at the end of this section.
- EVS staff will be instructed on the need to check each disinfectant product label used in facility for contact time. Products may vary in recommended "kill time" so EVS staff should be familiar with how long surfaces must remain wet in order for the product to be effective.

Table 3. CDC Environmental Checklist for Monitoring Terminal Cleaning ⁽²⁴⁾

Date:	
Unit:	
Room Number:	
Initials of ES staff (optional):²	

Evaluate the following priority sites for each resident room:

High-touch room surfaces ³	Cleaned	Not Cleaned	Not Present in Room
Bed rails/controls			
Tray table			
IV pole (grab area)			
Call light button			
Telephone			
Bedside table handle			
Privacy Curtain			
Chair			
Room sink			
Room light switch			
Room inner door knob			
Bathroom inner door knob/plate			
Bathroom light switch			
Bathroom handrails by toilet			
Bathroom sink			
Toilet seat			
Toilet flush handle			
Toilet bedpan cleaner			

Evaluate the following additional sites if this equipment is present in the room:

High-touch Room Surfaces ³	Cleaned	Not Cleaned	Not Present in Room
IV Pump control			
Multi-module monitor controls			
Multi-module monitor touch screen			
Multi-module monitor cables			
Ventilator control panel			

Mark the monitoring method used (if applicable):

___ Direct Observation ___ Fluorescent gel ___ Swab Culture

___ ATP system ___ Agar slide cultures ___ Other

¹ Selection of detergents and disinfectants should be according to institutional policies and procedures.

² Hospitals may choose to include identifiers of individual environmental services staff for feedback purposes. ³ Sites most frequently contaminated & touched by residents and/or staff

Table 4. **Environmental Services Checklist for Daily Cleaning of Resident Room**²⁵

Date:	
Unit:	
Room Number(s):	
Initial of ES staff (optional)	

Evaluate the following priority sites for each resident room:

Cleaning Task	Cleaned	Not cleaned	Not present in room
High Dusting Performed			
Use high duster/mop head: wipe ledges (shoulder high and above			
Vents			
Lights (do not high dust over the resident)			
Dust TV: rotate and dust screen and wires			
Damp Dust : Cloths (rags) and spray bottle of disinfectant for damp wipe			
Ledges (shoulder high)			
Door handles			
Room furniture (bureaus, chairs, etc.)			
Bedside table: disinfect surface			
Equipment per policy			
Glass surfaces			
Bathroom: All Surfaces			
Toilet			
Ledges in bathroom			
Door handles			
Sink (especially faucet handles)			
Shower stall			
Clean mirrors and chrome			
Waste Basket			
Liner bags: close before removing			
Clean and disinfect if can is visibly soiled			
Sharps Container			
Check level of sharps (remove if ¾ full)			
Take to soiled utility room after securely closing			
Cleaning Task	Cleaned	Not Cleaned	Not present in room

²⁵ Guh A, Carling P. Environmental Evaluation Group. DHQP. CDC. Options for evaluating environmental cleaning. December 2010.

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Clean high-touch surfaces near resident			
Siderails			
Call light			
Remote control unit			
Telephone			
IV pole and controls			
Bedside table handle			
Floor Disinfection			
Sweep floor before wet-mopping			
With wet mop, start farthest from door; half of room first then the other half			
Bathroom shower floor			
Bathroom floor			

Adapted from the Evanston Northwestern Healthcare (Illinois) Checklist published in the Institute for Healthcare Improvement (IHI).

Getting Started Kit: Reduce MRSA Infection How-to-Guide, 2006.

**AEROSOL
TRANSMISSIBLE
DISEASE
PROGRAM**

AEROSOL TRANSMISSIBLE DISEASE PROGRAM

POLICY:

It is the policy of _____ to provide its employees with a safe and healthful work environment. Our Aerosol Transmissible Disease (ATD) Program is intended to reduce employee exposure to infectious agents in the workplace through the proper use of respirators during an infectious respiratory disease emergency. Respiratory protection is provided at no cost to the employees of this facility.

This policy includes the implementation of this respiratory protection program as a means of providing the highest level of protection to employees, as defined by OSHA in California Code of Regulations, Title 8 (8CCR), Section 5199, as well providing quality care to our residents.

PROGRAM ADMINISTRATOR:

The following individual has been designated as the Program Administrator of the ATD Program:

Name _____

Title _____

Telephone _____

This individual has the authority to act on any and all matters relating to the operation and administration of the respiratory protection program. All other employees will cooperate to the fullest extent. This designated individual will be referred to as the Respiratory Protection Program Administrator (RPPA). This person will also be responsible for monitoring the ongoing needs for respiratory protection in the facility.

ROLES AND RESPONSIBILITIES:

Respiratory Protection Program Administrator (RPPA)

The following duties are the responsibility of the RPPA in administering this program:

- ❖ Identify work areas, processes, or tasks that require respiratory protection. For this program, this means identifying patient care areas and other circumstances likely to present a risk of transmission of airborne infections.
- ❖ Monitor CAL/OSHA policy and standards for changes and make changes to facility policies.
- ❖ Select respiratory protection products.
- ❖ Monitor respiratory use to ensure that respirators are used in accordance with their certification.

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- ❖ Distribute and ensure completion of the medical clearance questionnaire.
- ❖ Provide required information to the physician or other licensed health care provider (PLHCP), who will do medical evaluations of respirator users.
- ❖ Ensure that respirator users have received a medical evaluation and are medically qualified to use a respirator.
- ❖ Evaluate any feedback information or surveys.
- ❖ Arrange for and /or conduct training and fit testing.
- ❖ Ensure proper storage and maintenance of respiratory protection equipment.
- ❖ Annually review the implementation of the program in consultation with employees.
- ❖ Recordkeeping of training

SUPERVISORS:

Supervisors are responsible for ensuring that the Respiratory Protection Program (RPP) is implemented in their particular units. Supervisors must also ensure that the program is understood and followed by the employees under their charge. Other duties may include:

- ❖ Knowing the hazards in the area in which they work.
- ❖ Knowing the types of respirators that need to be used.
- ❖ Ensuring the respirator program and worksite procedures are followed.
- ❖ Ensuring employees receive medical evaluations and training.
- ❖ Enforcing/encouraging staff to use required respirators.
- ❖ Coordinating annual retraining and/or fit testing
- ❖ Notifying the RPA of problems with respirator use, or changes in work processes that would impact airborne contaminant levels.
- ❖ Ensure proper storage and maintenance of all respirators.

EMPLOYEES:

It is the responsibility of the employee to have an awareness of the respiratory protection requirements for their work areas (as explained by management). Employees are also responsible for wearing the appropriate respiratory protection equipment according to proper instructions and for maintaining the equipment in a clean and operable condition. Employees should also:

- ❖ Participate in all training.
- ❖ Maintain equipment.
- ❖ Report malfunctions and concerns.

PROGRAM SCOPE AND APPLICATION:

This program applies to all employees who could potentially be exposed to airborne respiratory illnesses during routine work operations in the event of an infectious respiratory disease

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emergency. Some of the types of work activities required to wear respirators are seen in the table below:

Work Process	Location	Type of Respirator
Direct Patient Care HCW	Patient care areas	N95 Respirators or PAPR
Housekeeping, Cleaning staff	Patient care areas where pandemic/respiratory patients have stayed	N95 Respirators or PAPR (powered air-purifying respirators)

IDENTIFYING WORK HAZARDS:

The respirators selected will be used for respiratory protection from potentially airborne infectious diseases; they do not provide protection from chemical exposure. Through normal working situations employees may be asked to have contact with patients who could be infected with a potentially airborne infectious agent such as the TB bacteria.

RESPIRATOR SELECTION

Only respirators approved by the National Institute for Occupational Safety and Health (NIOSH) will be selected and used.

Check those in use at this facility:

_____ N95 respirators are available for patient contact/care.

_____ A powered air-purifying respirator (PAPR) is available for patient contact/care (if facility has purchased or obtained one).

A PAPR may be used if the N95 respirator choice does not fit or if the employee has facial hair or a facial deformity that would interfere with mask-to-face seal (facial hair such as a mustache must fit within the seal of the mask). Other reasons may include: N95 respirator choice is not available or if desired for high-risk aerosol-generating procedure.

Respiratory Protection Equipment

Respirators:

Respirators differ from surgical masks. They are designed specifically to ensure the capture of particles of the size that can be inhaled into the respiratory tract, including the entire range of nasopharyngeal, tracheo-bronchial and alveolar-sized particles

N95 Respirators

“N95” refers to respirators designed for non-oil based respiratory hazards which have an efficiency of 95% (stopping 95% of the particles).

PAPR (Powered Air-Purifying Respirator)

A respirator that provides cleaned air to the inside of a light-weight hood, purifying the air by

means of a battery powered blower which pulls the air through a filter cartridge. PAPRs are worn by people who do not fit test to an N95 respirator, and by anyone with facial hair (which interferes with the seal needed for an N95).

MEDICAL EVALUATION

Before fit testing can be performed on a subject, he/she must fill out the Medical Questionnaire Form (Appendix B). This questionnaire should then be reviewed by a physician or licensed health care professional. A Medical Evaluation Memorandum can be found in Appendix D. This is for the use of the physician or licensed health care professional after review of the Medical Questionnaire.

RESPIRATOR TRAINING AND FIT TESTING:

Training

Employees will be trained prior to the use of a respirator, at least annually thereafter, and whenever supplemental training is deemed necessary by the RPPA, or when conditions in the workplace effecting respirator use change. Training will include:

- ❖ Identifying hazards, potential exposure to these hazards, and health effects of hazards.
- ❖ Respiratory fit, improper fit, usage, limitations, and capabilities for maintenance, usage, cleaning and storage.
- ❖ Inspecting, donning, removal, seal check and trouble shooting.
- ❖ Explaining respirator program (policies, procedures, CAL/OSHA standard and resources).

Fit Testing (See Appendix A for Fit Test Procedure)

After the initial fit test, fit tests must be completed at least annually or more frequently if there is a change in status of the wearer or if the employer changes model or type of respiratory protection used.

The actual fit testing procedure appears in Appendix A of this program. Fit tests are conducted to determine that the respirator fits the user adequately and that a good seal can be obtained. Respirators that do not seal do not offer adequate protection. Fit testing is required for tight fitting respirators. There should be several different models of respirators available to do the fit-test, in the event that a tight fit is not obtainable with the first model tested.

Fit tests will be conducted:

- ❖ Prior to being allowed to wear any respirator.
- ❖ If the facility changes respirator product.
- ❖ If the employee changes weight by 10% or more, or if the employee has changes in facial structure or scarring.

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- ❖ If the employee reports that a respirator that previously passed a fit-test is not providing an adequate fit.
- ❖ If the RPPA, PLHCP or other supervisor notices a change in employee that would require an additional fit-test as CAL/OSHA standards require.

Fit testing will not be done on employees with facial hair that passes between the respirator seal and the face or interferes with valve function. Such facial hair includes stubble, beards and long sideburns. If it is determined that an individual cannot obtain an adequate fit with any tight fitting respirator, a loose fitting powered air-purifying respirator (PAPR) may be provided instead.

DOCUMENTATION OF FIT TESTING

Documentation of the fit testing should be recorded (See Appendix C) The following should be included in the documentation:

- ❖ Name of employee tested with position (title), department, location, test date and make of respirator tested with model and size of respirator.
- ❖ Chemical agent used
- ❖ Additional PPE worn by test subject
- ❖ Outcome of test (Pass or Fail)
- ❖ Due Date of next fit test to be done.

PROPER RESPIRATOR USE:

General Use

Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of the selected model(s). In addition, the respirator shall not be used in a manner for which it is not certified by the National Institute for Occupational Safety and Health (NIOSH) or by its manufacturer.

All employees shall conduct positive and negative pressure user seal checks each time they wear a respirator. The positive and negative seal check does not take the place of qualitative or quantitative fit testing. The manufacturer's recommended procedure for performing a user seal check may be used instead of the positive and /or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

The following is the pressure check procedures:

- a. Positive pressure check. Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of

leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

- b. Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

All employees shall leave a potentially contaminated work area to clean the PAPR or change their N95 (disposable) respirator if the respirator is impeding their ability to work. This means employees shall leave the contaminated area:

- ❖ If increased breathing resistance of the respirator is noted.
- ❖ If severe discomfort in wearing the respirator is detected.
- ❖ Upon illness of the respirator wearer, including: sensation of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever and chills.
- ❖ To wash face to prevent skin irritation.

Additionally, employees will be required to immediately leave the contaminated or infected area:

- ❖ Upon malfunction of the respirator such as a reduction in air flow of a PAPR.
- ❖ Upon detection of leakage of contaminant into the respirator.
- ❖ Breathing through the respirator becomes more difficult.

Cleaning and Disinfecting

N95—disposable: Discard after use. Discard if soiled, if breathing becomes more difficult, or if structural integrity is compromised. If resident is under Contact Precautions (e.g., MRSA, VRE, *Clostridium difficile*) discard the respirator after use with that resident.

PAPR—Cleaning and disinfecting differ based on brand and manufacturer. Clean according to the manufacturer's instructions. Include those instructions here for the models used in each facility.

Respirator Reuse

Disposable N95 respirators are not designed for reuse. However, concern about potential shortages of N95s during a pandemic has forced consideration of respirator reuse. Studying the issue, and in particular reference to N95s for healthcare workers use during a pandemic, the National Academy of Sciences offers this recommendation:

Despite these findings about the constraints of reuse, the committee makes a recommendation for extending the life of disposable N95 respirators for individual users. This recommendation is consistent with the CDC's Interim Domestic Guidance on the Use of Respirators to Prevent Transmission of SARS (CDC, 2003)

Recommendation 1: Avoiding contamination will allow for limited reuse. If an individual user needs to reuse his/her own disposable N95 respirator, the committee recommends that it be done in the following manner:

- Protect the respirator from external surface contamination when there is a high risk of exposure (i.e., by placing a cleanable faceshield over the respirator so as to prevent surface contamination but not compromise the device's fit). Surgical masks should not be used over the respirator, as it may unseat or deform the respirator and may make it more difficult to breathe through.
- Use and store the respirator in such a way that the physical integrity and efficacy of the respirator will not be compromised.
- Practice appropriate hand hygiene before and after removal of the respirator and, if necessary and possible, appropriately disinfect the object used to shield it.

Respirator Inspection, Maintenance, and Storage:

Inspection— All types of respirators should be inspected prior to use.

N95—disposable

1. Examine the facepiece of the disposable respirator to determine if it has structural integrity. Discard if there are nicks, abrasions, cuts, or creases in seal area or if the filter material is physically damaged or soiled.
2. Check the respirator straps to be sure they are not cut or otherwise damaged.
3. Make sure the metal nose clip is in place and functions properly (if applicable).
4. Disposable respirators are not to be stored after use. They are to be discarded.

PAPR

1. Check battery level.
2. Inspect the breathing tube and body of the respirator, including the High Efficiency Particulate Air (HEPA) filter, if visible, for damage.
3. Examine the hood for physical damage (if parts are damaged, contact the Respiratory Protection Program Administrator in your facility).
4. Check for air flow prior to use.
5. Follow manufacturer's recommendations on maintenance, including battery recharging.

Repair

During cleaning and maintenance, respirators that do not pass inspection will be removed from service and will be discarded or repaired. Repair of the respirator must be done with parts designed for the respirator in accordance with the manufacturer's instructions before reuse. No attempt will be made to replace components or make adjustments, modifications or repairs beyond the manufacturer's recommendation.

Storage

Respirators not discarded after one shift use will be stored in a location where they are protected from sunlight, dust, heat, cold, moisture, and damaging chemicals or crushing. It need not be in an "airtight" container.

Evaluating and Updating the Program

The Respiratory Protection Program Administrator will complete an annual evaluation of the respiratory protection program. He or she will:

- Evaluate any feedback from employees.
- Review any new hazards, case definitions, or other pandemic guidance from public health agencies, or changes in policy that would require respirator use.
- Make recommendations for any changes needed in the respiratory protection program.

The following references were used to compile this program.

References:

- OSHA Regulatory Standard for Fit Testing Procedures
- NIOSH Respiratory Protection Program (www.cdc.gov/niosh/topics/respirators)
- California Association of Health Facilities "Model Respiratory Protection Program-June 2009"
- CAL/OSHA Interim Enforcement Policy on H1N1 and Section 5199-ATD. Issue date 10-22-09
- "Interim Domestic Guidance on the Use of Respirators to Prevent Transmission of SARS" (CDC,2003).
- National Academy of Sciences.
- State Compensation Insurance Fund. "Loss Control Bulletins". www.scif.com

APPENDIX A. FIT TESTING PROCEDURES**OSHA-Accepted Fit Test Protocols****A. Fit Testing Procedures—General Requirements**

The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to only the Qualitative OSHA-accepted fit test method.

1. The test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning the respirator. This instruction is not to be considered the subject's formal training on respirator use, because it is only a review.
2. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. There shall be different sizes to choose from.
3. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
4. The most acceptable facepieces are noted in case the one selected proves unacceptable. The most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by asking the subject to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
5. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
 - a. Position of the mask and position on face and cheeks
 - b. Room for eye protection
 - c. Room to talk
6. The following criteria shall be used to help determine the adequacy of the respirator fit:
 - a. Chin properly placed
 - b. Adequate strap tension, not overly tightened
 - c. Fit across nose bridge
 - d. Respirator of proper size to span distance from nose to chin
 - e. Tendency of respirator to slip
 - f. Self-observation in mirror to evaluate fit and respirator position.
7. The test subject shall conduct a user seal check recommended by the respirator manufacturer. The subject shall be told to seat the mask on the face by moving the head from side to side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the subject fails the user seal check test.

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8. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.
9. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.
10. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.
11. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least five minutes before the start of the fit test.
12. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.
13. Test Exercises:
 - a. Employers must perform the following test exercises for the fit testing method prescribed in this policy. Employers must ensure that employees perform the test exercises in the appropriate environment in the following manner:
 - i. Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.
 - ii. Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
 - iii. Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
 - iv. Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
 - v. Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can count backward from 100 or recite a memorized poem or song.
 - vi. Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place can be substituted for this exercise if needed.
 - vii. Normal breathing. Same as in item (i) above.

- b. Each test exercise shall be performed for one minute. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercise has begun. Any adjustment voids the test, and the fit test must be repeated.

B. Qualitative Fit Test (QLFT) Protocol

General Information

According to OSHA, the fit testing shall be conducted by a competent individual, one that is capable of preparing test solutions, calibrating equipment and performing tests properly.

He/she should be able to recognize invalid tests, and ensure that test equipment is in proper working order. Fit- test training to perform fit testing can be done by an outside service provider such as your Occupational Health Clinic or the respirator manufacturer, but it is not mandatory to have a special certification. Contact your respirator supplier for assistance in finding a service provider, if desired.

The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

1. Saccharin Solution Aerosol Protocol.

The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

- b. Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.
 1. During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, is adequate.
 2. The test enclosure shall have a ¾-inch (1.9cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.
 3. The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a sweet taste.
 4. Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

5. The threshold check solution is prepared by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit the solution in 100 ml of distilled water.
6. To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.
7. Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.
8. If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.
9. If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. Of the test subject reports tasting the sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.
10. The test conductor will take note of the number of squeezes required to solicit a taste response.
11. If the saccharin is not tasted after 30 squeezes (step 10), the test subject is unable to taste saccharin and may not perform the saccharin fit test.

Note: If the test subject eats or drinks something sweet before the screening test, he/she may be unable to taste the weak saccharin solution.

12. If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.
13. Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.
14. The nebulizer shall be thoroughly rinsed in water, shaken dry and refilled at least each morning and afternoon or at least every four hours.
15. At this point, before the actual fit test procedure, the subject can rinse their mouth with a small cup of plain water.

2. Saccharin solution aerosol procedure fit test

- a. The test subject may not eat, drink (except plain water) smoke, or chew gum for 15 minutes prior to the test.
- b. The fit test uses the same enclosure described above.

- c. The test subject shall don the enclosure while wearing the respirator selected. The respirator shall be properly adjusted and equipped with a particulate filter.
 - d. A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.
 - e. The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.
 - f. As before, the test subject shall breathe through the slightly open mouth with tongue extended, and report if he/she tastes the sweet taste of saccharin.
 - g. The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of saccharin fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.
 - h. After generating the aerosol, the test subject shall be instructed to perform the exercises in section A 13 of this appendix.
 - i. Every 30 seconds the aerosol concentration shall be replenished using one half the original number of squeezes used initially (e.g., 5,10 or 15).
 - j. The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected. If the test subject does not report tasting the saccharin, the test is passed.
 - k. If the taste of saccharin is detected, the fit test is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).
 - l. Since the nebulizer has a tendency to clog during use, the test operator must make periodic checks of the nebulizer to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid.
3. Bitrex Solution Aerosol Qualitative Fit Test Protocol
 - a. The Bitrex solution aerosol QLFT protocol uses the Saccharin test protocol because that protocol is widely accepted. See Section B.1
 - b. **The test subject may not eat, drink (accept plain water) smoke, or chew gum 15 minutes before the test.**
 - c. The procedure for using Bitrex is the same as outlined for the Saccharin solution. The difference is in the preparation and concentration of the solution.
 - d. When preparing the Bitrex Threshold Check Solution before the actual fit test is performed add 13.5 mg of Bitrex to 100 ml of 5% salt (NaCl) solution in distilled water.

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- e. Follow the same protocol for Taste Threshold Screening as performed with the Saccharin solution.
- f. Once the Threshold Screening has been performed, the Bitrex fit test solution is then prepared by adding 337.5 mg of Bitrex to 200 ml of a 5% salt (NaCl) solution in warm water.
- g. Utilize the same procedure for the fit testing with Bitrex as was used with the Saccharin solution.

APPENDIX B: Medical Evaluation Questionnaire (*Sample*)

Note that where possible, answers have been provided for the skilled nursing industry.

OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

To the employer: *Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.*

To the employee:

Can you read (check one): Yes No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

PART A - SECTION 1 (MANDATORY)

The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date:

2. Your name:

3. Your age (to nearest year):

4. Sex (check one): Male Female

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5. Your height: _____ ft. _____ in.

6. Your weight: _____ lbs.

7. Your job _____
title: _____

8. A phone number where you can be reached by the healthcare professional who reviews this questionnaire (include the Area Code):

9. The best time to phone you at this number: _____

10. Has your employer told you how to contact the health care professional who will review this questionnaire (check one): Yes No

11. Check the type of respirator you will use (you can check more than one category):

- a. ___ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
N95 for Healthcare
- b. ___ Other type (for example, half- or full-face piece type, powered-air purifying, supplied-air, self-contained breathing apparatus). *Powered air-purifying respirator*

12. Have you worn a respirator (check one): Yes No

If “yes,” what type(s):

PART A - SECTION 2 (MANDATORY)

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please check “Yes” or “No”).

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Have you ever had any of the following conditions?		
a. Seizures (fits):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Diabetes (sugar disease):	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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c.	Allergic reactions that interfere with your breathing:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Claustrophobia (fear of closed-in places):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Trouble smelling odors:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Have you ever had any of the following pulmonary or lung problems?			
a.	Asbestosis:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Asthma:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Chronic bronchitis:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Emphysema:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Pneumonia:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f.	Tuberculosis:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
g.	Silicosis:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
h.	Pneumothorax (collapsed lung):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
i.	Lung cancer:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
j.	Broken ribs:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
k.	Any chest injuries or surgeries:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
l.	Any other lung problem that you've been told about:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. Do you currently have any of the following symptoms of pulmonary or lung illness?			
a.	Shortness of breath:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Shortness of breath when walking fast on level ground or walking up a slight hill or incline:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Shortness of breath when walking with other people at an ordinary pace on level ground:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Have to stop for breath when walking at your own pace on level ground:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Shortness of breath when washing or dressing yourself:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f.	Shortness of breath that interferes with your job:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
g.	Coughing that produces phlegm (thick sputum):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
h.	Coughing that wakes you early in the morning:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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i.	Coughing that occurs mostly when you are lying down:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
j.	Coughing up blood in the last month:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
k.	Wheezing:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
l.	Wheezing that interferes with your job:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
m.	Chest pain when you breathe deeply:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
n.	Any other symptoms that you think may be related to lung problems:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

PART A - SECTION 2 (CONTINUED)

5. Have you ever had any of the following cardiovascular or heart problems?			
a.	Heart attack:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Stroke:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Angina:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Heart failure:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Swelling in your legs or feet (not caused by walking):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f.	Heart arrhythmia (heart beating irregularly):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
g.	High blood pressure:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
h.	Any other heart problem that you've been told about:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6. Have you ever had any of the following cardiovascular or heart symptoms?			
a.	Frequent pain or tightness in your chest:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Pain or tightness in your chest during physical activity:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Pain or tightness in your chest that interferes with your job:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	In the past two years, have you noticed your heart skipping or missing a beat:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Heartburn or indigestion that is not related to eating:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f.	Any other symptoms that you think may be related to heart or circulation problems:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Do you currently take medication for any of the following problems?			
a.	Breathing or lung problems:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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b.	Heart trouble:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Blood pressure:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Seizures (fits):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
8. If you've used a respirator, have you ever had any of the following problems? <i>(If you've never used a respirator, check the following space and go to question 9)</i>			
a.	Eye irritation:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Skin allergies or rashes:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Anxiety:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	General weakness or fatigue:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Any other problem that interferes with your use of a respirator:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
9.	Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.			
10.	Have you ever lost vision in either eye (temporarily or permanently):	<input type="checkbox"/> Yes	<input type="checkbox"/> No
11. Do you currently have any of the following vision problems?			
a.	Wear contact lenses:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Wear glasses:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Color blind:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Any other eye or vision problem:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
12.	Have you ever had an injury to your ears, including a broken eardrum:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
13. Do you currently have any of the following hearing problems?			
a.	Difficulty hearing:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Wear a hearing aid:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Any other hearing or ear problem:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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PART A - SECTION 2 (CONTINUED)

14.	Have you ever had a back injury:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
15.	Do you currently have any of the following musculoskeletal problems?		
a.	Weakness in any of your arms, hands, legs, or feet:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b.	Back pain:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c.	Difficulty fully moving your arms and legs:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d.	Pain or stiffness when you lean forward or backward at the waist:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e.	Difficulty fully moving your head up or down:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f.	Difficulty fully moving your head side to side	<input type="checkbox"/> Yes	<input type="checkbox"/> No
g.	Difficulty bending at your knees:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
h.	Difficulty squatting to the ground:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
i.	Climbing a flight of stairs or a ladder carrying more than 25 lbs:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
j.	Any other muscle or skeletal problem that interferes with using a respirator:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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APPENDIX C: Fit Test Record *(Sample)*

FIT TEST RECORD	
Name of respirator user/employee:	
Test Date:	
Position Title:	
Department:	
Location:	
Challenge Agent Used:	
<input type="checkbox"/> Isoamyl Acetate <input type="checkbox"/> Saccharin <input type="checkbox"/> Bitrex	
Respirator Make:	
<input type="checkbox"/> Survivair <input type="checkbox"/> North <input type="checkbox"/> MSA <input type="checkbox"/> Racal <input type="checkbox"/> 3M <input type="checkbox"/> Moldex <input type="checkbox"/> Wilson	
Other:	
-	
-	
-	

Respirator Model:	
Respirator Size:	
Additional PPE	
Worn:	
-	
-	
Comments:	

PASS / FAIL	
Next fit-test due:	

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APPENDIX D: Request for Medical Evaluation (*Sample Memo – Patient Care Staff*)

MEMORANDUM

To whom it may
concern:

From: _____ (*Respiratory Protection Program
Administrator*)

Date: _____

Re: Medical evaluation for respirator use

_____ (Employee name), an employee of
_____ (Facility name) is required to wear a respirator at work during a pandemic or other infectious respiratory disease emergency. The employer requests that you provide this employee with a medical evaluation that meets the requirements outlined in Cal/OHSA Title 8, Section 5144(e).

We have provided you with this portion of the Respirator Standard. Please follow this procedure when you examine this employee.

An OSHA Respirator Medical Evaluation Questionnaire was provided to this employee. A completed questionnaire must be provided to you by the employee.

The following supplemental information is provided to you to assist in your evaluation of this employee's respirator use:

- A. The type and weight of the respirator that will be used: N95-disposable, or powered air-purifying respirator (PAPR) with loose-fitting head covering.
- B. The duration and frequency of the respirator use: routine patient care activities performed at the bedside in a skilled nursing facility.
- C. The expected physical work effort: moderate work effort for up to 30 minutes at a time. This includes turning patients, feeding patients, and other patient care tasks typically performed while standing. Occasional brief heavy work effort (lifting and transferring patients) may also be required.
- D. Additional protective clothing and equipment that may be worn: gown and gloves.
- E. Temperature and humidity extremes experienced during work: none.

We request that you provide a signed statement on letterhead indicating that the employee is medically able to wear a respirator under the conditions described.

Please feel free to contact me if you have any questions.

INFLUENZA MANAGEMENT

SUBJECT	INFECTION CONTROL	Page 1 of 4
SECTION	POLICY FOR INFLUENZA MANAGEMENT	
EFFECTIVE DATE		

Policy

It is the policy of _____ to provide a safe and sanitary environment for residents of this facility, for those who work here, as well as for all who visit this facility. Through our surveillance program, we will have a high level of awareness of anyone who presents with influenza-like-symptoms and we will investigate any “possible infection event” presented by our residents or staff. It is our policy to offer Influenza vaccination to all of our residents and staff each year as soon as the vaccine becomes available. The staff will receive annual in-services on the risks and benefits of Influenza vaccination. All those who desire the vaccine will sign a consent form and those who refuse will be asked to sign a declination form. The facility will make the vaccine available to the employee during work hours at no cost to the employee.

Background

It is recognized that influenza is a serious risk for the elderly; therefore, residents will be encouraged to have the Influenza Vaccine annually. This follows the current recommendations of the CDC’s Advisory Committee on Immunization Practices (ACIP), the California Department of Public Health and OSHA. The resident or their decision maker will be educated about the risk/ benefits of the influenza vaccine on an annual basis.

Influenza has been known to occur in the community during the months of September through April. These highly contagious respiratory viruses circulate each year and each season the genetic structure of the influenza virus mutates slightly. A new vaccine must be developed each year to closely match the current circulating viral strains. This is the rationale for requiring an immunization. Long-term care residents, especially those with chronic diseases, are at increased risk for influenza-related complications such as pneumonia, which can lead to death

Incubation Period

The incubation period (i.e., the time from first exposure to onset of symptoms) is generally from 1 to 4 days (with an average of 2) days. Individuals are most infectious during the first 3 days of illness; however, the virus can be present in respiratory secretions, and shed beginning the day before and for 7 or more days after the onset of symptoms. Persons who are immunodeficient may shed virus for longer periods. Infected but asymptomatic persons can also shed viral particles and be infectious to others.

Procedure for Residents

- Obtain written order from attending physician. A standing order can be made part of the admission orders. The order to read: Influenza vaccine will be offered to the resident on an annual basis.
- Provide education for the resident, family responsible party and the employees on the risk versus benefit of the influenza vaccine. The vaccination information sheet

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- (VIS) will be given to the resident, decision-making family member, and employee before giving the vaccine.
- Obtain written, informed consent from resident; this can be included on admission.
- If the resident has a fever or viral symptoms, delay giving the vaccine until resident is free of symptoms
- Give vaccine as per facility administration policy and manufacturer's recommendations
- Document vaccination in the medication administration record and in the nurse's notes.
- Monitor resident for 24-48 hours for mild reaction and report acute symptoms to the physician.

Procedure for Employees

- In-services will be given to all members of the staff on influenza and the vaccine; vaccine will be offered and made available during working hours. There will be no cost to the employee for the vaccine (according to CAL OSHA Title 8, section 5199)
- Employee will be given VIS (vaccination information sheet) form
- Employee will sign a consent form if vaccine is accepted or a declination form if it is refused.

Definition of Influenza or Influenza-like Illness (ILI)

- **Influenza-Like Illness:** Documented fever and cough and/or sore throat in the absence of another cause
- **Cluster:** Three or more cases of acute respiratory illness occurring within 48-72 hours in residents who are in close proximity to each other.
- **Outbreak:** A sudden increase of ILI cases over the normal background rate or when any resident tests positive for influenza. **One case of confirmed influenza by any testing method in a LTCF resident is considered an outbreak** (according to CDPH "Recommendations for the Prevention and Control of Influenza California LTCF", December 2011)

Influenza is to be suspected when the resident or staff exhibits the following symptoms:

- a. Fever (temperature of 100F or above) with at least 3 of the following sub-criteria:
 1. Chills
 2. NEW headache or eye pain
 3. Myalgia or body aches
 4. Malaise or loss of appetite
 5. Sore throat
 6. NEW or INCREASED dry cough

Seasonality no longer required to meet the criteria for Influenza or Influenza-like Illness.

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Influenza Management

- A. During influenza season, post visual alerts throughout the facility instructing residents, staff and visitors to report symptoms of respiratory infection to a designated person in the facility (i.e. IP). Provide tissues or masks to residents who are coughing or sneezing so they can cover their nose and mouth.
- B. Post signs notifying visitors that adults with respiratory symptoms should not visit for 5 days and children with symptoms should not visit for 10 days following the onset of illness.
- C. Post signs on Respiratory Etiquette at the entrance and throughout the facility. (see www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm for recommended signs)
- D. Resident suspected or confirmed to have influenza or ILI who resides in the facility will be placed on Droplet Isolation Precautions for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer. Make PPE available and post Droplet Isolation sign outside the resident's room.
 - a. Wear gowns and gloves when providing direct care to a symptomatic resident or in contact with contaminated environmental surfaces or equipment. Change gowns and gloves after each encounter with the symptomatic resident and perform hand hygiene at the site of contamination. A surgical mask should be worn when entering a resident's room with suspected or confirmed influenza or ILI; remove and dispose of mask and all PPE in a regular waste container before leaving the room. An N95 respirator is not required as part of Droplet Isolation precautions unless the HCW prefers to wear one for added protection. Successful fit-testing must be done before working with N95 respirators.
- E. Confine first symptomatic resident and exposed roommates to their room. Restrict them from activities and group dining. If other residents become symptomatic, cancel all group activities and serve all residents their meals in their rooms. Do not remove or relocate the roommate of the symptomatic ILI resident to another room or unit. The roommate may have already been exposed. Monitor closely for signs and symptoms.
- F. Begin tracking ILI cases on Surveillance log. (See Table 1 and Table 2 in this section)
- G. If symptomatic resident is in a multi-bed room, maintain a spatial separation of a least 3 feet between each resident and draw curtains between resident beds.
- H. Use routine cleaning and disinfecting strategies during influenza season. Focus on cleaning frequently touched surfaces in common areas and resident rooms.
- I. Special handling of linens and dietary trays are not needed or required.
- J. Reinforce the need for good hand hygiene practices for staff, residents and visitors.
- K. Vital signs will be taken and a thorough assessment of the resident will be conducted and documented. The physician will be notified.
- L. Nasopharyngeal culture of the suspected case will be done to confirm diagnosis.
- M. Roommate of the suspected or confirmed ILI case will be monitored closely for signs and symptoms. No cultures are needed unless the roommate manifests signs or symptoms of

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- ILI. Resident's doctor will be notified and consideration will be given for antiviral chemoprophylaxis treatment.
- N. Antivirals should be started as soon as possible for residents with suspected or confirmed influenza who are at higher risk for influenza complications on the basis of their age or underlying medical conditions; Clinical judgment should be an important component of resident treatment decisions. Maximum benefit to antiviral treatment is obtained when starting medication within 48 hours of symptom onset; however, do not hold antivirals if symptoms began more than 48 hours prior and resident meets criteria for antiviral treatment.
- O. One case of confirmed (by laboratory testing) influenza in a LTCF is a reportable condition to the local Public Health Department.**
- P. If an employee is suspected to have ILI, the employee will be sent home. Risk assessment of possible exposure to this employee will be done. Monitor residents exposed to ill employee and other staff members. Staff can return to work after they are afebrile for 24 hours, without the use of antipyretic medication.
- Q. If resident requires transfer to an acute care facility, inter-facility transfer form will include detailed report of resident's clinical condition and laboratory test results.
- R. When admitting a resident from acute care with the diagnosis of influenza, the receiving facility will seek detailed information on the resident's condition including lab tests performed, radiology reports and a detailed report on the resident's clinical condition before transfer so the appropriate room accommodation can be selected. When this resident is first admitted, nursing staff will do a thorough assessment of the resident's condition. Droplet Precautions may be utilized until the facility can document the resident is free of ILI symptoms.

Influenza Outbreak

- A. Report all suspected and confirmed outbreaks to the following:
- a. LTCF Medical Director
 - b. Local Public Health Department
 - c. Licensing and Certification (L&C) district office
- B. When a cluster of cases of acute respiratory illness with symptoms suggestive of influenza occurs, it is of critical importance to establish the diagnosis through laboratory testing.
- a. Collect nasopharyngeal swab-specimens from 3-4 residents and/or staff with ILI as soon as possible after symptom onset. Consult lab for appropriate specimen collection containers.
 - b. Specimens should be submitted for influenza testing either by rapid antigen test, PCR or viral culture. Contact your local public health department office for further guidance. Additional support can be provided by your laboratory provider and infection prevention and control consultant.

DISASTER PREPAREDNESS

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Federal Regulation Requirement²⁶:

Disasters of all kinds affect the elderly disproportionately, especially those residing in long-term care facilities (LTCFs). For this reason, LTCFs must develop an emergency preparedness plan to meet the needs of their residents and staff during a disaster. Since some of these recent disasters (i.e. Hurricane Sandy, Hurricane Katrina, and the Oklahoma Tornado), emergency response experts have placed a more serious focus on disaster preparedness and response to ensure protection for our vulnerable populations.

CFR 483.75(m) disaster and emergency preparedness (1)

- F517 (1) the facility must have detailed written plans and procedures to meet all potential emergencies and disasters, such as infectious disease outbreaks, fire, severe weather, and missing residents.

CFR 483.75 (m) disaster and emergency preparedness (1)

- F518 (2) The facility **must train all employees** in emergency procedures when they begin to work in the facility, periodically review the procedures with existing staff, and carry out unannounced staff drills using those procedures.

Policy:

It is the policy of _____ to provide a safe environment for the residents, staff, and visitors who enter this facility. It is to this end that we develop a plan for emergency response to any disaster. This plan will include pre-emergency planning which will be reviewed and revised annually. This plan will have Disaster Response procedures as well as Recovery protocols to follow. The following plan will include training of all employees during orientation and annually thereafter, with unannounced emergency drills to be conducted quarterly for each shift.

Pre-Emergency Planning:

The primary focus of this phase is on the development of the emergency action plan:

- Develop organizational chart for disaster response activities.
- Designate a Disaster Coordinator with possible alternatives.
- Emergency plans should be reviewed on a regular basis. Review all systems to ensure the plan contains up-to-date information regarding facility operations, organizational structure, and contact information for local emergency resources, staff and residents' families.
- All administrative personnel should know the location of the main turn offs for water, electricity, and gas.
- The facility should have a battery-operated weather alert radio or some other weather notification system in order to be aware of developing weather situations.

²⁶ Code of Federal Regulations. Public health: Requirements for States and Long-term care Facilities. Administration. 42 CFR 483.75(m)(2), 2001.

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- Co-ordinate plan with the local emergency management agency and provide input into the county's emergency plans. A Mutual Aid Agreement should be in place. This agreement between your facility and other local health facilities will serve as a mutual agreement to render assistance to one another at the time of a disaster. Other facilities in your area may have contracts/agreements with the same companies. Ensure that the companies will be able to provide the needed services and supplies.
 - a. Review and update inventory/resource lists
- b. Ensure the availability of manpower needed to execute emergency procedures.
 - c. Work with the local Emergency Management Director in locating resources.
- Identify staff needing transportation and arrange for provision of this service.
- Identify staff needing child-care assistance during an emergency.
- Designate a Command Post location within the facility to serve as the focal point for coordinating operations during an emergency. Consider designating an alternate location outside the facility for use if evacuation becomes necessary.
 - a. Plan for evacuation and relocation of residents:
 - b. Define the role responsibilities and describe the procedures for evacuation of residents.
 - c. Identify who is responsible for implementing facility evacuation procedures.
 - d. Identify residents who may require skilled transportation (designate by functional limitations and/or diagnosis)
 - e. Identify the facilities you have entered into a mutual aid agreement (include contract in the plan) where your residents will be transferred.
 - f. Identify evacuation routes with alternate route should the primary route be impassable.
 - g. Specify procedure that will ensure facility staff will accompany evacuating residents and procedures for staff to care for them after evacuation.
 - h. Develop procedure (log) that will be used to keep track of residents relocated.
 - i. Determine how much and which items each resident will be permitted to take with them.
- Establish procedure for ensuring all residents are accounted for and out of the facility. Ensure that all residents have proper identification. Facilities should provide basic emergency plan information to residents and their families, such as emergency contact information for the facility and key staff members, as well as plans for evacuation should remaining in the facility not be possible. This information should include specifics of how residents will be evacuated and where they will be taken, such as nearby community center, to aid in reconnecting residents with concerned loved ones.
 1. Test reliability of emergency telephone roster (phone tree) for contacting emergency personnel and activating emergency procedures. (This should be tested routinely with a plan for what to do if someone is not able to be reached). Develop procedure for testing generators and equipment supported by emergency generators.
 2. Determine communication system (i.e., cellular phones and fax machines may offer the best means in the event of a power loss. Walkie talkies can be provided for and

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kept in the administrator's office for the point person and administrator to maintain communication contact. A supply of quarters may serve as a reasonable alternative if a pay phone is available).

3. Ensure the availability and functioning of facility emergency warning system.
 - a. Recommend a 7-10 day supply of emergency fuel and establish an agreement for delivery with a supplier.
 - b. If you require delivery of a generator, make sure you allow time to hire an electrician that will assist in installing it. You will also need to determine what the generator will power.
 - c. If you already have a generator, ensure you know what the generator powers. Activate the generator under load according to National Fire Protection Association (NFPA) requirements and state regulations.
 - d. Document all testing procedures.
4. Ensure a 7-10 day supply of food and water for residents and staff.
 - a. Arrange for an alternate contact to supply back up resources.
 - b. Contact the local Emergency Management Director for assistance in establishing an alternate contact, as needed.
5. Schedule employee orientation training and in-service training programs on the operations of the emergency plan. This in-service should be offered annually.
6. Provide Emergency/Disaster education.
 - a. Distribute personal preparedness checklists (see checklists).
 - b. Post display of evacuation routes, alarm and fire extinguisher locations and telephone numbers of emergency contacts.
 - c. Provide demonstrations on warning systems and proper use of emergency equipment for the staff, residents, and resident families.
7. Conduct a minimum of 12 unannounced fire drills per year. Check fire regulations in your community for local, federal and state compliance requirements.
 - a. One drill is required per quarter for each shift at varied times.
 - b. Document each drill, instruction or event to include date, content and participants involved. Identify and document any problems associated with the drill.
8. According to CMS²⁷, it is recommended that, each LTCF staff member, on each shift, receive training to be knowledgeable about the emergency plan and be able to follow the details of that plan. This training should be part of the initial orientation on-hire training and should be offered periodically through the year. At a minimum, exercises or drills must be conducted at least semi-annually. Corrective actions should be taken on any deficiency identified. Document drills with critiques and evaluations.

Preparedness

²⁷ CDC. Emergency preparedness and response.

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Upon receipt of an internal or external warning of an emergency, the facility administrator or appropriate designee should:

1. Activate the phone tree
2. Notify staff in charge of emergency operations to initiate the disaster plan and advise personnel of efforts designed to provide resident safety.
3. If potential disaster is weather related, closely monitor weather conditions and update department directors, as needed.
4. Inform key agencies of any developing situation and protective actions you plan to take.
5. Review the Disaster Preparedness Plan including evacuation routes with staff and residents. It is important to inform resident families either on admission or at some other opportunity that the facility has a disaster plan and plans will include contacting them. This will help in controlling calls to the facility or family members from showing up at the facility during a disaster.
6. Prepare the designated Command Post for operations and alert staff of impending plans.
7. Receive calls from families and coordinate dissemination of messages to all.
8. Control facility access.
9. Confirm emergency staff available and facilitate care of their families.
10. Pre-arrange emergency transportation of non-ambulatory residents (dialysis residents, etc.) and their medical records.
11. Check food and water supplies (7-10 day supply)
12. Store a supply of radios and flashlights.
13. Secure outdoor furniture.
14. Coordinate with local authorities/agencies and private contacts to confirm availability of resources, including medical services, response personnel, etc.
15. Confirm transportation agreements with Emergency Medical Services agencies, tour bus companies or private individuals for buses or other emergency vehicles.
16. Determine how residents will be identified during an evacuation and ensure the following identifying information will be transferred with each resident:
 - a. Name
 - b. Social security number
 - c. Photograph, if available
 - d. Medicaid or other health insurer numbers
 - e. Date of birth and diagnosis
 - f. Current drug prescriptions and diet regimens
 - g. Name and contact information for next-of-kin/responsible party/ Power of Attorney
 1. Determine how this information will be secured (i.e., laminated documents, water proof pouch around resident's neck, water proof wrist tag, etc.) and how medical records and medications will be transported so they can be matched with the appropriate resident.
 2. Residents who are on isolation precautions will be cared for with PPE appropriate to the infection and clinical condition of the resident.
17. Have a plan in place for pharmaceuticals with an alternate pharmacy or alternate other source in the event of halted deliveries or need for backup.

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18. Apprise staff and residents and their families of the situation and expedient protective measures. Schedule extended shifts for essential staff; alert alternate personnel to be on standby.

Response

In response to an actual emergency situation, the facility administrator or disaster coordinator will coordinate the following actions:

1. Complete the actions of Pre-emergency and Preparedness outlined above.
2. Activate the Disaster Preparedness Plan and conduct Command Post operations involving communications, message control and routing of essential information.
3. Coordinate actions and requests for assistance with local emergency services and the community.
4. Determine requirements for additional resources and continue to update appropriate authorities and/or services.
5. Ensure communication with residents' families and physicians.
6. Ensure prompt transfer of resident records.

Recovery

Immediately following the emergency situation, the facility administrator should take the provisions necessary to complete the following actions:

1. Coordinate recovery operations with the local emergency management agency and local agencies to restore normal operations, to perform search and rescue and to re-establish essential services.
2. Provide crises counseling for residents and families and staff as needed.
3. Compile and provide local authorities a master list of displaced, missing, injured or dead and notify the next-of-kin.
4. Provide information on sanitary precautions for contaminated water and food to staff, volunteers, residents and families.
5. If necessary, arrange for alternate housing or facilities.
6. The role of the infection preventionist in recovery from a disaster will vary depending on the type and scope of the event. Small incidences with no infectious disease cause may likely require little IP involvement. The exact role of the IP in mass casualty incident response may vary from facility to facility. Some facilities may have the IP as the designated incident administrator/commander. Responsibilities that may be delegated to the IP may include²⁸:
 - Surveillance to monitor and track residents' conditions to prevent spread of infectious diseases

²⁸ Rebmann T. The 2008 APIC Emergency Preparedness Committee. St. Louis Missouri. APIC state-of-the-art report: The role of the infection preventionist in emergency management. AM Journal of Infect Control. May 2009. Vol.37, No.4;pg271-281.

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- Monitor for adequate supplies to prevent spread of infections (i.e., PPE, soap, hand towels, ABHR)
- Ensure proper management of trash and medical waste
- Assess environmental contamination after the disaster
- Assess for potable water
- Ensure Isolation precautions are instituted when indicated
- Reporting events and communication of disaster updates internally and externally (i.e. Public Health, Fire Department, etc.)

Emergency Checklist

The following checklist (Table 1) will provide guidance to the LTCF for assessing the emergency management plans for various disaster events. Review of this checklist can be done periodically to assess if the necessary components of response and recovery plans have been addressed.

Table 1. Emergency Checklist

Fire

Completed	Initial	Action
		Post location of fire alarms
		Post location of fire extinguishers
		Train employees of use of alarm system and fire extinguishers
		Post directions on how to utilize emergency equipment
		Follow RACE procedures:
		R= Rescue—Rescue residents in immediate danger
		A=Alarm—Sound nearest alarm if not already activated
		C=Confine—Close doors behind you to confine the fire. Crawl low if exit route is blocked by smoke
		E=Extinguish—Utilize fire extinguisher as situation permits or
		E=Evacuate—follow evacuation procedures
		Signature _____ Date _____

Natural Disaster

Completed	Initials	Action
		Severe Electrical Storm
		1. Relocate to inner areas of facility as possible
		2. Keep away from glass windows, doors, skylights and appliances.
		3. Refrain from using phones or taking showers
		4. Stay away from computers
		Tornado (Watch Issued)
		1. Listen to local radio & TV stations for updates. Check that radio batteries are available and charged.
		2. Be alert to changing weather conditions.
		3. Secure equipment, outdoor furniture and articles that act as projectiles.

		4. Alert staff to the need for possible sheltering of residents
		Tornado (Warning Issued)
		1. Seek shelter in designated area (i.e. safe room, basement first floor interior hallways, restrooms or other enclosed areas)
		2. Check restrooms or vacant rooms for visitors or stranded residents and escort to shelter area
		3. Take position of greatest safety: <ul style="list-style-type: none"> a. If possible, crouch down on knees with head down and hands locked at back of neck or b. Protect head/body with pillows or mattress c. Bedridden residents if unable to be moved to central corridors, should have window blinds or curtains closed and protected as much as possible. Additional blankets may be used as shields.
		Winter Storms
		1. Secure facility against frozen pipes
		2. Check emergency and alternate utility sources
		3. Check emergency generator: Does it start? Is there fuel? What does it power?
		4. Conserve utilities-maintain low temperature, consistent with health needs.
		5. Equip vehicles with chains and snow tires
		6. Keep sidewalks clear
		Flooding (External sources)
		1. Shut off water main to prevent contamination. Fill clean bathtubs, large pans and buckets with fresh water and store in case water services are interrupted (contaminated).
		2. Pack refrigerators/food lockers with dry ice
		3. Fill and use sandbags to ward off flood waters.
		4. Prepare to evacuate residents
		Flooding (Internal sources)
		1. Turn off building electricity
		2. Move residents as required
		3. Generators can be vulnerable to flooding, thereby inoperable. Place generators indoors, if possible. If generator must be located outdoors, mount on an elevated platform above the highest expected water level and get a generator enclosure for additional protection.

		If feasible, place generator on upper building floor or rooftop. ²⁹
		4. Routine maintenance for generator should be provided. Check with manufacturer's recommendations and assistance on maintenance contract. ⁽²⁹⁾
		Earthquake
		1. Evaluate facility for potential dangers and fix the problems before earthquake occurs (i.e., secure furniture, store heavy items low to the ground, bolt & strap water heater to the wall and ground, affix pictures and mirrors securely and brace overhead light fixtures)
		2. Train and exercise on "Drop, Cover and Hold"
		3. During earthquake:
		A. Drop, Cover and Hold, then:
		a. Inspect facility for safety. Evacuate if building is not safe using RACE system.
		b. R= Rescue, rescue residents in immediate danger
		c. A= Alarm, sound nearest alarm if not already activated.
		d. C= Confine- close doors behind you to confine the fire. Crawl low if the exit route is blocked by smoke.
		e. E= Extinguish- utilize fire extinguisher as situation permits or
		f. E= Evacuate-follow evacuation procedures
		4. Put out small fires quickly. If not handled by one extinguisher, or it is larger than a wastepaper basket, evacuate the building.
		5. Check on residents, staff and visitors. Check restrooms or vacant rooms for visitors or stranded residents.
		6. Take care of injured or trapped persons. Provide medical treatment as appropriate. Call 9-1-1 only for life threatening emergencies.
		7. Turn off gas only if you smell gas or think there may be a leak. (Natural gas line cannot be turned on again except by the gas company).
		8. Be prepared for after-shocks and re-evaluate building safety after additional seismic activities.

²⁹ Hamilton R. Technical information from Cummins Power Generation Inc. Lessons in emergency power preparedness: Planning in the wake of Katrina. 2007

Infection Prevention and Control in LTC

Water/Electrical Outage

Completed	Initials	Action
		Preparedness:
		1. Recommend a 7-10 day supply of food and water for residents and staff and a 7-10 day supply of fuel.
		2. Keep an accurate blueprint of all utility lines and pipes associated with the facility and grounds.
		3. Develop procedures for emergency utility shutdown.
		4. List all day and evening phone numbers of emergency reporting and repair services of all serving utility companies.
		5. List names and numbers of maintenance personnel for day and evening notification.
		Response- Electric Power Failure
		1. Call # _____ (power company).
		2. Notify the maintenance staff.
		3. Evacuate the building if danger of fire.
		4. Keep refrigerated food and medicine storage units closed to retard spoilage.
		5. Turn off power at main control point if short is suspected.
		6. Follow repair procedures.
		Response- Water Main Break
		1. Call # _____ (facility maintenance).
		2. Shut off valve at primary control point.
		3. Relocate articles which may be damaged by water
		4. Call _____ (pre-designated assistance groups) if flooding occurs.
		5. Before disaster occurs, develop estimates of quantity and quality of water needed for facility function. Identify alternative water supplies, include quantity and quality. Plan on how water will be provided (are there conditions that may impact delivery of water to facility?) Identify minimum needs. ³⁰
		6. Plan should include: (1) total demand for potable water (2) quantity of replacement water required (i.e. bottled water) mechanisms for emergency water distribution (4) procedures for correction drops in water pressure that affect operation of essential devices and equipment that are driven or cooled by a water system. ⁽³⁰⁾
		7. When there is a significant water disruption or an emergency occurs, follow the local advisory to boil water

³⁰ CDC. HICPAC. Guidelines for environmental infection control in healthcare facilities. 2003

		which may be issued by municipal water utility.
		8. Alert residents, families, staff, and visitors not to consume water from drinking fountains, ice, or drinks made from municipal tap water while the advisory is in effect unless that water has been disinfected by boiling or treating with bleach. ⁽³⁰⁾ For further information, www.cdc.gov/ncidod/dhqp/gl/environinfection.html
		Response—Gas Line Break
		1. Evacuate the building immediately. Follow evacuation procedures.
		2. Notify maintenance staff, Administrator, local public utility department, gas company and police and fire departments. List all numbers here.
		3. Shut off the main valve.
		4. Open windows.
		5. Re-enter building only at the discretion of utility officials.