



Indiana State
Department of Health

Understanding What Your Infection Prevention Program Should Look Like

Long Term Care Setting

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WHAT YOUR INFECTION PREVENTION PROGRAM SHOULD LOOK LIKE

- I. Infection Control Program and Infrastructure
- II. Healthcare Personnel and Resident Safety
- III. Surveillance and Disease Reporting
- IV. Hand Hygiene
- V. Personal Protective Equipment (PPE)
- VI. Respiratory/Cough Etiquette
- VII. Antibiotic Stewardship
- VIII. Injection Safety and Point of Care Testing
- IX. Environmental Cleaning
- X. Guidelines:
 - a. CMS F441
 - b. ISDH 410 IAC 16.2-3. 1-18

This manual/document is not a complete tool of all best practices and requirements, but is intended as a resource tool that can be used to improve your Infection Control Program. You must also meet the requirement of the Centers for Medicare and Medicaid Services (CMS) and the Indiana State Department of Health (ISDH) as found in Federal and state laws and regulations.

Historic Basis for Use of Evidence-based Policies and Procedures in Infection Prevention to Prevent Healthcare Associated Infections

In 1974 the Centers for Disease Control (CDC) undertook the first nationwide study to evaluate approaches to prevent healthcare associated infections (HAIs). As a result of that initial study many professionals, organizations, and agencies have worked collaboratively over the years to decrease the risk and potential negative outcomes associated with HAIs affecting persons receiving care within our nation's healthcare systems.

Scientific studies, infection prevention strategies, legislation, and dedicated individuals have been successful in reducing HAIs dramatically where adoption of evidence-based methods have been implemented. The study results can be found at the CDC's web site (www.cdc.gov), in scientific journals, from professional associations dedicated to the prevention of HAIs in their published position papers, recommendations and guidelines.

The Indiana State Department of Health is making resources available for healthcare facilities within our state with the same goal in mind; reduce HAIs in healthcare settings using evidence-based methods which provide a safer healthcare environment.

Individuals in the role of infection prevention are encouraged to affiliate themselves with these professional associations, so that they can base their program development on these evidence-based recommendations.

The following pages have been developed to provide a guide with the fundamental goal of reducing HAIs in all healthcare settings.



Indiana State Department of Health

INTER-FACILITY INFECTION CONTROL TRANSFER FORM

This Inter-facility Infection Control patient transfer form can assist in fostering communication during transitions of care for patients colonized or infected with a multidrug-resistant organism. Discharging facility should complete this transfer form and sign at the bottom after all fields are completed. Attach copy of records and latest laboratory reports with susceptibilities going with patient to receiving facility.

INFECTION CONTROL TRANSFER FORM

(Discharging Facility to complete form and communicate information to Receiving Facility)

Demographics	Patient/Resident		Date of Birth:	MRN:	Discharge Date:
	<i>Last Name</i>	<i>First Name</i>			
	Sending Facility Name:		Contact Name:		Contact Phone:
	Receiving Facility Name:				

Precautions	Currently in Isolation Precautions? <input type="checkbox"/> Yes <input type="checkbox"/> No			
	If Yes check: <input type="checkbox"/> Contact <input type="checkbox"/> Droplet <input type="checkbox"/> Airborne <input type="checkbox"/> Other: _____			
Isolation Precautions				

Organisms	Did or does have (send documentation):		Current Infection, History, or Ruling Out*		<input type="checkbox"/> No Known MDRO or Communicable Diseases
	Multiple Drug Resistant Organism (MDRO):		<input type="checkbox"/> Yes		
	MRSA		<input type="checkbox"/>		
	VRE		<input type="checkbox"/>		
	Acinetobacter not susceptible to carbapenems		<input type="checkbox"/>		
	Carbapenemase-producing CRE (CP-CRE)		<input type="checkbox"/>		
	C. difficile		<input type="checkbox"/>		
	Other[±]: _____ <small>± e.g., lice, scabies, disseminated shingles, norovirus, flu, TB, etc.</small>		<input type="checkbox"/>		
*Additional info if known:					

Symptoms	Check yes to any that <u>currently</u> apply*):				<input type="checkbox"/> No Symptoms or PPE not required as "contained"
	<input type="checkbox"/> Cough/uncontrolled respiratory secretions	<input type="checkbox"/> Acute diarrhea or incontinent of stool	<input type="checkbox"/> Draining wounds	<input type="checkbox"/> Other uncontained body fluid/drainage	
	<input type="checkbox"/> Incontinent of urine	<input type="checkbox"/> Vomiting	<input type="checkbox"/> Concerning rash (e.g.; vesicular)		
*NOTE: Appropriate PPE required ONLY if incontinent/drainage/rash NOT contained					

Required PPE	ISOLATION PRECAUTIONS			Answers to sections above	
				ANY YES: Check Required PPE	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ALL NO: Just sign form	
CHECK IF INDICATED			Person completing form: _____ Role: _____ Date: ____/____/____		

Disclaimer of Endorsement:

The following Foley Catheter Care & Maintenance Patient Education Guide is intended for educational purposes only. The Indiana State Department of Health does not endorse or recommend any specific manufacturer.

Foley Catheter Care & Maintenance

Patient Education Guide



“WHAT IS A FOLEY CATHETER?”

Because of your medical problem, your body is having trouble completely emptying your bladder of urine. This is why your healthcare provider has prescribed a Foley catheter. The Foley catheter will act as a drain to empty your bladder.

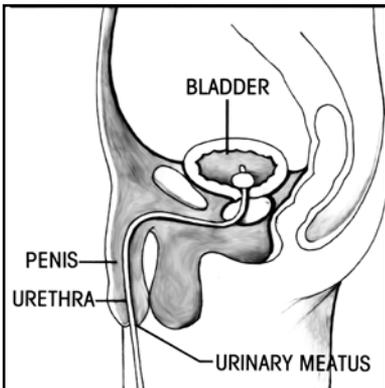
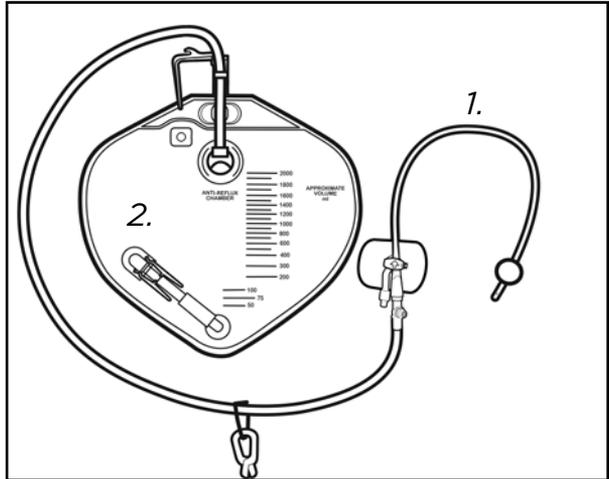
A Foley catheter is a thin, hollow tube made of soft, flexible material. It is passed through the urethra into the bladder.

The catheter is held in place by a small water-filled balloon which is inflated in the bladder to keep the catheter from falling out while you go about your normal activities.

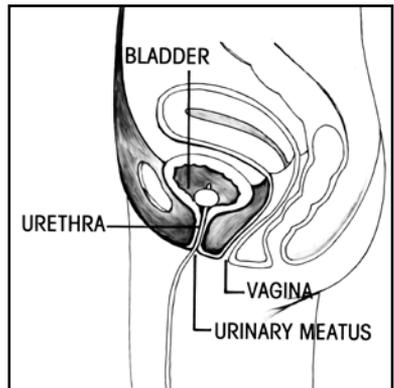
Urine will automatically drain out of your bladder into the bag which is attached to the catheter.

A catheter drainage system consists of:

- 1. A Foley catheter*
- 2. A urinary drainage bag*



Catheter placement in a male



Catheter placement in a female

“WHAT SHOULD I DO IF I THINK I HAVE A PROBLEM?”

Talk to your healthcare provider whenever you have a question or think you may have a problem. Here are some things you can do on your own.

LEAKAGE

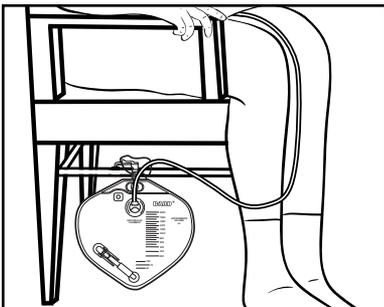
Occasional leakage is not unusual. If it is persistent or in large amounts, call your healthcare provider.

Call your healthcare provider immediately if you notice:

- Strong odor or cloudy urine
- Blood in urine
- Chills, fever above 99.4 degrees
- Lower back pain
- Abnormal leakage around the catheter
- Swelling at catheter insertion site, especially in men
- Disorientation or change in mental status

NO URINE IN BAG

- Change your body position
- Check for kinks or loops in the catheter and tubing
- Make sure the bag is lower than your abdomen so urine flows freely by gravity
- DO NOT clamp the catheter or tubing
- DO NOT irrigate the catheter unless instructed by your healthcare provider
- Call your healthcare provider immediately if the above steps do not restore proper urine flow



Avoid kinks and loops in the catheter or tubing



Call your healthcare provider about large amounts of leakage or when you cannot restore urine flow

“HOW DO I CARE FOR MY FOLEY CATHETER”

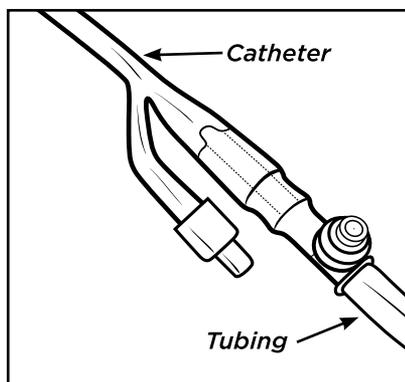
It is important to follow a few simple guidelines to avoid possible complications with your Foley catheter.

1. Maintain a Closed Drainage System

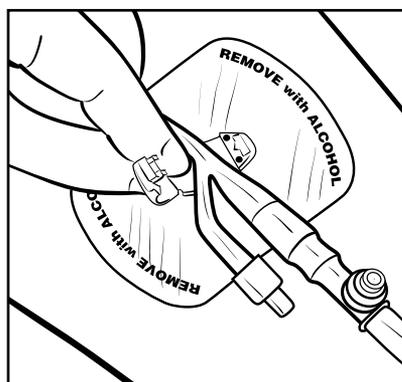
Maintaining a “closed” drainage system reduces the number of bacteria that enter the catheter system to cause an infection.

In order to maintain a closed drainage system:

- DO NOT remove the catheter unless instructed by your healthcare provider.
- DO NOT handle the catheter, tubing, or drainage bag without first washing your hands with soap and water.
- DO NOT break the connection from the catheter and the tubing.
- If a disconnection accidentally occurs, clean both ends with an alcohol pad, reconnect immediately, and call your healthcare provider.



Tamper evident seal helps prevent disconnection of the catheter from the tubing.



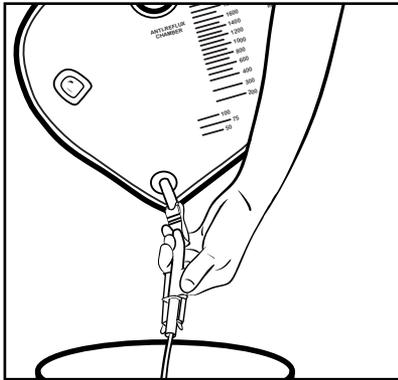
Proper catheter anchoring.

2. Use a Foley stabilization device

Foley catheters are often subject to inadvertent pulling forces that can lead to discomfort. A Foley stabilization device is designed to minimize catheter movement and accidental dislodgement, thereby maximizing comfort.

3. Maintain a Steady Urine Flow

- Keep the drainage bag below the level of your lower abdomen at all times, to keep urine flowing freely by gravity.
- Make sure there are no kinks or loops in the catheter or tubing which might restrict urine flow.
- Empty the drainage bag every four to eight hours, or if it becomes filled before then.
- DO NOT let the drain tube touch the container the urine is draining into, when emptying the bag.



Proper emptying of urinary drainage bag into pail.

4. Practice Good Hygiene

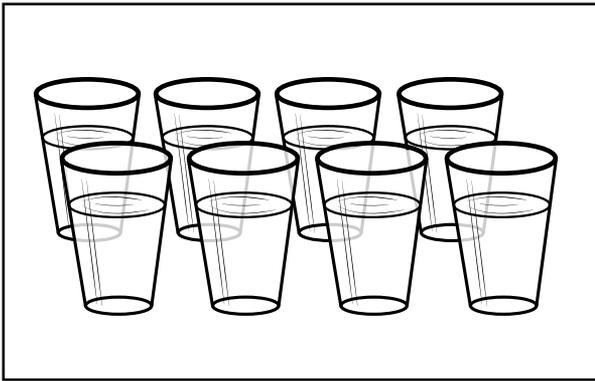
Wash hands with soap and water before and after touching the catheter or drainage bag. Wash skin around the catheter with soap and water daily and after each bowel movement. This will help reduce the risk of infection.

“HOW CAN I PREVENT PROBLEMS WITH MY FOLEY CATHETER?”

The Foley catheter is a necessary aid for managing your urinary drainage. With proper management and care, most potential problems with your Foley catheter can be avoided.

1. Drink Plenty Of Fluids

Unless your doctor has prescribed otherwise, drink at least eight to ten 8 ounce glasses of liquids daily. This helps reduce buildup of deposits that may block the catheter from draining properly.



Good fluid intake is important.

2. Maintain Steady Urine Flow

Keeping the drain bag below bladder level at all times and free of kinks and loops allows urine to drain in a “downhill” direction.

Urine backing up or stagnating in the tube or bag can lead to infection.

Empty your drainage bag every 4-8 hours or more frequently if it becomes filled before then.

3. Practice Good Hygiene

Wash hands with soap and water before and after touching the catheter or drainage bag. Wash skin around the catheter with soap and water daily and after each bowel movement. This will help reduce the risk of infection.

4. Maintain a Closed Drainage System

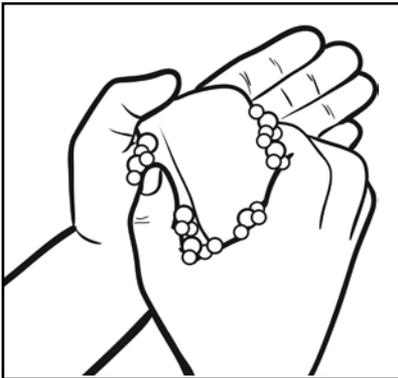
Maintaining a “closed” drainage system reduces the number of bacteria that enter the catheter system to cause an infection.

In order to maintain a closed drainage system:

- DO NOT remove the catheter unless instructed by your healthcare provider.
- DO NOT handle the catheter, tubing, or drainage bag without first washing your hands with soap and water.
- DO NOT break the connection from the catheter and the tubing.
- If a disconnection accidentally occurs, clean both ends with an alcohol pad, reconnect immediately, and call your healthcare provider.

5. Talk to Your Healthcare provider

Your healthcare provider will use the smallest catheter and balloon possible. A larger catheter may cause problems and will not drain urine any faster.



Wash hands with soap and water before and after touching the catheter or drainage bag

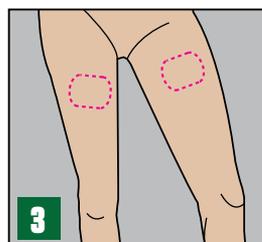
“HOW DO I APPLY, MAINTAIN AND REMOVE A STATLOCK® FOLEY STABILIZATION DEVICE?”

Application Technique

Prep

1. Place Foley catheter into retainer. Directional arrow should point towards catheter tip, and the balloon inflation arm should be next to the clamp hinge.
2. Close lid by placing your fingers under the pad and pressing the grip markers at the end of the clamp with your thumb, being careful to avoid pinching the catheter.
3. Identify proper securement site by gently laying the STATLOCK® Stabilization Device straight on the front of the thigh, then back up one inch towards the insertion site.* Make sure leg is fully extended.
 - Gently place the STATLOCK® Stabilization Device off to the side, away from the selected securement site.
4. Cleanse and degrease securement site with alcohol. Let skin dry. Be sure to clean area larger than securement site.
5. Apply skin protectant using both pads, in direction of hair growth, to area larger than securement site. Allow to dry completely (10-15 seconds).
6. Using permanent marker, write initials and date of application on STATLOCK® anchor pad.

NOTE: Always secure catheter into the STATLOCK® Stabilization Device retainer BEFORE applying adhesive pad on skin.



Place and Peel

- Align the STATLock® Stabilization Device over securement site, leaving one inch of catheter slack between insertion site and the STATLock® Stabilization Device retainer.* Make sure leg is fully extended.
- While holding the retainer to keep the pad in place, peel away paper backing, one side at a time, and place tension-free on skin.



Removal Technique

Disengage

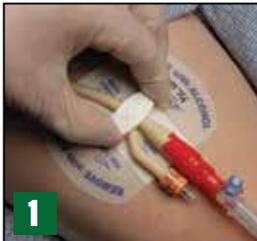
- Open retainer by pressing release button with thumb, then gently lift to open.
- Remove Foley catheter.

Dissolve

- Wipe the edge of the pad using at least 5-6 alcohol pads until a corner lifts.

Then continue to stroke undersurface of pad, in a back-and-forth motion, by squeezing the alcohol out to dissolve the adhesive pad away from the skin.

Do not pull or force pad to remove.



Foley Catheter Care & Maintenance

Patient Education Guide



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www.bardmedical.com

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1310-61 R11/13 THP P12/13 2.5M

**Report incidences of the following infections, diseases, or conditions to the
Local Health Department — Phone Number: _____**

**Reportable Communicable Diseases and Conditions for
Health Care Providers, Hospitals, and Medical Laboratories
Effective December 25, 2015
410 IAC 1-2.5-75 & 76**

Report immediately on suspicion (!). Report within 24 hours (*). All others report within 72 hours or as noted.

Acquired Immunodeficiency Syndrome (AIDS)	! Hantavirus pulmonary syndrome	Rabies, postexposure treatment
*Animal Bites	! Hemolytic uremic syndrome, postdiarrheal	Rocky Mountain spotted fever (<i>Rickettsia</i> species)
Anaplasmosis (<i>Anaplasma</i> species)	! Hepatitis, viral, Type A	! Rubella (German Measles)
! Anthrax (<i>Bacillus anthracis</i>)	Hepatitis, viral, Type B	! Rubella congenital syndrome
! Arboviral (Eastern Equine, St. Louis, La Crosse, West Nile, California, Western Equine, Powassan, Japanese)	! Hepatitis, viral, Type B, pregnant woman (acute and chronic) or perinatally exposed infant	Salmonellosis, non-typhoidal (<i>Salmonella</i> species)
Babesiosis (<i>Babesia</i> species)	Hepatitis, viral, Type C (acute), within five (5) business days	! Shigellosis (<i>Shigella</i> species)
! Botulism (<i>Clostridium botulinum</i>)	Hepatitis, viral, Type Delta	! Smallpox (Variola infection) Adverse events or complications due to smallpox vaccination (vaccinia virus infection) or secondary transmission to others after vaccination.
! Brucellosis (<i>Brucella</i> species)	! Hepatitis, viral, Type E	! St. Louis encephalitis (SLE)
Campylobacteriosis (<i>Campylobacter</i> species)	Hepatitis, viral, unspecified	<i>Staphylococcus aureus</i> , vancomycin resistance level of MIC \geq 8 μ g/mL or severe <i>Staphylococcus aureus</i> in a previously healthy person
<i>Carbapenemase-producing Carbapenem-resistant Enterobacteriaceae</i> (CP-CRE)	Histoplasmosis (<i>Histoplasma capsulatum</i>)	<i>Streptococcus pneumoniae</i> , invasive disease and antimicrobial susceptibility testing
Chancroid (<i>Haemophilus ducreyi</i>)	HIV infection/disease (The following conditions related to HIV are laboratory reportable) <i>Cryptococcus neoformans</i> Kaposi's sarcoma (biopsies) <i>Pneumocystis carinii</i>	<i>Streptococcus</i> , Group A, invasive disease (<i>Streptococcus pyogenes</i>)
! Chikungunya virus	! HIV infection/disease , pregnant woman or perinatally exposed infant	Syphilis (<i>Treponema pallidum</i>)
<i>Chlamydia trachomatis</i> , genital infection	Influenza-associated death (all ages)	Tetanus (<i>Clostridium tetani</i>)
! Cholera (<i>Vibrio cholerae</i>)	! Japanese encephalitis	Toxic shock syndrome (streptococcal or staphylococcal)
Coccidioidomycosis	! La Crosse encephalitis (California serogroup viruses)	Trichinosis (<i>Trichinella spiralis</i>)
Cryptosporidiosis (<i>Cryptosporidium</i> species)	Legionellosis (<i>Legionella</i> species)	*Tuberculosis, cases, suspects, and latent infection (<i>Mycobacterium tuberculosis</i>) <i>For latent infection, a positive screening test, negative or normal chest x-ray, no evidence of extra-pulmonary disease, and provider diagnosis are necessary. Report latent infection within five (5) business days.</i>
Cyclosporiasis (<i>Cyclospora cayetanensis</i>)	Leptospirosis (<i>Leptospira</i> species)	! Tularemia (<i>Francisella tularensis</i>)
Cysticercosis (<i>Taenia solium</i>)	Listeriosis (<i>Listeria monocytogenes</i> , invasive)	! Typhoid and paratyphoid fever , cases and carriers (<i>Salmonella Typhi</i> or <i>Paratyphi</i>)
! Dengue	Lyme disease (<i>Borrelia burgdorferi</i>)	Typhus, endemic (flea-borne)
! Diphtheria (<i>Corynebacterium diphtheriae</i>)	<i>Lymphogranuloma venereum</i>	Varicella (chicken pox)
! Eastern equine encephalitis (EEE)	Malaria (<i>Plasmodium</i> species)	Vibriosis (<i>Vibrio</i> species)
Ehrlichiosis (<i>Ehrlichia</i> species)	! Measles (Rubeola)	! West Nile Virus (WNV)
! Escherichia coli infection (Shiga toxin-producing <i>E. coli</i> (STEC)) including, but not limited to: <i>E. coli</i> O157; <i>E. coli</i> O157:H7; Shiga toxin detected; or Non-O157 <i>E. coli</i>	! Meningococcal disease (<i>Neisseria meningitidis</i> , invasive)	! Western equine encephalitis (WEE)
Giardiasis (<i>Giardia</i> species)	*Mumps	! Yellow fever
Gonorrhea (<i>Neisseria gonorrhoeae</i>)	*Novel influenza A	Yersiniosis (<i>Yersinia</i> species)
Granuloma inguinale (<i>Calymmatobacterium granulomatis</i>)	*Pertussis (<i>Bordetella pertussis</i>)	
* <i>Haemophilus influenzae</i> , invasive disease	! Plague (<i>Yersinia pestis</i>)	
Hansen's disease (leprosy) (<i>Mycobacterium leprae</i>)	! Poliomyelitis	
	! Powassan virus	
	Psittacosis (<i>Chlamydia psittaci</i>)	
	! Q Fever (<i>Coxiella burnetii</i>)	
	! Rabies in humans or animals , confirmed and suspect animal with human exposure	

Other Reportable Conditions and Diseases of Public Health Significance (Non-communicable)

- Report all blood lead results (capillary and venous) in children and adults within one week (410 IAC 29-3-1)
- Report injury resulting from fireworks or pyrotechnics within 5 business days after a person receives treatment (IC 35-47-7-7)
- Report confirmed cases of cancer occurring in residents diagnosed or treated in Indiana to the state cancer registry (410 IAC 21-1-2)

**Report incidences of the following infections, diseases, or conditions to the
Local Health Department — Phone Number: _____**

Immediately report outbreaks of any of the following upon suspicion:

1. Any disease required to be reported under this section
 2. Newborns with diarrhea in hospitals or other institutions
 3. Foodborne or waterborne diseases in addition to those specified by name in this rule
 4. Streptococcal illnesses
 5. Conjunctivitis
 6. Impetigo
 7. Nosocomial disease within hospitals and health care facilities
 8. Influenza-like-illness
 9. Viral meningitis
 10. Unusual occurrence of disease
 11. Any disease (e.g. anthrax, plague, tularemia, *Brucella* species, smallpox, or botulism) or chemical illness considered a bioterrorism threat, importation, or laboratory release.
-

Reporting is required of any specimen derived from the human body yielding microscopic, bacteriologic, immunologic, serologic, or other evidence of infection by any of the organisms or agents listed.

1. Test: name, date, test results, specimen source, normal limits for the test, test result interpretation, and laboratory's accession number or other numeric identifier.
 2. Person: name, address, and date of birth (or age if date of birth is not available)
 3. Submitter: name, address, and telephone number of attending physician, hospital, clinic, or other specimen submitter
 4. Laboratory: name, address, telephone number, and CLIA ID number of the laboratory performing the test
-

Laboratories shall submit all isolates of the following organisms to the ISDH Laboratory for further evaluation within three (3) business days of isolation:

1. Carbapenamase producing-carbapenam resistant Enterobacteriaceae (CP-CRE)
2. *Haemophilus influenzae*, invasive disease
3. *Neisseria meningitidis*, invasive disease
4. **Escherichia coli* (Shiga toxin-producing *E. coli* (STEC)) isolates
5. *Staphylococcus aureus*, vancomycin resistance level of MIC \geq 8 μ g/mL
6. *Mycobacterium tuberculosis*
7. *Streptococcus pneumoniae*, invasive disease, isolates from persons less than five (5) years of age
8. *Listeria monocytogenes*
9. **Salmonella* species isolates
10. **Shigella* species isolates
11. **Vibrio cholerae* isolates
12. **Vibrio* species, *Grimontia hollisae* (*Vibrio hollisae*), and *Photobacterium damsela* (*Vibrio damsela*) isolates

*If isolate of organism is not available, submit clinical specimens per IAC 1-2.5-76(f)

Any infection, disease or condition submitted via electronic laboratory reporting should continue to be reported to the Indiana State Department of Health. Any questions on submission should be directed to the Epidemiology Resource Center at 317-233-7125. For facilities unable to submit via ELR please fax reports to 317-234-2812.

Any questions on isolate submission should be directed to the Indiana State Department of Health Laboratories at 317-921-5500.



CONFIDENTIAL REPORT OF COMMUNICABLE DISEASES
 State Form 43823 (R4 / 2-16)
 THIS FORM CONTAINS CONFIDENTIAL
 INFORMATION PER 410 IAC 1-2.5-78

DISEASE

Name (last, first, middle initial)

If child, name of parent (last, first, middle initial)

Address (number and street)

City

ZIP code

County

Telephone

Date of birth (MM / DD / YYYY)

Occupations of Interest (Not Required For STD's)

Check all that apply:

- Health Care Worker
- Food Service
- School (student/staff)
- Day Care (attende/staff)

SEX

- Male
- Female

RACE

- White
- Black
- Other _____
- Multi-racial

ETHNICITY

- Hispanic
- Non-Hispanic
- Unknown

Name of workplace or school/day care:

Pregnant? Yes No Unknown

CLINICAL

Date of diagnosis (MM / DD / YYYY)

Symptoms

Onset date (MM / DD / YYYY)

Deceased Yes No

Hospitalized Yes No

Hospital Name

Admission date (MM / DD / YYYY)

Discharge date (MM / DD / YYYY)

LABORATORY

Test

Result

Specimen collection date (MM / DD / YYYY)

Specimen source

TREATMENT

Treatment (name of antibiotic)

Dosage

Treatment date (MM / DD / YYYY)

PROVIDER

Physician name

Person reporting (other than physician)

Facility / Hospital Name

Facility telephone number

Person reporting telephone number

Date of report (MM / DD / YYYY)

LOCAL HEALTH DEPARTMENT USE ONLY

Date of first notification (MM / DD / YYYY)

Follow-up initiated? Yes No

Name of investigator

Investigator telephone number

Fax completed form to the Epidemiology Resource Center of the Indiana State Department of Health at 317-234-2812.

Reportable Diseases (for reporting requirements, see code 410 IAC 1-2.5-75)

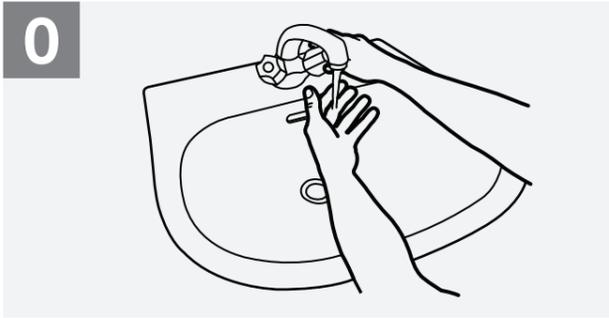
<p>Diseases to be reported on THIS form:</p>	<p>Diseases to be reported within 24 hours</p>
<p>Diseases to be reported IMMEDIATELY (upon suspicion)</p>	<p><i>Haemophilus influenzae</i>, invasive disease</p>
<p>Anthrax</p>	<p>Mumps</p>
<p>Arboviral encephalitis (Eastern Equine, St. Louis, La Crosse, West Nile, California, Western Equine, Powassan, Japanese)</p>	<p>Novel Influenza A Pertussis</p>
<p>Botulism</p>	<p>Diseases to be reported within 72 hours</p>
<p>Brucellosis</p>	<p>Anaplasmosis</p>
<p>Chikungunya virus</p>	<p>Babesiosis</p>
<p>Cholera</p>	<p>Campylobacteriosis</p>
<p>Dengue</p>	<p><i>Carbapenemase-producing Carbapenem-resistant Enterobacteriaceae</i></p>
<p>Diphtheria</p>	<p>Chancroid</p>
<p>Eastern equine encephalitis</p>	<p><i>Chlamydia trachomatis</i>, genital infection</p>
<p><i>Escherichia coli</i> infection</p>	<p>Cryptosporidiosis</p>
<p>Hantavirus pulmonary syndrome</p>	<p><i>Cyclospora</i></p>
<p>Hemolytic uremic syndrome</p>	<p>Oxytocosis</p>
<p>Hepatitis, viral, Type B, pregnant woman</p>	<p>Giardiasis</p>
<p>Hepatitis, viral, Type E</p>	<p>Gonorrhea</p>
<p>Japanese encephalitis</p>	<p>Granuloma inguinale</p>
<p>La Crosse encephalitis</p>	<p>Hansen's disease</p>
<p>Measles</p>	<p>Hepatitis, viral, Type B</p>
<p>Meningococcal disease</p>	<p>Hepatitis, viral, Type C (acute), within five (5) business days</p>
<p>Plague</p>	<p>Hepatitis, viral, unspecified</p>
<p>Pollomyelitis</p>	<p>Histoplasmosis</p>
<p>Powassan virus</p>	<p>Influenza-associated death (all ages)</p>
<p>Q fever</p>	<p>Legionellosis</p>
<p>Rabies in humans or animals</p>	<p>Leptospirosis</p>
<p>Rubella</p>	<p>Listeriosis</p>
<p>Rubella congenital syndrome</p>	<p>Lyme disease</p>
<p>Shigellosis</p>	<p><i>Lymphogranuloma venereum</i></p>
<p>Smallpox</p>	<p>Malaria</p>
<p>St. Louis encephalitis</p>	<p>Pittacosis</p>
<p>Tularemia</p>	<p>Rabies, postexposure treatment</p>
<p>Typhoid</p>	<p>Rocky Mountain spotted fever</p>
<p>West Nile virus</p>	<p>Salmonellosis</p>
<p>Western equine encephalitis</p>	<p><i>Staphylococcus aureus</i></p>
<p>Yellow fever</p>	<p><i>Streptococcus pneumoniae</i></p>
<p>Diseases reported on a DIFFERENT form</p>	<p><i>Streptococcus</i>, Group A</p>
<p>Acquired Immunodeficiency Syndrome</p>	<p>Syphilis</p>
<p>Animal Bites</p>	<p>Tetanus</p>
<p>Human Immunodeficiency Virus Infection</p>	<p>Toxic shock syndrome</p>
<p>Tuberculosis, Cases, Reactors, and Latent Infection</p>	<p>Trichinosis</p>
	<p>Typhus</p>
	<p>Vancella</p>
	<p>Vibriosis</p>
	<p>Yersiniosis</p>

For questions or emergencies, call the Epidemiology Resource Center at 317-233-7125.
Please fax completed form to 317-234-2812.

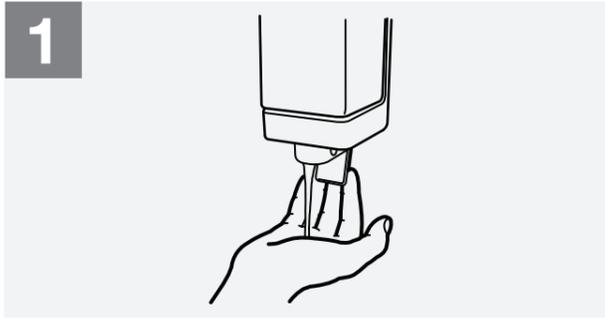
How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

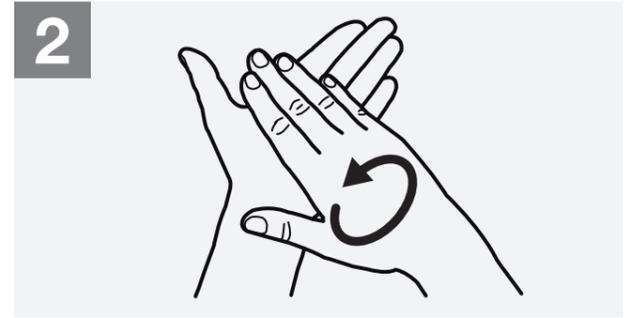
 Duration of the entire procedure: 40-60 seconds



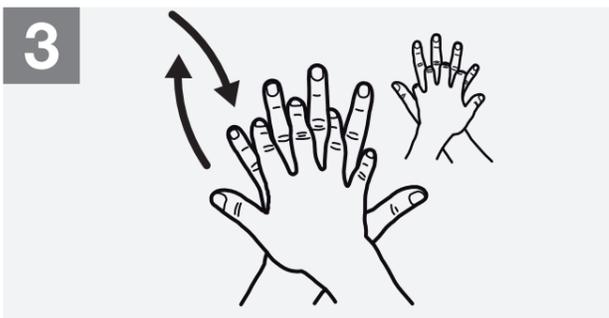
0 Wet hands with water;



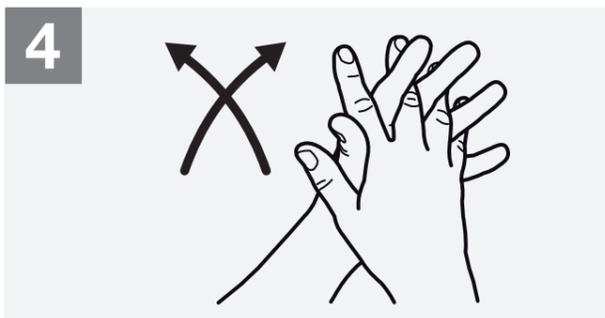
1 Apply enough soap to cover all hand surfaces;



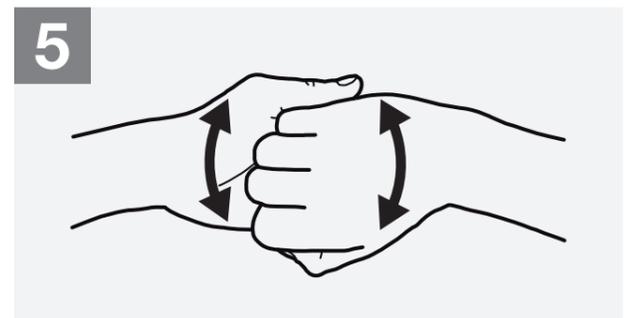
2 Rub hands palm to palm;



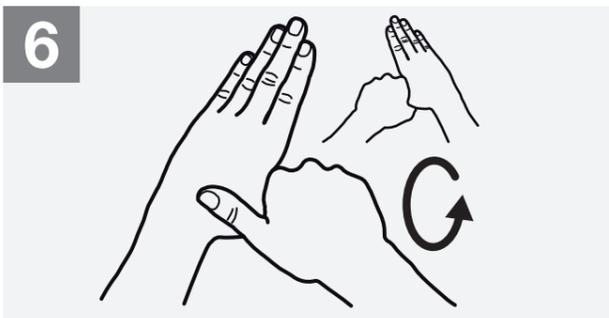
3 Right palm over left dorsum with interlaced fingers and vice versa;



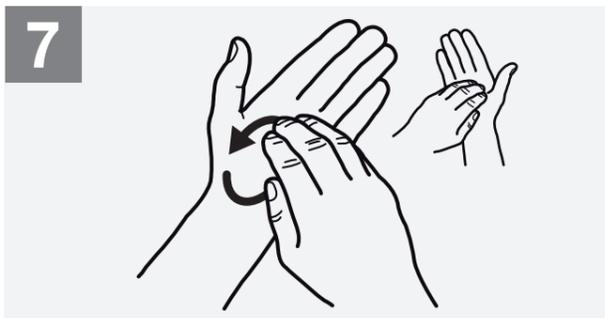
4 Palm to palm with fingers interlaced;



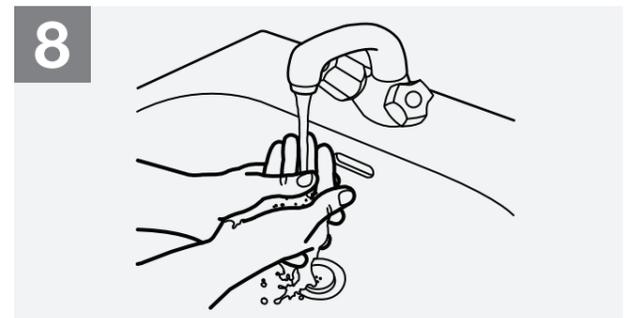
5 Backs of fingers to opposing palms with fingers interlocked;



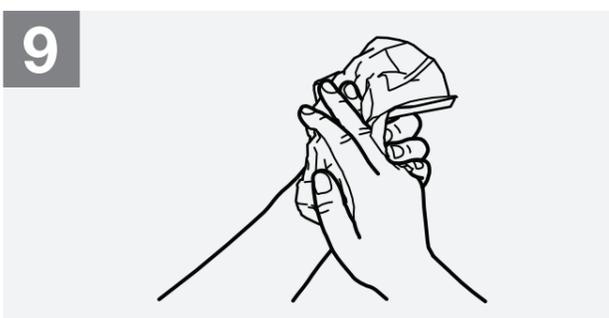
6 Rotational rubbing of left thumb clasped in right palm and vice versa;



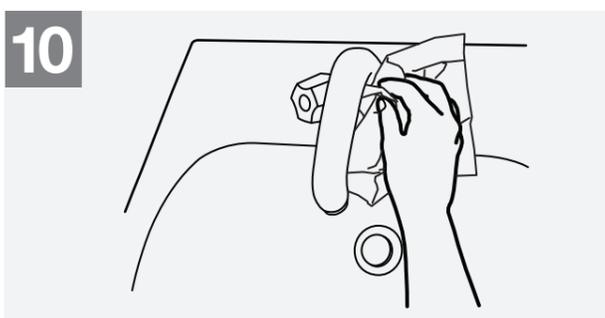
7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



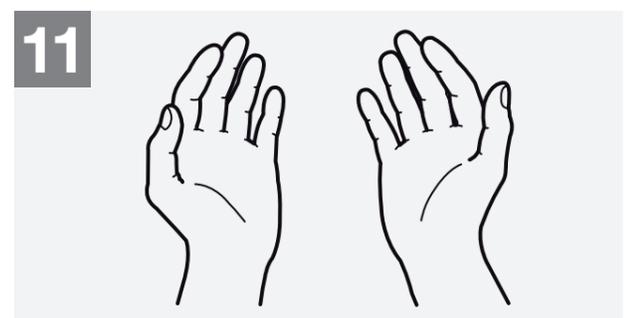
8 Rinse hands with water;



9 Dry hands thoroughly with a single use towel;



10 Use towel to turn off faucet;



11 Your hands are now safe.



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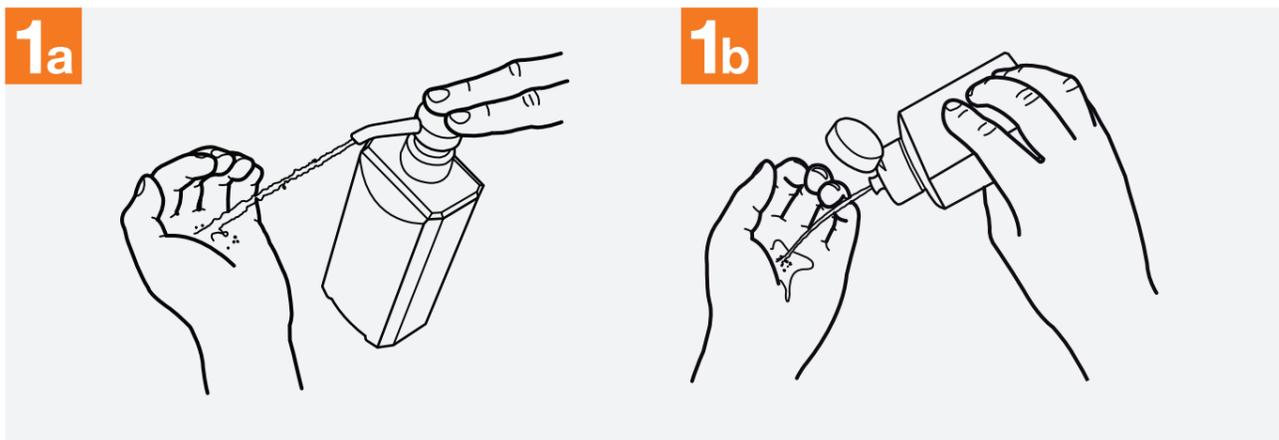
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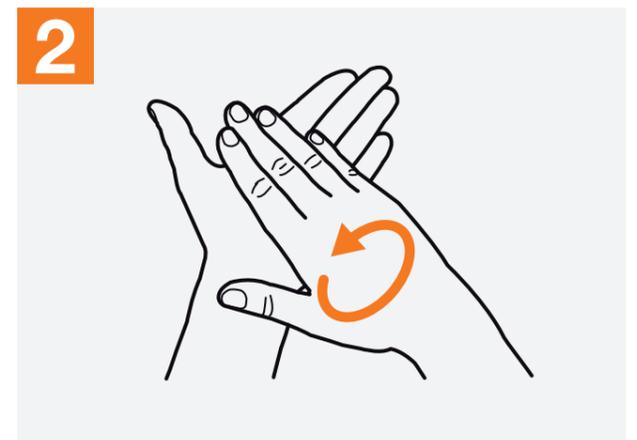
How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

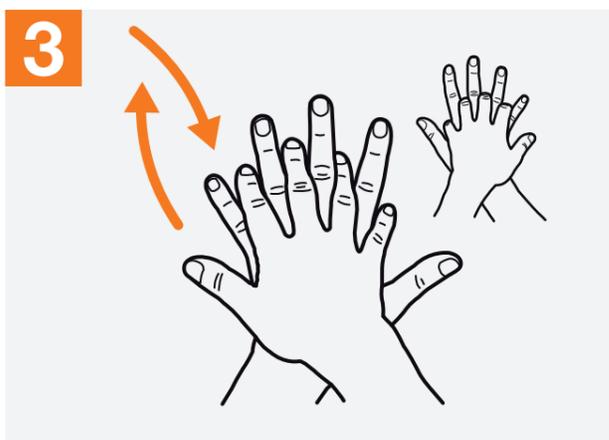
 **Duration of the entire procedure: 20-30 seconds**



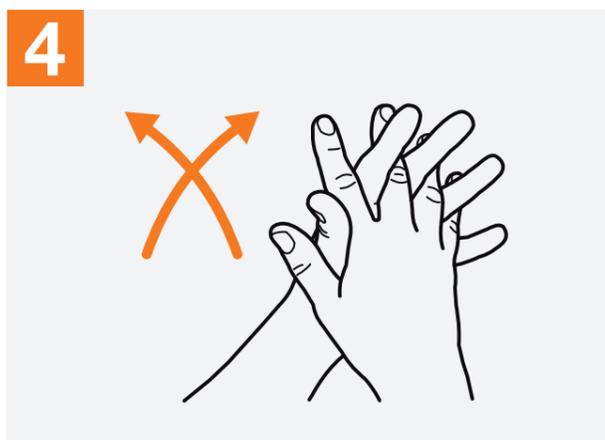
1a Apply a palmful of the product in a cupped hand, covering all surfaces;



2 Rub hands palm to palm;



3 Right palm over left dorsum with interlaced fingers and vice versa;



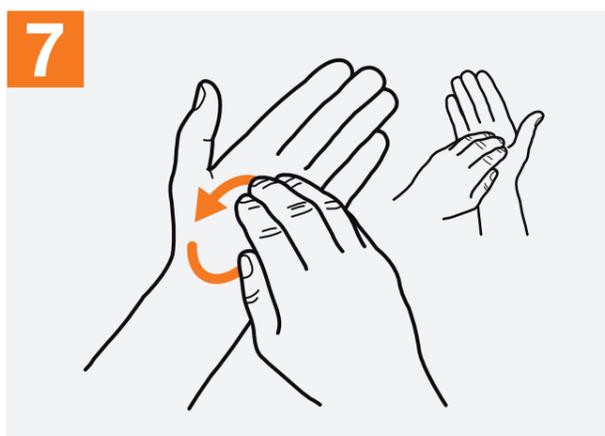
4 Palm to palm with fingers interlaced;



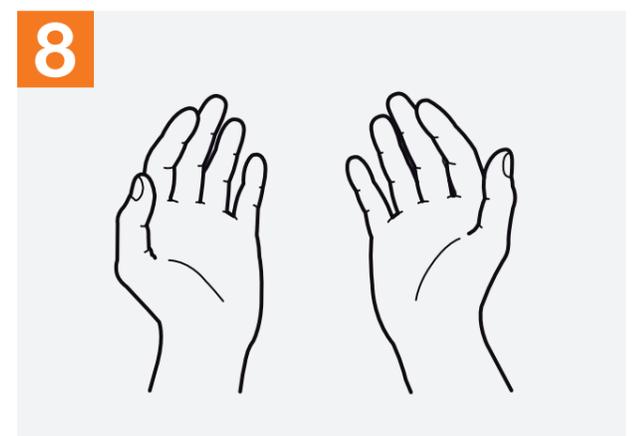
5 Backs of fingers to opposing palms with fingers interlocked;



6 Rotational rubbing of left thumb clasped in right palm and vice versa;



7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



8 Once dry, your hands are safe.



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Patient Safety

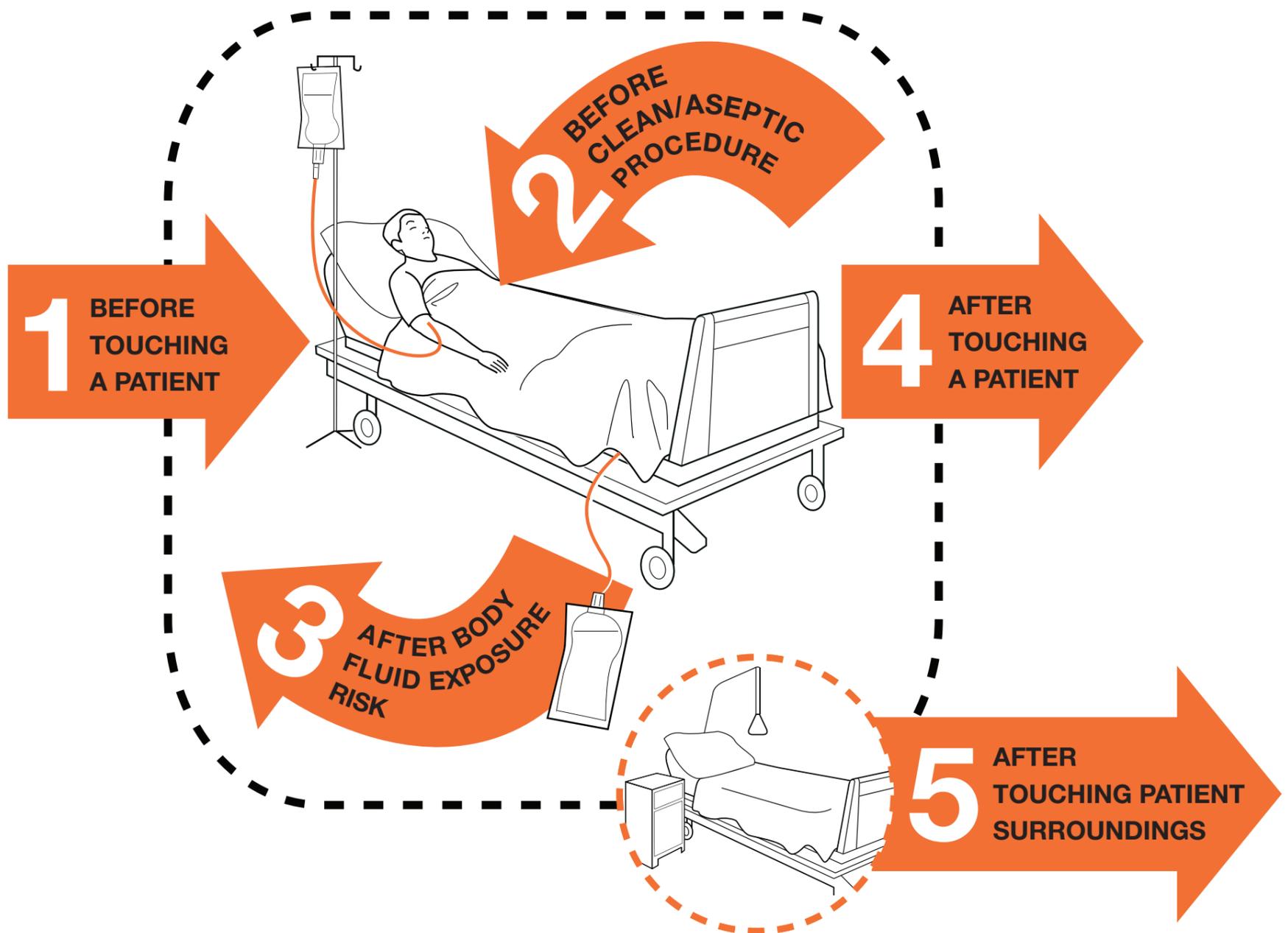
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Your 5 Moments for Hand Hygiene



1	BEFORE TOUCHING A PATIENT	WHEN?	Clean your hands before touching a patient when approaching him/her.
		WHY?	To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ASEPTIC PROCEDURE	WHEN?	Clean your hands immediately before performing a clean/aseptic procedure.
		WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN?	Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
		WHY?	To protect yourself and the health-care environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHEN?	Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN?	Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.



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Estimating Hand Hygiene Opportunities Worksheet

Formula for Calculating Estimated Total Number of Hand Hygiene Opportunities

Total number of ICU beds

Multiply by 12 (estimated number of opportunities)

Multiply by 24 (# of hours in the day)

Multiply by 30 (# of days in the month)

Equals estimated number of ICU opportunities: _____

Number of opportunities currently observed: _____

Total number of med/surg beds

Multiply by 6 (estimated number of opportunities)

Multiply by 24 (# of hours in the day)

Multiply by 30 (# of days in the month)

Equals the estimated number of Med/Surg opportunities: _____

Number of opportunities currently observed: _____

Future Goal: _____

Total number of Ancillary patients per hour

Multiply by 3 (estimated number of opportunities)

Multiply by # of hours open per day

Multiply by # of days open per month

Equals the estimated number of Ancillary opportunities: _____

Number of opportunities currently observed: _____

Add all 3 numbers together to get the total number of opportunities: _____

Number of opportunities currently observed: _____

Future Goal: _____

This formula is designed to assist with determining your total estimated hand hygiene opportunities during a month. While there is no required sample size, the greater your sample size the more valid your data. Some hospitals have used this data to help explain why they need to increase the sample size and then annually they track their percentage.

Reference: Measuring Hand Hygiene Adherence: Overcoming the Challenges, Joint Commission, 2009

Hand Hygiene Observations

Insert Hospital Name

Circle **YES** if hand hygiene is performed using soap & water or alcohol hand rub.
#1 Upon entry to the room before touching the patient or the environment.
#2 Before clean/aseptic procedure.
#3 After body fluid exposure risk.
#4 After touching a patient when leaving patient zone
#5 After touching patient surroundings when leaving patient zone.

Person Observed						#1	#2	#3	#4	#5	Comments
1	2	3	4	5	6						
1	MD	RN	HCA	RT	Other	Yes / No					
2	MD	RN	HCA	RT	Other	Yes / No					
3	MD	RN	HCA	RT	Other	Yes / No					
4	MD	RN	HCA	RT	Other	Yes / No					
5	MD	RN	HCA	RT	Other	Yes / No					
6	MD	RN	HCA	RT	Other	Yes / No					
7	MD	RN	HCA	RT	Other	Yes / No					
8	MD	RN	HCA	RT	Other	Yes / No					
9	MD	RN	HCA	RT	Other	Yes / No					
10	MD	RN	HCA	RT	Other	Yes / No					
11	MD	RN	HCA	RT	Other	Yes / No					
12	MD	RN	HCA	RT	Other	Yes / No					
13	MD	RN	HCA	RT	Other	Yes / No					
14	MD	RN	HCA	RT	Other	Yes / No					
15	MD	RN	HCA	RT	Other	Yes / No					
16	MD	RN	HCA	RT	Other	Yes / No					
17	MD	RN	HCA	RT	Other	Yes / No					
18	MD	RN	HCA	RT	Other	Yes / No					
19	MD	RN	HCA	RT	Other	Yes / No					
20	MD	RN	HCA	RT	Other	Yes / No					

Instructions: Position yourself so that you can observe the activity on the unit/depart but not cause obstruction. Limit observation to 10 to 20 minutes. Observed opportunities are based on the WHO 5 Moments. Do not record random moments of hand hygiene outside the patient zone. After completing observations give feedback to employee and manager.

Other observations noted: Barriers to hand hygiene such as lack of soap, alcohol hand rub or paper towel. Hand hygiene and dress code non-compliance such as artificial nails, chipped nail polish, finger nails past finger tips, jewelry per dept code. Incorrect hand hygiene technique such as <15 seconds, water only, turning off faucet with bare hands.

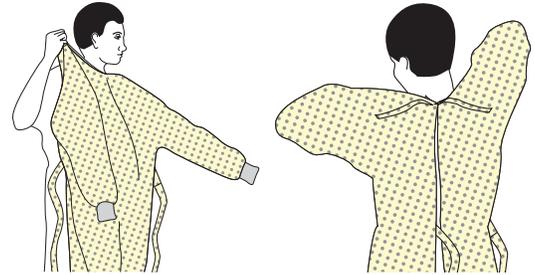
Date: _____ **Unit/Dept:** _____ **Shift:** Day Evening Nights
Observer: _____ (Your name is confidential)

SEQUENCE FOR **PUTTING ON** PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



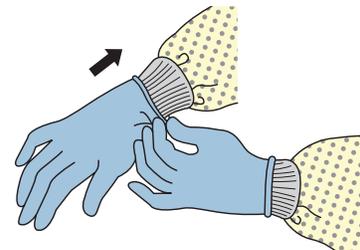
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



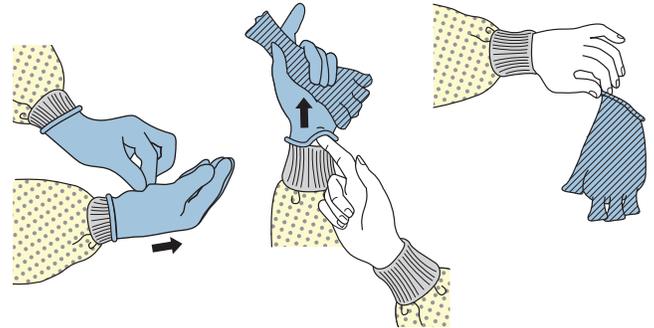
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)

EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



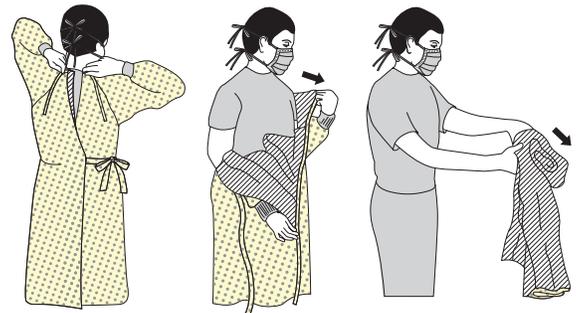
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



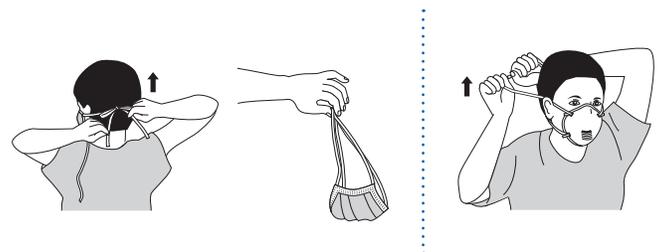
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

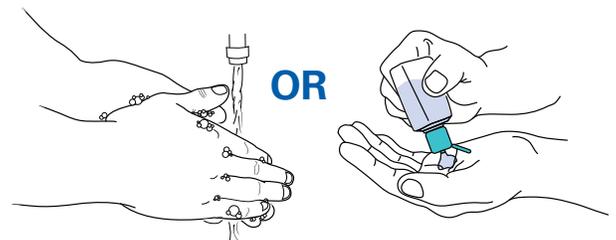


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

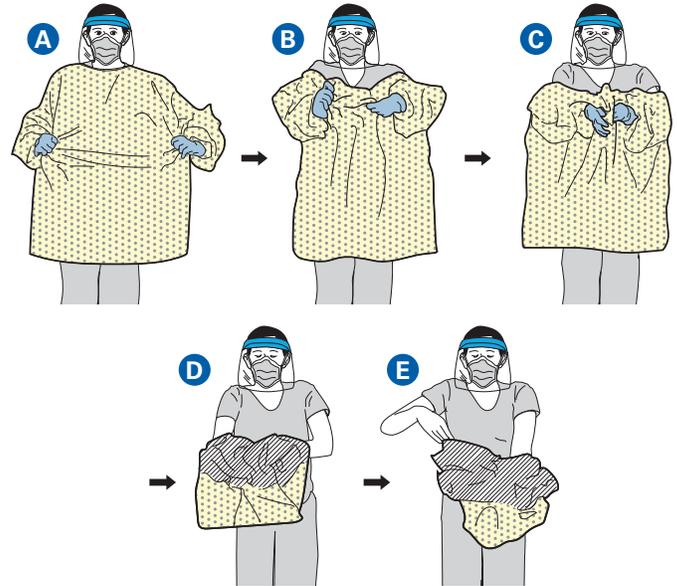


HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



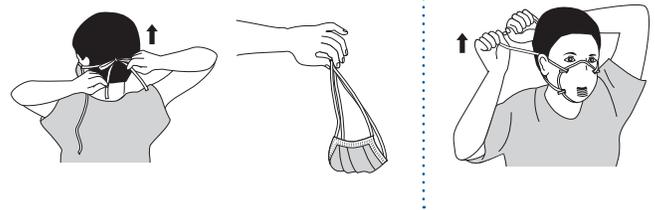
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

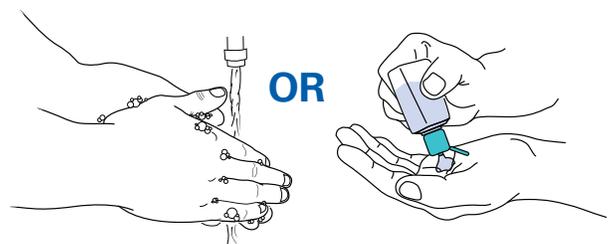


3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

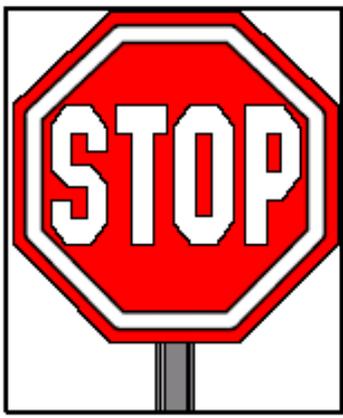


4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE

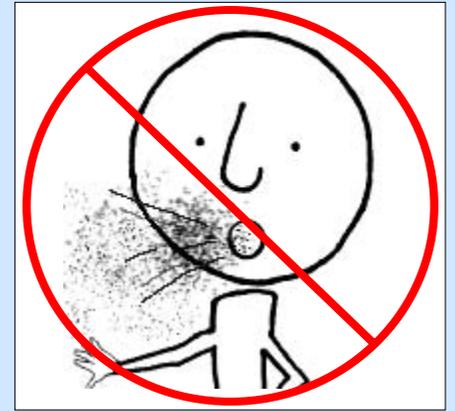


PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE





Help Protect Our Patients!

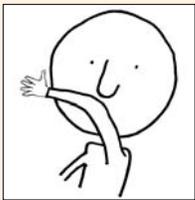


Please do not visit if you have a fever or cough.

All healthy visitors please:



- Clean your hands after arriving and before leaving.



- Always cover your cough.



- Use a tissue or your sleeve when you cough or sneeze.

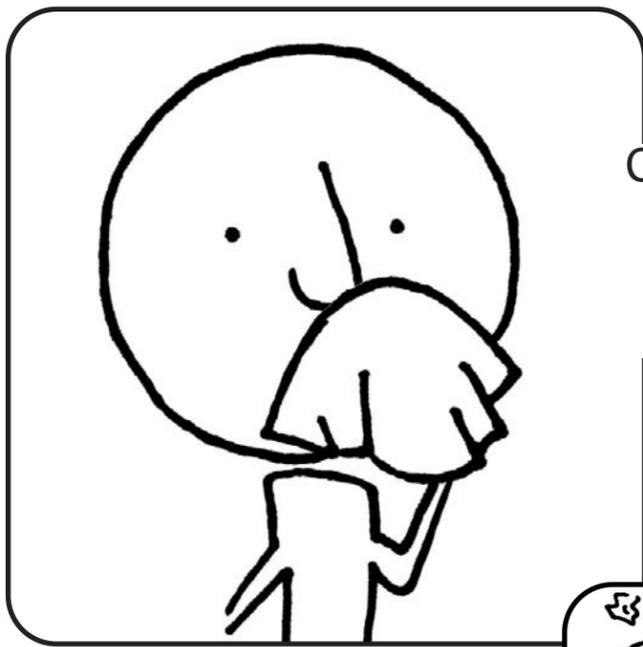
- Clean your hands after coughing or sneezing.



If you are ill and must visit, please ask for a mask.

Stop the spread of germs that make you and others sick!

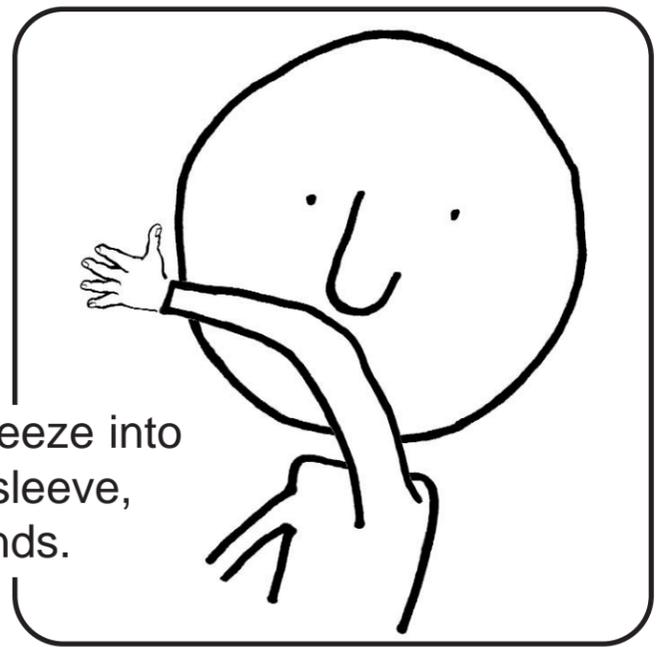
Cover your Cough



Cover your mouth
and nose with a
tissue when you
cough or sneeze

or

cough or sneeze into
your upper sleeve,
not your hands.

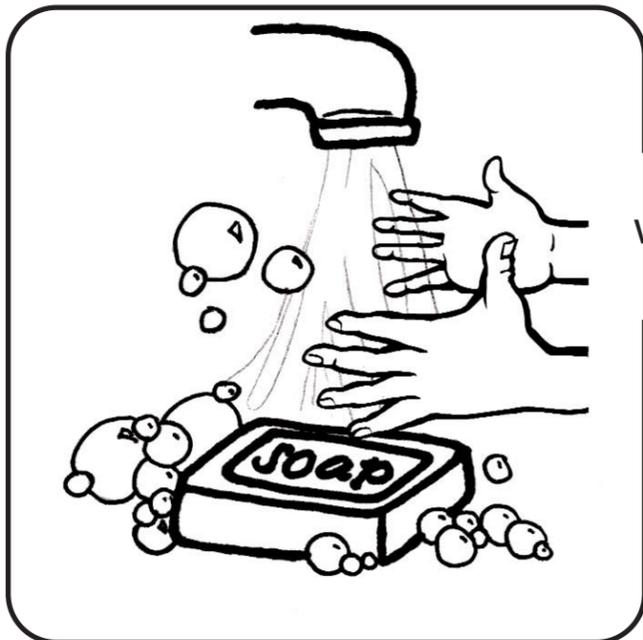


Put your used tissue in
the waste basket.



Clean your Hands

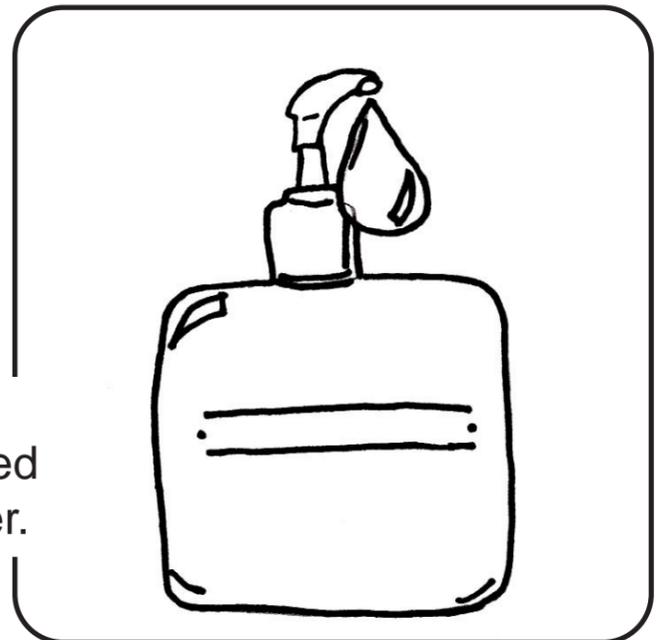
after coughing or sneezing.

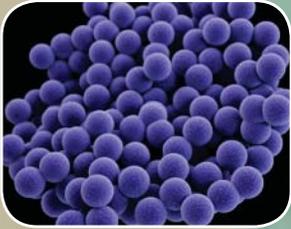
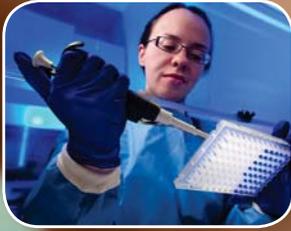


Wash hands
with soap and
warm water

or

clean with
alcohol-based
hand cleaner.





The Core Elements of **Antibiotic Stewardship** for Nursing Homes



National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion



The Core Elements of Antibiotic Stewardship for Nursing Homes is a publication of The National Center for Emerging and Zoonotic Infectious Diseases within the Centers for Disease Control and Prevention.

Centers for Disease Control and Prevention
Thomas R. Frieden, MD, MPH, Director

National Center for Emerging and Zoonotic Infectious Diseases
Beth P. Bell, MD, MPH, Director

Suggested citation:

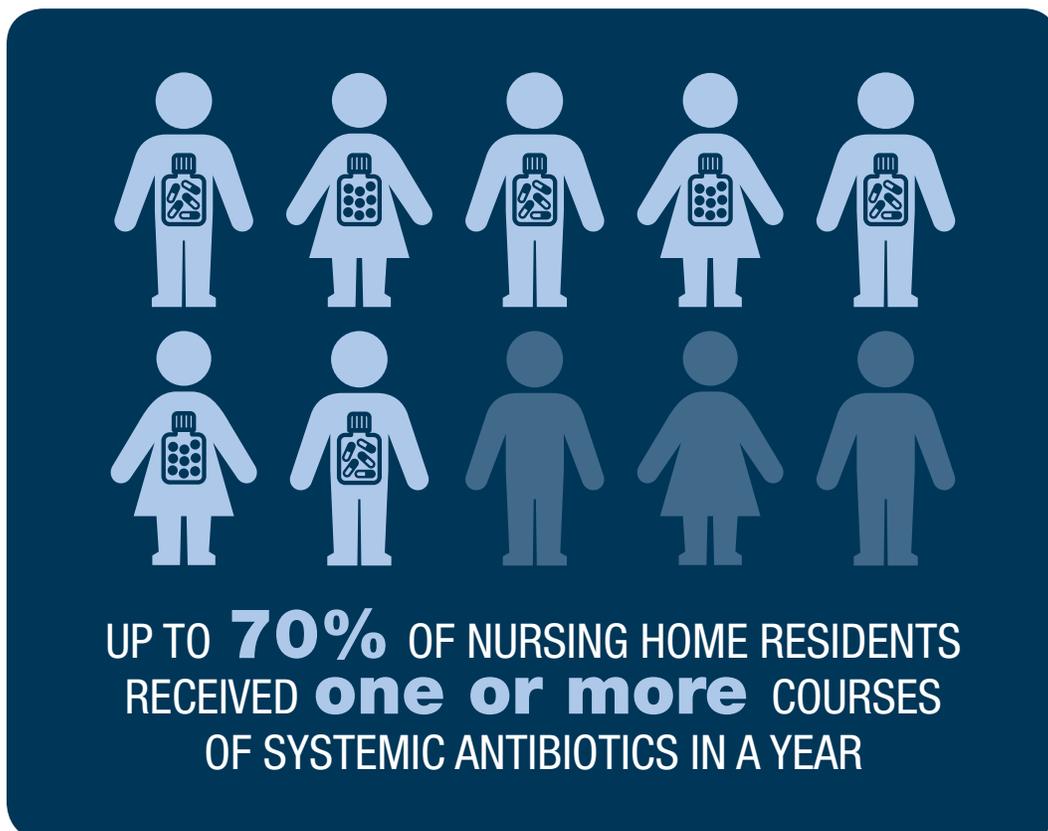
CDC. *The Core Elements of Antibiotic Stewardship for Nursing Homes*. Atlanta, GA: US Department of Health and Human Services, CDC; 2015. Available at: <http://www.cdc.gov/longtermcare/index.html>



Introduction

Improving the use of antibiotics in healthcare to protect patients and reduce the threat of antibiotic resistance is a national priority.¹ Antibiotic stewardship refers to a set of commitments and actions designed to “optimize the treatment of infections while reducing the adverse events associated with antibiotic use.”² The Centers for Disease Control and Prevention (CDC) recommends that all acute care hospitals implement an antibiotic stewardship program (ASP) and outlined the seven core elements which are necessary for implementing successful ASPs.² CDC also recommends that all nursing homes take steps to improve antibiotic prescribing practices and reduce inappropriate use.

Antibiotics are among the most frequently prescribed medications in nursing homes, with up to 70% of residents in a nursing home receiving one or more courses of systemic antibiotics when followed over a year.^{3,4} Similar to the findings in hospitals,^{5,6} studies have shown that 40–75% of antibiotics prescribed in nursing homes may be unnecessary or inappropriate.^{3,4} Harms from antibiotic overuse are significant for the frail and older adults receiving care in nursing homes. These harms include risk of serious diarrheal infections from *Clostridium difficile*, increased adverse drug events and drug interactions, and colonization and/or infection with antibiotic-resistant organisms.



This document adapts the [CDC Core Elements of Hospital Antibiotic Stewardship](#) into practical ways to initiate or expand antibiotic stewardship activities in nursing homes. While the elements are the same for both hospitals and nursing homes, the implementation of these elements may vary based on facility staffing and resources. Nursing homes are encouraged to work in a step-wise fashion, implementing one or two activities to start and gradually adding new strategies from each element over time. Any action taken to improve antibiotic use is expected to reduce adverse events, prevent emergence of resistance, and lead to better outcomes for residents in this setting.



Antibiotic stewardship refers to a set of commitments and activities designed to “optimize the treatment of infections while reducing the adverse events associated with antibiotic use.”

Summary of Core Elements for Antibiotic Stewardship in Nursing Homes



Leadership commitment

Demonstrate support and commitment to safe and appropriate antibiotic use in your facility



Accountability

Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility



Drug expertise

Establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility



Action

Implement **at least one** policy or practice to improve antibiotic use



Tracking

Monitor **at least one process** measure of antibiotic use and **at least one outcome** from antibiotic use in your facility



Reporting

Provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff and other relevant staff



Education

Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use



Leadership Commitment

Nursing home leaders commit to improving antibiotic use. Facility leadership, both owners and administrators, as well as regional and national leaders if the facility is part of a larger corporation, can demonstrate their support in the following ways:

Write statements in support of improving antibiotic use to be shared with staff, residents and families

Include stewardship-related duties in position descriptions for the medical director, clinical nurse leads, and consultant pharmacists in the facility

Communicate with nursing staff and prescribing clinicians the facility's expectations about use of antibiotics and the monitoring and enforcement of stewardship policies

Create a culture, through messaging, education, and celebrating improvement, which promotes antibiotic stewardship



Accountability

Nursing homes identify individuals accountable for the antibiotic stewardship activities who have the support of facility leadership:

Empower the medical director to set standards for antibiotic prescribing practices for all clinical providers credentialed to deliver care in a nursing home and be accountable for overseeing adherence. To be effective in this role, the medical director should review antibiotic use data (see Tracking and Reporting section) and ensure best practices are followed in the medical care of residents in the facility.¹⁰

Empower the director of nursing to set the practice standards for assessing, monitoring and communicating changes in a resident's condition by front-line nursing staff. Nurses and nurse aides play a key role in the decision-making process for starting an antibiotic. The knowledge, perceptions and attitudes among nursing staff of the role of antibiotics in the care of nursing home residents can significantly influence how information is communicated to clinicians who are deciding whether to initiate antibiotic therapy. Therefore the importance of antibiotic stewardship is conveyed by the expectations set by nursing leadership in the facility.

Engage the consultant pharmacist in supporting antibiotic stewardship oversight through quality assurance activities such as medication regimen review and reporting of antibiotic use data.

Nursing home antibiotic stewardship leads utilize existing resources to support antibiotic stewards' efforts by working with the following partners:

Infection prevention program coordinator

Infection prevention coordinators have key expertise and data to inform strategies to improve antibiotic use. This includes tracking of antibiotic starts, monitoring adherence to evidence-based published criteria^{12,13} during the evaluation and management of treated infections, and reviewing antibiotic resistance patterns in the facility to understand which infections are caused by resistant organisms. When infection prevention coordinators have training, dedicated time, and resources to collect and analyze infection surveillance data, this information can be used to monitor and support antibiotic stewardship activities.

Consultant laboratory

Nursing homes contracting laboratory services can request reports and services to support antibiotic stewardship activities. Examples of laboratory support for antibiotic stewardship include developing a process for alerting the facility if certain antibiotic-resistant organisms are identified, providing education for nursing home staff on the differences in diagnostic tests available for detecting various infectious pathogens (e.g., EIA toxin test vs. nucleic amplification tests for *C. difficile*), and creating a summary report of antibiotic susceptibility patterns from organisms isolated in cultures. These reports, also known as antibiograms, help inform empiric antibiotic selection (i.e., before culture results are available) and monitor for new or worsening antibiotic resistance.¹⁴

State and local health departments

Nursing homes benefit from the educational support and resources on antibiotic stewardship and infection prevention which are provided by the Healthcare-Associated Infection (HAI) Prevention programs at state and local health departments.



Drug Expertise

Nursing homes establish access to individuals with antibiotic expertise to implement antibiotic stewardship activities. Receiving support from infectious disease consultants and consultant pharmacists with training in antibiotic stewardship can help a nursing home reduce antibiotic use and experience lower rates of positive *C. difficile* tests.¹¹ Examples of establishing antibiotic expertise include:

Work with a consultant pharmacist who has received specialized infectious diseases or antibiotic stewardship training. Example training courses include the Making a Difference in Infectious Diseases (MAD-ID) antibiotic stewardship course (<http://mad-id.org/antimicrobial-stewardship-programs/>), and the Society for Infectious Diseases Pharmacists antibiotic stewardship certificate program (<http://www.sidp.org/page-1442823>).

Partner with antibiotic stewardship program leads at the hospitals within your referral network.

Develop relationships with infectious disease consultants in your community interested in supporting your facility's stewardship efforts.



Take Action through Policy and Practice Change to Improve Antibiotic Use

Nursing homes implement prescribing policies and change practices to improve antibiotic use. The introduction of new policies and procedures which address antibiotic use should be done in a step-wise fashion so staff become familiar with and not overwhelmed by new changes in practice. Prioritize interventions based on the needs of your facility and share outcomes from successful interventions with nursing staff and clinical providers. Below are brief descriptions of policy and practice changes. For more details, see *Appendix A: Policy and practice actions to improve antibiotic use*.

Policies that support optimal antibiotic use

Ensure that current medication safety policies, including medication regimen review, developed to address Centers for Medicare and Medicaid Services (CMS) regulations¹⁵⁻¹⁷ are being applied to antibiotic prescribing and use.

Broad interventions to improve antibiotic use

Standardize the practices which should be applied during the care of any resident suspected of an infection or started on

an antibiotic. These practices include improving the evaluation and communication of clinical signs and symptoms when a resident is first suspected of having an infection, optimizing the use of diagnostic testing, and implementing an antibiotic review process, also known as an “antibiotic time-out,” for all antibiotics prescribed in your facility. Antibiotic reviews provide clinicians with an opportunity to reassess the ongoing need for and choice of an antibiotic when the clinical picture is clearer and more information is available.

Pharmacy interventions to improve antibiotic use

Integrate the dispensing and consultant pharmacists into the clinical care team as key partners in supporting antibiotic stewardship in nursing homes. Pharmacists can provide assistance in ensuring antibiotics are ordered appropriately, reviewing culture data, and developing antibiotic monitoring and infection management guidance in collaboration with nursing and clinical leaders.

Infection and syndrome specific interventions to improve antibiotic use

Identify clinical situations which may be driving inappropriate courses of antibiotics such as asymptomatic bacteriuria or urinary tract infection prophylaxis^{18,19} and implement specific interventions to improve use.



Tracking and Reporting Antibiotic Use and Outcomes

Nursing homes monitor both antibiotic use practices and outcomes related to antibiotics in order to guide practice changes and track the impact of new interventions. Data on adherence to antibiotic prescribing policies and antibiotic use are shared with clinicians and nurses to maintain awareness about the progress being made in antibiotic stewardship. Clinician response to antibiotic use feedback (e.g., acceptance) may help determine whether feedback is effective in changing prescribing behaviors. Below are examples of antibiotic use and outcome measures. For more details, see *Appendix B: Measures of antibiotic prescribing, use and outcomes*.

Process measures: Tracking how and why antibiotics are prescribed

Perform reviews on resident medical records for new antibiotic starts to determine whether the clinical assessment, prescription documentation and antibiotic selection were in accordance with facility antibiotic use policies and practices. When conducted over time, monitoring process measures can assess whether antibiotic prescribing policies are being followed by staff and clinicians.

Antibiotic use measures: Tracking how often and how many antibiotics are prescribed

Track the amount of antibiotic used in your nursing home to review patterns of use and determine the impact of new stewardship interventions. Some antibiotic use measures (e.g., prevalence surveys) provide a snap-shot of information; while others, like

nursing home initiated antibiotic starts and days of therapy (DOT) are calculated and tracked on an ongoing basis.^{20,21} Selecting which antibiotic use measure to track should be based on the type of practice intervention being implemented. Interventions designed to shorten the duration of antibiotic courses, or discontinue antibiotics based on post-prescription review (i.e., “antibiotic time-out”), may not necessarily change the rate of antibiotic starts, but would decrease the antibiotic DOT.

Antibiotic use data from nursing homes to improve antibiotic stewardship efforts is important both for individual facility improvements and for public health action. Expansion of electronic health records in nursing homes will allow for facilities to obtain systems which integrate pharmacy and laboratory data and make antibiotic use and resistance data to inform stewardship efforts more accessible to facility staff and leadership. CDC is working closely with many nursing home partners including providers, long-term care pharmacies, and professional organizations, to develop an Antibiotic Use (AU) reporting option for nursing homes within the CDC’s National Healthcare Safety Network (NHSN). The NHSN AU option allows for standardized antibiotic use data, submitted electronically, to be aggregated and summarized for developing facility-adjusted national benchmarks.

Antibiotic outcome measures: Tracking the adverse outcomes and costs from antibiotics

Monitor clinical outcomes such as rates of *C. difficile* infections, antibiotic-resistant organisms or adverse drug events to demonstrate that antibiotic stewardship activities are successful in improving patient outcomes. Nursing homes already tracking these clinical outcomes for their infection prevention program can submit data on *C. difficile* and selected antibiotic-resistant bacteria, such as methicillin-resistant *Staphylococcus aureus* (MRSA) and carbapenem-resistant *Enterobacteriaceae* (CRE) into the CDC’s NHSN Laboratory-identified event reporting module for long-term care facilities.



Education

Nursing homes provide antibiotic stewardship education to clinicians, nursing staff, residents and families. Effective educational programs address both nursing staff and clinical providers on the goal of an antibiotic stewardship intervention, and the responsibility of each group for ensuring its implementation.^{3,22} There are a variety of mechanisms for disseminating antibiotic education to nursing home staff including flyers, pocket-guides, newsletters or electronic communications; however, interactive academic detailing (e.g., face-to-face interactive workshops) has the strongest evidence for improving medication prescribing practices.²³

Nursing homes sustain improvements by incorporating both education and feedback to providers. One nursing home antibiotic stewardship intervention demonstrated a sustained reduction in antibiotic use for two years after the intervention by linking education with feedback on physician prescribing practices.²⁴ Another study showed a 64% reduction in inappropriate antibiotic use (i.e., prescriptions which did not adhere to guidelines), by providing feedback on individual physician prescribing practices and adherence to the guidelines over 12 months.²⁵

Nursing homes engage residents and their family members in antibiotic use and stewardship educational efforts to ensure clinicians have their support to make appropriate antibiotic use decisions. Working with residents and families will reduce the perception that their expectations may be a barrier to improving antibiotic use in nursing homes.^{26,27}



Conclusion

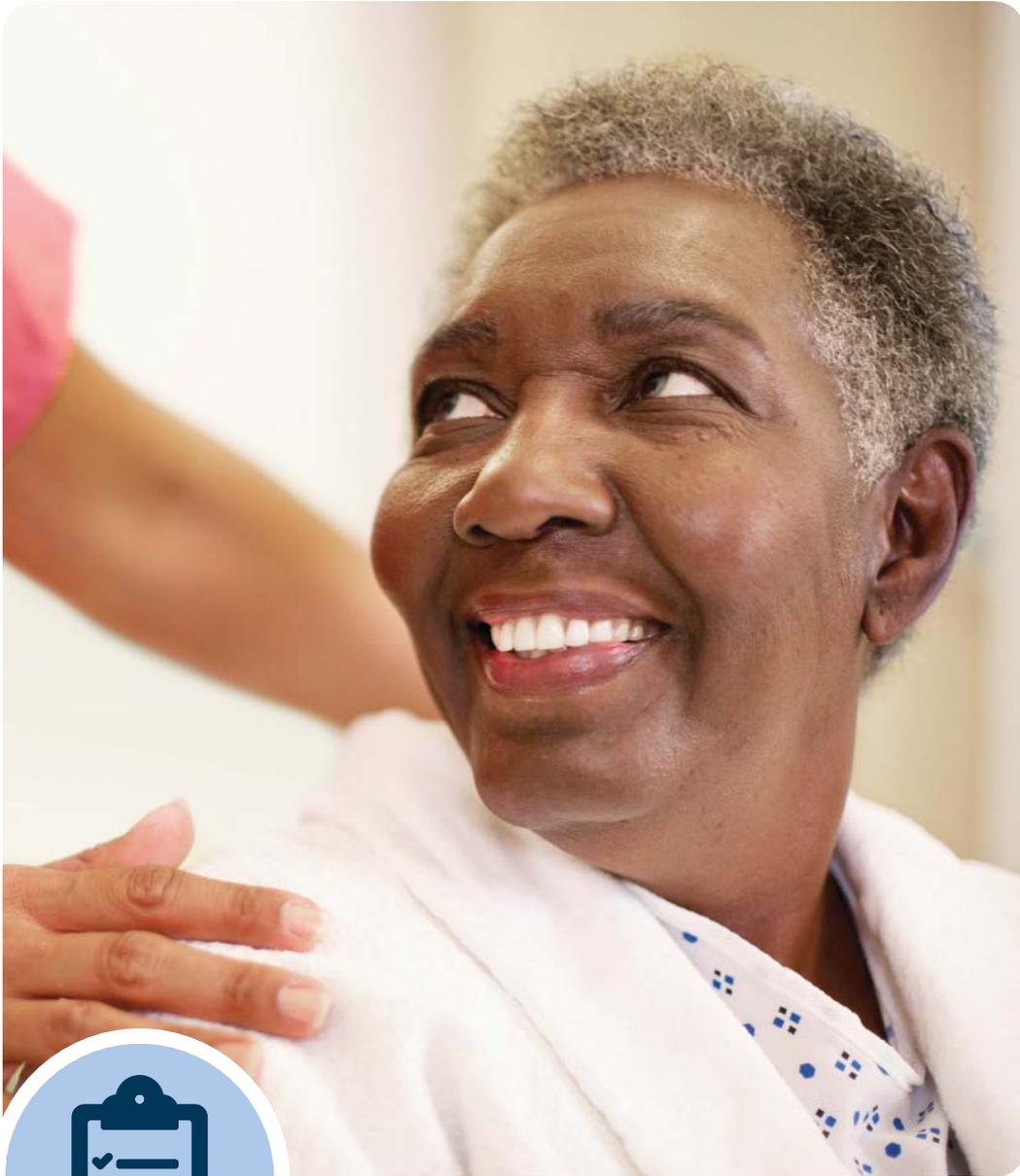
The core elements of antibiotic stewardship are the same for both hospitals and nursing homes. This guide provides examples of how these elements can be applied by nursing home leadership, clinicians and staff to monitor and improve antibiotic use. Nursing homes are encouraged to select one or two activities to start with and over time, as improvements are implemented, expand efforts to add new strategies to continue improving antibiotic use. Commit now to ensure antibiotic stewardship policies and practices are in place to protect patients and improve clinical care in nursing homes.



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Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes

The following checklist is a companion to the Core Elements of Antibiotic Stewardship in Nursing Homes. The CDC recommends that all nursing homes take steps to implement antibiotic stewardship activities. Before getting started, use this checklist as a baseline assessment of policies and practices which are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis (e.g., annually). Over time, implement activities for each element in a step-wise fashion.

LEADERSHIP SUPPORT

ESTABLISHED
AT FACILITY

1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions? Yes No

If yes, indicate which of the following are in place (select all that apply)

- Written statement of leadership support to improve antibiotic use
- Antibiotic stewardship duties included in medical director position description
- Antibiotic stewardship duties included in director of nursing position description
- Leadership monitors whether antibiotic stewardship policies are followed
- Antibiotic use and resistance data is reviewed in quality assurance meetings

ACCOUNTABILITY

2. Has your facility identified a lead(s) for antibiotic stewardship activities? Yes No

If yes, indicate who is accountable for stewardship activities (select all that apply)

- Medical director
- Director or assistant director of nursing services
- Consultant pharmacist
- Other: _____

DRUG EXPERTISE

3. Does your facility have access to individual(s) with antibiotic stewardship expertise? Yes No

If yes, indicate who is accountable for stewardship activities (select all that apply)

- Consultant pharmacy has staff trained/is experienced in antibiotic stewardship
- Partnering with stewardship team at referral hospital
- External infectious disease/stewardship consultant
- Other: _____

ACTIONS TO IMPROVE USE

4. Does your facility have policies to improve antibiotic prescribing/use? Yes No

If yes, indicate which policies are in place (select all that apply)

- Requires prescribers to document a dose, duration, and indication for all antibiotic prescriptions
- Developed facility-specific algorithm for assessing residents
- Developed facility-specific algorithms for appropriate diagnostic testing (e.g., obtaining cultures) for specific infections
- Developed facility-specific treatment recommendations for infections
- Reviews antibiotic agents listed on the medication formulary
- Other: _____

5. Has your facility implemented practices to improve antibiotic use? Yes No

If yes, indicate which practices are in place (select all that apply)

- Utilizes a standard assessment and communication tool for residents suspected of having an infection
- Implemented process for communicating or receiving antibiotic use information when residents are transferred to/from other healthcare facilities
- Developed reports summarizing the antibiotic susceptibility patterns (e.g., facility antibiogram)
- Implemented an antibiotic review process/"antibiotic time out"
- Implemented an infection specific intervention to improve antibiotic use

Indicate for which condition(s): _____

6. Does your consultant pharmacist support antibiotic stewardship activities? Yes No
- If yes, indicate activities performed by the consultant pharmacist (select all that apply)
- Reviews antibiotic courses for appropriateness of administration and/or indication
 - Establishes standards for clinical/laboratory monitoring for adverse drug events from antibiotic use
 - Reviews microbiology culture data to assess and guide antibiotic selection

TRACKING: MONITORING ANTIBIOTIC PRESCRIBING, USE, AND RESISTANCE

7. Does your facility monitor one or more measures of antibiotic use? Yes No
- If yes, indicate which of the following are being tracked (select all that apply)
- Adherence to clinical assessment documentation (signs/symptoms, vital signs, physical exam findings)
 - Adherence to prescribing documentation (dose, duration, indication)
 - Adherence to facility-specific treatment recommendations
 - Performs point prevalence surveys of antibiotic use
 - Monitors rates of new antibiotic starts/1,000 resident-days
 - Monitors antibiotic days of therapy/1,000 resident-days
 - Other: _____

8. Does your facility monitor one or more outcomes of antibiotic use? Yes No
- If yes, indicate which of the following are being tracked (select all that apply)
- Monitors rates of *C. difficile* infection
 - Monitors rates of antibiotic-resistant organisms
 - Monitors rates of adverse drug events due to antibiotics
 - Other: _____

REPORTING INFORMATION TO STAFF ON IMPROVING ANTIBIOTIC USE AND RESISTANCE

9. Does your facility provide facility-specific reports on antibiotic use and outcomes with clinical providers and nursing staff? Yes No
- If yes, indicate which of the following are being tracked (select all that apply)
- Measures of antibiotic use at the facility
 - Measures of outcomes related to antibiotic use (i.e., *C. difficile* rates)
 - Report of facility antibiotic susceptibility patterns (within last 18 months)
 - Personalized feedback on antibiotic prescribing practices (to clinical providers)
 - Other: _____

EDUCATION

10. Does your facility provide educational resources and materials about antibiotic resistance and opportunity for improving antibiotic use? Yes No
- If yes, indicate which of the following are being tracked (select all that apply)
- Clinical providers (e.g., MDs, NPs, PAs, PharmDs)
 - Nursing staff (e.g., RNs, LPNs, CNAs)
 - Residents and families
 - Other: _____



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APIC POSITION PAPER: SAFE INJECTION, INFUSION, AND MEDICATION VIAL PRACTICES IN HEALTH CARE (2016)

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BACKGROUND

The transmission of bloodborne viruses and other microbial pathogens to patients during routine healthcare procedures continues to occur because of the use of improper injection, infusion, medication vial, and point-of-care testing practices by healthcare personnel (HCP).¹⁻¹⁸ These unsafe practices occur in various clinical settings throughout the United States and result in unacceptable and devastating events for patients. This document updates the Association for Professionals in Infection Control and Epidemiology (APIC) 2010 position paper on safe injection, infusion, and medication vial practices in healthcare.¹⁹

More than 50 outbreaks of viral and bacterial infections occurred in the United States during 1998-2014 because of these unsafe medical practices.¹⁻⁴ These outbreaks resulted in the transmission of hepatitis B virus (HBV), hepatitis C virus (HCV), and bacterial pathogens to more than 700 patients.¹⁻⁴ During 2001-2012 an estimated 150,000 patients received notification recommending that they undergo bloodborne pathogen testing after they were potentially exposed to unsafe injections.¹⁸ The unsafe practices used by healthcare personnel in these outbreaks can be categorized as: (1) syringe reuse between patients during parenteral medication administration to multiple patients, (2) contamination of medication vials or intravenous (IV) bags after having been accessed with a used syringe and/or needle, (3) failure to follow basic injection safety practices when preparing and administering parenteral medications to multiple patients, and (4) inappropriate use and maintenance of finger stick devices and glucometer equipment used on multiple patients.

Transmission of Infection Associated with Medication Handling and Administration Practices

In 2002, the Oklahoma State Department of Health was informed of six patients with suspected acute HCV infection who had received treatment from the same pain remediation clinic. An investigation revealed that a nurse anesthetist routinely reused needles and syringes to administer medications through heparin locks that were connected directly to intravenous cannulas. A total



of 69 HCV and 31 HBV infections were identified that probably were acquired in the clinic.⁵ In another outbreak, nearly 100 Nebraska hematology/oncology clinic patients contracted HCV after a HCP responsible for medication infusions routinely used the same syringe to draw blood from patients' central vascular catheters and draw catheter-flushing solution from 500-cc saline bags used for multiple patients. As a result, patients' HCV contaminated blood on the needle of the syringe was inoculated into the IV bag, which was then used as flushing solution for other patients.¹¹ One of the largest HCV outbreaks occurred at an endoscopy center in Nevada in 2008, and was associated with unsafe injection practices involving reusing syringes and sharing single-use medication vials of propofol between patients. This outbreak received significant media attention because over 50,000 persons were identified as being potentially exposed and therefore at risk for acquiring hepatitis C. Eight acute hepatitis C cases were determined to be linked directly to care at the clinic and an additional 106 cases were classified as possibly linked.⁶ An investigation of bloodstream infections with *Klebsiella oxytoca* and *Enterobacter cloacae* at a chemotherapy center identified 27 patients having one or both of these organisms. All patients had their central venous catheter flushed with either dextrose or isotonic sodium chloride solution at the clinic. Patient isolates were indistinguishable from isolates obtained from multiple predrawn syringes, intravenous fluid and administration sets used in the clinic. At the start of each day, isotonic sodium chloride solution was pre-drawn from the bag through a 2 way dispensing valve set; the dextrose was pre-drawn directly from the bag. The investigators concluded that the bloodstream infections were associated with use of a contaminated dispensing setup and contaminated bag of IV fluid used for multiple patients.¹⁴

Transmission of Infection Associated with Point of Care Testing Practices

Outbreaks of hepatitis B associated with blood glucose monitoring have been identified with increasing regularity, particularly in long-term care settings (e.g., nursing homes, assisted living facilities) where residents often require assistance with blood glucose testing and/or insulin administration. In the last 10 years alone, there have been at least 15 outbreaks of HBV infection associated with HCP failing to follow basic principles of infection control when assisting with blood glucose monitoring.²⁰ Due to under reporting and under recognition of acute infection, the number of outbreaks due to unsafe diabetes care practices identified to date are likely an underestimate. The risk of infection exists in any setting where blood glucose monitoring equipment is shared or those assisting with blood glucose monitoring and/or insulin administration fail to follow basic principles of infection prevention and control.²⁰ With innovations in the area of point-of-care testing (e.g., blood glucose, coagulation studies, etc.) that involve use of fingerstick devices, opportunities for bloodborne transmission exist due to breaches in protocols and transmission from cross-contamination. Safe injection practices should be adopted with any testing device that has the potential for a bloodborne pathogen exposure.

Transmission of Infection Associated with Drug Diversion

There are an increasing number of reported outbreaks of hepatitis C and bacterial bloodstream infections associated with drug diversion of parenteral medications by HCP. Findings from these investigations have demonstrated that drug diversion by HCP poses a serious threat to patient safety and potentially places large numbers of patients at risk for acquiring infections.¹³



RECOMMENDATIONS

APIC recognizes these outbreaks as unacceptable and believes they could have been prevented by the use of proper aseptic technique in conjunction with proper infection prevention practices for preparing, handling and administering sterile injectable and parenteral medications and proper point-of-care testing practices.

Programs for providing and documenting training and competency evaluations for HCP that prepare, handle, and administer injectable and parenteral medications and conduct point-of-care testing should be implemented in all healthcare settings in which these activities occur. It is vital to patient safety that HCP have the knowledge, skills, behaviors, and ability to perform aseptic technique and follow safe injection, infusion, and medication vial practices. To ensure effective engineering of and adherence to safe practices in everyday patient care in all healthcare settings, responsibility for the oversight and monitoring for absolute adherence to these practices should be assigned to appropriate supervisors.

To promote effective assessment and implementation of engineering and work practice controls, facilities are encouraged to develop an ongoing program for multidisciplinary product review, evaluation, and implementation. This should involve key end users and personnel from occupational/employee health, infection prevention, materials management, and purchasing. Processes should be in place to standardize products, evaluate existing and new devices, trial and support implementation of new products, train personnel, and track feedback after product implementation.

A variety of organizations have published guidelines and standards for compounding and handling sterile injectable and parenteral medications, and for safe injection and infusion practices in healthcare settings.²¹⁻²³ To prevent infections related to improper injection, infusion, medication vial, and point-of-care testing practices, healthcare organizations should have a process for developing and implementing evidence based policies and procedures. These should be based on nationally recognized standards and regulatory and accreditation requirements.

The United States Pharmacopeia (USP) General Chapter <797> *Pharmaceutical Compounding—Sterile Preparations* provides practice and quality standards for compounded sterile preparations (CSPs).²¹ This includes but is not limited to preparing, labeling and storing, and timeframes for discarding CSPs. USP General Chapter <797> was first published in 2004 and first revised in 2008. The chapter is under revision and was published in September 2015 for public review and comment. Per USP Chapter <797>, CSPs include manufactured sterile products and compounded biologics, diagnostics, drugs, nutrients, and radiopharmaceuticals that must be sterile.

USP Chapter <797> standards apply *to all persons* who compound sterile preparations and *all healthcare settings* in which compounding takes place (e.g., hospitals, patient treatment clinics, physician's offices, ambulatory surgery centers, and other locations and facilities in which CSPs are compounded, stored, and transported). "For the purposes of this chapter, CSPs include any of the following (1) Compounded biologics, diagnostics, drugs, nutrients, and radiopharmaceuticals, including but not limited to the following dosage forms that must be



sterile when they are administered to patients: aqueous bronchial and nasal inhalations, baths and soaks for live organs and tissues, injections (e.g., colloidal dispersions, emulsions, solutions, suspensions), irrigations for wound and body cavities, ophthalmic drops and ointments, and tissue implants; (2) Manufactured sterile products that are either prepared strictly according to the instructions appearing in manufacturers' approved labeling (product package insert) or prepared differently than published in such labeling."²¹

However, the FDA notes that "compounding does not include mixing, reconstituting, or similar acts that are performed in accordance with the directions contained in approved labeling provided by the product's manufacturer and other manufacturer directions consistent with that labeling."²⁴ It is important to recognize that USP Chapter <797> standards have been developed to guide safe compounding practices. They "do not pertain to the *clinical* administration of CSPs to patients via application, implantation, infusion, inhalation, injection, insertion, instillation, and irrigation, which are the routes of administration."²¹

Regardless of who compounds medications, compounding practice should be in accordance with USP Chapter <797> which (except for urgent-use (formerly called immediate-use CSPs) includes the use of an International Organization for Standardization (ISO) Class 5 environment. An ISO Class 5 environment is provided by primary engineering controls (i.e. laminar flow hoods). Additionally, USP Chapter <797> includes requirements for air quality, ventilation, personal protective equipment, personnel hygiene, aseptic work practices, surface disinfection, and personnel training and competency evaluation. According to USP Chapter <797>, urgent-use CSPs (prepared outside the ISO Class 5 environment) are exempted from the requirements described for *Low-Risk Level* CSPs providing certain criteria are met. USP Chapter <797> stipulates that the urgent-use provision is only intended for those situations where there is a need for emergency or immediate patient administration of a SCP. Urgent-use CSPs are not intended for storage for anticipated needs or batch compounding. USP Chapter <797> states that "opened or needle punctured single-dose containers, such as bags, bottles, syringes, and vials of sterile products and CSPs shall be used within 1 hour if opened in worse than ISO Class 5 environments" and "any remaining contents must be discarded."²¹ USP Chapter <797> further clarifies the term "shall be used within 1 hour" for urgent-use CSPs to mean "administration begins not later than 1 hour following the start of the preparation of the CSP. If administration has not begun within 1 hour following the start of preparing the CSP, the CSP shall be promptly, properly, and safely discarded." USP's rationale behind the 1 hour timeframe is to limit the potential for microbial proliferation since compounding in worse than ISO Class 5 conditions increases the risk of microbial contamination.²¹ Once microbial contamination occurs, organism replication can begin within 1 to 4 hours with exponential growth occurring rapidly afterward.²⁵ However, one must keep in mind that this standard applies to *compounding practices* (from time of preparation to the initiation of administration) and not to the *administration timeframe*. In clinical practice settings, when CSPs are prepared outside an ISO Class 5 environment, it may sometimes be difficult to adhere to the 1 hour time frame between preparation and initiation of administration to the patient (such as between drawing medication into a syringe and injecting that medication, or between spiking an IV bag and starting the infusion). In these situations, the adoption and application of the USP Chapter <797> 1 hour time frame between preparation and administration in a clinical practice setting has proven challenging.



Many clinical settings do not have ISO Class 5 environments readily available. Clinicians draw up syringes, spike IV solutions and prime IV tubing in perioperative areas, on patient care units, and in other healthcare settings in advance of their intended use so as to improve work flow and productivity. This advance preparation has been known to occur at set time frames on the morning of or the evening prior to their intended use. APIC supports the USP Chapter <797> 1 hour time frame between preparation and initiation of administration in most clinical practice settings/scenarios but acknowledges that in certain settings, this practice can be challenging to safely implement. APIC *does not support* the advance preparation (the night before or many hours before administration) of IV bags or syringes. APIC *supports* the practice of preparing injectable and parenteral medications *as close as possible* to the time of administration and recommends a risk assessment when considering any extension of the 1 hour USP Chapter <797> recommendation. APIC stresses the importance of educating designated staff, using tactile learning methods, verifying the competency of those performing the procedure, and periodic monitoring to assure compliance with aseptic technique and prevention of contamination. Proper technique is paramount to preventing accidental contamination during the preparation and administration of sterile medications. Allowing only trained staff to prepare parenteral medications can decrease the risk of error and contamination. Preparation of parenteral medications must be performed in a clean, dry work space that is free of clutter and obvious contamination sources (e.g., water, sinks). Prepared parenteral solutions should be stored in a controlled environment to limit the risk of contamination, degradation and tampering. Major factors that contribute to microbial contamination of drugs are the cleanliness of the work environment and the competency and technique of personnel.²⁶ HCP who prepare sterile injectable and parenteral medications (e.g., withdraw medication from a vial or ampul into a syringe) outside of ISO Class 5 settings for direct patient use do so in environments that likely have microbial, chemical, and physical contamination. Such settings and preparation practices can potentially contribute to contamination of vials, IV solutions, and syringes via touch contact with hands and surfaces, inadvertent introduction of particulate matter or organisms, or poor aseptic technique.²⁷ For example, clinicians that prepare injections and infusions outside of an ISO Class 5 environment may perform hand hygiene but not wear sterile gloves and a mask or contain their hair during preparation. This may lead to inadvertent contamination of sterile medications.

Spiking a bag, vial, or bottle of sterile fluid with a dispensing device and leaving that device in place to withdraw medication for multiple patients increases the risk for microbial contamination. When performed outside of an ISO Class 5 environment, the device and subsequently the fluid can become contaminated.¹⁴ For this reason, using a dispensing device to spike parenteral solutions outside of an ISO Class 5 environment and leaving it in place to dispense medication for multiple patients puts patients at risk for infection and must be prohibited.

Transporting medications in pockets or clothing is a controversial issue. Assuring medication is safe for patient use is critical. The Association of periOperative Registered Nurses (AORN) and The Joint Commission (TJC) have issued statements on this practice.^{28,29} Other professional and accreditation organizations should be consulted as necessary to confirm their position on this practice. According to the 2015 AORN Guidelines for Perioperative Practice, perioperative team members should not prepare medication products in advance and then store them in clothing or



pockets since this practice increases the risk for contamination and errors.²⁸ At least one medication error resulting in a life-threatening event has been reported involving an anesthesia care professional removing from their pocket and administering a paralytic agent outside of the OR.³⁰ In 2011, The Joint Commission, issued a statement that allows “carrying of medications in accordance with institutional policy” which includes written medication storage and transport information.²⁹ Additionally, the policy should include: drug storage; protection during transport (e.g., plastic bag, sealed hard plastic case); administration within 1 hour of preparation; medication security; labeling; and stability.

To ensure safe injection practices in all healthcare settings, a multifaceted approach that focuses on surveillance, oversight, enforcement, and personnel competency, continuing education and accountability will be required.³¹ APIC strongly supports adherence to the following safe injection, infusion, medication vial, and point-of-care testing practices.

ASEPTIC TECHNIQUE

- Aseptic technique refers to the use of various barriers and precautions to prevent the transfer of microorganisms from HCP and the environment to the patient during a procedure.³² Sterile is the absence of all microbes.
- Perform hand hygiene (clean hands with alcohol based hand sanitizer or with soap and water) before accessing supplies, handling vials and IV solutions, preparing or administering medications, and conducting point-of-care testing (e.g., blood glucose, coagulation studies, etc.).
- Use aseptic technique in all aspects of parenteral medication preparation, administration, medication vial use, injection, and point-of-care testing.
- Use a mask to contain respiratory droplets when preparing and injecting solution into an intracapsular space (joint), the spine and during lumbar puncture.³³
- Store, access and prepare medications and supplies in a clean area on a clean surface.
- Avoid having nonsterile contact with sterile areas of devices, containers and drugs.
- Following an emergency event, discard all opened or needle-punctured vials of sterile parenteral products, IV solutions, and single-use containers, such as bags, bottles, syringes.
- Never store needles and syringes unwrapped because sterility cannot be ensured. Keep bulk unwrapped syringes in the original package (e.g., intradermal syringes).
- Place only pre-filled flush syringes (e.g., saline, heparin) that are terminally sterilized by the manufacturer *after* packaging onto a sterile field immediately after opening.
- Never place items sterilized by manufacturers *before* final packaging onto a sterile field (e.g., some types of IV tubing and pre-filled syringes)
- Disinfect the rubber stopper of medication vials and the neck of glass ampuls^{21,34,35} with sterile 70% alcohol before inserting a needle or breaking the ampul.
- Use needle free systems for all aspects of parenteral medication administration and transfer of solutions between containers.³⁶
- Disinfect catheter hubs, needleless connectors, and injection ports before accessing. Use either an antiseptic containing port protector cap³⁷⁻⁴¹ or vigorously apply mechanical friction with chlorhexidine/alcohol,⁴²⁻⁴³ sterile 70% isopropyl alcohol,⁴⁴⁻⁴⁷ or other approved disinfectant swab.

- Change disinfecting port protectors as directed per manufacturer's recommendations.
- Follow institutional policy when using the wiping method to disinfect catheter hubs, needleless connectors, and injection ports. Published studies, guidelines and organizations vary (from 3 to 15 seconds) on the amount of time to disinfect when using the wiping method.^{22,42,48-53} Some of these studies were product and /or device specific therefore results may not be able to be extrapolated to other types of devices.
- Allow adequate dry time (unless directed otherwise by manufacturer's instructions) before entry.
- Never pool left over parenteral medications (vials or IV solutions) for later administration.
- Do not use prefilled syringes to further dilute medication for administration. This is an unsafe practice due to potential for contamination, dosing errors, drug diversion and needlestick injuries. For drugs that require further dilution prior to administration, pharmacy personnel should prepare and dispense the diluted formulation in syringes or minibags whenever possible or dispense single-use vials of the drug and diluent together.⁵⁴

TRANSPORTING MEDICATIONS

- Discourage the transporting of medication filled syringes/needles in pockets or clothing. If a facility allows this activity to occur, it must be addressed in the institution's policy on medication storage and transportation.²⁹

IV SOLUTIONS

- Use an IV solution (e.g., bag, bottle) for only one patient, and then discard.
- Use needleless spiking devices to remove fluid from IV bottles/bags and vials and use for only one patient.³⁶
- Never use a container of IV solution (e.g., bag, bottle) to obtain flush solutions for more than one patient.
- Never use infusion supplies, such as needles, syringes, and administration sets, for more than one patient.
- Use needle free systems for all aspects of parenteral medication administration and transfer of solutions between containers.^{41,49,55-6}
- Use an ISO Class 5 primary engineering control to prepare CSPs when urgent-use is not required.²¹
- Avoid removing closed system transfer devices used for chemotherapy administration once attached. If a second medication needs to be administered, the device should remain on the port, and be flushed before connecting the second medication.⁵⁷⁻⁸

FLUSHING

- Use single-use containers for flush solutions, whenever possible.^{23,44}
- If a multidose vial must be used, use it for only one patient and then discard it. Use a new, unused sterile needle and new, unused sterile syringe for each entry into the vial.⁴⁴

INJECTABLES IN THE OPERATING ROOM

- Whenever possible, prepare injections that require compounding (e.g., two or more medications combined) such as those designed to reduce post op bleeding and pain, and/or administered into intra-articular space during orthopedic surgical procedures) in a pharmacy ISO Class 5 environment instead of in the operating room.⁵⁹⁻⁶⁰
- When a single medication needs to be reconstituted outside an ISO Class 5 environment prepare according to manufacturer's instructions and just prior to administration.
- Multidose medication vials used for more than one patient should be stored and labeled appropriately and should not enter the immediate patient care area (e.g., operating room, anesthesia carts). If multi-dose vials enter the immediate patient care area, they must be dedicated for single patient use and discarded immediately after use.⁶¹
- Never use a decapping device to remove the top from a vial to pour the contents onto the sterile field (e.g., into a sterile basin) as vials are not designed for aseptic pouring.^{28,62-3}
 - Use a commercially available sterile transfer device (e.g., vial spike, filter straw, plastic cannula) to aseptically transfer medications/solutions to the sterile field. The circulator should hold the vial so a designated scrub person can withdraw the medication or solution using a sterile syringe and needleless adapter. Remove the vial and transfer device after each use as they are not intended for multiple uses.
- When utilizing sequential dosing for one patient (e.g., anesthesia), draw the entire contents of a vial into a sterile syringe and use the same syringe for the sequential doses in only that patient never leaving the syringe unattended *OR* obtain sequential doses individually from the same vial using a new needle/cannula/syringe each time the vial is accessed for a dose. The vial should then be discarded when empty or no later than the end of the case.⁶⁴⁻⁵
- Save and isolate all medication containers and delivery devices until the case is completed and the patient leaves the room as this is important evidence should an adverse event/error be identified.

SYRINGES AND NEEDLES

- Remove needle, cannula, syringe and/or accessory items from sterile packaging immediately before use.
- In the clinical setting, avoid using Pharmacy Bulk Packages of sterile unwrapped syringes whenever possible. These bulk packages are primarily intended for use under an ISO Class 5 environment for medication compounding. If used for a mass immunization clinic or allergy testing, open a new, sterile package and discard any remaining syringes at the conclusion of the activity. Do not save for later use.
- Do not use prefilled syringes to further dilute medication for administration. This is an unsafe practice due to potential for contamination, dosing errors, drug diversion and needlestick injuries. For drugs that require further dilution prior to administration, pharmacy personnel should prepare and dispense the diluted formulation in syringes or minibags whenever possible or dispense single-use vials of the drug and diluent together.
- Do not prepare medication in one syringe to transfer to another syringe (e.g., HCP draws up solution into a syringe then transfers the solution to a syringe that has the plunger removed or injects it into the bevel of the syringe).
- Never withdraw medication from a manufacturer prefilled syringe barrel (carpuject style syringe barrel).⁵⁴
- Never use a syringe for more than one patient even if the needle has been changed

between patients.

- Use a new sterile syringe and a new sterile needle for each entry into a vial or IV bag.
- Utilize sharps safety devices (needles/syringes) to administer injections whenever possible.
- Discard syringes, needles, and cannulas in an approved sharps container/receptacle immediately after use and at the point of use.
- Discourage the transporting of medication filled syringes in pockets or clothing.
- Draw up medication into a syringe as close to administration time as feasible. Inject within 1 hour (or as soon as feasible) after drawing up the medication.
- Label all syringes containing medication if not immediately administered. Include patient identification information, names and amounts of all ingredients, and the name or/initials of the person who prepared the CSP,²¹ date and time the CSP was prepared, and beyond use date and time.⁶¹

MEDICATION VIALS

- Always follow the manufacturer's instructions for storage and use.
- Check the manufacturer's expiration date on all medication vials prior to use.
- Inspect vials and discard if sterility is known or suspected to be compromised. Examine vials for particulate matter, discoloration, or turbidity; if present, do not use and discard immediately.
- Read the vial label carefully. Vial size does not indicate whether or not a vial is single-use or multidose.
- Store vials with same colored labels and/or same medication with different dosages separately.
- Disinfect the rubber septum on all vials prior to each entry, even after initially removing the cap of a new, unused vial.
- Always use a new sterile syringe and new needle/cannula when entering any vial. Never enter a vial with a syringe or needle/cannula that has been previously used.
- Use single-use or single-dose vials or ampuls whenever possible and discard after use on one patient.
- Use multidose medication vials for one patient whenever possible. The risk of viral hepatitis transmission posed by multidose vials has been clearly demonstrated and mandates a practice of using one vial per one patient whenever possible. Infection transmission risk is reduced when multidose vials are dedicated to one patient.⁴⁴
- Store and access multidose vials away from the immediate patient care environment and always use a sterile syringe and needle/cannula each time the vial is accessed.
- Never leave a needle in the septum of a medication vial for multiple medication draws. This provides a direct route for microorganisms to enter the vial and contaminate the fluid.^{44, 66}
- Never use a decapping device to remove the top from a vial (e.g., to pour medications). Draw solutions through the diaphragm with a sterile syringe and sterile transfer device or needle using aseptic technique.^{28, 62-3}
- Use needleless transfer devices when reconstituting drugs. Discard transfer device with the vial at the end of the transfer.⁶⁷⁻⁸
- Use a filter needle or filtered transfer device to draw medications from an ampul into a syringe to prevent glass shard and/or potential microbial contamination.³⁴⁻⁵

- Never pool or combine leftover contents of vials for later use.⁴⁴
- Discard any vial that has been placed on a known or visibly contaminated surface or a used procedure tray.
- Following an emergency event, discard all opened or needle-punctured vials.²⁶
- Label a multidose vial with a beyond-use-date when first accessing it. The beyond-use-date after initially entering a multidose vial is 28 days, unless otherwise specified by the manufacturer. The beyond-use date must never be after the manufacturer specified expiration date.²¹
- Check both the beyond-use-date and the manufacturer's expiration date prior to using an opened multidose vial.²¹
- Use multidose *vaccine* vials before the vial expiration date or as noted in the package insert. For additional information on vaccine preparation, storage and handling best practices, refer to the CDC Vaccine Storage and Handling Toolkit.⁶⁹
- Discard any vials that were used to draw two or more medications into a single syringe.
- Discard the multidose vial with a needleless vial access device after use with a patient.

DRUG DIVERSION

- Institute drug diversion monitoring systems and security measures to assist in averting and/or identifying diversion activity.
- CDC defines an appropriate response to a drug diversion event as including “assessment of harm to patients, consultation with public health officials when tampering with injectable medications is suspected, and prompt reporting to enforcement agencies.”¹³

POINT-OF-CARE TESTING (e.g., BLOOD GLUCOSE, COAGULATION STUDIES)

LANCETS

- Use single-use, auto-retracting lancing devices for each patient.^{20,70-1}
- Dispose of all capillary tubes and sharp devices in a sharps container immediately after use and at the point-of-care.
- To ensure the safety of the patient and HCP, implement policies that address patients bringing their own lancing devices from home. These policies should address the following:
 - Personnel training and competency: If a facility cannot ensure that staff are properly trained on a patient's home device, HCP should not operate the device.⁷⁰
 - Patient education: Patients that bring in their own devices must be able to insert and remove the lancets.
 - Proper disposal of the lancets.⁷⁰
 - Labeling and storage of patient devices from home.
- Never use a fingerstick device (e.g., single-use lancets, lancet holding device or pen-like devices that provide multiple lancets in a reloadable cartridge) for more than one patient.⁷⁰⁻¹
 - Dedicate pen-like lancing devices to one patient and label the device with the patient's name; do not reprocess for use on other patients.⁷⁰
 - Ensure that HCP use hemostats, not bare hands, to change out cartridges.⁶⁷

TESTING DEVICES (e.g., BLOOD GLUCOSE METERS, INR METERS)

- Whenever possible, blood glucose meters should be assigned to an individual person and not be shared.^{20,72}
- If blood glucose meters must be used on more than one patient, ensure they are labeled by the manufacturer for multiple patient use and include adequate instructions for disinfection of the meter between patients.^{20,73}
- Clean and disinfect multiple patient use meters (specifically for bloodborne pathogens and other infectious agents) after each patient use, using manufacturer recommendations.^{20,72} If the manufacturer does not provide instructions for cleaning and disinfection, then the testing meter should not be used for more than one patient.^{20,61,71}
- Avoid handling test strip containers with soiled gloves to avoid contamination.⁷² If a new test strip is needed, discard soiled gloves and perform hand hygiene before obtaining a new test strip.⁷⁴
- Clean visible blood and dirt from meters before disinfecting.⁷²
- Use an EPA approved disinfectant and follow manufacturer's contact time when disinfecting meters between patients.⁷²
- Provide training and oversight for HCP that are responsible for conducting point-of-care testing. Conduct training and competency testing at the time of hire and regularly thereafter.⁷²

BLOOD GLUCOSE MANAGEMENT

MULTIDOSE INSULIN VIALS

- If multidose vials of insulin are used, dedicate each to only one patient.⁷⁵

INSULIN PENS

- Provide training and oversight on the use of insulin pens to assure competency and use of proper infection prevention practices.^{71,76}
- Dedicate insulin pens for use with only one patient. Never use insulin pens for more than one person. Do not use unassigned or unlabeled insulin pens.⁷⁶⁻⁷⁸
- Affix patient label directly to the insulin pen.⁷⁷
- Label the pen only, not an outer bag, which could contain the incorrect pen; HCP could falsely verify the contents by the label on the bag.⁷⁷
- In healthcare settings, use only single-use, auto-retracting safety needles with insulin pens.⁷⁰
- Dispose of auto-retracting safety needles (e.g., insulin pens) immediately after use at the point-of-care in a sharps container.
- Never store insulin pens with a needle attached.⁷²
- Maintain an ample supply of back-up insulin in vials in case of lost or missing pen to discourage resorting to sharing a device.
- Employ workflow supports to prevent the inadvertent use of an insulin pen on more than one patient.⁶¹
 - Store properly labeled insulin pens in secure area with limited access.
 - If barcoding is used at the facility, individually barcode the insulin pens for a specific patient. The manufacturer's barcode should not be used as a default.⁷⁷
 - Visible alerts and "hard stops" should be built into the barcode scanning process for insulin pens. This added safety check can confirm that the correct pen is being used for the correct patient before continuing with administration and documentation.⁷⁷

- Consider collecting data on “near-misses” generated by alerts triggered by barcoding to identify patterns or opportunities for improvement.⁷⁷

HEALTHCARE PERSONNEL (HCP)

Provide hepatitis B vaccination series to all previously unvaccinated, nonimmune HCP whose activities involve contact with blood or body fluids.⁷⁹⁻⁸¹

- Check and document post-vaccination titers 1 to 2 months after completion of the Hepatitis B vaccination series.⁸¹
- Require HCP to immediately report body fluid exposure and needlestick/sharps injuries.⁸⁰
- Ensure HCP that prepare or administer injections or other parenteral medications are competent to perform these tasks.⁷⁰
- Ensure HCP that perform point-of-care testing are competent to perform this task.
- Periodically assess competency and compliance with safe injection, medication handling, and point-of-care testing practices by observing and evaluating all HCP performing these procedures.⁷⁰

OVERSIGHT AND ENFORCEMENT

- Assure that policies and mechanisms are in place to 1) support and ensure that injection safety and infection prevention and control procedures are followed, and 2) mandate corrective action when infection control lapses are identified.¹⁸
- Enforce absolute adherence to proper infection prevention and control practices during the preparation and administration of injected medications.²
- Hold HCP accountable for adhering to safe injection, infusion, medication vial, and point-of-care testing practices.
- Conduct surveillance to identify infections that may be associated with injection, infusion, medication vial, and point-of-care testing practices in all healthcare settings.
- Report epidemiologically significant clusters of infection to the appropriate public health authorities as soon as possible to assist in identification of healthcare associated outbreaks and direct interventions to control and prevent further spread of disease.

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January 2016

Assessment of Current CDI Prevention Activities

Appropriate Cleaning/Disinfection of Equipment and the Environment

December 28, 2016



Background/Rationale:

- *C. difficile* spores, surviving for a long time on objects and surfaces, play a role in the spread of *C. difficile* infections (CDI).
- Appropriate cleaning and disinfection of the environment and equipment is an essential strategy for reducing CDI.
- Spores can be found throughout a room like light switches, door knobs, and bedside tables.
- Nursing homes should have educational programs, policies and procedures that outline schedules and responsibilities for cleaning practices.
- Nursing homes should monitor adherence to procedures, evaluate effectiveness of cleaning, and keep staff informed of the results.

Current survey activities:

SECTION 1. KNOWLEDGE AND COMPETENCY		YES	NO	N/A
General: Do direct care personnel* know				
Q1	Appropriate use of personal protective equipment when handling and disposing of soiled materials according to Standard Precautions?			
Q2	How to clean and disinfect equipment that is shared between residents?			
Environmental services* personnel know				
Q3	How to use personal protective equipment (e.g., gowns, gloves) when cleaning a room of a resident with known CDI?			
Q4	The difference between cleaning and disinfection?			
Q5	To follow manufacturers' instructions for use of cleaners and disinfectants?			

SECTION 2. INFECTION PREVENTION POLICIES AND INFRASTRUCTURE				
		YES	NO	N/A
Q1	Is there a policy for using an EPA-registered disinfectant with a <i>C.difficile</i> sporicidal claim when cleaning the room of a resident with known CDI?			
Q2	Is there a process to communicate with environmental services personnel when a resident is suspected or known to have CDI?			
Q3	Are there procedures and schedules in place for daily cleaning and cleaning when a resident with CDI stops occupying a room (e.g., the resident moves, is discharged, or dies)?			
Q4	Are there policies and procedures in place for the cleaning and disinfection of all equipment used by residents with known CDI?			
Q5	Are the responsibilities for cleaning and disinfecting equipment used by residents with CDI well defined between direct care personnel and EVS personnel?			
Q6	If environmental services are provided by a contracting company, are those individuals aware of and following the nursing home's policies for cleaning and disinfecting the room of a resident with CDI?			
Q7	Are environmental services personnel available 24/7? If not, who is trained/ responsible for cleaning during the off hours and do they have access to the appropriate supplies?			
SECTION 3. MONITORING PRACTICES				
		YES	NO	N/A
Q1	Does your nursing home monitor the adequacy of room cleaning by EVS personnel on a regular basis?			
Q2	Is there a method to track room and equipment cleaning/disinfection according to schedule?			
Q3	Does your nursing home monitor that direct care personnel appropriately clean/disinfect equipment before using it for the next resident?			

* **Direct care personnel** – All persons interacting with and/or providing hands-on care for residents; **Environmental services** are also known as housekeeping services.



June 15, 2016

LIST K: EPA's Registered Antimicrobial Products Effective against *Clostridium difficile* Spores

EPA Reg. No.	Primary Registered Product Name
777-83	LYSOL BRAND DISINFECTANT BLEACH PLUS
1043-124	HASTE-SSD-COMPONENT B
1043-125	HASTE-SSD-COMPONENT A
1672-65	AUSTIN A-1 ULTRA DISINFECTING BLEACH
1672-67	AUSTIN'S A-1 CONCENTRATED BLEACH 8.25%
1677-226	VIRASEPT
1677-235	BATH AND TILE DISINFECTING CLEANER
1677-237	FF-ATH
3573-77	CSP-3002-3
5813-100	PUMA
9402-13	KIMTECH GERMICIDAL WIPE
9480-8	PDI SANI-CLOTH BLEACH WIPES
10324-214	MAGUARD 5626
11346-3	CLOROX HW
56392-7	DISPATCH HOSPITAL CLEANER DISINFECTANT WITH BLEACH
56392-8	DISPATCH HOSPITAL CLEANER DISINFECTANT TOWELS WITH BLEACH
67619-8	CPPC ULTRA BLEACH 2
67619-12	CPPC TSUNAMI
67619-27	BUSTER
69687-1	SUPER-CHLOR
70271-13	PURE BRIGHT GERMICIDAL ULTRA BLEACH
70271-20	PURE BRIGHT GERMICIDAL 160 BLEACH
70271-21	GERONIMO 160A
70271-22	METACOMET 160B
70271-23	WAMPATUCK C
70271-24	TECUMSEH B
70271-25	OSCEOLA 160C
70271-26	MASSASOIT A
70271-27	CROCKETT
70271-28	TUBBS
70590-1	HYPE-WIPE DISINFECTING TOWEL WITH BLEACH
70590-2	BLEACH RITE DISINFECTING SPRAY WITH BLEACH
71847-6	KLORSEPT
75266-1	ACTIVATE 5.25% INSTITUTIONAL BLEACH
84526-6	SANOSIL HALOMIST
88089-4	PERIDOX RTU™
37549-2	MICRO-KILL BLEACH GERMICIDAL BLEACH SOLUTION
10324-214	MAGUARD 5626
11694-113	SCRUBS
71847-6	KLORSEPT
70627-75	AVERT SPORICIDAL DISINFECTANT
66171-104	LIQUIDATE
1677-129	OXONIA ACTIVE
91386-1	SALT CARTRIDGE FOR GISELLE
777-83	LYSOL BRAND DISINFECTANT BLEACH PLUS
84697-2	REGULAR SCENT CONCENTRATED BLEACH
67619-32	PPD PUMA
88089-2	PERIDOX CONCENTRATE

LONG-TERM CARE INFECTION PREVENTION PROGRAM CHECKLIST

Use this checklist annually to verify that all necessary elements of the long-term care facility's (LTCF) program are in place and whenever significant changes occur that may affect the infection prevention program. Not all elements listed below may apply to all LTCFs.

	Yes, Included in Program	If No, explain how improvements will be made or if not applicable.
BASELINE CONSIDERATIONS		
The program defines the IP role and responsibilities		
The program addresses accreditation requirements (as needed)		
The program is aligned with the HHS National Action Plan for Long Term Care (measures and metrics)		
The program will utilize the CDC's NHSN reporting system		
The program will utilize other LTC benchmarks (as available)		
GUIDANCE DOCUMENTS		
Guidance documents for the program have been identified		
Guidance documents are referenced in the written infection prevention plan		
Current copies of identified guidance documents are readily accessible to staff		
REGULATORY COMPLIANCE, VERIFIED FOR ALL APPLICABLE AGENCIES		
CMS		
CMS CLIA (waiver program)		
OSHA		
FDA		
EPS		
State/local regulations		
COORDINATION WITH THE HEALTH DEPARTMENT		
The program includes the list of reportable disease and the methods used to report		
The program identifies outbreak reporting and health department support for investigations		

LONG-TERM CARE INFECTION PREVENTION PROGRAM CHECKLIST

	Yes, Included in Program	If No, explain how improvements will be made or if not applicable
Contact information for the state/local health department is documented		
INFECTION PREVENTION RISK ASSESSMENT (RA)		
RA is completed annually and whenever new risks/emerging threats are identified		
RA includes both facility and community/area risks		
Risks are stratified for prioritization		
Comparative data are used for risk assessment (as available)		
THE INFECTION PREVENTION PLAN INCLUDES		
Hand hygiene, glove use		
Isolation and PPE		
Surveillance priorities, definitions, methods, analysis, and reporting		
Tuberculosis control		
Seasonal influenza immunization program		
Pneumococcal immunization program		
Public reporting (as required)		
Laboratory utilization and reporting		
Antibiotic usage and stewardship program		
Cleaning, disinfection of the environment		
Approved facility cleaning and disinfecting products (list)		
Cleaning, disinfecting isolation rooms, and prevention of MDRO transmission		
Environmental monitoring method(s)		
Cleaning, disinfecting resident care equipment		
Storage of clean and sterile supplies		

LONG-TERM CARE INFECTION PREVENTION PROGRAM CHECKLIST

	Yes, Included in Program	If No, explain how improvements will be made or if not applicable
Handling of linens and laundry service		
Food services, ice machines, and vending		
Facility pets/animal therapy program		
Sharps safety and OSHA Bloodborne pathogens compliance		
Product evaluation/value analysis		
Employee health program		
INTERDEPARTMENTAL COORDINATION AND COMMUNICATION		
Committee oversight exists for the program		
Communication channels and reporting expectations are described		
Annual review and updates to infection prevention policies and procedures		
Coordination with the facility safety and emergency preparedness programs		
Coordination with facility QAPI program		
Coordination with facility waste management plan		
Coordination with construction and renovations projects		
EXAMPLES OF ADDITIONAL COMPONENTS (BASED ON RISK ASSESSMENT)		
Rate of hospital readmission due to infections		
Active infections associated with previous colonization		
Changes in endemic facility MDRO rates		
Emerging threats associated with: <ul style="list-style-type: none"> • Facility maintenance (air handling/HVAC, plumbing and water supply, power interruption) • Resident population (chronic or comorbid conditions, new care services/programs, special care needs [dementia, hospice]) • Changing community patterns of transmissible disease, pandemic threats 		

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§483.80 Infection Control

The facility must establish and maintain an infection prevention and control program designed to provide a safe, sanitary and comfortable environment and to help prevent the development and transmission of *communicable* diseases and infections.

(a) Infection prevention and control program. The facility must establish an infection prevention and control program (PPCP) that must include, at a minimum, the following elements:

(1) A system for preventing, identifying, reporting, investigating, and controlling infections and communicable diseases for all residents, staff, volunteers, visitors, and other individuals providing services under a contractual arrangement based upon the facility assessment conducted according to §483.70(e) and following accepted national standards;

[As linked to Facility Assessment, §483.70(e), will be implemented beginning November 28, 2017 (Phase 2)]

(2) Written standards, policies, and procedures for the program, which must include, but are not limited to:

(i) A system of surveillance designed to identify possible communicable diseases or infections before they can spread to other persons in the facility;

(ii) When and to whom possible incidents of communicable disease or infections should be reported;

(iii) Standard and transmission-based precautions to be followed to prevent spread of infections;

(iv) When and how isolation should be used for a resident; including but not limited to:

(A) The type and duration of the isolation, depending upon the infectious agent or organism involved, and

(B) A requirement that the isolation should be the least restrictive possible for the resident under the circumstances.

(v) The circumstances under which the facility must prohibit employees with a communicable disease or infected skin lesions from direct contact with residents or their food, if direct contact will transmit the disease; and

(vi) *The hand hygiene procedures to be followed by staff involved in direct resident contact.*

(3) *An antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use.*

[S483.80(a)(3) will be implemented beginning November 28, 2017 (Phase 2)]

(4) *A system for recording incidents identified under the facility's IPCP and the corrective actions taken by the facility.*

S483.80 (b) Infection preventionist

[S483.80(b) and all subparts will be implemented beginning November 28, 2019 (Phase 3)]

The facility must designate one or more individual(s) as the infection preventionist(s) (IP)(s) who is responsible for the facility's IPCP. The IP must:

- (1) *Have primary professional training in nursing, medical technology, microbiology, epidemiology, or other related field;*
- (2) *Is qualified by education, training, experience or certification;*
- (3) *Works at least part-time at the facility; and*
- (4) *Has completed specialized training in infection prevention and control.*

S483.80 (c) IP participation on quality assessment and assurance committee. *The individual designated as the IP, or at least one of the individuals if there is more than one IP, must be a member of the facility's quality assessment and assurance committee and report to the committee on the IPCP on a regular basis.*

[S483.95(c) will be implemented beginning November 28, 2019 (Phase 3)]

(e) Linens. *Personnel must handle, store, process, and transport linens so as to prevent the spread of infection.*

(f) Annual review. *The facility will conduct an annual review of its IPCP and update their program, as necessary.*

p.m.: 20070613-IR-410070141RFA; readopted filed Sep 11, 2013, 3:19 p.m.: 20131009-IR-410130346RFA)

410 IAC 16.2-3.1-18 Infection control program

Authority: IC 16-28-1-7

Affected: IC 16-28-5-1

Sec. 18. (a) The facility must establish and maintain an infection control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of diseases and infection.

(b) The facility must establish an infection control program under which it does the following:

- (1) Investigates, controls, and prevents infections in the facility, including, but not limited to, a surveillance system to:
 - (A) monitor, investigate, document, and analyze the occurrence of nosocomial infection;
 - (B) recommend corrective action; and
 - (C) review findings at least quarterly.

The system shall enable the facility to analyze clusters and/or significant increases in the rate of infection.

- (2) Decides what procedures (such as isolation) should be applied to an individual resident, including, but not limited to, written, current infection control program policies and procedures for an isolation/precautions system to prevent the spread of infection that isolates the infectious agent and includes full implementation of universal precautions.
- (3) Maintains a record of incidents and corrective actions related to infections.
- (4) Provides orientation and in-service education on infection prevention and control, including universal precautions.
- (5) Provides a resident health program, including, but not limited to, appropriate personal hygiene and immunization.
- (6) Provides an employee health program, including appropriate handling of an infected employee as well as employee exposure.
- (7) Reports communicable disease to public health authorities.
- (c) A diagnostic chest x-ray completed no more than six (6) months prior to admission shall be required.
- (d) Prior to admission, each resident shall be required to have a health assessment, including history of significant past or present infectious diseases and a statement that the resident shows no evidence of tuberculosis in an infectious stage as verified upon admission and yearly thereafter.
 - (e) In addition, a tuberculin skin test shall be completed within three (3) months prior to admission or upon admission and read at forty-eight (48) to seventy-two (72) hours. The result shall be recorded in millimeters of induration with the date given, date read, and by whom administered and read.
 - (f) The baseline tuberculin skin testing should employ the two-step method. For residents who have not had a documented negative tuberculin skin test result during the preceding twelve (12) months, the baseline tuberculin skin testing should employ the two-step method. If the first step is negative, a second test should be performed within one (1) to three (3) weeks after the first test. The frequency of repeat testing will depend on the risk of infection with tuberculosis.
 - (g) All residents who have a positive reaction to the tuberculin skin test shall be required to have a chest x-ray and other physical and laboratory examinations in order to complete a diagnosis.
 - (h) All skin testing for tuberculosis shall be done using the Mantoux method (5 TU PPD) administered by persons having documentation of training from a department-approved course of instruction in intradermal tuberculin skin testing, reading, and recording.
 - (i) Persons with a documented history of a positive tuberculin skin test, adequate treatment for disease, or preventive therapy for infection, shall be exempt from further skin testing. In lieu of a tuberculin skin test, these persons should have an annual risk assessment for the development of symptoms suggestive of tuberculosis, including, but not limited to, cough, fever, night sweats, and weight loss. If symptoms are present, the individual shall be evaluated immediately with a chest x-ray.
 - (j) When the infection control program determines that a resident needs isolation to prevent the spread of infection, the facility must isolate the resident only to the degree needed to isolate the infecting organism.
 - (k) The facility must prohibit employees with a communicable disease or infected skin lesions from direct contact with residents or their food if direct contact will transmit the disease. An employee with signs and symptoms of a communicable disease, including, but not limited to, an infected or draining skin lesion shall be handled according to a facility's policy regarding direct contact with residents, their food, or resident care items until the condition is resolved. Persons with suspected or proven active

tuberculosis will not be permitted to work until determined to be noninfectious and documentation is provided for the employee record.

(l) The facility must require staff to wash their hands after each direct resident contact for which hand washing is indicated by accepted professional practice.

(m) For purposes of IC 16-28-5-1, a breach of:

(1) subsection (a) is an offense;

(2) subsection (b)(1), (b)(2), (j), (k), or (l) is a deficiency; and

(3) subsection (b)(3), (c), (d), (e), (f), (g), (h), or (i) is a noncompliance.

(Indiana State Department of Health; 410 IAC 16.2-3.1-18; filed Jan 10, 1997, 4:00 p.m.: 20 IR 1542, eff Apr 1, 1997; readopted filed Jul 11, 2001, 2:23 p.m.: 24 IR 4234; readopted filed May 22, 2007, 1:44 p.m.: 20070613-IR-410070141RFA; readopted filed Sep 11, 2013, 3:19 p.m.: 20131009-IR-410130346RFA)

410 IAC 16.2-3.1-19 Environment and physical standards

Authority: IC 16-28-1-7

Affected: IC 16-28-5-1

Sec. 19. (a) The facility must be:

(1) designed;

(2) constructed;

(3) equipped; and

(4) maintained;

to protect the health and safety of residents, personnel, and the public.

(b) The facility must meet the applicable provisions of the 2000 edition of the Life Safety Code of the National Fire Protection Association, which is incorporated by reference. This section applies to all facilities initially licensed on or after the effective date of this rule.

(c) Each facility shall comply with fire and safety standards, including the applicable rules of the state fire prevention and building safety commission (675 IAC) where applicable to health facilities.

(d) An emergency electrical power system must supply power adequate at least for lighting all entrances and exits, equipment to maintain the fire detection, alarm, and extinguishing systems, and life support systems in the event the normal electrical supply is interrupted.

(e) When life support systems are used, the facility must provide emergency electrical power with an emergency generator that is located on the premises.

(f) The facility must provide a safe, functional, sanitary, and comfortable environment for residents, staff, and the public.

The facility must do the following:

(1) Establish procedures to ensure that water is available to essential areas when there is a loss of normal water supply.

(2) Have adequate outside ventilation by means of windows or mechanical ventilation, or a combination of the two (2).

(3) Equip corridors with firmly secured handrails.

(4) Maintain an effective pest control program so that the facility is free of pests and rodents.

(5) Provide a home-like environment for residents.

(g) Personnel shall handle, store, process, and transport linen in a manner that prevents the spread of infection as follows:

(1) Soiled linens shall be securely contained at the source where it is generated and handled in a manner that protects workers and precludes contamination of clean linen.

(2) Clean linen from a commercial laundry shall be delivered to a designated clean area in a manner that prevents contamination.

(3) When laundry chutes are used to transport soiled linens, the chutes shall be maintained in a clean and sanitary state.

(4) Linens shall be maintained in good repair.

(5) The supply of clean linens, washcloths, and towels shall be sufficient to meet the needs of each resident. The use of common towels, washcloths, or toilet articles is prohibited.

(h) The facility must provide comfortable and safe temperature levels.