

Best Practices and Good Ideas:

A HANDBOOK FOR

Infection Control

in Nursing Homes



Contributors:

Mary Foote, MD, MPH
Pamela Kellner, RN, MPH
Christian Oriuwa, MBBS, MSc.
Gloria Airall-Simon, PhD, MPHE, MSN, BSN

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Participating nursing homes in NYC welcomed the Health Department team and gave them access to the people, processes and environments involved in infection control practices. Participants shared their knowledge and innovations with us and we present them here so that all nursing homes can benefit.

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Introduction

The New York City Department of Health and Mental Hygiene (DOHMH) developed this guide for new infection preventionists and other nursing home staff. Nursing homes (i.e., long-term care facilities) are critical settings for infection control and prevention. Nursing home residents are often physically frail with faltering immune systems. They are exposed to microbes (“germs”) carried into the nursing home by staff, volunteers, clergy, family members, visitors and fellow residents. As a result, health care-associated infections (HAI) are responsible for at least 380,000 deaths among nursing home residents every year.¹ The risks to older adults exist outside of nursing homes as well. For example, when transferred to acute care facilities, nursing home residents are at risk for acquiring and transmitting infections both within the acute care facility and upon return to the nursing home. Additionally, providers may not prescribe antibiotics to nursing home residents according to recommended guidelines, increasing the possibility that those residents will contract certain infections such as *C. difficile*, or will develop an antibiotic resistant infection in the future.²

The Infection Control Assessment and Response Program (ICAR)

The Centers for Disease Control and Prevention (CDC) developed the ICAR program in 2014 in response to lessons learned during the Ebola crisis. ICAR is an emergency preparedness program that helps health care facilities assess infection control practices and identify opportunities for improvement. State and local health department teams visited ICAR program sites from 2015 through 2017. Teams included physicians, nurses and other public health and infection-control specialists.

Clinical facilities at all levels (hospitals, clinics, urgent care centers and long-term care settings including nursing homes) were recruited by the Health Department’s ICAR team to voluntarily participate in the program. Nursing home staff used standardized CDC survey forms³ and worked with state and local health department teams to self-evaluate their

¹ U.S. Department of Health and Human Services. National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination. Chapter 8, Long-Term Care Facilities. April 2013. <http://health.gov/hcq/pdfs/hai-action-plan-ltcf.pdf>. Accessed July 3, 2018.

² Nicolle LE, Strausbaugh LJ, Garibaldi RA. Infections and antibiotic resistance in nursing homes. Clin Microbiol Rev. 1996 Jan;9(1):1-17. PMID: 8665472; <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC172878/pdf/090001.pdf>

³ CDC Infection Control Assessment Tools at <https://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html>



infection control practices, successes and challenges. Participating nursing homes received site-specific recommendations and resources from the site visit teams. The recommendation categories provided below are based on the key infection control domains outlined in the CDC assessment tool:

- Infection Control Program and Infrastructure
- Health Care Personnel and Resident Safety
- Surveillance and Disease Reporting
- Hand Hygiene
- Personal Protective Equipment (PPE)
- Respiratory/Cough Etiquette
- Antibiotic Stewardship
- Injection Safety and Point of Care Testing
- Environmental Cleaning

ICAR in New York City

Between 2016 and 2017, the New York City Department of Health and Mental Hygiene recruited 73 nursing homes to participate in the ICAR program (43 percent of all NYC nursing homes). Key nursing home staff—including infection preventionists (IP), clinicians, administrators and environmental services staff—participated in the site visits. These staff members gave generously of their time, investing significant effort in completing the initial assessment survey, meeting with the Health Department team, establishing improvement goals and completing follow-up assessments to report on their progress.

For more information on the ICAR program, visit cdc.gov and search for “HAI Infection Control Assessment Tools.”

How to Use This Handbook

Infection preventionists and other nursing home staff can use this handbook as a quick review of CDC-recommended best practices for infection control in nursing homes. This handbook also includes creative approaches to getting things done that come directly from our nursing home colleagues. Provide copies of this handbook to staff in all departments, from the front desk to the bedside and beyond.



Useful Definitions

Health Care Personnel Infection Prevention (IP) Competency:

The proven ability to apply essential knowledge, skills and abilities to prevent the transmission of pathogens during the provision of care.

Health Care Personnel IP Competency-Based Training:

The provision of job-specific education, training and assessment to ensure that health care personnel possess IP competency.

Competency Assessment:

The verification of IP competency through the use of knowledge-based testing and direct observation. If direct observation is not included as part of a competency assessment, an alternative method to ensure that health care personnel possess essential knowledge, skills and abilities should be used.

Audit:

Direct observation or monitoring of health care personnel adherence to job-specific IP measures.

Feedback:

A summary of audit findings that is used to target performance improvement.





Infection Control Program





Infection Control Program

Infection control programs monitor, prevent and stop the spread of infections in health care settings.

In nursing homes, infection control best practices require a dedicated, trained and, ideally, certified infection preventionist (IP) to manage the infection control program. This person is responsible for implementing and/or coordinating infection control activities, including:

- Disease surveillance
- Implementing isolation precautions
- Investigating and controlling outbreaks
- Disease reporting and coordinating with the health department
- Resident care
- Employee health measures



Best Practice Recommendations

- **Receive specialized training in infection prevention and control.** Beginning in November 2019, the Centers for Medicare and Medicaid Services (CMS) will require all nursing homes to have a designated IP with specialized training in infection prevention and control.⁴ Examples of training may include:
 - Successful completion of initial and/or recertification exams developed by the Certification Board for Infection Control & Epidemiology
 - Participation in infection control courses organized by the CDC, the state or recognized professional societies
- **Oversee the full range of infection control activities in a facility.** These activities include:
 - Conducting ongoing disease surveillance
 - Maintaining ongoing awareness of infections in the facility
 - Monitoring the usage and evaluating the efficacy of infection control measures
 - Maintaining and updating policy and procedure manuals and making content accessible to staff

⁴ CMS Medicare and Medicaid Programs Reform of Requirements for Long-Term Care Facilities. <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html>



— Training staff on infection prevention

- **Coordinate infection control activities** directly with state and local health authorities, particularly in the event of an outbreak in the facility.
- **Participate in pertinent trainings** and emergency preparedness activities.
- **Participate in your facility's quality assessment and assurance committee**, and support antibiotic stewardship efforts.

Beginning in November 2019, **all long-term care facilities must also integrate infection prevention and control programs with quality assurance and improvement activities.**⁵

The following are potential quality assurance and improvement activities:

- Ensure residents are educated on and offered influenza and pneumococcal vaccine(s).
- Ensure staff are offered influenza vaccines.
- Monitor rates of infections.
- Track antibiotic usage rates.
- Provide robust trainings and competency evaluations for staff.
- Organize regular and standardized audits.

⁵ CMS Medicare and Medicaid Programs Reform of Requirements for Long-Term Care Facilities.
<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html>





Good Ideas!

✓ **Obtain a certification in infection prevention and control (CIC)**

While not required, the IP should consider board certification.⁶ Nursing homes should assume responsibility for certification costs, including providing compensation to IPs for time taken to complete the certification.

✓ **Encouragement and support from management**

Management can provide financial support and compensated leave for them to participate in professional associations such as the Association for Professionals in Infection Control (APIC). Many APIC chapters hold regular local meetings, which are a great opportunity to network, share best practices and stay up-to-date on new information. To find an APIC chapter, visit apic.org/Member-Services/Chapters.

✓ **Infection Control Champions**

IPs can invite staff from within each patient care unit to join an IP committee or advisory group to learn more about key infection prevention practices, and assist in audits, surveillance and staff education. These champions can help extend the reach of the IP in the clinical setting. They can directly intervene to correct or improve infection control practice through demonstration, assistance and feedback.

✓ **Infection Control Checklists**

Infection control checklists ensure standardized infection control practices throughout the facility. These can be specific to each unit or discipline. See Appendix A for a list of sample checklists.

✓ **Infection Control Manual Question of the Month**

To help staff become familiar with the infection control manual, IPs can post an infection control question of the month that requires staff to research the manual for the answer. Present winners with an award.

✓ **Multi-Disciplinary Staff Involvement**

Involve staff from multiple disciplines (e.g., clinical, environmental, dietary, physical therapy or admissions) in infection control training, planning and policy development. Group involvement can improve competency, strengthen commitment, promote a shared understanding of pertinent principles and inspire ownership of infection control processes.

✓ **Celebrate International Infection Prevention Week (IIPW)**

IIPW takes place every year during the third week of October. This can be a great opportunity to organize events and educational activities to raise staff awareness of the role infection prevention plays in improving patient safety. Search for “international infection prevention week” to find more information and toolkits.

⁶ For more information on obtaining a Certification in Infection Control go to <https://www.cbic.org/>



✓ **Periodic Skills Days and Skills Fairs**

Dedicate time for annual group skills training and competency evaluations. Invite staff from all disciplines to participate. Provide refreshments, prizes and/or favors to create a festive atmosphere. If your organization allows for it, invite vendors to demonstrate new products, or provide training and useful product samples. Include non-clinical staff, such as administration and food service providers.

✓ **Infection Control Manual Annual Review**

Choose a slow month or season to review and update the infection control manual annually. Select a multi-disciplinary committee to help with this task.

✓ **Long-term Care Emergency Management Programs**

State and local health departments offer free, essential all hazards training in emergency management for nursing homes and long-term care facilities. These trainings can help facilities meet the Centers for Medicare and Medicaid Services (CMS) requirements for emergency preparedness. Facilities can also learn how to develop tailored emergency preparedness and response procedures for their sites and populations.

✓ **Annual Infection Control Town Halls**

Host a town hall for staff at all levels and disciplines to discuss infection control processes, procedures and problems.

✓ **Networking With External IPs**

Many disease-causing microbes are spread between patients and health care facilities. Good communication and coordination within a referral network can reduce the likelihood of transmission. Get to know IPs in hospitals to which nursing home residents are most likely to be referred. Developing partnerships with external IPs can enhance communication about the status of transferred patients and infection control concerns (e.g., presence of a multi-drug resistant infection), and ensure that nursing homes can manage infections acquired in the hospital.⁶

✓ **Networking With Public Health Colleagues**

Develop relationships with state and local public health colleagues and external IPs. In the event of an outbreak or other communicable disease incident, you will know exactly who to call for advice and assistance.

⁶ CDC Vital Signs: Making Health Care Safer. August, 2015. <https://www.cdc.gov/vitalsigns/pdf/2015-08-vitalsigns.pdf>



Additional Resources for Infection Control Programs

To find CMS final rules for long-term care, visit [CMS.gov](https://www.cms.gov) and search for “[nursing homes](#).”

For a free CDC/CMS online training course for *nursing home IPs* with free continuing medical education/continuing education credits (CME/CE), go to train.org/cdctrain/home and search for “Nursing Home Infection Preventionist Training” (course ID 3814)

For free CDC/Medscape CME/CE trainings on infection control for *clinicians and nurses*, visit [cdc.gov](https://www.cdc.gov) and search for “[Infection Control](#)” then click on the “[Training and Education Resources](#)” link.

For additional CDC infection control resources, visit [cdc.gov](https://www.cdc.gov) and search for “[nursing home prevention tools](#).” To find scenario and disease-specific information, visit [cdc.gov](https://www.cdc.gov) and search for “[health care-associated infections](#).”

For Society for Healthcare Epidemiology of America/APIC guidelines, visit [shea-online.org](https://www.shea-online.org) and search for “[Infection prevention and control in the long-term care facility](#).”

For APIC/CDC tools for observations and audits, visit <http://ipcobservationtools.site.apic.org>.


For a free auditing app, search for “[SpeedyAudit](#)” or “[iScrub](#)” in your app store.

For more information on certification in infection prevention and control (CIC), visit [cbic.org](https://www.cbic.org).

For information on APIC trainings go to [APIC.org](https://www.apic.org) and click on the “[Education and Certification](#)” tab. For additional training resources, visit [cdc.gov](https://www.cdc.gov) and search for “[infection control training and education resources](#).”

For APIC “Infection Prevention and You” program resources, including a sample infection control pledge, visit [professionals.site.apic.org](https://www.professionals.site.apic.org).





Health Care Personnel and Resident Safety





Health Care Personnel and Resident Safety

Infection control programs monitor and protect the nursing home community –residents, staff and visitors– from exposure to infectious diseases.



Best Practice Recommendations

Infection control policies and procedures should be specific to the facility and in accordance with federal and state regulations.

- Policies protecting residents, staff, visitors and volunteers include, at a minimum, an evaluation of the tuberculosis (TB) status of staff and residents at the time of employment or intake, respectively. Facilities should conduct further screenings based on state regulations or risk assessment outcomes.⁷
- Work exclusion policies should be clearly explained to new employees during new staff orientation and supervisors should be reminded of these policies regularly. Staff who are ill with a potentially infectious disease should not report for duty and employees who become ill at work should not remain on duty. Employees should not suffer loss of pay or status when they comply with this directive. This policy is essential in all clinical facilities to protect residents and coworkers.⁸
- Nursing home facilities should offer the hepatitis B vaccine free of charge to all unvaccinated staff whose tasks may involve exposure to blood or other bodily fluids.
- All staff and volunteers must get vaccinated annually for influenza. The IP program should note in the employee's record if the employee declines the vaccine and implement measures to protect other members of the nursing home community from staff who decline influenza vaccination.⁹ For example, staff who are not vaccinated may be required to wear masks while on duty during influenza season. This is a law in many states, including New York.¹⁰
- All residents should receive the trivalent inactivated influenza vaccine unless there is a medical contraindication or the resident or legal representative refuses. Vaccines should be given before flu season starts if possible. Check the New York State Influenza Reports to know when flu season starts.

⁷ Testing Health care Workers for Tuberculosis (CDC). <https://www.cdc.gov/tb/topic/testing/healthcareworkers.htm>

⁸ Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchmann SD. Guideline for infection control in health care personnel, 1998. Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol. 1998;19(6):407-463. <https://www.cdc.gov/hicpac/pdf/infectcontrol98.pdf>

⁹ Recommended Vaccines for Health care Workers (CDC): <https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html>

¹⁰ New York State Regulation for Prevention of Influenza Transmission by Health Care and Residential Facility and Agency Personnel: https://www.health.ny.gov/diseases/communicable/influenza/seasonal/providers/prevention_of_influenza_transmission



- The Occupational Safety and Health Administration (OSHA)'s Bloodborne Pathogen Standard requires that each facility have well-defined policies and procedures to ensure prompt post-exposure prophylaxis for staff exposed to blood or other potentially infectious material. This is generally managed by the infection prevention or employee health programs. Staff should be trained on established exposure control plans at the time of hire and annually.¹¹
- Facilities must include formal, documented competency evaluations of hazardous (e.g., administering parenteral injections) or essential (e.g., hand hygiene) procedures at new hire and annual trainings. Facilities should regularly audit these competencies throughout the year.
- IPs should provide feedback to the employee for each competency evaluation and audit, and document this feedback in the employee record.

¹¹ OSHA's Bloodborne Pathogen and Needlestick Prevention requirements: <https://www.osha.gov/SLTC/bloodbornepathogens/index.html>





Good Ideas!

✓ **Influenza Vaccination Badges**

Provide staff who get a seasonal influenza vaccine with a badge or sticker that says, “I got the flu shot.” This makes it easier to determine which staff may need to wear a mask while at work during the flu season.

✓ **A Daily Safety Huddle**

Host a brief daily meeting or safety huddle with leadership from all disciplines to address infection control concerns and identify areas for intervention and quality improvement.

✓ **Active Outreach to Families and Visitors**

Emphasize to families at the start of the cold and flu season or during the intake process that they should not visit the facility when they are ill.

✓ **Special Funding**

Earmark additional funds for staff without paid leave who are acutely ill and reluctant to take uncompensated time off due to financial concerns. You may also want to start a voluntary sick leave donation program where staff can donate sick time.

✓ **Infection-Specific Educational Events**

Host educational sessions for residents and their families on infection-related topics (e.g., influenza, antibiotic-resistant infections). These sessions can explain infection transmission and the importance of infection control measures, including vaccination.

✓ **Family Council Meetings**

Host a meeting where staff and families can discuss the family’s role in keeping residents safe by protecting them from illnesses. Your organization can host this annually, at the start of the cold or flu season, or in response to a specific outbreak.



Additional Resources for Health Care Personnel and Resident Safety

To download CDC/HICPAC’s “Guideline for Infection Control in Health Care Personnel,” visit cdc.gov and search for “[Infection control in HCW Guidelines.](#)”

To download the CDC’s “Toolkit for Increasing Influenza Vaccination among Health Care Personnel in Long-Term Care Settings,” visit cdc.gov and search for “[toolkit for long-term care employers.](#)”

For resources and treatment guidelines from the National Institute for Occupational Safety and Health on HIV/AIDS, hepatitis B and hepatitis C, visit cdc.gov and search for “[bloodborne infectious diseases.](#)”

To download a sample exposure control plan that meets the requirements of the OSHA Bloodborne Pathogens Standard, visit osha.gov and search for “[osha3186.](#)”

To download the CDC’s “Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings,” visit cdc.gov and search for “[isolation precautions.](#)”

To download “A Step by Step Guide to Implementing Quality Assurance and Performance Improvement (QAPI) in Your Nursing Home,” visit cms.gov and search for “[nursing home QAPI.](#)”





Surveillance and **Disease** **Reporting**



Surveillance and Disease Reporting

Monitoring the presence and new occurrences of diseases in a facility—or disease surveillance—is an essential component of an infection control program and allows a nursing home to quickly recognize, respond to and prevent potential outbreaks.



Best Practice Recommendations

The IP should work closely with clinical, laboratory and pharmacy services to continuously monitor for infectious diseases within the facility. IPs are responsible for the following activities:

- Record, report and monitor diseases within the facility and track infections that are listed as reportable to public health authorities, such as *C. difficile*.¹² Through continuous monitoring, IPs should be able to identify background infection rates and detect increases above those rates.
- Report any outbreak or increase in infections among residents or employees to the state or local public health agency. Visit health.ny.gov and search for “Outbreak Reporting in Health Care Facilities” to find disease reporting requirements for all nursing homes in New York State. For nursing homes in New York City, visit nyc.gov/health and search for “Reporting Diseases & Conditions.” Clinical staff should have easy access to these lists either in hard copy or electronic form.
- Enroll with the state health department. IPs in New York State nursing homes should enroll in the New York State Health Commerce System.¹³ This ensures that IPs receive health alerts and are able to report outbreaks.
- Continuously monitor the status of residents who have been transferred to acute care hospitals by working closely with the IP at the acute care facility.

¹² Stone ND, Ashraf MS, Calder J, et al. Surveillance definitions of infections in long-term care facilities: revisiting the McGeer criteria. *Infect Control Hosp Epidemiol.* 2012;33(10):965-977. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3538836/>

¹³ New York State Health Commerce System <https://commerce.health.state.ny.us/hcs/index.html>



Facilities should have written plans for infection surveillance, outbreak response and responding to antibiotic-resistant organisms. The following are best practices for these written plans:

- As part of the surveillance plan, your facility should have procedures to screen for and identify potentially infectious agents at the time of admission. Examples include documenting recent antibiotic use and history of infections or colonization with *C. difficile* or antibiotic-resistant organisms.
- As part of the outbreak response plan, your facility should include definitions, procedures for surveillance and containment, and a list of syndromes or pathogens that your IP monitors. The IP should also coordinate with state and/or local health departments.
- As part of its plan to respond to antibiotic-resistant organisms, your facility's laboratory should promptly contact the IP or, in off-hours, the nursing supervisor, when they identify antibiotic-resistant organisms or *C. difficile*.





Good Ideas!

✓ **Daily Rounds**

Conduct daily unit rounds to discuss and evaluate the status of residents with an infection or who are on antibiotics. This is also an opportunity to review which residents have an invasive device that could be removed (such as urinary catheters or IVs) to decrease their risk for infection.

✓ **24/7 Monitoring**

Check for signs of infection in all residents on a unit where a single resident has a fever and is potentially contagious. During influenza season remain aware that people can be contagious for days prior to symptom onset.

✓ **Hospitalized Patient Rounds**

Routinely hold case management meetings on the status of hospitalized residents to prepare the facility for their readmission.

✓ **Root Cause Analysis**

When significant breaches in infection control leading to staff or resident harm occur, a root cause analysis can help your facility determine what happened, why and how you can prevent it from happening again. For each cause identified, determine which processes or systems may have led to the error. Then create an action plan to reduce the risk of repeating a similar error.

✓ **Hospital Liaison**

Create a dedicated case management team or assign a hospital liaison to monitor the clinical status of residents who have been transferred to acute care facilities. The case management team or liaison are responsible for getting status updates from the inpatient care team. They may also visit the acute care facility to improve inter-facility cooperation, identify infections ahead of readmission or inform the receiving hospital of any infectious risks.

✓ **Admitting Privileges**

Transfer residents to hospitals where clinicians from their facility have admitting privileges. These providers can continue to care for residents, following them from the time of hospital admission until readmission to the nursing home, and can prepare nursing home staff for residents' return.

✓ **Inter-Facility Infection Control Transfer or Referral Forms**

These forms help communicate important infection control information to a receiving facility. They should accompany new hospital patients and readmitted residents. Nursing home IPs can use these forms to inform staff of any active infections or isolation precautions and note any pending cultures or test results. Visit cdc.gov and search for “[Long-term Care Assessment and Transfer Tools](#)” to find a sample inter-facility transfer form.



Additional Resources for Surveillance and Disease Reporting

For long-term care assessment and transfer tools, including transfer and referral forms, visit [cdc.gov](https://www.cdc.gov) and search for “[nursing homes prevention tools](#).”

For guidance from the National Healthcare Safety Network on how to track infections, visit [cdc.gov](https://www.cdc.gov) and search for “[NHSN LTC](#).”

For guidance on performing a root cause analysis refer to the following organizations:

- Centers for Medicare and Medicaid Services: visit [cms.gov](https://www.cms.gov) and search for “[ProcessToolFramework](#)”
- The Joint Commission: visit [jointcommission.org](https://www.jointcommission.org) and search for “[Joint Commission root cause analysis](#)”



Hand Hygiene



Hand Hygiene

The most common mode of transmitting pathogens is via your hands. This makes hand hygiene, or making sure your hands are clean, a low-cost, high-impact way to reduce health care associated infections.¹⁴ In addition to hand-washing, the introduction of alcohol-based hand sanitizers in health care settings has greatly improved hand hygiene among health care workers.¹⁵



Best Practice Recommendations

- Have written hand hygiene policies in place that promote the preferential use of alcohol-based hand sanitizers.
- Gloves should be used during patient care activities that may involve exposure to blood and/or other body fluids, during contact precautions and in certain outbreak situations. Hand hygiene should be performed before putting on and after removing gloves.
- Make sure that hand hygiene supplies are readily accessible at entrances and throughout the facility, especially in patient care areas, hallways and resident rooms.¹⁶ Place alcohol-based hand sanitizer dispensers near the doorways of rooms to promote hand hygiene from entry to exit.
- Provide hand hygiene training to all staff and all volunteers (e.g., food handlers, clergy, hairdressers, pet therapists, recreation therapists and others). Ensure staff are trained to clean thumbs, between fingers and under fingernails—these areas are most often missed when using alcohol-based hand sanitizers.
- Provide formal hand hygiene training for new hires and annually.
- Routinely audit staff throughout the year to ensure ongoing hand hygiene skill and compliance.
- Document every training session, each audit and all significant feedback in the employee's record.
- When hands are visibly soiled and when there is the likelihood of exposure to *C. difficile* or norovirus, wash hands with soap and water, rather than using an alcohol-based sanitizer.

¹⁴ Pittet D, Hugonnet S, Harbarth S, et al. Effectiveness of a hospital-wide programme to improve compliance with hand hygiene. Infection Control Programme. Lancet. 2000;356(9238):1307-1312.

¹⁵ Hand Hygiene Guidelines (CDC) <https://www.cdc.gov/handhygiene/providers/guideline.html>

¹⁶ The NYC Fire Code allows the use and placement of ABHRs in resident corridors/hallways (NYC Fire Code 2014, Chapter 34, FC 3405)





Good Ideas!

✓ Hand Hygiene Pledge

Encourage staff and all volunteers to pledge their commitment to hand hygiene. To download a sample hand hygiene pledge, visit the Association for Professionals in Infection Control at professionals.site.apic.org and search for “sign the pledges.”

✓ Secret Shopper

Ask senior staff from a number of disciplines to observe and reinforce hand hygiene competency and compliance. Designate Hand Hygiene Champions, who can also conduct these audits. See the Resources section for sample hand hygiene audit forms.

✓ Monthly Hand Hygiene Rates

Consider setting goals for hand hygiene rates and posting monthly hand hygiene rates for all units. Think of ways to reward top performers or demonstrating significant improvement in rates.

✓ Care Coins

Have managerial staff award “coins” (actual or digital) for observed excellence in hand hygiene. All staff should be eligible to win. Staff can spend the “coins” on a selection of attractive prizes provided by facility administrators.

✓ Hand Hygiene and Residents

Follow these tips to encourage hand hygiene among residents:

- Make sure hand hygiene supplies are always available and easy to access.
- Post signs about the importance of hand hygiene in common areas. Make sure the signs are visible.
- Provide residents with individual hand sanitizer bottles during flu season.

✓ Hand Hygiene in Psychiatric and Dementia Units

Provide soap and water rather than alcohol-based hand sanitizers in these units, as hand sanitizers might be ingested by residents. Consider providing staff in these settings with individual hand sanitizer bottles.



Additional Resources for Hand Hygiene

To download hand hygiene tools and training resources from the CDC, visit cdc.gov and search for “hand hygiene.”

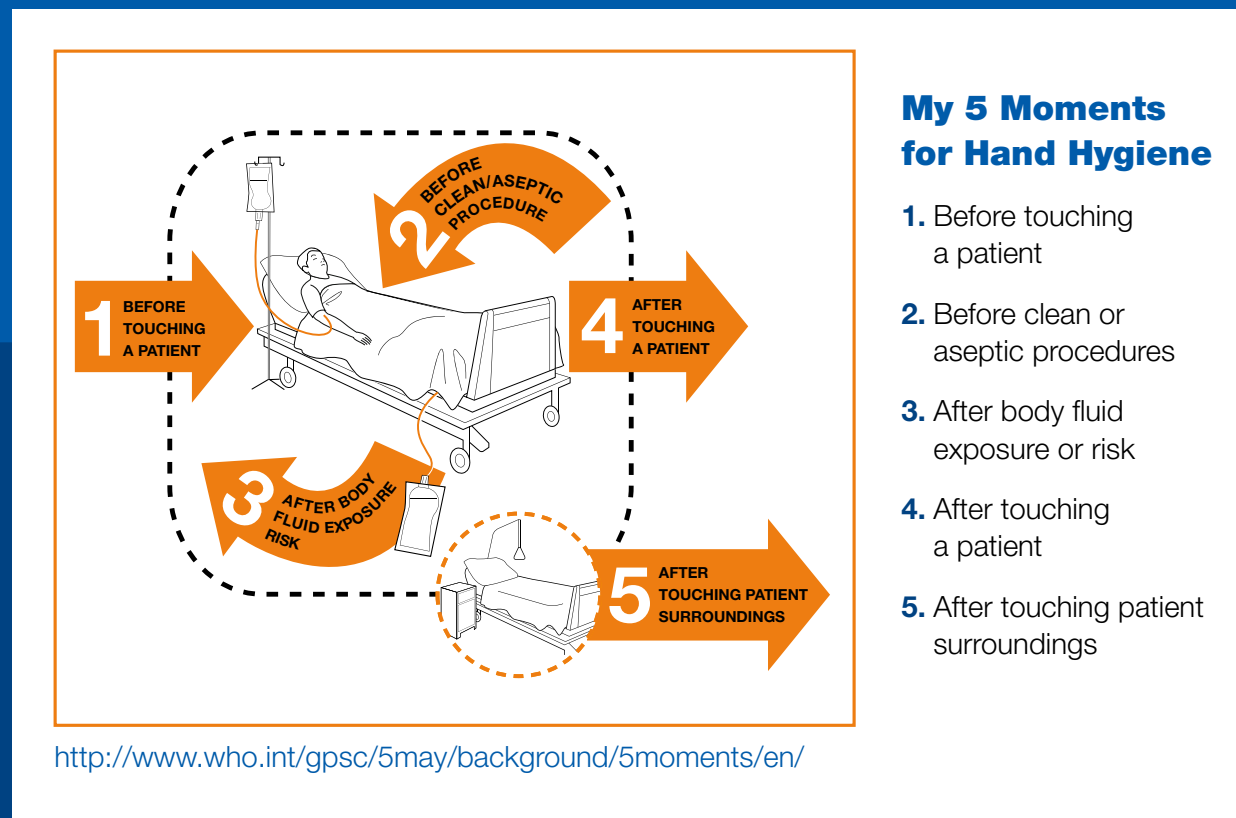
For World Health Organization hand hygiene resources, visit who.int and search for “clean your hands” (Figure 1).

For sample hand hygiene competency validation forms, refer to the following organizations:

- The University of North Carolina at Chapel Hill: visit spice.unc.edu, click on “All resources” and search for “competency.”
- John’s Hopkins: visit hopkinsmedicine.org and search for “hand hygiene.”

For free Medscape CME training on hand hygiene and non-sterile glove use, visit medscape.com and search for “CME glove use.”

Figure 1: Sample visual aid to remind staff about hand hygiene (World Health Organization)





Personal Protective Equipment (PPE)



Personal Protective Equipment (PPE)

Personal protective equipment (PPE) is specialized clothing or equipment an employee wears for protection against injury or infection. Different types of infection prevention practices have different PPE requirements:

- **Standard Precautions** refer to the minimum level of infection control actions a health care worker should take to prevent the spread of infection. It can include the use of PPE in certain circumstances (e.g., when in contact with body fluids).
- **Transmission-Based Precautions** outline the different types of PPE that a health care worker needs to use depending on the type of infection they are exposed to and how that infection is transmitted.

It is critical that nursing home employees know how to select the appropriate PPE for a given situation and are trained to properly put on and remove PPE to avoid endangering other staff members and residents.



Best Practice Recommendations

Be sure to include written policies on Standard Precautions and Transmission-Based Precautions in the facility's infection control policies and procedures manual. These guidelines should include the following:

- Procedures for the selection and correct use of PPE, especially when working with residents who may be contagious
- Which staff members are responsible for checking and restocking PPE supplies. Supplies should be placed in a central location and directly outside resident rooms with visible signage outlining what PPE should be used when Transmission-Based Precautions are in place.
- Who performs PPE training audits, and documents all trainings, audits and feedback in the employee record.



The ability to correctly select, put on (don), remove and safely dispose of used equipment requires practice. The following are best practices for IPs or their designees to ensure safe use of PPE equipment:

- Routinely and rigorously train all staff, including environmental staff, on how to use and select PPE. Training and practice should take place at the time of hire and annually.
- Re-evaluate and reinforce PPE best practices as needed or when there are staff members or residents with an infectious disease.
- Post clear signage on the doors of residents who require Transmission-Based Precautions. These signs should not reveal diagnoses, specific organisms or resident identifiers, but should state the types of precautions required and ideally what PPE should be used.¹⁷

¹⁷ NYSDOH Memo on Transmission-Based Precautions in Long-Term Care
https://www.health.ny.gov/diseases/communicable/c_auris/docs/transmission_based_precautions.pdf





Good Ideas!

✓ You've Got the Power

Ensure that any health care worker in your facility, regardless of position or credentials, is trained and empowered to stop anyone, including providers from entering a resident's room without wearing the appropriate PPE. Employees should be recognized and praised whenever they ensure fellow staff follow PPE protocols.

✓ Hands-on/Directly Observed Training

Prioritize in-person PPE training rather than reliance on electronic learning. In-person training allows staff to become familiar with the feel and fit of equipment during donning and removal exercises. Routine practice decreases the likelihood of errors in procedure and sequence.

✓ Gloves

Provide focused training on glove use. Gloves are the most commonly used and most commonly misunderstood form of PPE. Training should include understanding which tasks require gloves, hand hygiene requirements before donning and after removing gloves, and safe disposal procedures. Fluorescent markers can be useful when training on glove removal.

✓ PPE Storage

Store PPE in dedicated closed cabinets or carts to reduce the likelihood of contamination.

✓ PPE Audits

Use actual events to monitor for correct PPE use. Provide feedback that reinforces best practices.



Additional Resources for Personal Protective Equipment (PPE)

To download the CDC's guidelines for isolation precautions, as well as tools and training resources, visit [cdc.gov/hai/prevent/ppe.html](https://www.cdc.gov/hai/prevent/ppe.html).

For recommendations for infection prevention and control for *Candida auris*, visit [cdc.gov](https://www.cdc.gov) and search for "*Candida auris*."

For guidance on infection control and containment of multidrug-resistant organisms, visit [cdc.gov](https://www.cdc.gov) and search for "MDRO Containment."

For free CE training modules on PPE and other infection control topics, visit spice.unc.edu; click on "Facility Type" and select "Long-Term Care"

To download a PPE competency validation checklist, refer to the following organizations:

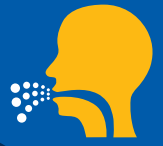
- The University of North Carolina at Chapel Hill: visit spice.unc.edu, click on "All resources" and search for "PPE"
- Winnipeg Regional Health Authority: visit [wrha.mb.ca](https://www.wrha.mb.ca) and search for "audit tools"



Respiratory Hygiene and Cough Etiquette



Respiratory Hygiene and Cough Etiquette



Respiratory illnesses, particularly influenza, are a major cause of outbreaks in nursing homes. While a virus can be an irritation for staff members, it can cause serious illness in elderly residents and can result in hospitalization or even death.



Best Practice Recommendations

Infection prevention begins at the front door. All staff should be empowered to enforce and reinforce respiratory hygiene and cough etiquette from the front door and throughout the facility at all times.

- Post cough etiquette signs and posters at all entrances even when it is not influenza season. Signage should be clearly visible. It should include instructions on how to cover the mouth and nose when coughing or sneezing, how to dispose of tissues and how to perform hand hygiene after coughing and sneezing (Figure 2).
- Educate staff, residents and their visitors about the importance of covering their cough or sneeze, and performing hand hygiene.
- Inform family members at the time of the resident's admission and periodically throughout the resident's stay that they should avoid visiting when they are ill or if they have symptoms of a respiratory infection such as coughing or sneezing. Exceptions may be made but visitors must tell the front desk staff when they are entering the facility.
- Instruct front desk staff to offer masks and tissues to visitors who report having a respiratory illness or are coughing and sneezing. Front desk staff should call the nursing supervisor for approval prior to permitting the masked visitor to leave the front lobby and enter the residence areas.
- Make sure that masks, tissues and hand hygiene supplies are easily accessible at the entrances and throughout the facility—especially in common areas. Be sure to post eye-catching signs with instructions on how to use the supplies.
- Staff should tell their supervisors when they or other staff members have symptoms of a respiratory infection and they should be excluded from work until illness has resolved—this is especially important during flu season.¹⁸

¹⁸ Prevention Strategies for Seasonal Influenza in Healthcare Settings: Guidelines and Recommendations (CDC); <https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>





Good Ideas!

✓ **Focus on the Front Desk**

Help front desk staff understand that they are the first line of defense in protecting the facility, its residents and its staff from respiratory illnesses. Front desk staff who are specifically trained to recognize and address visitors with potentially infectious respiratory illnesses can reduce the risk of infection to residents and staff. A sample, easy-to-follow job action sheet for front desk staff can be found in Appendix B.

✓ **Enhanced Point of Entry Screening**

The IP should develop influenza-specific protocols to screen for potentially infectious visitors when they enter the facility so that infection control measures can be implemented quickly.

✓ **Communication Skills Training**

Consider offering communication skills training for staff, especially front desk staff, who have regular contact with family members and other visitors. Knowing what to say and how to say it can increase staffs' comfort levels when they have to inform visitors who are ill that they should leave or take appropriate precautions. Make sure nursing staff are also available to speak to visitors who may be ill.

✓ **Influenza Education Sessions**

Provide in-person educational sessions or educational videos about the flu prior to the flu season. Host these events at times and locations that are convenient to residents, family members and other visitors.



Additional Resources for Respiratory Hygiene/Cough Etiquette

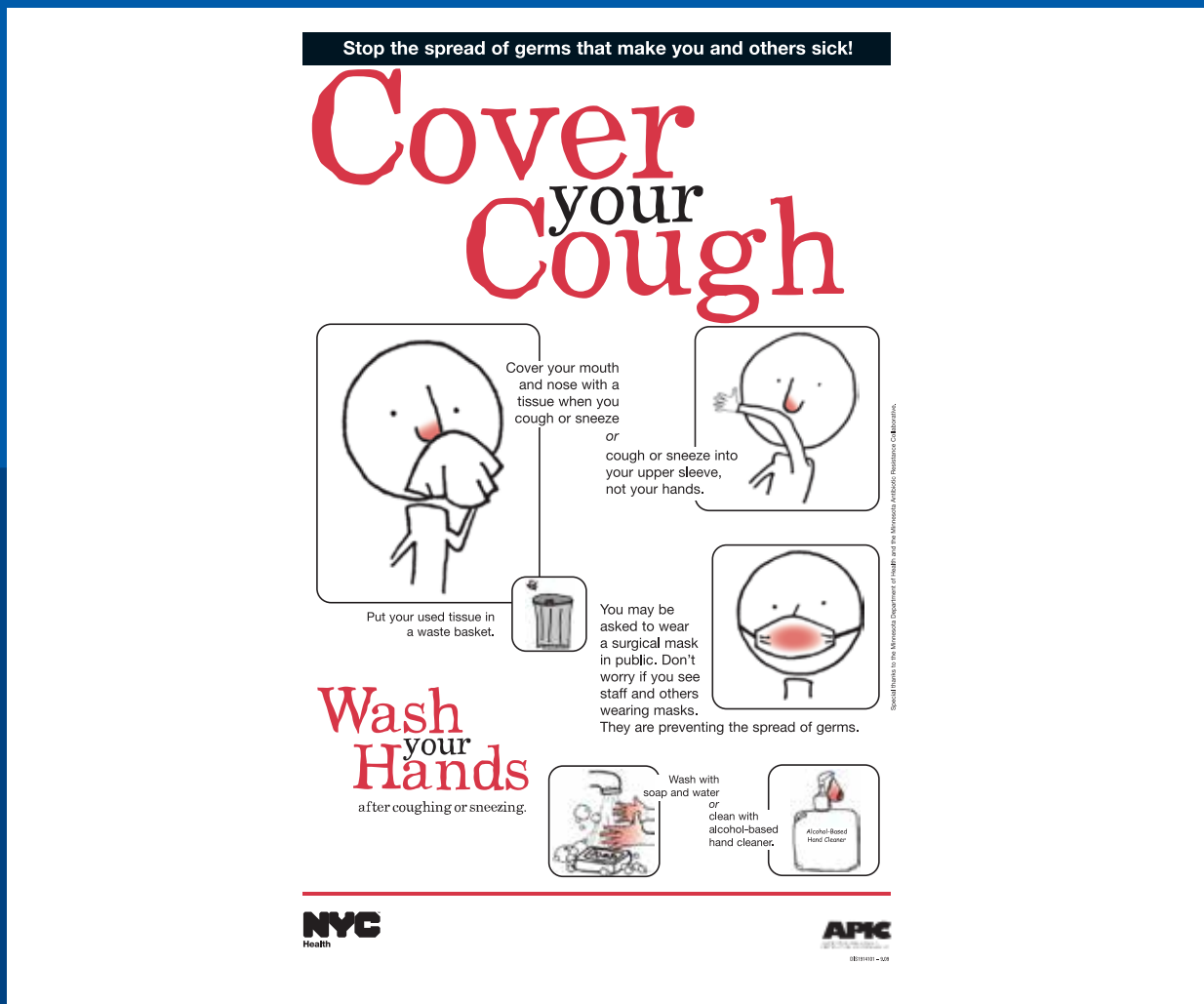
For cough etiquette information from the CDC, visit cdc.gov and search for “respiratory hygiene/cough etiquette.”

For seasonal influenza brochures and posters from the New York City Health Department, visit nyc.gov/health and search for “flu seasonal.”

For seasonal influenza communication resources from the CDC, visit cdc.gov and search for “prevent seasonal flu.” Click on “Communication Resource Center” at the bottom of page.

For tips on how to increase flu vaccination among long-term care staff members, visit cdc.gov and search for “toolkit for long-term care employers.”

Figure 2: Example poster for entryways and common areas from NYC Health



Antibiotic Stewardship



Antibiotic Stewardship



Antibiotic stewardship (also called antimicrobial stewardship) is the practice of appropriately prescribing antibiotics—that is, using them only when truly needed and ensuring the use of the right antibiotic at the right dose for the right length of time. Antibiotic stewardship is a global effort to halt a worldwide increase in antibiotic resistance. According to the CDC, at least 2 million people in the United States are infected by antibiotic-resistant bacteria each year, and about 23,000 people die as a result.¹⁹

Overexposure to antibiotics leads to antibiotic resistance and increases the risk for more severe and harder-to-treat infections, including *C. difficile*. The result is increased resident mortality, hospitalizations and cost. Antibiotic stewardship programs aim to preserve the effectiveness of antibiotics. The CMS Final Rule (2016) and the Joint Commission require that all participating nursing homes have an antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use.^{20, 21}



Best Practice Recommendations

- Assess your antibiotic stewardship policies and practices against the CDC's "Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes" (2015). Use the checklist to initiate or expand stewardship activities in your facility.
- Ensure that your facility has access to and support from individuals with antibiotic expertise, ideally a physician or pharmacist with specialized training in infectious diseases.
- You should have written policies on antibiotic prescribing and other antibiotic stewardship activities, including appropriate use of diagnostic testing, such as urinalysis and cultures.
- Use national guidelines and local antibiotic susceptibilities to develop facility-specific algorithms for the assessment and treatment of residents with a suspected infection.²² This can minimize unnecessary antibiotic use and optimize antibiotic selection and duration (Figure 3).

¹⁹ Centers for Disease Control and Prevention. Antibiotic Resistance Threats in the United States, 2013. <https://www.cdc.gov/drugresistance/threat-report-2013/index.html>

²⁰ CMS Final Rule for Long-Term Care Facilities. <https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities#page-68810>

²¹ The Joint Commission. New antimicrobial stewardship standard (effective January 1, 2017). https://www.jointcommission.org/assets/1/6/New_Antimicrobial_Stewardship_Standard.pdf.

²² High K, Bradley SF, Gravenstein S et al. Clinical practice guideline for the evaluation of fever and infection in older adult residents of long term care facilities. *Clin Infect Dis*. 2009; 48: 149-171



A program director, ideally a physician or pharmacist with specialized training in infectious diseases, should monitor antibiotic prescribing and use in the facility. This person should:

- Create a program to conduct and support stewardship activities in your facility as outlined in the “Core Elements.”
- Work with the quality assurance committee to incorporate stewardship activities and measures into their program.
- Work with providers to improve prescribing practices.
- Oversee education and guidance of prescribers.
- Help clinicians communicate with residents and their families about appropriate antibiotic use.
- Ensure that nurses are educated and included in antibiotic stewardship activities.





Good Ideas!

✓ **Daily stewardship rounds**

During morning meetings, review any new and existing antibiotic prescriptions for each unit. This is an opportunity to evaluate indications, culture or test results, clinical response and appropriate duration of therapy.

✓ **Engage the Infection Preventionist (IP)**

Even if they are not directing antibiotic stewardship programs, IPs can be key participants in stewardship activities, such as surveillance and quality improvement initiatives.

✓ **Involve the Families**

Use family meetings and other occasions to educate families about antibiotic stewardship. These proactive conversations may help reduce family requests for antibiotics when antibiotic treatment is not indicated.

✓ **Invite Speakers**

Invite specialists, such as pulmonologists and infectious disease physicians, to speak to staff on the evaluation and treatment of complicated infections. This can help improve clinical practices around antibiotic use and can also be a great opportunity to build collaborative relationships with the local medical community and hospitals.

✓ **Watchful Waiting With Alternate Therapies**

Provide non-antibiotic treatment options for upper respiratory and other infections as appropriate, while monitoring the resident's clinical status. Watchful waiting can reassure residents and families that staff are addressing their concerns and supervising the resident's condition.

✓ **Provide Comfort Care for Viral Respiratory Infections**

"Prescribe" lozenges, hot drinks, honey and other non-antibiotic approaches to soothe symptoms of viral upper respiratory infection as appropriate.

✓ **Utilize Your Consultant Pharmacist**

If not already part of your stewardship team, establish a professional or consultative relationship with a clinical pharmacist to provide medication reviews and to assist in monitoring antibiotic use. This can be a powerful addition to your antibiotic stewardship program.



Additional Resources for Antibiotic Stewardship

To download the CDC’s “The Core Elements of Antibiotic Stewardship for Nursing Homes,” visit [cdc.gov](https://www.cdc.gov) and search for “[core elements for nursing homes](#).”

To download the Agency for Healthcare Research and Quality’s “Nursing Home Antimicrobial Stewardship Guide,” visit [ahrq.gov](https://www.ahrq.gov) and search for “[ahrq nursing home antimicrobial stewardship guide](#).”

For information on how to educate families and residents, visit [ahrq.gov](https://www.ahrq.gov) and search for “[Toolkit To Educate and Engage Residents and Family Members – AHRQ](#)”

The following organizations offer tools, trainings and implementation resources:

- Rochester Nursing Home Collaborative: visit rochesterpatientsafety.com and click on the “[For Nursing Homes](#)” tab
- Minnesota Department of Health: visit health.state.mn.us and search for “[Antimicrobial Stewardship Program Toolkit for Long-term Care](#)”
- Template for an Antibiotic Stewardship Policy (Robin Jump, et al): go to pubmed.gov and search for “[Jump Template for an Antibiotic Stewardship Policy](#)”
- The University of North Carolina at Chapel Hill: visit unc.edu and search for “[antibiotic use in nursing homes](#)”



Figure 3: An example of evidence-based treatment guidelines based on Loeb's Minimum Criteria for Initiating Antibiotic Therapy²³

Minimum Criteria for Initiation of Antibiotics in Long-Term Care Residents

Suspected Urinary Tract Infection

NO indwelling catheter:

- Acute dysuria

or

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature) *and at least one of the following:*

New or worsening:

- Urgency
- Frequency
- Suprapubic pain
- Gross hematuria
- Costovertebral angle tenderness
- Urinary incontinence

WITH indwelling catheter (Foley or suprapubic):

- At least one of the following:*
- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
- New costovertebral tenderness
- Rigors
- New onset of delirium

Note: Foul smelling or cloudy urine is not a valid indication for initiating antibiotics. Asymptomatic bacteriuria should not be treated with antibiotics.

Suspected Lower Respiratory Tract Infection

- Fever >38.9°C [102°F] *and at least one of the following:*
- Respiratory rate >25
- Productive cough

or

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature, but ≤38.9°C [102°F]) *and cough and at least one of the following:*
- Pulse >100
- Rigors
- Delirium
- Respiratory rate >25

or

- Afebrile resident with COPD and >65 years *and new or increased cough with purulent sputum production*

or

- Afebrile resident without COPD and new cough with purulent sputum production *and at least one of the following:*
- Respiratory rate >25
- Delirium

or

- New infiltrate on chest X-ray thought to represent pneumonia *and at least one of the following:*
- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
- Respiratory rate >25
- Productive cough

Chest X-ray and complete cell count with differential is reasonable for residents with fever, cough, and at least one of the following: pulse >100, worsening mental status, rigors

Suspected Skin and Soft-tissue Infection

- New or increasing purulent drainage at a wound, skin, or soft-tissue site

or


- At least 2 of the following:*
- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
- Redness
- Tenderness
- Warmth
- New or increasing swelling

Source: Loeb et al. Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term Care Facilities: Results of a Consensus Conference. Inf Control Hosp Epi. 2001

Fever with Unknown Focus of Infection

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature) *and at least one of the following:*
- New onset delirium
- Rigors

Note: fever + mental status changes that do not meet delirium criteria (e.g. reduced functional activities, withdrawal, loss of appetite) need to be investigated but empiric antibiotics are not needed.



651-201-5414, 1-877-676-5414
www.health.state.mn.us

7/10/2017

²³ Loeb M, et al. Development of minimum criteria for the initiation of antibiotics in residents of long-term care facilities: Results of a consensus conference. Infect Control Hosp Epidemiol 2001; 22: 120-4.





Injection Safety and **Point of Care** **Testing**



Injection Safety and Point of Care Testing

According to the CDC, between 2001 and 2011 there were at least 50 disease outbreaks linked to unsafe injection practices, affecting more than 150,000 patients. These outbreaks included transmissions of hepatitis B and C, as well as bacterial infections and even malaria.²⁴ Safe injection practices, or injection safety, are Standard Precautions that include health care worker and equipment safety practices that prevent the spread of blood-borne diseases.



Best Practice Recommendations

- IPs should train all staff who administer injections or perform blood glucose monitoring on injection safety and glucometer use. Assess their competency at the time of hire and annually. Staff must show that they understand safe injection practices before they are allowed to give injections.
- Document training attendance, competency and any significant feedback in the employee record.
- Reinforce and monitor safe injection practices through routine audits.
- Support safe injection practices by providing safer technologies such as auto-disabling syringes; single-use needles, syringes and medication vials; and accessible sharps containers.

²⁴ <https://www.cdc.gov/injectionsafety/providers.html>





Good Ideas!

✓ “One and Only”

Use the CDC’s injection safety campaign materials to reinforce the importance of “one resident, one needle, one time.” Visit cdc.gov and search for “injection safety” to order free materials and see if your state is a campaign partner.



✓ Get Clinical Staff Input

Involve clinical staff in selecting the types of single use, disposable, auto-retracting devices when purchasing decisions are made.

✓ Competency Evaluation for All

Evaluate injection safety competence for all staff who provide parenteral injections *regardless of professional licensure or experience.*



Additional Resources for Injection Safety and Point of Care Testing

For CDC injection safety guidance and resources, visit [cdc.gov](https://www.cdc.gov) and search for “[injection safety](#).”

For free CME/CE training activities, visit [medscape.com](https://www.medscape.com) and search for “[injection safety CME](#).”

To download the CDC’s “Infection Prevention during Blood Glucose Monitoring and Insulin Administration” guide, visit [cdc.gov](https://www.cdc.gov) and search for “[blood glucose monitoring](#).”

To download a competency validation tool, visit [spice.unc.edu](https://www.spice.unc.edu). Click on “All Resources” and search for “[injection safety](#).”





Environmental Cleaning and Disinfection

Environmental Cleaning and Disinfection



A clean environment helps prevent the spread of diseases. The environment includes the facility and any shared patient care equipment. Dangerous microorganisms can live on surfaces and can spread to patients, staff and visitors. Educate all staff about their role in keeping the facility and equipment clean and disinfected.



Best Practice Recommendations

- Ensure written policies and procedures include instructions on routine and terminal cleaning (when residents leave) and disinfection of resident rooms, high-touch surfaces in common areas, shared equipment and reusable medical devices (e.g., blood pressure cuffs, rehab equipment, etc.). Plans should address specific pathogens such as *C. difficile*, *C. auris* and *norovirus* that require special procedures.
- Clearly identify which staff are responsible for specific tasks and equipment, and how often they should clean or inspect them.
- Provide Environmental Protection Agency (EPA)-registered cleaning and disinfecting supplies. These should be easily accessible to staff. Label disinfectants as “EPA-registered hospital disinfectant” and require staff to use them according to the manufacturer’s instructions, paying particular attention to contact times.²⁵
- In general, use EPA-registered hospital disinfectants to clean most surfaces and patient areas. However, some surfaces and areas may require special products specifically labeled as effective against *C. difficile* and norovirus.²⁶ Include these exceptions in your written policies and procedures manual.
- Clean blood and body substances with tuberculocidal or registered germicides on the EPA Lists D and E (i.e., products with specific label claims for HIV or hepatitis B virus [HBV]) following label instructions.
- Train all staff on job-specific cleaning policies and procedures and assess their competency at the time of hire, annually and when new equipment and/or procedures are introduced.
- If a contractor provides your environmental services, you should ensure they are training their staff appropriately.
- Reinforce and monitor cleaning practices through routine audits of both your facility staff and contractors.
- Document training attendance, competency and any significant feedback in the employee record.
- Provide external service providers (e.g., podiatrists) with clean spaces but clarify that they and not the facility are responsible for cleaning, disinfecting and sterilizing their own equipment.

²⁵ Identify and using hospital grade disinfectants: <https://www.cleanlink.com/hs/article.aspx?id=16318>

²⁶ A listing of approved products are found on List K: EPA’s Registered Antimicrobial Products Effective against *Clostridium difficile* Spores https://www.epa.gov/sites/production/files/2017-01/documents/20172701.listk_.pdf





Good Ideas!

✓ **Fluorescent Products**

Use a fluorescent gel, powder or lotion to assess staff and ensure that they have properly cleaned hard-to-reach areas that are sometimes skipped. Use these products as part of ongoing audits and feedback, and in trainings.

✓ **Wheelchair Washing Machines**

If you have a large amount of wheelchairs that require regular cleaning, consider investing in specialized cleaning equipment for wheelchairs to efficiently clean these shared resources.

✓ **Broad Staff Involvement**

Invite Environmental Services colleagues to participate in multi-disciplinary rounds. Assign environmental staff at all levels to accompany managers to multi-disciplinary infection control meetings to help them feel included in the infection control team.

✓ **A Top-to-Bottom Checklist**

Consider using a stepwise room cleaning process to standardize and assure cleaning of every touch point in a resident room.

✓ **Disposable or Dedicated Equipment**

Use disposable equipment to maintain the cleanliness of shared equipment, such as disposable stethoscopes or disposable sheaths for blood pressure cuffs. Whenever possible, dedicate specific equipment for residents on contact precautions.



Additional Resources for Antibiotic Stewardship

The following organizations offer environmental infection control guidance:

- CDC: visit [cdc.gov](https://www.cdc.gov) and search for “Environmental Guidelines”
- Asia Pacific Society of Infection Control: visit pubmed.gov and search for “APSID Guidelines for environmental cleaning and decontamination”

To download the CDC’s environmental cleaning evaluation toolkit, including checklists, visit [cdc.gov](https://www.cdc.gov) and search for “evaluating environmental cleaning”

The following organizations offer recommendations on environmental disinfection for *Candida auris*:

- CDC: visit [cdc.gov](https://www.cdc.gov) and search for “Environmental disinfection for candida auris”
- Environmental Protection Agency: visit [epa.gov](https://www.epa.gov) and search for “*candida auris*”; this resource also includes a list of antimicrobial products effective against *Clostridium difficile* spores

The following organizations offer free CME/CE activities on Environmental Services and Infection Control:

- Medscape: visit [medscape.com](https://www.medscape.com) and search for “CME Environmental Services and Infection Prevention”
- The University of North Carolina at Chapel Hill: visit spice.unc.edu and search for “environmental disinfection”



Appendices



Appendix A



Assessing Health Care Personnel Infection Prevention Practices: Links to Resources

The resources below are examples of tools to assess infection prevention competency and conduct audits of infection prevention practices within the Infection Control Assessment and Response (ICAR) Tools domains. These resources provide a starting point for facilities trying to develop infection prevention competency assessments. Health care facilities should tailor the content in these resources to align with facility-specific policies and procedures and reflect the competencies included in training provided to their personnel.

Disclaimer: The links in the domains below are not mutually exclusive nor do they represent an exhaustive list of all the possible resources available. Furthermore, the links presented do not constitute an endorsement of these organizations or their programs by the Centers for Disease Control and Prevention (CDC) or the New York City Health Department, and none should be inferred.

Example Resources	Websites
General Infection Control	
Centers for Medicare & Medicaid Services (CMS) Infection Control Worksheet Audit tools for each of the domains, from CMS	https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-15-12-Attachment-1.pdf
Hand Hygiene	
Hand Hygiene and Gloving Competency Assessment A quiz about hand hygiene and gloving practices that aligns with CDC and World Health Organization (WHO) guidelines, from Colorado Department of Public Health and Environment and partners	https://www.colorado.gov/pacific/sites/default/files/DC_CD_HAI-Hand-Hygiene-and-Gloving-Competency-Assessment-Tool.pdf



Example Resources	Websites
<p>Hand Hygiene Observation Tool An audit tool for recording health care personnel adherence to hand hygiene, from Park Nicollet Methodist Hospital, in partnership with the Minnesota Hospital Association</p>	<p>http://www.mnhospitals.org/Portals/0/Documents/ptsafety/ControllingCDI/5b_Controlling%20CDI%20Park%20Nicollet%20Methodist%20Hospital%20Hand%20Hygiene%20Auditing%20Tool.pdf</p>
<p>Hand Hygiene/Contact Precautions Monitoring Tool A monitoring tool for recording health care personnel adherence to hand hygiene and contact precautions, from United Hospital, in partnership with the Minnesota Hospital Association</p>	<p>http://www.mnhospitals.org/Portals/0/Documents/ptsafety/ControllingCDI/5a_Controlling%20CDI%20-%20%20United%20Hospital%20Hand%20Hygiene%20AuditingTool.pdf</p>
<p>Measuring Hand Hygiene Adherence: Overcoming the Challenges A comprehensive manual about hand hygiene programs, including examples of measurement tools starting on pg. 129, from The Joint Commission and partners</p>	<p>http://www.jointcommission.org/assets/1/18/hh_monograph.pdf</p>
Personal Protective Equipment	
<p>Contact Isolation Skills Competency Checklist A competency assessment checklist for donning and doffing gowns and gloves for contact isolation precautions, from the American Association of Nurse Assessment Coordination</p>	<p>https://www.aanac.org/docs/2015-ltc-leader/n-coley_capstonefinal.pdf?sfvrsn=2</p>
<p>Contact Precautions Monitoring Tool A monitoring tool for recording health care personnel adherence to hand hygiene and contact precautions, from United Hospital, in partnership with the Minnesota Hospital Association</p>	<p>http://www.mnhospitals.org/Portals/0/Documents/ptsafety/ControllingCDI/5a_Controlling%20CDI%20-%20%20United%20Hospital%20Hand%20Hygiene%20AuditingTool.pdf</p>



Example Resources	Websites
<p>Contact Isolation Skills Competency Checklist A competency assessment checklist for donning and doffing PPE and contact isolation precautions, from the American Association of Nurse Assessment Coordination</p>	<p>http://www.aanac.org/docs/2015-ltc-leader/n-coley_capstonefinal.pdf?sfvrsn=2</p>
<p>Urinary Catheter Insertion</p>	
<p>Streamlined Evidence-Based RN Tool Nurse-driven indwelling urinary catheter tool, including insertion checklist and bladder scan protocol, from the American Nurses Association</p>	<p>http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/Improving-Your-Practice/ANA-CAUTI-Prevention-Tool/ANA-CAUTI-Prevention-Tool.pdf</p>
<p>Urinary Catheter Insertion Checklist A checklist of best practices for Foley insertion, reprinted by the Pennsylvania Patient Safety Authority with permission from Doylestown Hospital</p>	<p>http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/cauti/Documents/insert_checklist.pdf</p>
<p>Female Insertion Audit Checklist A checklist of critical behaviors for use in auditing insertion practices in female urinary catheterization, reprinted by the Pennsylvania Patient Safety Authority with permission from Doylestown Hospital</p>	<p>http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/cauti/Documents/f_checklist.pdf</p>
<p>Male Insertion Audit Checklist A checklist of critical behaviors for use in auditing insertion practices in male urinary catheterization, reprinted by the Pennsylvania Patient Safety Authority with permission from Doylestown Hospital</p>	<p>http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/cauti/Documents/m_checklist.pdf</p>



Example Resources	Websites
Urinary Catheter Maintenance	
<p>Urinary Catheter Audit Form A checklist (pg. 1) to collect data on appropriate catheter maintenance during facility/unit audits, from Saint Patrick Hospital and Health Science Center and the Institute for Healthcare Improvement (Requires registration and log in)</p>	<p>http://www.ihl.org/resources/pages/tools/utibundlecomplianceaudittool.aspx</p>
Central Line Maintenance	
<p>Daily Central Line Maintenance Checklist A checklist to audit central line maintenance, from The Joint Commission</p>	<p>http://www.jointcommission.org/assets/1/6/CLABSI_Toolkit_Tool_3-23_Daily_Central_Line_Maintenance_Checklist_-_Template.pdf</p>
<p>Nursing Practice Observation Audit Form An audit form to collect observations when health care personnel are changing central line dressings, from the University of Rochester</p>	<p>https://www.urmc.rochester.edu/medialibraries/urmcmedia/community-health/research/communicable-disease-surveillance/healthcare-associated-infections/documents/nursingpracticeaudit.pdf</p>
Ventilator Associated Event (VAE) Prevention	
<p>VAP Weekly Rounding Form An audit tool to measure compliance with oral care, elevation of head of bed, subglottic suctioning, and spontaneous breathing trials, from John Hopkins Medicine</p>	<p>http://www.hopkinsmedicine.org/heic/docs/VAP_prevention_audit_tool.pdf</p>
<p>Ventilator Bundle Audit Form An audit tool to measure adherence to elevation of head of bed, stress ulcer prophylaxis, DVT prophylaxis, readiness to wean and daily spontaneous breathing trials, from the Florida Professionals in Infection Control</p>	<p>http://www.infectionpreventiontools.com/tools-and-resources/doc_details/85-ventilator-bundle-audit-form</p>



Appendix B

Stop Infection at the Door

ONE! TWO! THREE! FOUR! Stop Infection at the Door

Point of entry basics for front desk personnel: a four step process to manage potentially infectious visitors, volunteers, or other individuals who want to enter the nursing home.



- 1. RECOGNIZE:** Teach front desk staff how to identify potentially infectious visitors. Use signage — such as a Cover Your Cough poster — explaining people should wait to visit if they feel unwell.
- 2. CONTAIN SECRETIONS:** If a potentially infectious visitor chooses to remain, offer them a mask and tissues, and point out trash bins and hand sanitizer stations.
- 3. SEPARATE:** Try to place the potentially infectious person away from others in the waiting area.
- 4. EVALUATE:** Refer the visitor to the Nursing Supervisor for evaluation and education.

Appendix C

***Candida auris*: A drug-resistant yeast that spreads in healthcare facilities**

A CDC message to infection preventionists

Candida auris is a yeast that causes serious infections. Infection preventionists, healthcare workers, and laboratory staff can all help stop it from spreading.

Why is *Candida auris* a problem?

- **It causes serious infections.** *C. auris* can cause bloodstream and other types of invasive infections, particularly in patients in hospitals and nursing homes who have multiple medical problems. More than 1 in 3 patients die within a month of *C. auris* infection.
- **It is often multidrug-resistant.** Antifungal medications commonly used to treat *Candida* infections often don't work for *C. auris*. Some *C. auris* isolates are resistant to all three major classes of antifungal medications.
- **It's becoming more common.** Although *C. auris* was just recognized in 2009, it has emerged quickly. Since then, it has been reported from over 20 countries, including the United States.
- **It's difficult to identify.** *C. auris* can be misidentified as other types of yeast unless specialized laboratory methods are used. Unrecognized *C. auris* can spread to other patients in a facility, causing an outbreak. Identifying *C. auris* is critical to knowing what steps to take to control it in a healthcare setting.
- **It can spread in healthcare facilities.** Just like other multidrug-resistant organisms such as CRE and MRSA, *C. auris* can be transmitted in healthcare settings and cause outbreaks. It can colonize patients for many months, persist in the environment, and withstand many routinely used disinfectants in healthcare facilities.

Early detection and infection control can limit the spread of *C. auris*

Prepare for *C. auris* in your facility

1. Work with your laboratory to ensure the yeast identification method used in your facility can identify *C. auris*. If it cannot, know when to suspect *C. auris* and send suspected isolates to your state or local public health department for further identification.
2. Begin surveillance. Establish a protocol with your laboratory so that your department is promptly informed when *C. auris* is suspected.
 - i. If your laboratory is not equipped to identify *C. auris*, begin surveillance for organisms that commonly represent a *C. auris* misidentification. See www.cdc.gov/fungal/candida-auris for common misidentifications by yeast identification method.



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3. Know which patients are at higher risk for *C. auris*. These include:
 - i. Patients who have received healthcare in post-acute care facilities (e.g., nursing homes), especially those with ventilator units.
 - ii. Patients with a recent history of receiving healthcare outside the United States in a country with known *C. auris* transmission (visit www.cdc.gov/fungal/candida-auris for a map of countries). These patients have a higher risk of *C. auris* infection or asymptomatic colonization.
4. Have a response plan. Discuss recommendations for infection prevention and control of *C. auris* with healthcare staff, including environmental services.



What should I do if there is *C. auris* in my facility?

1. Check the CDC website for the most up-to-date guidance on identifying and managing *C. auris*: www.cdc.gov/fungal/candida-auris.
2. Report possible or confirmed *C. auris* immediately to your public health department.
3. Ensure adherence to CDC recommendations for infection control, including:
 - i. Place patients infected or colonized with *C. auris* in a single room on contact precautions
 - ii. Assess and enhance gown and glove use
 - iii. Reinforce hand hygiene
 - iv. Coordinate with environmental services to ensure the patient care environment is cleaned with a disinfectant that is effective against *C. auris* (i.e., those effective against *Clostridium difficile*) by searching “List K” at www.epa.gov. Work with the environmental services team to monitor the cleaning process.
4. After consulting with public health personnel, screen contacts of case-patients to identify patients with *C. auris* colonization. Use the same infection control measures for patients found to be colonized.
5. When a patient is being transferred from your facility (e.g., to a nursing home or other hospital), clearly communicate the patient’s *C. auris* status to receiving healthcare providers.

For more information, please contact the Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, Division of Foodborne, Waterborne, and Environmental Diseases.

1600 Clifton Road, NE, Mail Stop C-09, Atlanta, GA 30329-4018

Telephone: 800-CDC-INFO (232-4636)

E-mail: candidaauris@cdc.gov

Web: <https://www.cdc.gov/fungal>



