Long-Term Care and Skilled Nursing Facility Infection Prevention and Control Assessment Tools

These assessment tools are intended to guide individuals working in infection prevention and control in Florida-based long-term care facilities. It was created by a team of experts at the University of Florida as part of a collaborative project with the Florida Department of Health. The project was designed to provide support and education in infection prevention and control for Florida's nursing homes and long-term care facilities.

"These assessment tools aim to expand the existing knowledge in infection control to support our long- term care partners in delivering safe and effective services to their residents."

For more information about the project, please visit the website.

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Background

Urinary catheterization is the placement of a tube through the urethra into the bladder to obtain specimens for specific laboratory tests, relieve bladder distention, or infuse substances into the bladder. Catheter-associated urinary tract infections (CAUTI) are urinary tract infections occurring in an individual whose urinary bladder is catheterized or has been catheterized within the past 48 hours. CAUTIs remain a significant healthcare burden as they are the most common healthcare-associated infections and cause of secondary bloodstream infections and are associated with increased lengths of hospital stay, higher health-care financial expenditure, and high antibiotic resistance rates.

Prolonged indwelling catheterization is a major risk factor for CAUTI; the longer a catheter is in place, the higher the incidence of CAUTIs. Thus, removing an indwelling catheter as soon as it is no longer needed is key to CAUTI prevention. Regular perineal hygiene and the prevention of catheter-related trauma are other important interventions to reduce risk of catheter-associated urinary tract infection. There are limited conditions in which urinary catheterization and the use of indwelling urinary catheters should be utilized in short duration, 2 weeks or less, or in the long term, more than one month.

Appropriate Indications for Indwelling Urethral Catheter Use

- Acute urinary retention or bladder outlet obstruction
- Accurate measurement of urinary output monitoring in critically ill persons
- Perioperative use for selected surgical procedures:
    - Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract.
    - Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in the Post-Anesthesia Care Unit (PACU)).
    - Patients anticipated to receive large-volume infusions or diuretics during surgery.
    - Need for intraoperative monitoring of urinary output.

- To assist in healing of open sacral or perineal wounds in incontinent patients.
- Patient requires prolonged immobilization from trauma or surgery (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures).
- To improve comfort in end-of-life care (Hospice/comfort care/palliative care), if needed.

Inappropriate Uses of Indwelling Catheters

- Substitute for nursing care of the patient or resident with incontinence.
- To obtain urine for culture or other diagnostic tests when the patient or resident can voluntarily void.
- For prolonged postoperative duration without appropriate indications (e.g., structural repair of urethra or contiguous structures, prolonged effect of epidural anesthesia, etc.).

Alternatives to Indwelling Catheters

- External catheters are viable alternative to indwelling catheters.
    - For male anatomy, without urinary retention or bladder outlet obstruction, condom catheters may be utilized.
    - For female anatomy, recent innovative advances have led to viable, external urine management systems.
- Intermittent catheterization as needed, several times per day.

CAUTI Prevention

- Avoid unnecessary urinary catheters - insert ONLY if indicated and absolutely necessary.
- Sufficient staffing and staff education. Ensure only trained healthcare providers insert the catheter.
- Insert urinary catheter using aseptic technique.

    - Create standard supply kits that include catheter and all necessary items in one place or work with supply vendors to create/revise kits.
    - Use the smallest, softest catheter possible.

- Daily assessment of urinary catheter necessity and remove as soon as possible. Use reminder systems to target opportunities to remove catheter.
- Do not change indwelling catheters or drainage bags at routine fixed intervals.
- Always keep collection bag below the level of the bladder.
- Routine catheter maintenance
    - Maintain a sterile, continuously closed drainage system.
    - Keep catheter properly secured with a securement device to prevent movement and urethral traction.
    - Use standard precautions during any manipulation of the catheter or collection system.
    - Maintain unobstructed urine flow - avoid dependent loops and kinks.
    - Empty collection bag regularly, using a separate collecting container for each patient, and avoid allowing the draining spigot to touch the collecting container.
- Unless obstruction is anticipated, bladder irrigation is not recommended.
- Ensure adequate hydration and nutrition.
- Assess daily for signs and symptoms of urinary tract infection (UTI).
- Perineal care
    - Hand hygiene (specifically before handling the catheter)
    - Twice daily with soap and water, and as needed (e.g. after bowel movements)
    - Do not clean the periurethral area with antiseptics to prevent CAUTI with catheter in place.
- Obtain specimens using aseptic technique.

- Consider alternatives to catheters, such as intermittent catheterization and portable ultrasound bladder scans to detect residual urine amounts. Bladder scanning is non-invasive, easy, and quick.
- Ensure access to necessary equipment and supplies.

Transporting Someone with an Indwelling Catheter

- Perform hand hygiene immediately before and after handling the catheter or drainage system.
- Use clean gloves while handling the catheter or drainage system (catheter bag).
- Ensure the drainage bag is empty.
- Keep the drainage bag off the floor.
- Ensure the catheter tubing is securely fastened to the person.
- Move and secure the catheter bag prior to moving the person.
- Keep urine collection bag and tubing below bladder height.
- Avoid pulling on both the catheter and the bag.
- Ensure that the catheter tubing is not bent or compressed in any way (make sure person is not lying/sitting on the tubing).
- Do not place the collection bag on the patient's stretcher.
- Perform a second check prior to transport and visually confirm:
    - the catheter tube is patent
    - the catheter is secure
    - the drainage bag is empty

Common Failure Points during Catheter Insertion

- Contamination of sterile field
    - Examples
        - touching items on sterile field with bare, and/or non-sterile hands
        - stethoscope/garment/torso touches sterile field
- Contamination of the catheter
    - Examples
        - Labia close over the catheter during insertion
        - Catheter tip touched genitalia before being introduced into urethra.
- Breach of sterile barrier
    - Examples
        - sterile gloved hand used to swab genitalia (without tongs) and using same hand to insert catheter or sterile gloves tear and did not change gloves

Quality Improvement Programs

Purpose

- Ensure intuitional/organizational polices and practice reflect most current evidence-based recommendations.
- Implement quality improvement (QI) programs or strategies to enhance appropriate use of indwelling catheters and to reduce the risk of CAUTI
    - Assure appropriate utilization of catheters
    - Identify and remove catheters that are no longer needed (e.g., daily review of their continued need)
    - Ensure proper hand hygiene and catheter care
- Program should include providing competency-based training for all staff inserting catheters
    - Use checklists to help streamline insertions and assure they are done aseptically
    - Encourage the use of two people for catheter insertions to help ensure no breaks in aseptic technique
    - Recruit an insertion champion(s)
    - Conduct routine audits and provide timely feedback on aseptic insertion practices
- Assist in the creation of an organization culture that empowers staff to stop procedures if aseptic technique is broken

Surveillance

The CDC National Healthcare Safety Network (NHSN) has a Long Term Care Facility (LTCF) Component to track infections and prevention process measures, systematically, to identify problems, improve care, and determine progress toward national healthcare-associated infection goals. This document and the accompanying materials are available here - https://www.cdc.gov/nhsn/ltc/
The content directly related to CAUTI is located here - https://www.cdc.gov/nhsn/pdfs/ltc/ltcf-uti-protocol-current.pdf

Additionally, Agency for Healthcare Research and Quality (AHRQ) has multiple tools for Catheter-Associated Urinary Tract Infection Surveillance available here - https://www.ahrq.gov/hai/quality/tools/cauti-ltc/infection-surveillance.html

Daily Urinary Catheter Maintenance Rounding Audit Tool

Resident Name Room #	Indication for Catheter - Documented	Catheter care per shift - Documented	Securement device attached and comfortable per shift - Documented	Is the Indication catheter seal intact? Visual Assessment*	Is the drainage bag below level of the bladder? Visual Assessment	Is the drainage bag secure and off the floor? Visual Assessment	Is the tubing free of kinks and dependent loops? Visual Assessment	Is there a privacy bag in place? Visual Assessment	Comments
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
	*In certain settings, some residents may switch to using a leg bag during the day. So "maintaining closed systems" isn't always an option.								

Additional Resources

Organizational Websites

- Agency for Healthcare Research and Quality (AHRQ) Toolkit to Reduce CAUTI and Other HAIs in Long-Term Care Facilities - https://www.ahrq.gov/hai/quality/tools/cauti-ltc/index.html
- Association for Professionals in Infection Control and Epidemiology (APIC) Catheter-associated urinary tract infection (CAUTI) resource page - https://apic.org/resources/topic-specific-infection-prevention/catheter-associated-urinary-tract-infection/
- Bard® A Guide for Nurses - Comprehensive Care Management of Catheters and Collection Systems - https://media.bardmedical.com/media/1679/a-guide-for-nurses.pdf
- Centers for Control and Prevention (CDC) Catheter-Associated Urinary Tract Infections (CAUTI) - https://www.cdc.gov/infectioncontrol/guidelines/cauti/index.html
- CDC National Healthcare Safety Network Healthcare-associated Infection Surveillance Protocol for Urinary Tract Infection (UTI) Events for Long-term Care Facilities - https://www.cdc.gov/nhsn/pdfs/ltc/ltcf-uti-protocol-current.pdf
- CDC Urine Culture Stewardship in Hospitalized Patients - https://www.cdc.gov/hai/prevent/cauti/index.html
- Department of Health and Human Services Centers for Medicare & Medicaid Services-Urinary Catheter or Urinary Tract Infection Critical Element Pathway - https://www.cms.gov/files/document/cms-20068-urinary-catheter-utipdf

Videos

***Please note your supplies and technique may vary from these videos. Be sure to always read the instructions included with your supplied catheter kits. Also be sure to adopt the most current evidence-based practice associated with CAUTI prevention.**

- Physical Therapy Education Solutions (2021). Donning and Doffing Sterile Gloves - https://www.youtube.com/watch?v=oiPXywMNqFw
- Level Up RN (2022). Indwelling Urinary Catheter Insertion on Male - Clinical Nursing Skills - https://www.youtube.com/watch?v=OsVL10kIh8w (video also includes catheter removal)
- Simple Nursing (2022). Foley Catheter Insertion | How to Insert Catheter on Female Patient: DEMO - https://www.youtube.com/watch?v=13lBE4tsFOA
- University of Manitoba Nursing Skills (2019). How to perform Perineal Care with an Indwelling Catheter - https://www.youtube.com/watch?v=kVMfKVJN5J0

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- Cardinal Health (2020). Female urinary catheter insertion clinical competency checklist. Retrieved March 21, 2023, from https://www.cardinalhealth.com/content/dam/corp/web/documents/literature/cardinal-health-clinical-competency-checklist-female-urinary-catheter-insertion.pdf

- Cardinal Health (2020). Male urinary catheter insertion clinical competency checklist. Retrieved March 21, 2023, from https://www.cardinalhealth.com/content/dam/corp/web/documents/literature/cardinal-health-clinical-competency-checklist-male-urinary-catheter-insertion.pdf

- Centers for Disease Control and Prevention (2009) Guideline for Prevention of Catheter-Associated Urinary Tract Infections. Retrieved March 20, 2023 from https://www.cdc.gov/infectioncontrol/guidelines/cauti/index.html

- Meddings, J., Saint, S., Krein, S. L., Gaies, E., Reichert, H., Hickner, A., McNamara, S., Mann, J. D., & Mody, L. (2017). Systematic review of interventions to reduce urinary tract infection in nursing home residents. *Journal of Hospital Medicine*, *12*(5), 356–368. https://doi.org/10.12788/jhm.2724

- Toolkit To Reduce CAUTI and Other HAIs in Long-Term Care Facilities. Content last reviewed September 2021. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/hai/quality/tools/cauti-ltc/index.html

- Werneburg G. T. (2022). Catheter-associated urinary tract infections: Current challenges and future prospects. *Research and Reports in Urology, 14*, 109–133. https://doi.org/10.2147/RRU.S273663

Appendix

CAUTI Prevention Checklist - Transporting Someone with an Indwelling Catheter

	Perform hand hygiene
	Use clean gloves to handle the catheter and/or drainage bag
	Ensure the drainage bag is empty
	Ensure the catheter tubing is securely fastened to the person
	Move and secure the catheter bag prior to moving the person to wheelchair, bed or stretcher
	Ensure the urine collection bag and tubing stay below the person's bladder height
	Ensure there is no pulling on the catheter and the drainage bag
	Ensure that the catheter tubing is not bent or compressed in any way (make sure person is not lying/sitting on the tubing)
	Do not place the collection bag on the bed or stretcher (if used)

Infection Prevention and Control CLABSI Prevention Checklist

See Appendix A for Checklist

Background

Central venous catheters (CVC) are designed for long-term, safe, and convenient access to the venous or arterial systems for intravenous (IV) therapy. Many factors are considered prior to the decision to placement of a CVC such as pH and osmolarity of the necessary IV solution or medication, duration of therapy, the status of patient/resident veins for peripheral access, and disease process and health status. CVCs can have single or multiple lumens and the decision of the number of lumens depends on a patient's condition and prescribed therapy.

There are two primary types of central lines. One is tunneled catheters that are implanted surgically (by creating a subcutaneous track in the skin before entering the internal jugular, subclavian, or femoral vein. These catheters are for long-term, such as weeks to months, to deliver chemotherapy or hemodialysis. Tunneled catheters have a cuff that results in a fibrotic reaction around the catheter, creating a barrier to bacterial migration and decreased risk of CLABSI. The second type, non-tunneled catheters, are more commonly used. These catheters are temporary, inserted percutaneously and account for most CLABSIs. Since the non-tunneled catheter in on the skin surface, within 7 to 10 days of placement, bacteria on the skin surface can migrate along the external surface of the catheter towards the intravascular space. CLABSIs that occur after 10 days are usually caused by contamination of the hub (intraluminal) from a breach of standard aseptic precautions to access the hub. Less common mechanisms include hematogenous seeding of bacteria from a contaminated infuscate or another potential source.

Central Line-associated bloodstream infection (CLABSI) is a laboratory-confirmed bloodstream infection that occurs while a central line is in place or within 48 hours after the removal of a central line and that is not related to an infection at another site. Burden from CLABSI include increased hospitalized days (3-6 days), increased healthcare costs and increased morbidity and mortality. However, most CLABSI cases are preventable with proper aseptic techniques, assessment, and surveillance strategies.

Outpatient Indications for Indwelling Central Venous Catheter Use

- Difficult venous access
- Long-term intravenous therapy (eg, antimicrobial therapy, fluid therapy, chemotherapy, blood products, parenteral nutrition, etc.)
- Hemodialysis/renal replacement therapy
- Apheresis

CLABSI Infection Prevention Best Practice Strategies

- Assess the need for the central line daily.
- The subclavian vein is considered the preferable site for CVC insertion in the intensive care setting to reduce infectious complications.
- Use ultrasound guidance for catheter insertion; however, the procedure itself may jeopardize the strict observation of sterile technique.

- Chlorhexidine-containing dressings (CDC terminology is "chlorohexidine impregnated dressing") use is considered an "essential practice".
- Routine replacement of administration sets not used for blood, blood products, or lipid formulations can be performed at intervals of up to 7 days.
- Antiseptic-containing caps remain an "additional practice" because they are not considered superior to manual disinfection, an essential practice.
- Disinfect the catheter hubs, injection ports, and connections before accessing the line.
- Replace administration sets other than sets used for lipids or blood products every 96 hours.

Infrastructure Requirements for Facilities undertaking CLABSI Interventions

1. An adequately staffed infection prevention and control program responsible for identifying patients who meet the surveillance definition for CLABSI.
2. Infection prevention staff and, preferably, information technology support to collect and calculate catheter days as a denominator when computing rates of CLABSI and patient days to allow calculation of CVC utilization. Catheter days from information systems should be validated against a manual method, with a margin of error no greater than ±5%.
3. Resources to provide appropriate education and training.
4. Adequate laboratory support for timely processing of specimens and reporting of results, as specified by the supervisor of the surveillance program.

Central Line Maintenance Bundle

- **Healthcare Personnel Training**
    - All staff members manipulating CVCs should be required to attend a hands-on training class in the proper techniques for caring for and accessing catheters and complete a competency evaluation.
    - Use central line dressing change kits that include all the necessary materials to care for the central line using the best evidence, clinical guidelines and organizational policy.
    - Devise a method to identify next dressing change
    - Use a checklist and/or perform audits of dressing integrity and documentation of dressing change date
- **Hand Hygiene**
    - Healthcare personnel should use an alcohol-based hand rub or wash with soap and water for the following clinical indications:
        - Immediately before touching a patient
        - Before performing an aseptic task (e.g., placing an indwelling device) or handling invasive medical devices
        - Before moving from work on a soiled body site to a clean body site on the same patient
        - After touching a patient or the patient's immediate environment
        - After contact with blood, body fluids, or contaminated surfaces
        - Immediately after glove removal
    - Hand hygiene should be performed in accordance with current Centers for Disease Control and Prevention (CDC) recommendations:

        - Ensure that healthcare personnel perform hand hygiene with soap and water when hands are visibly soiled
        - Ensure that supplies necessary for adherence to hand hygiene are readily accessible in all resident care areas
        - U.S. Food and Drug Administration (FDA)-approved alcohol-based hand sanitizer with 60-95% alcohol should be in every resident room (ideally inside and outside of the room) and in other common resident care areas.
        - Unless hands are visibly soiled, an alcohol-based hand rub is preferred over soap and water in most clinical situations due to evidence of better compliance compared to soap and water. Hand rubs are generally less irritating to hands and, in the absence of a sink, are an effective method of cleaning hands.

- **Proper Dressing Change**
    - Cleaning
        - > 0.5 % chlorhexidine-based preparation with alcohol is the preferred agent
        - Scrub for 30 seconds using back and forth motion
        - Allow to dry completely
        - If contraindication to chlorhexidine alternatives include:
            - Tincture of iodine
            - Iodophor
            - 70% alcohol
            - **Please note, apply chosen product in accordance with manufacturer instructions and adhere to dry time accordingly. These alternatives do not fall under the 30 scrub time frame.**
    - Dressing
        - Use either sterile gauze or sterile, transparent, semipermeable dressing to cover the catheter site
        - For gauze dressings, change dressings every 2 days or earlier if the dressing is soiled, loose, or damp. If there is excessive bleeding or drainage from the catheter exit site, use gauze dressings instead of transparent dressings until drainage resolves.
        - Replace transparent dressing at least every 7 days (unless the dressing is soiled or loose)
        - For persons 18 years of age and older, Chlorhexidine-impregnated dressings with an FDA-cleared label that specifies a clinical indication for reducing catheter-related bloodstream infection (CRBSI) or catheter-associated bloodstream infection (CABSI) are recommended to protect the insertion site of short-term, non-tunneled central venous catheters
        - Do not submerge the catheter or catheter site in water. Showering should be permitted if precautions can be taken to reduce the likelihood of introducing organisms into the catheter (e.g., if the catheter and connecting device are protected with an impermeable cover during the shower).

- **Site Assessment**
    - Assess for redness, site tenderness, pain or exudate every shift
- **Aseptic technique for accessing and changing needleless connector**

    - Performing proper hand hygiene
    - Vigorously scrubbing the needleless connector or hub for 5-15 seconds with chlorhexidine, povidone iodine, an iodophor or 70% alcohol every time you make or break a connection
    - Allowing equal time for drying
    - Change needleless connectors no more frequently than every 72 hours or according to manufacturers' recommendations for the purpose of reducing infection rates
- **Standardize tubing change**
    - In residents not receiving blood, blood products or fat emulsions, replace administration sets that are continuously used, including secondary sets and add-on devices, no more frequently than at 96-hour intervals, but at least every 7 days
        - Total parenteral nutrition (TPN)/Intralipids every 24 hours
        - Blood/blood products administration no more than 24 hours or more frequently per facility policy
        - Chemotherapy tubing after each administration
        - Propofol every 6-12 hours, when vial changed
- **Daily review of CVC necessity**
    - Assess the need for continued intravascular access daily during multidisciplinary rounds and remove catheters not essential for patient care to decrease corresponding infection risk.
    - Document the review has been performed
- **Surveillance**
    - Perform surveillance for CLABSI and report the data on a regular basis to the units, physician and nursing leadership, and hospital administrators overseeing the units.

Audit Tools (additional tools in Appendix)

- California Department of Public Health - Central Line Associated Bloodstream Infection Surveillance - https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/AdherenceMonitoringCLABSIcentral_line_maintanance_practicesApproved101516.pdf
- Agency for Healthcare Research and Quality (AHRQ) Appendix 6: Central Line Maintenance Audit Form - https://www.ahrq.gov/hai/clabsi-tools/appendix-6.html

Additional Resources

Websites

- Centers for Disease Control and Prevention
    - Checklist for Prevention of Central Line Associated Blood Stream Infections - https://www.cdc.gov/hai/pdfs/bsi/checklist-for-CLABSI.pdf
    - Summary of Recommendations for Intravascular Catheter-related Infection - https://www.cdc.gov/infectioncontrol/guidelines/BSI/index.html
    - Central Line-Associated Bloodstream Infections in Non-Intensive Care Unit Settings Toolkit - https://www.cdc.gov/hai/pdfs/toolkits/CLABSItoolkit_white020910_final.pdf

    - Maintenance and Removal of Central Venous Catheters Presentation - https://www.cdc.gov/infectioncontrol/pdf/strive/CLABSI104-508.pdf
- CDC National Healthcare Safety Network (NHSN)
    - Bloodstream Infection (BSI) Events - https://www.cdc.gov/nhsn/psc/bsi/
    - FAQs: Bloodstream Infection Events - https://www.cdc.gov/nhsn/faqs/faq-bsi.html
- California Department of Public Health - Central Line Associated Bloodstream Infection Surveillance (presentation) - https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/2019_17h_CLABSI.Surveillance_Approved02.22.19.pdf
- The Joint Commission - Central Line-Associated Bloodstream Infections Toolkit and Monograph - https://www.jointcommission.org/resources/patient-safety-topics/infection-prevention-and-control/central-line-associated-bloodstream-infections-toolkit-and-monograph/

Videos

***Please note your supplies and technique may vary from these videos. Be sure to always read the instructions included with your supplied dressing change kits. Also be sure to adopt the most current evidence-based practice associated with CLABSI prevention.**

- CDC 2022 NHSN Training - I Can See Clearly Now a CLABSI Exclusion is Met: BSI CLABSI Exclusions - https://www.youtube.com/watch?v=LkdGTlssxx8
- PDI Healthcare (2015) - Potential Sources of CLABSIs - https://www.youtube.com/watch?v=84QINczkX3w
- iMPROve Health (2017) - Preventing CLABSI in Skilled Nursing Facilities - https://www.youtube.com/watch?v=5cUju9SAW4E
- Nursing and NCLEX Mastery (2021). Central Line (CVC) Dressing Change | Nurse Skill Demo - https://www.youtube.com/watch?v=ltzVgwDrZ1A

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- Performing Dressing Care for a Central Venous Access Device. (2023). Elsevier My Evolve. Retrieved March 20, 2023, from https://evolve.elsevier.com/cs/
- The Joint Commission - Central Line-Associated Bloodstream Infections Toolkit and Monograph
- O'Grady NP, Alexander M, Burns LA, Dellinger EP, Garland J, Heard SO, Lipsett PA, Masur H, Mermel LA, Pearson ML, Raad II, Randolph AG, Rupp ME, Saint S., Healthcare Infection Control Practices Advisory Committee (HICPAC). Guidelines for the prevention of intravascular catheter-related infections. Clin Infect Dis. 2011 May;52(9):e162-93.

Appendix – CLABSI Prevention - Audit Tools

Infrastructure Requirements for Facilities undertaking CLABSI Interventions

	An adequately staffed infection prevention and control program responsible for identifying patients who meet the surveillance definition for CLABSI.
	Infection prevention staff and, preferably, information technology support collecting and calculating catheter days as a denominator when computing rates of CLABSI and patient days to allow calculation of CVC utilization. Catheter days from information systems should be validated against a manual method, with a margin of error no greater than ±5%.
	Resources to provide appropriate education and training.
	Adequate laboratory support for timely processing of specimens and reporting of results, as specified by the supervisor of the surveillance program.

AHRQ Central Line Insertion Care Team Checklist – from https://www.ahrq.gov/hai/patient-safety-resources/cli-checklist/index.html

If there is a deviation in any of the critical steps, immediately notify the staff member and stop the procedure until corrected. If a correction is required, make a check mark in the "Yes with reminder" column and note what correction was made in the comment space, if applicable. Uncorrected deviations and complications of line placement are to be reported. Contact the supervisor if any item on the checklist is not adhered to or with any concerns.

Prior to Insertion

Critical Steps	**Yes**	**Yes With Reminder**	**Report Completed for Procedure Deviation?**	**Comments:**
Obtain informed consent?				
Obtain supervision if needed?				N/A [ ]
Perform a time-out/briefing?				
Confirm hand washing/sanitizing immediately prior?				
Staff with personal protection equipment (PPE): cap, mask, isolation gown, and gloves, eye protection (if at risk for entering sterile field, use sterile gown and gloves)?				
Proper position to prevent air embolism? For Chest/EJ: Trendelenburg (HOB <0 degrees)				

Femoral: supine (avoid for adults if possible)				
Sterilize procedure site (chlorhexidine)?				
Allow site to dry?				
Use sterile technique to drape from head to toe?				
Utilize local anesthetic and/or sedation?				N/A [ ]

During the Procedure

Critical Steps	**Yes**	**Yes With Reminder**	**Report Completed for Procedure Deviation?**	**Comments:**
Maintain a sterile field?				
Monitor that lumens were not cut?				N/A [ ]
Clamp any ports not used during insertion (to avoid air embolism, clamp all but distal port)?				N/A [ ]
Obtain qualified second operator after 3 unsuccessful sticks (except if emergent)?				N/A [ ]
Aspirate blood from each lumen (to avoid air embolism and ensure intravascular placement)?				
Transduce central venous pressure (CVP) or estimate CVP by fluid column (to avoid arterial placement)?				N/A for fluoroscopy procedures [ ]

After the Procedure

Critical Steps	**Yes**	**Yes With Reminder**	**Report Completed for Procedure Deviation?**	**Comments:**
Clean blood from site using antiseptic agent (chlorhexidine), apply sterile dressing				
Verify placement by x-ray (tip in superior vena cava-right atrial (SVC/RA) junction)				N/A for fluoroscopy procedures [ ]

Central Line Maintenance Audit Tool – from https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/AdherenceMonitoringCLABSIcentral_line_maintanance_practicesApproved101516.pdf

Resident Name Room #	Insertion date - Documented	Indication for Central Line Assessed Daily – Documented	Soiled, wet or dislodged dressings are changed - Documented	Sterile gauge, transparent or semi-permeable dressing used and in place ≤ 7 days - Documented# and Visual Assessment	Antiseptic-containing protector caps used for all line connectors - Visual Assessment*	CHG-impregnated sponge applied at insertion site - Visual Assessment	Tubing and administration set in place ≤ 7 days - Documented# and Visual Assessment	If receiving TPN/Lipids, tubing is dated and timed to ensure change every 24 hours Documented# and Visual Assessment	Daily bathing with 2% CHG solution done – Documented*	Comments
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	
	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N		Y / N	
	# dressing must be dated – Mark "No" if no date on dressing ***If this is facility policy**									

Central Line Dressing Change Audit Tool

Critical Steps	Yes	Yes with Reminder	Comments
Gathered the necessary equipment and supplies.			
Introduced self to the patient/resident and family if present.			
Identified the patient/resident using two identifiers.			
Explained the procedure and ensured that they agree to process and plan of care.			
Performed hand hygiene and provided privacy.			
Positioned the patient in a comfortable position, with head slightly elevated. If the patient had a peripherally inserted central catheter (PICC) or midline device, extended the arm with the line.			
Applied a mask and clean gloves.			
Asked the patient to turn head away from the dressing site.			
Removed the old dressing in the direction of the catheter insertion.			
Discarded the old dressing in the appropriate biohazard container.			
Removed the catheter stabilization device if one used.			
Assessed catheter, the insertion site, and the surrounding skin. If PICC line, measured the patient's mid-arm circumference above the insertion site to assess for thrombosis.			
Removed and discarded clean gloves and performed hand hygiene.			
Opened the CVC dressing kit using sterile technique.			
Opened the steri-strips and placed them on the sterile field.			
Donned sterile gloves.			
Cleansed the site.			
Applied a skin protectant to the entire area and allowed it to completely dry.			
When indicated per agency policy, a chlorhexidine-impregnated disk was applied for short-term central venous access devices (CVADs).			

Applied a new catheter stabilization device or steri-strips according to the manufacturer's instructions if the catheter had not been sutured into place.			
Applied a sterile transparent semipermeable dressing or gauze dressing over the insertion site.			
Removed gloves and performed hand hygiene.			
Applied a label to the dressing that indicated the date and time the dressing was changed and initialed.			
Disposed of all soiled supplies and used equipment.			
Documented the patient's response and expected or unexpected outcomes.			

Infection Prevention and Control Cleaning and Disinfection Tool

This tool is based on recommendations from the Guidelines for Environmental Infection Control in Health-Care Facilities (July 2019 update).

Background:

It is important to clean and disinfect equipment and environmental surfaces properly in order to reduce the risk of transmission of microbes from the environment to patients or healthcare workers. Proper cleaning and disinfection includes:

- Designating which roles or individuals are responsible for different types of cleaning and disinfection (Tables 1 and 2)
- Choosing the right cleaning and disinfection procedure (Tables 1 and 2)
- Carrying out cleaning and disinfection in the right order (Table 3)
- Paying special attention to high touch surfaces (Table 4)
- Following manufacturer guidelines for dilution, use, and storage of disinfectants

This document is designed to be customized by individual healthcare facilities to create a cleaning and disinfection plan.

Individual(s) responsible for overseeing cleaning/disinfection in the facility:

Name: _____ Role: _____

Name: _____ Role: _____

Individual(s) responsible for auditing cleaning/disinfection in the facility:

Name: _____ Role: _____

Name: _____ Role: _____

Table 1: Environmental surfaces cleaning and disinfection responsibilities chart (to be completed by facility)

Patient Room Cleaning/Disinfection List	Person/Role Responsible	Product(s)	Method	Frequency of Cleaning/Disinfection	Source
Routine cleaning of common areas			Clean high-touch surfaces	Suggested to be at least daily	https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
Routine cleaning of high touch surfaces in patient room (See Table 3)			Clean high-touch surfaces	Suggested to be at least daily	https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
Routine cleaning of low-touch surfaces (like floors and walls)			Clean low-touch surfaces	Suggested to be on a scheduled basis, at least weekly	https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
Terminal cleaning of patient rooms			Clean and disinfect all low- and high-touch surfaces	Required after transferring or discharging a patient from a room	https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
Replace bedside curtains			Remove and replace with clean curtain	Required when visibly soiled, per AHCA Recommended after discharge of a patient who was on isolation precautions for an MDRO	https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf

Patient Room Cleaning/Disinfection List	Person/Role Responsible	Product(s)	Method	Frequency of Cleaning/Disinfection	Source
Place clean linens on bed			Remove and replace with clean linen	Required when visibly soiled, per AHCA; Recommended to be at least weekly	https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf
Remove/replace dirty linen bag from room			Secure bag and remove from room; replace bag	As needed	
Empty trash cans				As needed	
Clean blinds/window curtains			Dust blinds in a way that minimizes dust dispersion; suggested to use a hydrostatic cloth	Suggested when visibly soiled	https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines-P.pdf (Page 90)
Clean blood/body fluid spills		Do not use combined detergent-disinfectant product; use intermediate-level disinfectant	Clean and disinfect;	Immediately after spill occurs	https://www.cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html
Clean of food/drink spills			Clean	Immediately after spill occurs	

Patient Room Cleaning/Disinfection List	**Person/Role Responsible**	**Product(s)**	**Method**	**Frequency of Cleaning/Disinfection**	**Source**
Replace soap and hand rub containers in dispensers			Replace product; Do not top off soap or hand sanitizer dispensers	When product volume is low or empty	https://www.cdc.gov/handhygiene/providers/index.html
Other (Specify)					
Other (Specify)					
Other (Specify)					
Other (Specify)					

Table 2: Patient care equipment cleaning and disinfection responsibilities chart (to be completed by facility)

Patient Care Equipment Cleaning/Disinfection List	Person/Role Responsible	Products/Technique	Frequency of Cleaning/Disinfection
IV pole			
IV pump			
Glucose monitor			
Blood pressure cuff			
Thermometer			
Patient lift			
Commode			
Computer monitor			
Computer keyboard and mouse			
Remove and replace sharps/biohazard containers			
Other (Specify)			
Other (Specify)			

Table 3: Order of tasks for cleaning and disinfection

Task	Check off when completed
1. Remove trash and soiled linen	
2. Always perform hand hygiene before and after cleaning/disinfection.	
3. Wear appropriate personal protective equipment based on the individual situation (Required PPE for isolation precautions, gloves/ gown/eye protection for blood/body fluid spill cleanup, etc.).	
4. Cleaning should always come before disinfection unless your facility is using an approved combination cleaning/disinfection product.	
5. Cleaning and disinfection should occur from high to low (top of the room to the bottom of the room) and from cleaner to dirtier.	
6. Cleaning and disinfection should be done in a consistent manner (ex. left to right or clockwise)	
7. Dust high surfaces like shelves, TVs, wall mounted monitors, light fixtures.	
8. Clean and disinfect low touch surfaces, starting with those that are higher up and moving to those that are lower down.	
9. Clean and disinfect high touch surfaces in cleaner areas of the room, starting with those that are higher up and moving to those that are lower down	
10. Clean and disinfect high touch surfaces in dirtier areas of the room (usually closer to the bed space), starting with those that are higher up and moving to those that are lower down	
11. Clean patient areas before cleaning patient bathroom/toilet	

Table 4: High touch surfaces checklist

Surface	Check off when completed
Bed rails	
Tray table/over bed table	
Bedside table	
Light switches	
Door knobs	
Telephone	
Call box	
Sink handles	
Toilet flush lever	
Toilet seat	
Hand rails in bathroom	
Bedside chair	
Countertops	
Other (Specify)	
Other (Specify)	

Infection Prevention and Control Hand Hygiene Tool

This tool is based on recommendations from the CDC's Hand Hygiene in Healthcare Settings (January 2021 update).

Background:

Consistently following best practices in hand hygiene is critical to patient safety. This tool is designed to assist long-term care/skilled nursing facilities in creating a hand hygiene plan and in auditing hand hygiene compliance.

I. Products

a. Which products are approved and available for hand hygiene? (To be completed by facility)

Hand soap name and manufacturer: _____

Alcohol-based hand rub (ABHR) name and manufacturer: _____

Alcohol-based hand wipes: _____

Hand lotion: _____

b. Does the alcohol-based hand rub contain 60% to 95% alcohol? Yes ☐ No ☐

c. Are any healthcare workers in the facility approved to use a soap, ABHR, or lotion that is not approved for general use (for example, due to allergy)? Identify name and role of the employee(s):

_____

d. If a soap dispenser or ABHR dispenser is empty, what is the procedure for getting it replaced?

_____

II. Training

a. Are employees training on hand hygiene best practices when hired? Yes ☐ No ☐

b. Is a hand hygiene training refresher required regularly? Yes ☐ No ☐

If "yes", how often is a refresher required? _____

III. Hand Hygiene Requirements

a. When is handwashing with soap and water required instead of using ABHR? (Check all that apply)

- ☐ Before eating
- ☐ After eating
- ☐ When hands are visibly soiled
- ☐ After using the restroom
- ☐ When caring for a patient with C. diff
- ☐ Not specified

b. When are healthcare workers required to do hand hygiene for patient care? (Check all that apply)

- ☐ Before entering the patient room
- ☐ After exiting the patient room
- ☐ Before putting on gloves
- ☐ After removing gloves
- ☐ Right before touching a patient
- ☐ Before an aseptic task
- ☐ When moving from a contaminated task or area (like Foley care) to a clean task or area
- ☐ After contact with the patient care environment (such as high touch surfaces)

c. Are patients given information about hand hygiene? Yes ☐ No ☐

d. When are patients required or encouraged to do hand hygiene?

- ☐ After using the restroom
- ☐ Before eating
- ☐ After eating
- ☐ After leaving their room

e. Are visitors given information about hand hygiene? Yes ☐ No ☐

f. When are visitors required or encouraged to do hand hygiene?

- ☐ When entering the facility
- ☐ When exiting the facility
- ☐ After using the restroom

IV. Nails

a. Does the facility have a policy about nails? Yes ☐ No ☐

b. Are natural nails required to be less than ¼ inch in length? Yes ☐ No ☐

c. Are healthcare workers allowed to wear nail polish? Yes ☐ No ☐

d. Are healthcare workers allowed to wear artificial or gel nails? Yes ☐ No ☐

V. Product Availability Audits (from CDC Hand Hygiene ICAR tool)

a. Audit of Alcohol-Based Hand Sanitizer Dispensers (Assess at least 3 different ABHS dispensers, including at least 1 in patient/resident room, weekly)

Location/Unit/Room	Ready to Dispense (i.e. Not Empty)		Dispenses Adequate Volumes	
	☐ Yes	☐ No	☐ Yes	☐ No
	☐ Yes	☐ No	☐ Yes	☐ No
	☐ Yes	☐ No	☐ Yes	☐ No

b. Audit of Hand Hygiene Sinks (Assess at least 3 different sinks, including at least 1 in patient/resident room, weekly)

Location/Unit/Room	Soap available	Paper towels available	Does the sink drain?	Sink basin free from clutter	Clean supplies are not stores within the splash zone
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

VI. Hand Hygiene Audits

a. What is the facility's current hand hygiene rate?

_____

b. What is the facility's hand hygiene compliance goal? (e.g., "Our goal is 95% compliance with hand hygiene based on the WHO's 5 Moments of Hand Hygiene")

_____

_____

c. Do you use an app to audit hand hygiene? Yes ☐ No ☐

If yes, which app do you use? _____

d. Do you use the AHRQ Hand Hygiene Observational Audit Data Tracking Tool for Use in Skilled Nursing Facilities? Yes ☐ No ☐

e. Do you use another standard methods of auditing hand hygiene? Yes ☐ No ☐

If yes, what do you use? _____

f. Audit of Hand Hygiene Adherence (from CDC Hand Hygiene ICAR tool)

Location/Unit	Staff type	Type of opportunity	Hand hygiene performed?	Comments
		☐ Room Entry ☐ Room exit ☐ Before patient /resident contact ☐ Before clean/aseptic procedure ☐ After patient /resident contact ☐ After glove removal ☐ Other (Specify):	☐ ABHR ☐ Hand wash ☐ No hand hygiene done	
		☐ Room Entry ☐ Room exit ☐ Before patient /resident contact ☐ Before clean/aseptic procedure ☐ After patient /resident contact ☐ After glove removal ☐ Other (Specify):	☐ ABHR ☐ Hand wash ☐ No hand hygiene done	
		☐ Room Entry ☐ Room exit ☐ Before patient /resident contact ☐ Before clean/aseptic procedure ☐ After patient /resident contact ☐ After glove removal ☐ Other (Specify):	☐ ABHR ☐ Hand wash ☐ No hand hygiene done	
		☐ Room Entry ☐ Room exit ☐ Before patient /resident contact ☐ Before clean/aseptic procedure ☐ After patient /resident contact ☐ After glove removal ☐ Other (Specify):	☐ ABHR ☐ Hand wash ☐ No hand hygiene done	

Infection Prevention and Control New Product Evaluation Tool

Background: All proposed new products should be evaluated for their risk of transmission of infection before they are approved for use in the facility.

I. Product Assessment Categories

a. **Cost** - Infection control concerns should come before any financial considerations. Cost alone is not a sufficient reason to select a product.

b. **Approval** - Has the product been tested and approved for use in the healthcare setting? In general, facilities should avoid products that are not U.S. Food and Drug Administration (FDA) or U.S. Environmental Protection Agency (EPA) approved.

c. **Cleaning** – If the product is reusable then the cleaning and disinfection requirements for the product need to be assessed. Is the facility able to meet those requirements? Are there any concerns that the item cannot be cleaned/disinfected/reprocessed correctly because of its design?

d. **Safety** - What is the likelihood of a sharp object injury or blood borne pathogen exposure occurring with the product? If the product is replacing one that is already in use, then it must be as safe as, or safer than, the original product.

e. **Acceptability** - Will the healthcare workers use the product correctly? If healthcare workers are against the product then they might find a different product to use or they might use it incorrectly. Healthcare personnel should be involved in the decision to accept a new product so that they will be more likely to use it correctly.

Infection Prevention and Control New Product Evaluation Tool Assessment Chart

The following chart can be completed and saved to demonstrate that new products were assessed by infection control. Fill in the product name, manufacturer, web link, and assessment date, and then check off that the product is acceptable for each of the product assessment categories. Add any relevant notes.

Product Name	Manufacturer	Web Link	Assessment Date	Cost	Approval	Cleaning	Safety	Accept -ability	Notes

Infection Prevention and Control Personal Protective Equipment (PPE) Tool

Background:

Wearing the appropriate PPE in the correct way is important for protecting healthcare workers against infection and for preventing the spread of infections among patients.

I. Products

a. Which PPE are approved and available in the facility? (To be completed by facility; add product name(s) and manufacturer(s))

Product Name	Manufacturer	Website	Approved	Available
Disposable cover/isolation gowns				
Reusable cover/isolation gowns				
Surgical/procedure masks				
N95 respirator				
Goggles				
Surgical/procedure mask with eye shield				
Shoe covers				
Face shield				
Purified Air Powering Respirator (PAPR)				
Elastomeric Respirator				

II. Training

Are employees trained on proper PPE use when hired [Including donning (putting on PPE), doffing, (taking off PPE), when to wear PPE, how to dispose of PPE?

Yes ☐ No ☐

Is a PPE use training refresher required regularly? Yes ☐ No ☐

If "yes", how often is a refresher required? _____

III. PPE Use and Requirements

a. Are gowns required to be worn with the opening in the back? Yes ☐ No ☐

b. Are gown required to be tied/secured? Yes ☐ No ☐

c. Is there an N95 respirator fit test program at the facility? Yes ☐ No ☐

d. Where are PPE stored for healthcare workers to access for patient care? (Check all that apply)

PPE	Outside Patient Room	Inside Patient Room	Nursing station	Other (specify):
Gowns				
Gloves				
Surgical/procedure masks				
N95 respirators				
Goggles				
Surgical/procedure mask with eye shield				
Shoe covers				
Face shield				
Purified Air Powering Respirator (PAPR)				
Elastomeric Respirator				

e. PPE Use by Risk Factor for Standard Precautions

Situation	Risk	Recommended PPE
Patient is actively coughing	Transmission by droplets, airborne, and contact	Gown, gloves, eye protection, mask (surgical or N95 depending on clinical information)
Patient has an uncovered and/or draining wound	Transmission by contact	Gown, gloves
Patient is vomiting	Transmission by droplets, airborne, and contact	Gown, gloves, eye protection, mask (surgical or N95 depending on clinical information)
Cleaning up blood/body fluid spill	Transmission by contact or by splash	Gown, gloves, eye protection, mask (surgical or N95 depending on clinical information)
Emptying Foley bag	Transmission by contact or by splash	Gown, gloves, eye protection, mask (surgical or N95 depending on clinical information)
Replacing sharps container	Transmission by contact	Gloves
Removing soiled linen bag	Transmission by contact	Gloves
Assisting patient with toileting	Transmission by contact	Gloves

III. Product Availability Audits

a. Audit of PPE availability (Assess at least 3 different patient/resident rooms weekly)

PPE	Sufficient quantity available	
Gowns	☐ Yes	☐ No
Gloves	☐ Yes	☐ No
Surgical/procedure masks	☐ Yes	☐ No
N95 respirators	☐ Yes	☐ No
Goggles	☐ Yes	☐ No
Surgical/procedure mask with eye shield	☐ Yes	☐ No
Shoe covers	☐ Yes	☐ No
Face shield	☐ Yes	☐ No
Purified Air Powering Respirator (PAPR)	☐ Yes	☐ No
Elastomeric Respirator	☐ Yes	☐ No

IV. PPE Audits

a. What is the facility's current PPE compliance rate? _____

b. What is the facility's PPE compliance goal? (e.g., "Our goal is 95% compliance with correct PPE use based on standard precautions, enhanced barrier precautions, and isolation precautions")

_____

_____

c. Audit of PPE adherence

Location/Unit	Staff type	Task	Correct PPE Selected?	PPE worn correctly?	Comments
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	

Infection Prevention and Control Surveillance Plan Tool

Background: Public Health surveillance is defined as "the ongoing, systematic collection, analysis, interpretation, and dissemination of data about a health-related event for use in public health action to reduce morbidity and mortality and to improve health"[1]. A surveillance plan is critical to ensure that a facility collects, analyzes, and reports on data that is relevant to their population and to their infection control priorities. This surveillance plan tool will help your facility assess your own surveillance needs and develop a working surveillance plan.

I. Population Assessment – Understanding your specific population will help you set priorities for surveillance.

(Adapted from Lee, T. B., Montgomery, O. G., Marx, J., Olmsted, R. N., & Scheckler, W. E. (2007). Recommended practices for surveillance: Association for Professionals in Infection Control and Epidemiology (APIC), Inc. American Journal of Infection Control, 35(7), 427-440.)

a. What population does the facility serve?
b. What diagnoses are most common in the facility?
c. What indwelling devices are most common in the facility?
d. What indwelling devices increase the risk of infection for patients/residents
e. What interventions are most common in the facility?
f. What MDROs are priorities for prevention in the facility?
g. What infectious conditions are the most costly for the facility?
h. What infectious conditions result in the poorest outcomes for patients/residents?
i. What other infectious conditions are priorities for prevention in the facility?

II. Priority List

From your responses to the questions, create a basic priority list of conditions and populations at risk that you might want to focus your surveillance on.

a. (Example, patients with indwelling urinary catheters)
b. (Example, patients who are infected or colonized with *Candida auris*)
c.
d.
e.

III. Required surveillance

List any surveillance related to infection prevention and control that your facility is required by state, national, or regulatory agency requirements to carry out

a.
b.
c.
d.

[1] Buehler J, Hopkins R, Overhage J, Sosin D, Tong V, CDC Working Group. Framework for evaluating public health surveillance systems for early detection of outbreaks. Recommendations from the Centre for Disease Control and Prevention Working Group. MMWR Recomm Rep. 2004;53(RR-5):1–11. [PubMed]

IV. Other surveillance

List any surveillance not mentioned in II or III that the facility wants to conduct for quality improvement related to infection control

a.
b.
c.
d.
e.

V. Select surveillance outcomes or processes

From the lists that were created in sections II, III, and IV, select the outcomes or processes that will be given priority in the current surveillance plan. This will not necessarily be the final list of surveillance items so consider being more inclusive at this step.

Note: Processes are actions that may prevent an infection, like assessing the need for a Foley catheter daily or assuring that Enhanced Barrier Precautions are being used when needed.
Outcomes are the results that are being assessed, like the number of Catheter-associated urinary tract infections or the number of *Candida auris* infections and colonizations.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

VI. Plan for data collection

Identify the data sources that might support the processes and outcomes identified in V. Note that both numerator data (events) and denominator data (people at risk, device days, patient days, etc.) need to be easily and consistently available for a surveillance outcome or process to be useful to the facility.

Surveillance outcome or measure	**How often will the process or outcome be measured**	**Numerator**	**Numerator source**	**Denominator**	**Denominator Source**	**Individual/role who is designated to gather the data**
1.(Ex. Catheter-associated UTIs)	Monthly	Number of patients who had a CAUTI in the specified time period	Determination of CAUTI based on NHSN surveillance definition	Number of patients who had a Foley catheter in place for 48 hours or more during the specified time period	Electronic medical records, nursing flow sheets, other	
2.(Ex. Infection or colonization with *C. auris*)	Quarterly	Number of patients with a positive *C. auris* lab in the specified time period	Lab reports of positive *C. auris* cultures	All patients "at risk" for *C. auris* (meaning any patient who could possible become infected or colonized with *C. auris*) during the specified time period	Patient census	
3.						
4.						

VII. Data Availability

At this stage, confirm that data are available and consistent for each of the outcomes or processes listed in VI. If data are not available or cannot be obtained in a consistent manner then remove the outcome or process from the priority list for the surveillance plan.

Confirm the updated outcomes or processes that will be given priority in the current surveillance plan. The final number of surveillance processes and outcomes will depend on the individual facility.

1.
2.
3.
4.
5.
6.
7.

VIII. Set goals/targets and actionable limits

Surveillance needs to be linked to action. There is no value in collecting surveillance data if there's no plan to act on it. Knowing current and past rates, whether monthly, quarterly, or annual, of the selected surveillance processes and outcomes will help set targets for improvement and define limits at which action needs to be taken.

Surveillance outcome or measure	**Most recent rate**	**Rate for Qtr 1**	**Rate for Qtr 2**	**Rate for Qtr 3**	**Rate for Qtr 4**	**Rate for Year to Date**	**Goal**

IX. Report surveillance results

Reporting and acting on surveillance results is critical to quality improvement in infection prevention and control.

Surveillance outcome or measure	**How will the results be reported? (Specify report, meeting, etc.)**	**How often will the results be reported?**	**Who is responsible for reporting?**	**Who reviews the report?**
1.(Ex. Catheter-associated UTIs)	Reported at the CAUTI meeting and in the surveillance report	Quarterly	Director of Infection Prevention and Control	Director of Nursing
2.(Ex. Infection or colonization with *C. auris*)	Reported in the surveillance report	Quarterly	Director of Infection Prevention and Control	Healthcare administrator
3.				
4.				
5.				

Infection Prevention and Control Tracheostomy Care Checklist

Background

Tracheostomy is a surgical procedure where an artificial opening, or stoma, is created in the trachea to establish an airway through the neck. Usually, the surgically created stoma is maintained by inserting a tracheostomy tube through the opening. Physical conditions that indicate the placement of tracheostomy devices include relief of upper airway obstruction from tumor or necessary surgery, suctioning and removal of airway secretions, and to provide a stable airway in individuals requiring prolonged mechanical ventilation. Within long-term care facility residents, approximately 1.4% have tracheostomy devices, however, most of them do not require mechanical ventilation.

For persons with tracheostomy devices, there is a high susceptibility for infection due to the loss of function of the upper and lower airway. The trach tube prevents the physiological function of warming, cleaning, and moistening air in the upper airway. Also, tracheostomy can lead to the development of pathological changes of the lower airways, including damage to the ciliated tracheal mucosa, thickening of airway secretions, and the loss of the cilia waves that move mucus. Repeated cleaning and suctioning of the trachea and lower airway is necessary secondary to poor secretion management and results in resident discomfort/pain and also increases the risk of lower respiratory tract infection and airway obstruction. There is also an increased risk of aspiration.

Tracheostomy Infection Prevention

Tracheobronchitis or pneumonia are the two most frequently infections associated with tracheostomy devices. Infections can stem from bacterial sources, may be bacterial such as gram-negative organisms, Streptococcus pneumoniae, Haemophilus influenzae, Staphylococci and b Haemolytic Streptococcus Group A or viral, such as respiratory synctial virus or parainfluenza. To reduce infection rates, standard infection control procedures should be implemented. These procedures include hand hygiene, personal protective equipment, decontamination of respiratory equipment, reducing the potential for aspiration, reducing sedation needs, improving secretion management, oral care, and providing adequate tracheostomy cleaning and care. Weaning and decannulation will have the greatest impact on reducing the risk of infection. Each resident with chronic tracheostomy devices should have airway humidity and an individualized treatment protocol addressing adequate removal of airway secretions. Residents and family need to be educated and trained in the handling and clean care of tracheostomy devices. Finally, staff education about infection prevention is also paramount. Staff need to understand their role in infection control procedures and prevention methods.

Hand Hygiene:

The Core Infection Prevention and Control Practices for Safe Care Delivery in All Healthcare Settings recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC) include the following strong recommendations for hand hygiene in healthcare settings:

- Healthcare personnel should use an alcohol-based hand rub or wash with soap and water for the following clinical indications:
  - Immediately before touching a patient
  - Before performing an aseptic task (e.g., placing an indwelling device) or handling invasive medical devices
  - Before moving from work on a soiled body site to a clean body site on the same patient
  - After touching a patient or the patient's immediate environment
  - After contact with blood, body fluids, or contaminated surfaces
  - Immediately after glove removal

Hand hygiene should be performed in accordance with current Centers for Disease Control and Prevention (CDC) recommendations:

- Ensure that healthcare personnel perform hand hygiene with soap and water when hands are visibly soiled
- Ensure that supplies necessary for adherence to hand hygiene are readily accessible in all resident care areas
- U.S. Food and Drug Administration (FDA)-approved alcohol-based hand sanitizer with 60-95% alcohol should be in every resident room (ideally inside and outside of the room) and in other common resident care areas.
- Unless hands are visibly soiled, an alcohol-based hand rub is preferred over soap and water in most clinical situations due to evidence of better compliance compared to soap and water. Hand rubs are generally less irritating to hands and, in the absence of a sink, are an effective method of cleaning hands.

Use of Barriers to Maintain Aseptic Technique:

Enhanced Barrier Precautions (EBP) are an infection control intervention designed to reduce transmission of resistant organisms within skilled nursing facilities. These precautions employ targeted gown and glove use during high contact resident care activities. EBP may be indicated (when Contact Precautions do not otherwise apply) for residents with any of the following:

- Wounds or indwelling medical devices, regardless of multidrug-resistant organism (MDRO) colonization status
- Infection or colonization with an MDRO.

Health care workers should follow CDC EBP guidance: Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs) - www.cdc.gov/hai/containment/PPE-Nursing-Homes.html

Effective implementation of EBP requires staff training on the proper use of personal protective equipment (PPE) and the availability of PPE and hand hygiene supplies at the point of care. Standard Precautions, which are a group of infection prevention practices, continue to apply to the care of all residents, regardless of suspected or confirmed infection or colonization status. Current evidence-based recommendations on the use of PPE includes:

- Keep PPE available in all sizes for staff and providers.
- Wear gloves during all stages of wound care including when applying new dressings. Don gloves after preforming hand hygiene. During an individual resident's wound care, doff gloves every time when going from dirty to clean surfaces or supplies. Perform hand hygiene after doffing gloves and before reapplying clean gloves.
- Wear a mask and eye protection if there is any chance of splashes or sprays (e.g., wounds with drainage, especially during debridement and irrigation).
- Wear a clean gown to cover arms and clothing that may come in contact with the resident or the resident's care environment for each dressing change.
- Doffing PPE in correct order to decrease spread of infection and cross contamination. Place used PPE in appropriate receptacle (waste or covered soiled laundry).

Decontamination of Respiratory Equipment:
Equipment used for respiratory therapy (e.g. items that come into contact with mucous membranes) should be cleaned and then receive at least high-level disinfection between patients. It is paramount that the manufacturer's instructions for use are followed for cleaning of specific respiratory equipment. Cleaning is the removal of dirt from a device or surface, either by physically scrubbing with a surfactant or detergent and water, or through an energy-based process (e.g. ultrasonic cleaner). High-level disinfection of respiratory equipment is the process that eliminates all viable pathogenic microorganisms (other than bacterial spores) from non-living objects and is typically accomplished by chemical germicides or physical methods (hot-water disinfection, as called pasteurization or steam, such as autoclaving at lower temperature). Disinfection needs to occur after cleaning. Be sure to follow the manufacturer's instructions and the most current evidence-based guidelines for disinfection/sterilization –

- CDC: Guideline for Disinfection and Sterilization in Healthcare Facilities - https://www.cdc.gov/infectioncontrol/guidelines/disinfection/
- National Library of Medicine Annex I Cleaning and Disinfection of Respiratory Equipment - https://www.ncbi.nlm.nih.gov/books/NBK214361/

Aspiration Prevention:
Persons with tracheostomy are at high risk for swallowing difficulty (dysphagia) and aspiration that can result in malnourishment, dehydration, electrolyte imbalance and aspiration pneumonia. Residents with a tracheostomy tube should have a swallowing assessment and evaluation with a speech-language pathologist to ensure adequate nutrition and hydration, communication and an ultimate goal of decannulation (if feasible for the resident). Additional assessments and therapies with the speech-language pathologist include:

- Swallowing Exercises
- Diet Changes

- Tracheostomy tube manipulation
- Coughing techniques
- Respiratory muscle strength training

Improving Secretion Management:
Persons with tracheostomy tubes have been found to have more secretions compared to those without tracheostomy tubes. Interventions to assist in secretion management include:
- Tracheal suctioning
- Humidification of air
- Hydration – oral, intravenous (IV), subcutaneous
- Cuff deflation

Oral Care
With a lack of oral hygiene in residents with tracheostomy, dental plaque and the oropharynx can become colonized by bacteria and a 'biofilm' can develop on the inside of airway devices. Residents should be encouraged to maintain their own oral hygiene by using a toothbrush and mouthwash. Any dental concerns should be evaluated by a hygienist or dentist.

Tracheostomy Care
Routine tracheostomy care is provided to residents to maintain airway patency by removing mucus and encrusted secretions and to promote cleanliness and comfort, to reduce the number of bacteria entering the artificial airway and lungs and prevent infection and skin breakdown at stoma site.

Assessment
- Check when last suctioned and when tracheostomy care was last performed.
- Assess for signs and symptoms that suctioning is needed (a non-productive cough, increased heart and respiratory rate, noisy breathing, shortness of breath, visible secretions, coarse breathing sounds). Perform suction if needed.
- Assess for soiled or damp tracheostomy ties, soiled or damp tracheostomy dressings, diminished airflow through the tracheostomy tube, and adventitious breath sounds (crackles, rhonchi, or wheezes).
- Assess hydration status, nutritional status, vital signs, oxygen saturation, breath sounds, and the patient's/resident's ability to clear the airway.
- Assess the stoma site for irritation or infection.
- If the resident is receiving oxygen therapy, verify that the supplemental oxygen is humidified.

Tracheostomy Suctioning
The tracheostomy tube affects the normal physiological functions of the upper airway. The tracheostomy tube inhibits secretion management, impairs the cough reflex increases mucus production and impairs the action of respiratory cilia. Thus, suctioning is a secretion management strategy to clear the airway secretions to prevent respiratory infections, atelectasis, and to maintain airway patency.

When to Perform Tracheal Suctioning
The amount of airway secretions varies by individual as does the need for suctioning. There is a balance needed around suctioning. Needs to be done enough for airway function so the patient is comfortable yet not too frequently as this could lead to more secretion buildup. The Clinical Consensus Guidelines (2013) indicates that the stoma and tracheostomy tube should be suctioned when there is evidence of visual or audible secretions in the airway, suspected airway obstruction, and when the tube is changed, or the cuff deflated. Assess for clinical indications including noisy or moist respirations, prolonged expiratory breath sounds, increased respiratory effort, oxygen desaturations, restlessness, increased coughing or reduced effectiveness of coughing, increased use of accessory muscles and resident request. Signs of airway obstruction include hypoxia and cardiovascular changes. Easy passage of a suction catheter and removal of secretions confirms proper placement and patency of the tracheostomy tube.

Procedure Concerns
- If the resident is mechanically ventilated and accidental extubation occurs, call for assistance. Manually ventilate the patient with a resuscitation bag if needed until help arrives.
- For emergency replacement, keep an additional tracheostomy tube of the same size and shape as the one in use and a tracheostomy obturator at the bedside to facilitate reinsertion of a dislodged outer cannula.
- To reduce the risk of infection, perform tracheostomy care using sterile technique.
- Suction the patient's tracheostomy tube only as clinically indicated and not as a routine, fixed-schedule treatment.
- Limit each suction pass to less than 15 seconds.
- Immediately withdraw the catheter and provide additional oxygen if the patient develops respiratory distress, cardiac decompensation, or any adverse effects during the procedure.

Assessment
- Assess hydration status, nutritional status, vital signs, oxygen saturation, breath sounds, and the patient's/resident's ability to clear the airway.
- Both closed and open suction systems may be used to remove secretions safely and effectively from the artificial airway
- Observe for signs and symptoms that suctioning is indicated (only suction if indicated, not on a routine schedule):

    - Assess breath sounds
    - Any visual secretions in the artificial airway
    - Sawtooth pattern on the ventilator waveform
- Observe for soiled or damp tracheostomy ties, soiled or damp tracheostomy dressings, diminished airflow through the tracheostomy tube, and adventitious breath sounds (crackles, rhonchi, or wheezes).
- If the resident is receiving oxygen therapy, verify that the supplemental oxygen is humidified.
- Check when last suctioned and when tracheostomy care was last performed.
- Explain the procedure and explain what they need to do.
- Preoxygenation should be performed before suctioning.
    - Help the patient into a position that is comfortable, usually the supine or semi-Fowler's position with a towel placed across the person's chest.
    - Place the patient/resident on a pulse oximeter.
    - If changing the tracheostomy tube ties or tube holder, have another staff person assist with the procedure.

Additional Resources

- Department of Health and Human Services Centers for Medicare & Medicaid Services- Respiratory Care Critical Element Pathway - https://arhealthcare.com/sites/default/files/2018-03/CMS-20081%20Respiratory%20Care.pdf
- Tracheostomy Education (2021). Swallowing Management of Individuals with Tracheostomy - https://tracheostomyeducation.com/blog/swallowing-management-of-individuals-with-tracheostomy/#:~:text=Diet%20Changes,safest%20and%20least%20restrictive%20diet.
- Tracheostomy Education (2021). Secretion Management - https://tracheostomyeducation.com/blog/secretion-management/
-

Additional Resource Videos

***Please note your supplies and technique may vary from these videos. Be sure to always read the instructions included with your supplied trach kits. Also be sure to adopt the most current evidence-based practice associated with trach care and infection prevention.**

- JSCC Simulation Lab (2016) Tracheostomy Care Tutorial - https://www.youtube.com/watch?v=IqTWQzH2A2c
- NURSINGcom w/Jon Haws, RN (2021) Tracheostomy Suctioning- Nursing Skills - https://www.youtube.com/watch?v=jHp4AhBXsJU
- The Protected Airway Collaborative (2022) What you Need to Know About Tracheostomy Tubes - https://www.youtube.com/watch?v=mcn5r-6tZ_o

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- Blakeman, T. C., Scott, J. B., Yoder, M. A., Capellari, E., & Strickland, S. L. (2022). American Association for Respiratory Care Clinical Practice Guidelines: Artificial Airway Suctioning. *Respiratory Care*, *67*(2), 258–271. https://doi.org/10.4187/respcare.09548
- Mitchell, R. B., Hussey, H. M., Setzen, G., Jacobs, I. N., Nussenbaum, B., Dawson, C., Brown, C. A., 3rd, Brandt, C., Deakins, K., Hartnick, C., & Merati, A. (2013). Clinical consensus statement: tracheostomy care. *Otolaryngology--Head and Neck Surgery : Official Journal of American Academy of Otolaryngology-Head and Neck Surgery*, *148*(1), 6–20. https://doi.org/10.1177/0194599812460376
- Mutters, N. T., Günther, F., Heininger, A., & Frank, U. (2014). Device-related infections in long-term healthcare facilities: The challenge of prevention. *Future Microbiology, 9*(4),487-495.
- Tracheostomy Education (2019). Preventing infections in patients with tracheostomy. Retrieved May 30, 2023, from https://tracheostomyeducation.com/infection-control-issues-in-caring-for-patients-with-tracheostomy/

Appendix

Rounding Audit Tool Checklists – Trach Care

Suctioning Tracheostomy

Critical Steps	Yes	Yes with Reminder	Comments
Gathered the necessary equipment and supplies.			
Introduced self to the patient/resident and family if present.			
Identified the patient/resident using two identifiers.			
Explained the procedure and ensured that they agree to process and plan of care.			
Performed hand hygiene and provided privacy.			
Positioned the patient in a comfortable position, with head slightly elevated.			
Connected one end of the connecting tubing to the suction machine.			
Turned the suction device on and set the vacuum regulator to less than 150 mm Hg. Note - Normally a pressure between 80-120-mm Hg is used.			
Checked the negative pressure of the suction apparatus by occluding the end of the suction tubing before attaching it to the suction catheter.			
If indicated, increased the supplemental oxygen to 100% or as prescribed. Encouraged resident to take a few deep breaths prior to proceeding.			
Used aseptic technique, opened the sterile catheter package on a clean surface, used the inside of the packaging as a sterile field; opened the package to expose the connecting end and connected the catheter to the suction tubing.			

Placed the sterile drape on the bedside table. Did not allow the suction catheter to touch nonsterile surfaces.			
Unwrapped or opened the sterile basin and placed it on the bedside table. Did not touch the inside of the basin. Filled the basin with sterile 0.9% sodium chloride solution or sterile water.			
Removed gloves, performed hand hygiene, and donned sterile gloves.			
With the dominant hand, picked up the suction catheter, and wrapped it around the sterile dominant hand to help prevent accidental contamination.			
Checked for proper functioning by suctioning a small amount of sterile solution from the sterile basin.			
With the dominant hand, gently but quickly inserted the catheter into the artificial airway with the control vent of the suction catheter open.			
Used the nondominant thumb, depressed the control vent of the suction catheter to apply continuous suction while completely withdrawing the suction catheter.			
Performed one additional pass with the suction catheter if secretions remained in the airway and the patient is tolerating the procedure. Allowed a minimum of 60 seconds between passes for the patient to recover.			
Considered administering 100% oxygen between each pass of the suction catheter and after the procedure.			
Returned supplemental oxygen to the baseline level.			
Assessed the volume, consistency, and color of the airway secretions.			
Disposed of all soiled supplies and used equipment.			
Documented the patient’s response and expected or unexpected outcomes. Notified the healthcare provider of changes in the airway secretions.			

Tracheostomy Care

Critical Steps	**Yes**	**Yes with Reminder**	**Comments**
Gathered the necessary equipment and supplies.			
Introduced self to the patient/resident and family if present.			
Identified the patient/resident using two identifiers.			
Explained the procedure and ensured that they agree to process and plan of care.			
Performed hand hygiene and provided privacy.			
Positioned the patient in a comfortable position, with head slightly elevated.			
Applied a mask or face shield if splashing was likely.			
Donned sterile gloves. Kept dominant hand sterile throughout the procedure.			
Care of tracheostomy with a <u>disposable</u> inner cannula: 1. Removed new cannula from manufacturer's packaging. 2. While touching only the outside of the tube, withdrew the used inner cannula and inspected it for secretions. Disposed of the used cannula. 3. Inserted the new inner cannula and locked it into position. Reapplied oxygen, if prescribed.			
Care of a trach with a <u>non-disposable</u> inner cannula: 1. While touching only the outer aspect of the tube, unlocked and removed the inner cannula of the tracheostomy tube. Dropped the inner cannula into 0.9% sodium chloride solution to loosen secretions. 2. Reapplied oxygen source, if prescribed, over the outer cannula.			

3. Removed gloves, performed hand hygiene, and donned sterile gloves. 4. Cleaned the inside and outside of inner cannula with sterile brush to remove secretions. 5. Held the inner cannula over the basin, and rinsed it with 0.9% sodium chloride solution, using nondominant hand to pour the 0.9% sodium chloride solution. 6. Replaced the inner cannula and secured the locking mechanism. If necessary, reapplied oxygen and, if needed, hyper-oxygenated the patient/resident. 7. Reapplied oxygen source, as prescribed.			
Removed the tracheostomy dressing.			
Cleaned the exposed outer cannula surfaces and stoma under the flange. Moistened the cotton-tipped applicators and gauze with 0.9% sodium chloride solution. Cleaned the area extending in all directions from the stoma. Cleaned with a circular motion from the stoma outward.			
Dried the skin and exposed outer cannula surfaces by patting lightly with a dry gauze pad.			
Inserted a fresh tracheostomy dressing under the clean ties and flange.			
Secured the tracheostomy using the organization approved trach tie.			
Positioned the patient comfortably and assessed their respiratory status.			
Removed gloves and mask/face shield and discarded them in the appropriate receptacles.			
Replaced the cap on the bottle of 0.9% sodium chloride solution. Dated the container and stored this and other reusable liquids in an appropriate area.			
Helped the patient into a comfortable position; placed toiletries and personal items within reach.			

Placed the call button within easy reach; made sure the patient knew how to use it to summon assistance.			
Removed and disposed of gloves and performed hand hygiene.			
Documented the patient's response and expected or unexpected outcomes. Notified the healthcare provider of changes in the airway secretions.			

Infection Prevention and Control Wound Care Checklist

Background:
Residents of long-term care facilities are generally older adults who tend to be frail individuals and vulnerable to age-related changes including the development of wounds. Chronic diseases that compromise skin integrity such as diabetes, peripheral vascular disease (venous hypertension, arterial insufficiency), immobility, nutritional factors and other comorbidities increase the risk of wounds.

Appropriate prevention, diagnosis, and treatment of chronic wounds is important especially in the older adult population. Facilities need to establish and maintain a resident-centered Wound Care Program, along with employee education on best practices and a system to verify competence for quality wound care. This tool can assist in auditing wound care practices provided to patients/residents. Also, to train infection preventionists and nursing leadership for best practices around wound care. The treatment and services for wound care in the long-term care setting can require complex procedures that require the use of a wide assortment of would care supplies, products and/or equipment. Additionally, the science and best practices of wound care can be fast moving and frequently updated.

Wound Assessment:
Central to the Wound Care Program is wound assessment and good wound management. Wound assessment provides the baseline for planning, treatment, and evaluation for the wound care plan. Normal wound healing occurs in an organized fashion, and evaluating the wound status provides an ongoing assessment of wound healing and can guide wound treatments. The frequency of wound assessment depends on the patient's/resident's overall condition, organizational policy, type of wound dressings used, and overall patient/resident goals. A variety of evidence based, validated wound assessment tools are available including the Bates-Jensen Wound Assessment Tool (BWAT) and the Pressure Ulcer Scale for Healing (PUSH).

Within the Wound Care Program, the facility should record and monitor all types of wound and skin infections identified in residents. When necessary, transmission-based precautions or Enhanced Barrier Precautions (EBP) should be implemented following the most up to date guidance:

- Centers for Disease Control and Prevention (CDC): Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings - https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html
- CDC: Implementation of Personal Protective Equipment (PPE) in Nursing homes to Prevent the Spread of Multidrug-Resistant Organisms (MDROs) - https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html

Handling of Wound Care Equipment and Supplies

Any reusable equipment (e.g., bandage scissor, flashlight, mirror) and supplies that come in contact with non-intact skin, mucous membranes, or any bodily fluids or drainage, including fluids on bedding or gloved health care workers hands, MUST have a high-level disinfection (HLD) before use on another resident or discard the wound care equipment or products when no longer needed for an individual resident. It is also paramount that the manufacturer's instructions for use are followed for cleaning of specific wound care equipment.

Be sure to follow the most current evidence-based guidelines for disinfection/sterilization - CDC: Guideline for Disinfection and Sterilization in Healthcare Facilities - https://www.cdc.gov/infectioncontrol/guidelines/disinfection/

- When HLD (or sterilization) is not available and dedicated equipment is used for a designated resident, it is important to clean and disinfect each piece of equipment after each use on that same resident to reduce bio load per manufacturer's instructions for use.
- Dispose of dedicated equipment (if disposable equipment is used) or arrange to have dedicated equipment appropriately processed after no longer needed for care of the designated resident.
- Dedicate tape, sprays, creams, and all wound care products to an individual resident and do not store used sprays with clean wound care supplies, if possible. For example, sometimes ointments, medication, etc. are placed into plastic cups so that tubes are not taken in and out of resident rooms.
- Be sure to date opened products and be mindful of expiration dates. Review manufacturers' guidelines for products once opened.
- When new (fresh) bandages are cut for the resident, it should be done with clean scissors, not with scissors used to cut off soiled bandages.
- Wound care dressings can be disposed of in the regular trash unless they are dripping or saturated with blood or other regulated body fluids.
- Clean and disinfect the surface (e.g., over bed table) where wound care supplies will be placed prior to setting down wound care supplies in resident room.
- Store dedicated wound care supplies in a clean area of the designated resident's room.

Use of Barriers to Maintain Aseptic Technique:

Enhanced Barrier Precautions (EBP) are an infection control intervention designed to reduce transmission of resistant organisms within skilled nursing facilities. These precautions employ targeted gown and glove use during high contact resident care activities. EBP may be indicated (when Contact Precautions do not otherwise apply) for residents with any of the following:

- Wounds or indwelling medical devices, regardless of multidrug-resistant organism (MDRO) colonization status
- Infection or colonization with an MDRO.

Health care workers should follow CDC EBP guidance: Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs) - www.cdc.gov/hai/containment/PPE-Nursing-Homes.html

Effective implementation of EBP requires staff training on the proper use of personal protective equipment (PPE) and the availability of PPE and hand hygiene supplies at the point of care. Standard Precautions, which are a group of infection prevention practices, continue to apply to the care of all residents, regardless of suspected or confirmed infection or colonization status. Current evidence-based recommendations on the use of personal protective equipment (PPE) includes:

- Keep PPE available in all sizes for staff and providers.
- Wear gloves during all stages of wound care including when applying new dressings. Don gloves after performing hand hygiene. During an individual resident's wound care, doff gloves every time going from dirty to clean surfaces or supplies. Perform hand hygiene after doffing gloves and before reapplying clean gloves.
- Wear a mask and eye protection if there is any chance of splashes or sprays (e.g., wounds with drainage, especially during debridement and irrigation).
- Wear a clean gown to cover arms and clothing that may come in contact with the resident or the resident's care environment for each dressing change.
- Doffing PPE in correct order to decrease spread of infection and cross contamination. Place used PPE in appropriate receptacle (waste or covered soiled laundry).

Hand Hygiene:

The Core Infection Prevention and Control Practices for Safe Care Delivery in All Healthcare Settings recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC) include the following strong recommendations for hand hygiene in healthcare settings:

- Healthcare personnel should use an alcohol-based hand rub or wash with soap and water for the following clinical indications:
    - Immediately before touching a patient
    - Before performing an aseptic task (e.g., placing an indwelling device) or handling invasive medical devices
    - Before moving from work on a soiled body site to a clean body site on the same patient
    - After touching a patient or the patient's immediate environment
    - After contact with blood, body fluids, or contaminated surfaces
    - Immediately after glove removal

Hand hygiene should be performed in accordance with current Centers for Disease Control and Prevention (CDC) recommendations:

- Ensure that healthcare personnel perform hand hygiene with soap and water when hands are visibly soiled
- Ensure that supplies necessary for adherence to hand hygiene are readily accessible in all resident care areas

- U.S. Food and Drug Administration (FDA)-approved alcohol-based hand sanitizer with 60-95% alcohol should be in every resident room (ideally inside and outside of the room) and in other common resident care areas.
- Unless hands are visibly soiled, an alcohol-based hand rub is preferred over soap and water in most clinical situations due to evidence of better compliance compared to soap and water. Hand rubs are generally less irritating to hands and, in the absence of a sink, are an effective method of cleaning hands.

Hand Hygiene Specific to Wound Care

- Perform hand hygiene prior to starting wound care for each resident including before gathering wound care supplies, before donning gloves, and after doffing gloves.
- Alcohol-based hand rub (ABHR) should be readily accessible throughout the wound care process. Unless hands are visibly soiled, alcohol-based hand rub is preferred over soap and water. Keep the ABHR close to point of care when performing wound care.
- Health care workers (HCWs) should not touch items in the resident care environment while performing wound care as this will contaminate gloves, supplies, and/or the environment.
- Hand hygiene must be performed by use of ABHR or soap and water immediately after removing gloves and upon exiting resident room.

Wound Care Program Tools

- Accountable Health Partners Wound Care Tool Kit - https://ahpnetwork.com/clinical-resources/wound-care-tool-kit/
- Centers for Disease Control and Prevention (CDC) Infection Control Assessment and Response (ICAR) Tool for General Infection Prevention and Control (IPC) Across Settings - Module 8. Wound Care Facilitator Guide - https://www.cdc.gov/infectioncontrol/pdf/icar/IPC-mod8-wound-care-508.pdf
- LeadingAge - Skin and Wound Care Competency, Section 2 - https://leadingage.org/skin-and-wound-care-competency
- Nova Scotia Health Wound Care Audit Tools - https://library.nshealth.ca/WoundCare/AuditTools

Additional Resources

***Be sure to adopt the most current evidence-based practice associated with wound and infection prevention.**

- Ahroni, Jessie. (2014). Developing a wound and skin care program. *Journal of Wound, Ostomy & Continence Nursing, 41*(6), 549-555. https://doi.org/10.1097/WON.0000000000000085
- Gist, S., Tio-Matos, I., Falzgraf, S., Cameron, S., & Beebe, M. (2009). Wound care in the geriatric client. Clinical Interventions in Aging, 4, 269–287. https://doi.org/10.2147/cia.s4726
- Hoversten, K. P., Kiemele, L. J., Stolp, A. M., Takahashi, P. Y., & Verdoorn, B. P. (2020). Prevention, diagnosis, and management of chronic wounds in older adults. *Thematic Review on Aging and Geriatric Medicine, 95*(9), 2021-2034.

doi:https://doi.org/10.1016/j.mayocp.2019.10.014
- The National Pressure Injury Advisory Panel Pressure Injury Stages - https://npiap.com/page/PressureInjuryStages

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- Centers for Disease Control and Prevention Healthcare-Associated Infections (HAIs). Retrieved August 11, 2023, from https://www.cdc.gov/hai/index.html
- Minnesota Department of Health Infection Control Assessment and Response Program (2022). Wound Care Infection Prevention Recommendations for Long-Term Care Facilities. Retrieved August 11, 2023, from https://www.health.state.mn.us/facilities/patientsafety/infectioncontrol/woundcare.pdf
- Skin and Wound Care Competency, Section 2 (2023). LeadingAge. Retrieved March 9, 2023, from https://leadingage.org/skin-and-wound-care-competency/.
- Siegel, J.D., Rhinehart, E., Jackson, M., Chiarello, L., and the Healthcare Infection Control Practices Advisory Committee, 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

Appendix

Pressure Injury (PI) Prevention Rounding Audit Tool – adapted from https://library.nshealth.ca/ld.php?content_id=36665500

Resident Name Room #	Braden (or Braden QD) completed within 8 hours of admission - Documented	If PI present on admission, was it documented on the Braden Form?	Most recent Braden (or Braden QD) Score (0-26)	Risk level adjusted appropriately - Documented	Care plan in place if Braden18 or less, or Braden QD 13 or more	Has the care plan been evaluated as per policy? Documented	Pressure Injury risk in medical record- Documented	Pressure injury prevention education provided to resident or family- Documented	Any facility acquired pressure injuries, or a PI that has advanced in stage? Documented	Comments
	Y / N	Y / N		Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	
	Y / N	Y / N		Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	
	Y / N	Y / N		Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	
	Y / N	Y / N		Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	
	Y / N	Y / N		Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA	

Pressure injury present on admission: Stage I: _____ Stage II______ Stage III______ Stage IV______ Unstageable______ DTI_______

Pressure injury acquired since admission: Stage I: _____ Stage II______ Stage III______ Stage IV______ Unstageable______ DTI_______

Total current Pressure Injuries: Stage I: _____ Stage II______ Stage III______ Stage IV______ Unstageable______ DTI_______

Wound Assessment Audit Tool

Critical Steps	Yes	Yes with Reminder	Comments
Gathered the necessary equipment and supplies.			
Introduced self to the patient/resident and family if present.			
Identified the patient/resident using two identifiers.			
Explained the procedure and ensured that they agree to process and plan of care.			
Performed hand hygiene and provided privacy.			
Reviewed the patient's last wound assessment and used it for comparison.			
Asked the patient/resident to rate pain on a scale of 0 to 10.			
Positioned the patient comfortably to permit observation of the wound in a well-lit room. Exposed only the area of the wound.			
Donned clean gloves and removed the soiled dressings.			
Examined the color, consistency, amount, odor of the drainage on the dressing.			
After inspection, used dressings placed in biohazard bag.			
Removed gloves			
Performed hand hygiene and applied clean gloves.			
Used agency-approved wound assessment tool to assess: 1. Anatomical location on the body 2. Stage of healing 3. Any evidence of infection 4. Any drainage 5. Size of the wound - including length, width, and depth. 6. Extent of tissue loss - deepest viable tissue layer used 7. Tissue type – any granulation, slough, or necrotic tissue 8. Color, consistency, odor, and amount of exudate.			

9. Wound edges and skin adjacent - color, texture, temperature, and its integrity			
Removed gloves, performed hand hygiene, and donned clean gloves.			
Cleansed the wound as needed and applied a dressing as prescribed. Labeled per organizational policy.			
Reassess pain level using a scale of 0 to 10.			
Discarded the disposable biohazard bag, soiled supplies, and gloves according to organizational policy.			
Performed hand hygiene.			
Helped the patient into a comfortable position and placed toiletries and personal items within reach.			
Recorded wound assessment findings and compared them with earlier findings. Documented and reported the patient's response and expected or unexpected outcomes.			