North Carolina SPICE Statewide Program for Infection Control & Epidemiology

RECOMMENDED PRACTICES TO INTERRUPT TRANSMISSION OF INFECTIOUS AGENTS IN LONG-TERM CARE FACILITIES

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OBJECTIVES

- Review CDC Guidance Documents
- Review Standard and Transmission-base Precautions
- Discuss Precautions specific to SARS-CoV-2 (COVID-19)
  - Enhanced Droplet
- Discuss Management of Multi-drug Resistant Organisms (MDROs)
  - Discuss Enhanced Barrier Precautions

GUIDANCE DOCUMENTS - LONG-TERM CARE FACILITIES

- 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
- Management of Multi-drug resistant organisms (2006)
- Preparing for COVID-19 in Nursing Homes
- Responding to COVID-19 in Nursing Homes
- Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic
- Discontinuation of Transmission-Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings (Interim Guidance)

KEY CONCEPTS

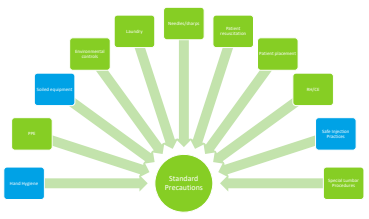
- Risk of transmission of infectious agents occurs in all settings
- Infections are transmitted from patient-to-patient via HCPs hands or medical equipment/devices
- Unidentified patients who are colonized or infected may represent risk to other patients
- Isolation precautions are only part of a comprehensive IP program

FUNDAMENTAL ELEMENTS -

- Administrative support
- **Adequate Infection Prevention staffing**
- Good communication with clinical microbiology lab and environmental services
- A comprehensive educational program for HCPs, patients, and visitors
- **Infrastructure support** for surveillance, outbreak tracking, and data management

STANDARD PRECAUTIONS

Implementation of Standard Precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and healthcare personnel

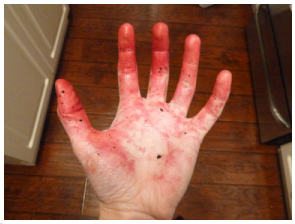


HAND HYGIENE

- After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between patient contacts.

SOAP AND WATER

- *When hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids, wash hands with either a nonantimicrobial soap and water or an antimicrobial soap and water*



ALCOHOL BASED HAND RUB

- Put alcohol-based hand sanitizer with <u>60-95%</u> alcohol in every resident room (ideally both inside and outside of the room) and other resident care and common areas (e.g., outside dining hall, in therapy gym).
- *Unless hands are visibly soiled, an alcohol-based hand sanitizer is preferred over soap and water in most clinical situations.*

HAND HYGIENE PROGRAM

ADDITIONAL ELEMENTS
CDC GUIDELINE FOR HAND HYGIENE IN HEALTHCARE SETTING

- Involve staff in evaluation and selection of hand hygiene products
- Provide employees with hand lotions/creams compatible with soap and/or ABHRs
- Do not wear artificial nails when providing direct clinical care
- Provide hand hygiene education to staff
- *<u>Monitor staff adherence to recommended HH practices</u>*

STANDARD PRECAUTIONS

Component	Recommendation
Personal Protective Equipment (PPE)	
Gloves 	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin
Gown 	During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated
Mask, eye protection 	During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation

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USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Perform and maintain an inventory of PPE – monitor daily PPE use (PPE burn rate calculator)
- Make necessary PPE available where resident care is provided
- Position trash can near the exit inside the room for disposal
- Implement strategies to optimize current PPE supply – even before shortages occur

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USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Three overriding principals related to personal protective equipment (PPE)
  - Wear PPE when the nature of the anticipated patient interaction indicates that contact with blood or body fluids may occur
  - Prevent contamination of clothing and skin during the process of removing PPE
  - ***Before leaving the resident's room, remove and discard PPE ??***

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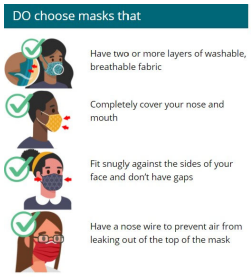
UNIVERSAL SOURCE CONTROL

- Residents/family members wear their own well-fitting form of source control upon arrival and through out their stay
- Residents may remove while in their rooms but wear when around others or leaving their room
- Healthcare personnel should **ALWAYS** wear well-fitting source control while they are in the facility, including breakrooms or other spaces where they might encounter co-workers



https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html

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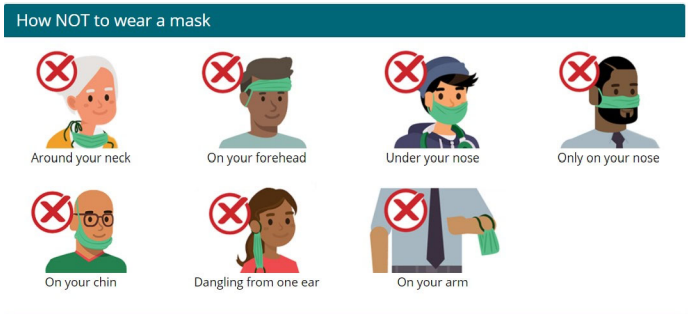

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html

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UNIVERSAL USE OF PERSONAL PROTECTIVE EQUIPMENT

HCP working in facilities in communities with moderate to substantial transmission:

- N95 used for aerosol generating procedures (AGP)
- Source control
  - N95
  - A well-fitting facemask (e.g., selection of a facemask with a nose wire to help the facemask conform to the face; selection of a facemask with ties rather than ear loops; use of a mask fitter; tying the facemask's ear loops and tucking in the side pleats; fastening the facemask's ear loops behind the wearer's headexternal icon; use of a cloth mask over the facemask to help it conform to the wearer's face)
- Eye protection

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CDC PPE GUIDANCE

	Conventional: **Normal Supply (incorporate the anticipated number of persons for whom PPE should be worn by HCP)**	**Contingency:** **Temporarily instituted during periods of expected shortage**	**Crisis:** **Not commensurate with standard US standards; periods of known shortages**
Face mask	**Source control:** • Used until soiled or damaged or hard to breathe through • Discard after removal **PPE:** • Removed and discarded after each person encounter	Extended use of facemasks as PPE: • Discard whenever removed and always at the end of the workday	Limited re-use with extended use: • No maximum number of uses
N95s (respirators)	Resume conventional practices	Extended use; ideally discarded after extended use (shift) • Consider use of face shield or facemask during **AGPs-splashes and sprays**	Limited re-use with extended use: • No more than 5 dunning's • Consider use of face shield or facemask during **AGPs-splashes and sprays**

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RESPIRATORS

- Healthcare providers who are in close contact with an LTCF resident with suspected or confirmed SARS-CoV-2 infection must use a NIOSH-approved N95 FFR or equivalent or higher-level respirator (29 CFR 1910.134)
  - This guidance is designed specifically for nursing homes, assisted living facilities and other LTCF (group homes with nursing care)
- Whenever respirators are required, employers must implement a written, worksite-specific respiratory protection program (RPP), including medical evaluation, fit testing, training, and other elements, as specified in OSHA's Respiratory Protection standard (29 CFR 1910.134).

https://www.osha.gov/sites/default/files/respiratory-protection-covid19-long-term-care.pdf
https://www.osha.gov/sites/default/files/respiratory-protection-covid19-compliance.pdf

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CDC PPE GUIDANCE

	Conventional: **Normal Supply (incorporate the anticipated number of persons for whom PPE should be worn by HCP)**	**Contingency:** **Temporarily instituted during periods of expected shortage**	**Crisis:** **Not commensurate with standard US standards; periods of known shortages**
Eye Protection	Resume conventional practices: • Shift from disposable to reusable	Extended use • Removed, cleaned if visible soiled or hard to see through	Prioritize eye protection: • Activities where splash/splatter anticipated • Prolonged face to face close contact
Gowns	Resume conventional practices: • Reusable (cloth) gowns	Prioritize gowns for higher risk activities: • AGP • Close/prolonged contact	Extended use: • COVID-19 unit only

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SAFE WORK PRACTICES (PPE USE)

- ✓ Keep hands away from face
- ✓ Work from clean to dirty
- ✓ Limit surfaces touched
- ✓ Change when torn or heavily contaminated
- ✓ Perform hand hygiene

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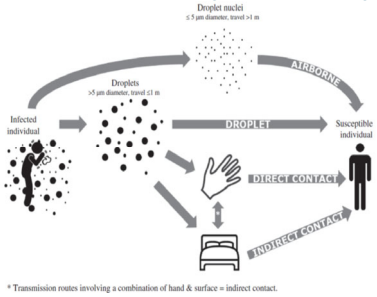
Component	Recommendation
Soiled equipment	Handle in a manner that prevents transfer of microorganisms to others and to the environment; wear gloves if visibly contaminated; perform hand hygiene
Environmental Control	Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in patient-care areas
Laundry	Handle in a manner that prevents transfer of microorganisms to others and to the environment
Needles and sharps	Do not recap, bend, break, or hand-manipulate used needles; if recapping is required, use a one-handed scoop technique only; use safety features when available; place used sharps in puncture-resistant container
Patient Resuscitation	Use mouthpiece, resuscitation bag, other ventilation devices to prevent contact with mouth and oral secretions

Component	Recommendation
Patient placement	Prioritize for single-patient room if patient is at *increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection*.
Respiratory hygiene/cough etiquette (source containment of infectious respiratory secretions in symptomatic patients, beginning at initial point of encounter)	Instruct symptomatic persons to cover mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacle; observe hand hygiene after soiling of hands with respiratory secretions; wear surgical mask if tolerated or maintain spatial separation, >3 feet if possible.

SARS-COV-2 (COVID-19)-HOW IT SPREADS



- **Person-to-person**
  - Close contact
  - Respiratory droplets
- **Contact**
  - Touching surfaces/objects contaminated with the virus
- **Possibly others:**
  - **Airborne?**

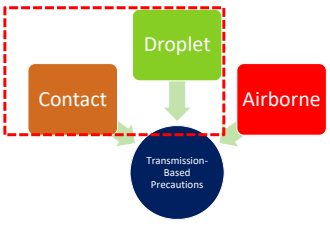
1Proceianoy RS, et al. J Pediatr (Rio J) 2002;11 April; 2 Almendros A, et al. Vet Rec 2020;4; 3Chin AWH, et al

David Weber: Associate Chief Medical Officer, UNC Hospitals; Medical Director, Hospital Epidemiology: COVID-19 (SARS Co-V-2) Update

Component	Recommendation
Safe Injection Practices	Apply to the use of needles, cannulas that replace needles, and, where applicable intravenous delivery systems • Use aseptic technique • Needles, cannulae and syringes are sterile, single-use items • Use single-dose vials for parenteral medications whenever possible • Do not administer medications form single-dose vials or ampules to multiple patients • Do not keep multidose vials in the immediate patient treatment area • Do not use bags or bottles of IV solution as a common source of supply for multiple patients
Special Lumbar Procedures	Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space

TRANSMISSION BASED PRECAUTIONS

Transmission-Based Precautions are for patients who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens, and are used when the route(s) of transmission are not completely interrupted using Standard Precautions alone.



Private room or Cohort

Gown and gloves prior to entry

Hand hygiene

Dedicate equipment

Disinfect shared equipment

C. difficile and Norovirus

CONDITIONS OR DISEASES POTENTIALLY REQUIRING CONTACT PRECAUTIONS

Disease/Condition	Duration of Isolation
Anitbiotic Resistant Bacteria – MRSA, VRE, ESBL-E.coli, etc.	Until symptoms resolve
Clostridium difficile (C. diff)	24-48 hours after symptoms resolve
Norovirus	48 hours after symptoms resolve
Scabies and Lice	24 hours after treatment started
Viral Conjunctivitis (pink eye)	Until symptoms resolve

CDC added use of eye protection if flu

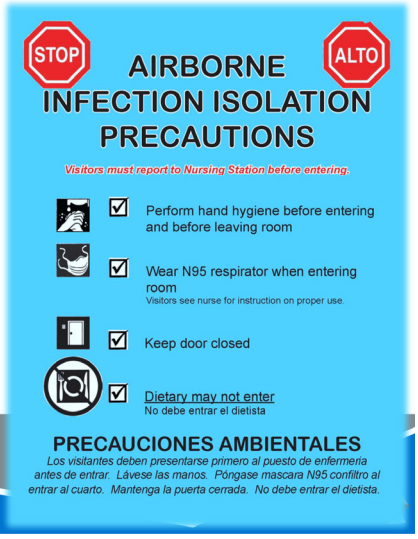
- Surgical mask prior to entry
- No special ventilation
- Private room or Cohort
- Hand hygiene
- Residents use mask outside of room

https://www.cdc.gov/flu/professionals/infectioncontrol/testing-management-considerations-nursinghomes.htm

CONDITIONS OR DISEASES REQUIRING DROPLET PRECAUTIONS

Disease/Condition	Duration of Isolation
Seasonal Influenza **Pandemic influenza**	Review the CDC seasonal guidance: for 2020-2021 Droplet Precautions should be implemented for residents with suspected or confirmed influenza for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer, while a resident is in a health care facility. Droplet precautions for 5 days from onset of symptoms
Meningococcal Diseases: meningitis, pneumonia	For 24 hours after treatment has started
MRSA pneumonia	For duration of illness (also use Contact Precautions)
Strep Throat	For 24 hours after treatment has started
Rhinovirus (cold)	For duration of illness

- Private room only
- Room requires Negative airflow pressure
- Doors must remain closed
- Everyone must wear an N-95 respirator
- Limit the movement and transport of the Resident
- Hand hygiene before and after



TUBERCULOSIS

Facility does not have a dedicated negative pressure room:

- Transfer resident to a facility capable of managing and evaluating resident
- Be sure policy is included in your plan

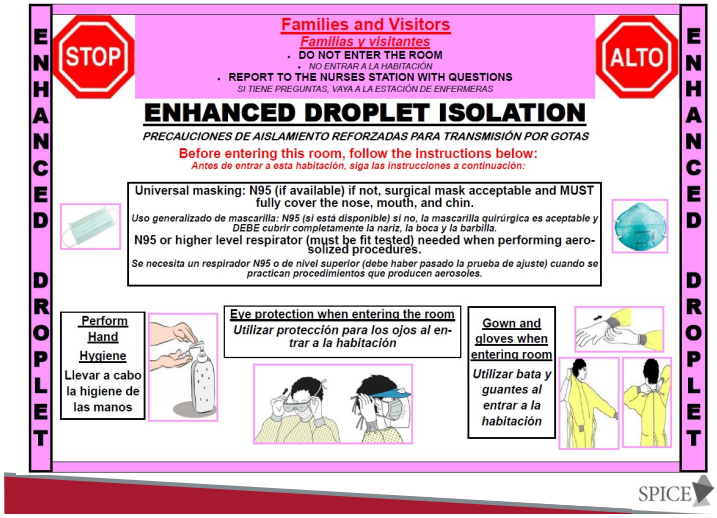
Facility does have negative pressure room:

- Follow Airborne Precautions

CHICKENPOX AND SHINGLES

Disease/Condition	Type and Duration of Isolation
Chickenpox (varicella)	Airborne and Contact until lesions are dry and crusted
Shingles (Herpes zoster. Varicella zoster)	
Localize in patient with intact immune system with lesions that can be contained/covered	Standard Precautions
Disseminated disease in any patient	Airborne and Contact precautions for duration of illness
Localized disease in immunocompromised patient until disseminated infection ruled out	Airborne and Contact precautions for duration of illness

Non-immune healthcare personnel should not care for residents with Chickenpox or Shingles



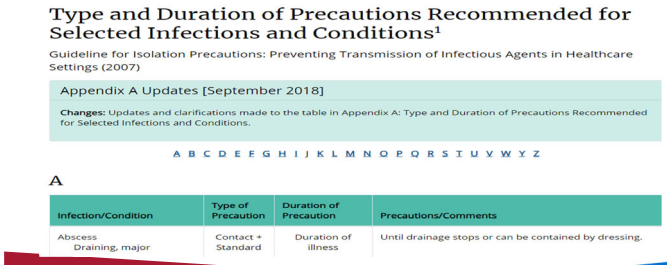
SARS-COV-2 (COVID-19)

- Designated unit- separate floor, wing, or cluster of rooms
- Designated staff- work only on the unit,
  - Wear full PPE (N95, eye protection, gown and gloves)
  - Ideally have a restroom, break room
  - Restrict ancillary staff (dietary)
  - EVS to work only on unit
- Signage
- Assign dedicated resident care equipment
- Use EPA-registered disinfectant *(List N) for disinfecting high touch surfaces

*** https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19**

WHEN TO DISCONTINUE TBP PRECAUTIONS

- Resume Standard Precautions once high-risk exposures or active symptoms have discontinued
  - Refer to Appendix A in the 2007 Isolation Guidelines


Type and Duration of Precautions Recommended for Selected Infections and Conditions[1]

Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)

Appendix A Updates [September 2018]

Changes: Updates and clarifications made to the table in Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions.

A B C D E F G H I J K L M N O P Q R S T U V W Y Z

A

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Abscess Draining, major	Contact + Standard	Duration of illness	Until drainage stops or can be contained by dressing.

DISCONTINUATION OF TRANSMISSION-BASED PRECAUTIONS: COVID-19 IN HEALTHCARE SETTINGS (INTERIM GUIDANCE)

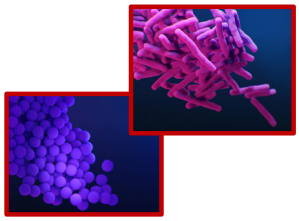
- A test-based strategy is no longer recommended (except as noted below) because, in the majority of cases, it results in prolonged isolation of patients who continue to shed detectable SARS-CoV-2 RNA but are no longer infectious.
- Symptom-Based Strategy *(mild – moderate illness- not severely immunocompromised)*:
  - At least 10 days have passed since symptoms first appeared AND
  - At least 24 hours since last fever (off fever-reducing medications AND
  - Symptoms have improved
- Symptom-Based Strategy *(severe – citical illness- severely immunocompromised)*:
  - Same as above but time extended to 10-20 days
- Asymptomatic:
  - At least 10 days have passed since the date of their first positive test

MANAGEMENT OF MULTI-DRUG RESISTANT ORGANISMS

2006

MULTIDRUG RESISTANT ORGANISMS

- MDRO- Organisms that develop resistance to one or more classes of antibiotics. This may result in typical antibiotic regimens not working or becoming less effective.



- Cause infections and/or colonization
- Infections caused by MDROs are:
  - More difficult to treat
  - Require more toxic antibiotics to treat
  - Often have poor patient outcomes
  - Are easily transmitted in healthcare settings

RISK FACTORS FOR DEVELOPING A MDRO

- Duration of hospitalization
- High rates of transfer in and between hospitals
- Local institution risk factors
- **Long term care facilities**
- Intensive care units
- High rate of device utilization
- Colonization
- Prior antibiotic use

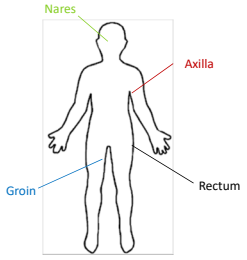
"Age, comorbid illnesses, invasive medical devices, frequent antibiotic exposure, and dependence on healthcare workers, in the setting of communal living, all serve to increase the risk of nursing home residents becoming colonized or infected with healthcare-acquired bacterial pathogens. "
(Dumyati, et. Al., 2017)

MULTIDRUG RESISTANT ORGANISMS

- Cause infections
  - More difficult to treat
  - Require more toxic antibiotics to treat
  - Often have poor patient outcomes
  - Are easily transmitted in healthcare settings
- Colonization
  - Colonization means organisms live on or in the body without having an active infection.
  - CDC notes up to 50% of nursing home residents are colonized with MDROs.
  - MDRO colonization can increase the individual's risk for developing an infection.
  - ** MDRO-colonized residents serve as a source of transmission to others ***

COLONIZATION VS INFECTION

- MDRO colonization can persist for long periods of time (e.g., months) and result in silent transmission.
- Common colonization sites for MDROs include:
  - Nares
  - Axilla
  - Groin
  - Rectum



MDROS SPREAD IN HEALTHCARE SETTINGS

- Resident to resident transmission via healthcare provider's hands
- Environmental/equipment contamination

X marks the location where VRE was isolated in the room

Image from Abstract: The risk of hand and glove contamination after contact with a VRE + patient environment. Hayden M, ICAAC, 2001, Chicago, Il.

KEY MDRO PREVENTION STRATEGIES

- Assessing hand hygiene practices
- Quickly reporting MDRO lab results
- Implementing Contact Precautions
- Recognizing previously colonized residents
- Strategically place residents based on MDRO risk factors
- Careful device utilization
- Antibiotic stewardship
- Inter-facility communication

PRECAUTIONS IN LTCF
CDC SAYS…

V.A.5.c.ii.1 "For relatively healthy residents (e.g., mainly independent) follow Standard Precautions making sure that gloves and gowns are used for contact with uncontrolled secretions, pressure ulcers, draining wound, stool incontinence, and ostomy tubes/bags."

V.A.5.c.ii.2. For ill residents (e.g., those totally dependent upon healthcare personnel for healthcare and activities of daily living…) and for those residents whose infected secretions or drainage cannot be contained, use Contact Precautions, in addition to Standard Precautions."

V.A.5.c.iii. For MDRO colonized or infected patients without draining wounds, diarrhea, or uncontrolled secretions, establish ranges of permitted ambulation, socialization, and use of common areas based on their risk to other patients and on the ability of the colonized or infected patients to observe proper hand hygiene and other recommended precautions to contain secretions and excretions.

HICPAC, Management of MDROs in healthcare settings, 2006

CONTACT PRECAUTIONS IN LTCF
WHAT WE KNOW

- Contact precautions creates challenges for nursing homes trying to balance the use of PPE and room restriction with residents' quality of life
- Contact precautions implemented only when residents are infected with an MDRO
- MDRO colonization can persist for long periods of time (e.g., months) and result in silent transmission
- Organisms that are pan-resistant or have novel mechanisms of resistance are emerging

Colonization VS Infection?

SPICE RECOMMENDATIONS
RESIDENT CHARACTERISTICS

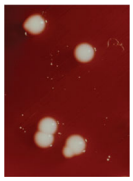
Component	Recommendation
Personal Protective Equipment (PPE)	
Gloves	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin
Gown	During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated
Mask, eye protection	During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation

- Five C's
  - Cognitive function (understands directions)
  - Cooperative (willing and able to follow directions)
  - Continent (of urine or stool)
  - Contained (secretions, excretions, or wounds)
  - Cleanliness (capacity for personal hygiene)

Kellar M. APIC Infection Connection. Fall 2010 ed.

WHAT ABOUT CARBAPENEM-RESISTANT *ENTEROBACTERIACEAE* (CRE)?

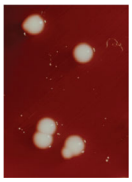
- In lower-acuity post-acute care settings (e.g., non-ventilator units of skilled nursing facilities, rehabilitation facilities), the use of Contact Precautions is more challenging and should be guided by the potential risk that residents will serve as a source for additional transmission based on their functional and clinical status and the type of care activity that is being performed.



Facility Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE): November 2015 Update-CRE Toolkit; CDC

WHAT ABOUT CARBAPENEM-RESISTANT *ENTEROBACTERIACEAE* (CRE)?

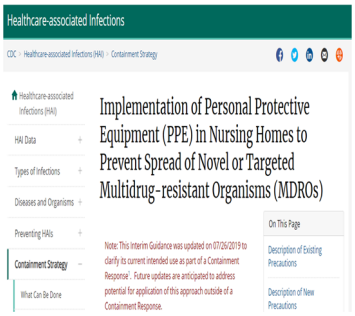
- Examples of when gowns and/or gloves might be used include the following:
  - Bathing residents
  - Assisting residents with toileting
  - Changing residents' briefs
  - Changing a wound dressing
  - Manipulating patient devices (e.g., urinary catheter)



Facility Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE): November 2015 Update-CRE Toolkit; CDC

ENHANCED BARRIER PRECAUTIONS
WHY ?

- "Focusing only on residents with active infection fails to address the continued risk of transmission from residents with MDRO colonization, which can persist for long periods of time (e.g., months), and result in the silent spread of MDROs".
- "With the need for an effective response to the detection of serious antibiotic resistance threats, there is growing evidence that current implementation of Contact precautions in nursing homes is not adequate for prevention of MDRO transmission".



- **What this guidance <u>DOES NOT</u> do:**
  - Does not replace existing guidance regarding use of contact precautions for other pathogens (e.g., *Clostridioides difficile*, norovirus)
  - Does not provide guidance for acute care or long-term acute care (LTACs)
- **What this guidance <u>DOES</u> do:**
  - Does provide guidance for PPE use and room restriction in nursing homes for preventing transmission of <u>novel or targeted MDROs,</u> including as part of a public health <u>containment response</u>

spice.unc.edu/ltcwebinars

NOVEL OR TARGETED MDROS ARE DEFINED AS:

JULY 2019

- Pan-resistant organisms:
  - Resistant to all current antibacterial agents *Acinetobacter, Klebsiella pneumonia, pseudomonas aeruginosa*
- Carbapenemase-producing Enterobacteriaceae
- Carbapenemase-producing *Pseudomonas* spp.
- Carbapenemase-producing *Acinetobacter baumannii* and
- *Candida auris*

ENHANCED BARRIER PRECAUTIONS

- Applies to ***ALL*** residents with ***ANY of the following:***
  - Wounds and/or indwelling medical devices (e.g., central lines, urinary catheter, feeding tube, tracheostomy/ventilator) **<u>REGARDLESS</u>** of MDRO colonization status (*when a novel or targeted MDRO has been identified on the unit)*
  - Infection **<u>OR</u>** colonization with a novel or targeted MDRO when *<u>Contact Precautions do not apply</u>*
  - Facilities may consider applying EBP to residents infected or colonized with other epidemiologically-important MDROs based on facility policy (MRSA, VRE for example)
- Gown and gloves prior to the high contact care activity (cannot reuse gown and change between residents)
- No room restriction

ENHANCED BARRIER PRECAUTIONS

- Examples of high-contact resident care activities <u>requiring</u> gown and glove use:
  - Dressing
  - Bathing/showering
  - Transferring
  - Providing hygiene (focused on am and pm care)
  - Changing linens
  - Changing briefs or assisting with toileting
  - Device care or use; central line, urinary catheter, feeding tube, tracheostomy/ventilator
  - Wound care: any skin opening requiring a dressing

IMPLEMENTATION QUESTIONS

- How long should EBP be maintained on units with AR colonized or at-risk residents?
  - EBP was intended to be a long-term strategy for gown/glove use during care of residents to be followed for the duration of a resident's stay in a facility given the prolonged, potentially life-long risk of remaining colonized with certain AR pathogens
  - A transition back to Standard Precautions might be appropriate for residents placed in EBP solely because of the presence of a wound or indwelling medical device if/when those exposures are gone
- Should nursing homes apply EBP for MDROs like MRSA, VRE or ESBL?
  - The decision to use EBP for these organisms should be based on the prevalence of the MDRO in the facility/region. CDC will be working with HICPAC and nursing home partners to understand the application of EBP outside of AR Containment

CONTACT PRECAUTIONS

- Contact Precautions:
  - All residents with an <u>MDRO</u> when there is <u>acute diarrhea, draining wounds or other sites of secretions/excretions that cannot be contained or covered</u>
  - On units or in facilities where ongoing transmission is documented or suspected
  - C. *difficile* infection
  - Norovirus
  - Shingles when resident is immunocompromised, and vesicles cannot be covered
  - Other conditions as noted in Appendix A- Type and Duration of Precautions Recommended For Selected Infections and Conditions
- Gown and gloves upon ANY room entry
- Room restriction except for medically necessary care

SUMMARY

- Contact **OR** Enhanced Barrier Precautions:
  - Post clear signage on the door or wall outside the room
  - Make PPE available immediately outside the room
  - Ensure access to alcohol-based hand rub in every resident room (ideally inside and outside)
  - Trash can available for PPE disposal
  - Periodic monitoring and assessment of compliance
  - Provide education to residents, family and visitors
  - Adherence to other measures including hand hygiene, environmental cleaning and cleaning, disinfection of medical devices

SPICE

RESIDENT PLACEMENT
COHORTING

- When single patient rooms are available assign priority for these rooms to individuals with known or suspected MDRO colonization or infection
- When not available, cohort patients with the same MDRO in the same room
- When cohorting (patients with the same MDRO) is not possible, place MDRO patients in rooms with ones who are at low risk for acquisition of MDROs and associated adverse outcomes from infection and are likely to have short length of stay

CDC: Management of MDROs in Healthcare Settings, 2006

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PLACEMENT OF RESIDENTS BASED ON RISK FACTORS

- Avoid placing 2 high-risk residents together
- Safer to cohort low-risk and high-risk residents
- Don't change stable room assignments based on culture results unless it poses new risk
  - Long-term Roommates have already shared organisms in the past (even if you just learned about it)

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SUMMARY

- Standard precautions are the primary strategy to interrupt transmission of infectious agents in healthcare facilities
  - HH,PPE, Respiratory Hygiene, Cleaning of Equipment and Environment
- Transmission-based precautions may also need to be implemented based on the type of infection and how it is transmitted
  - Contact, Droplet, Airborne
- CDC Guidance specific to multi-drug resistant organisms
  - 2006-Management of MDROs
  - Enhanced Barrier Precautions
- CDC Guidance available for emerging pathogens:
  - SARS-CoV-2

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