North Carolina SPICE
Statewide Program for Infection Control & Epidemiology

ISOLATION PRECAUTIONS AND MANAGEMENT OF MULTIDRUG-RESISTANT ORGANISMS (MDROS) IN LONG-TERM CARE FACILITIES

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Statewide Program for Infection Control & Epidemiology

OBJECTIVES

- Review CDC guidelines for Isolation Precautions
- Review how Multi-drug Resistant Organisms (MDROs) emerge
- Review CDC guidelines for management of MDROs
- Discuss Enhanced Barrier Precautions

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

Jane D. Siegel, MD; Emily Rhinehart, RN MPH CIC; Marguerite Jackson, PhD; Linda Chiarello, RN MS; the Healthcare Infection Control Practices Advisory Committee

KEY CONCEPTS

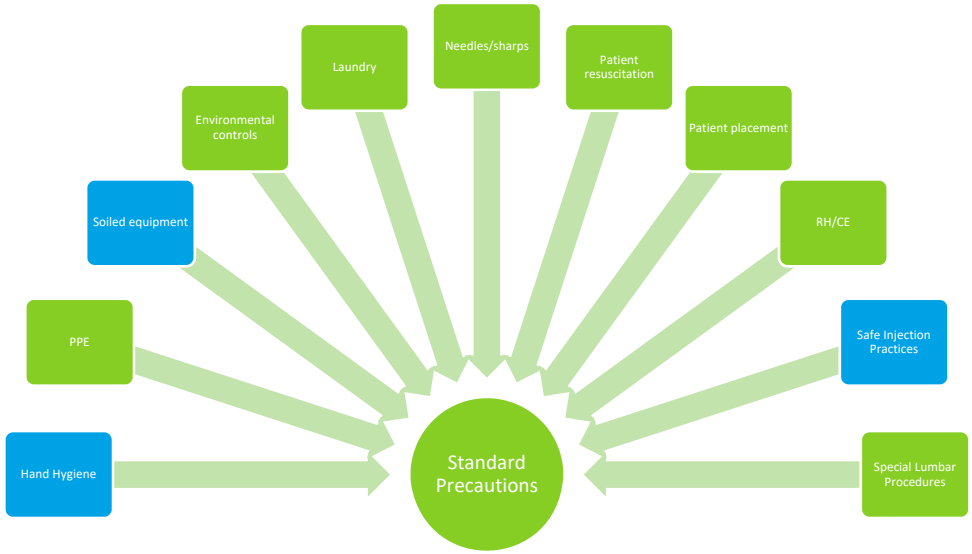
- Risk of transmission of infectious agents occurs in all settings
- Infections are transmitted from patient-to-patient via HCPs hands or medical equipment/devices
- Isolation precautions are only part of a comprehensive IP program
- Unidentified patients who are colonized or infected may represent risk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

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



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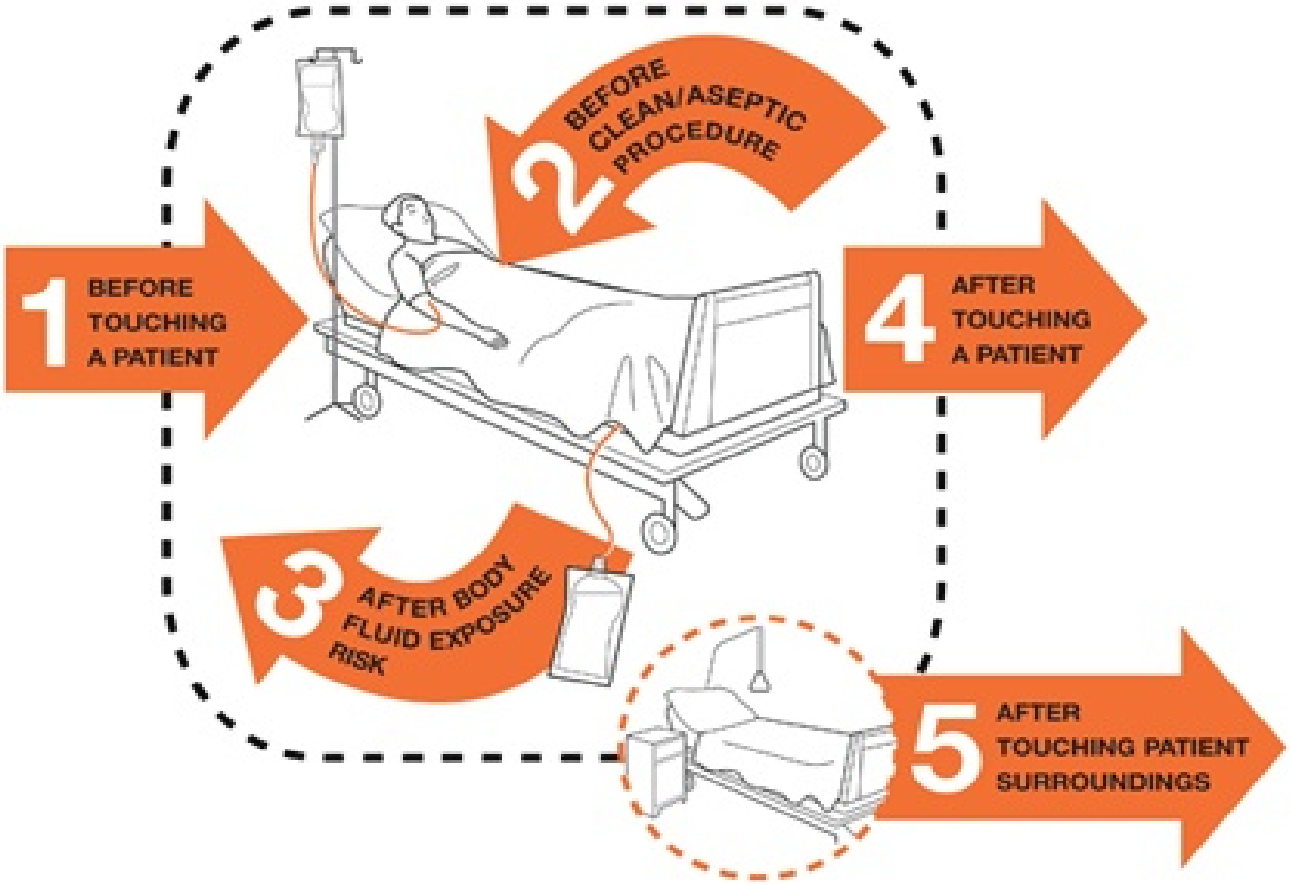
HAND HYGIENE

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

Your 5 Moments for Hand Hygiene



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HAND HYGIENE

SOAP + WATER

OR

Alcohol based hand rub

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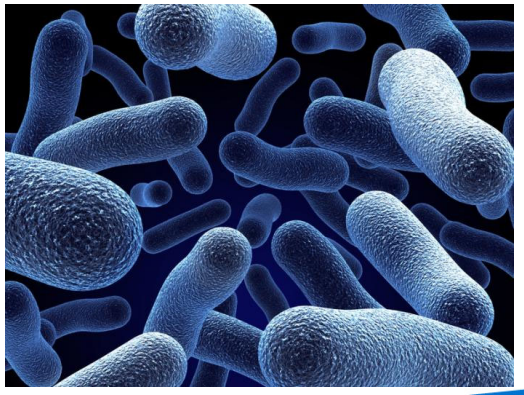
SOAP AND WATER

- *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*

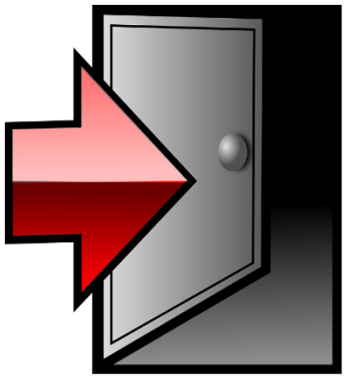
SOAP AND WATER

- Wash hands with non-antimicrobial soap and water or with antimicrobial soap and water if contact with spores (e.g., *C. difficile* or *Bacillus anthracis*) is likely to have occurred.
- The physical action of washing and rinsing hands under such circumstances is recommended because alcohols, chlorhexidine, iodophors, and other antiseptic agents have poor activity against spores.



HOW TO WASH HANDS

- Wet hands with water
- Apply amount of product recommended by manufacturer
- Rub hands together vigorously at least 15 seconds, covering ALL surfaces of the hands and fingers
- Rinse hands
- Dry with disposable towel
- Use towel to turn off faucet (*and open door*)



Hand Washing

ALCOHOL BASED HAND RUB

- *If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands in all other clinical situations (listed next). Alternatively, wash hands with an antimicrobial soap and water in all clinical situations described.*
  - ✓ Before direct contact with patient
  - ✓ Before donning sterile gloves
  - ✓ Before inserting ANY invasive device (indwelling urinary catheters for example)
  - ✓ After contact with intact skin
  - ✓ After contact with body fluids, excretions, mucous membranes etc., if not visible soiled
  - ✓ If moving from contaminated body site – to clean body site
  - ✓ After contact with inanimate objects (environment, medical equipment)
  - ✓ After removing gloves

HOW TO USE AN ALCOHOL BASED HAND RUB

- Apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry
- Follow the manufacturer's recommendations regarding the volume of product to use.

Hand Rubbing

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
- *Monitor staff adherence to recommended HH practices*

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

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

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

DONNING PPE

GOWN

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

MASK OR RESPIRATOR

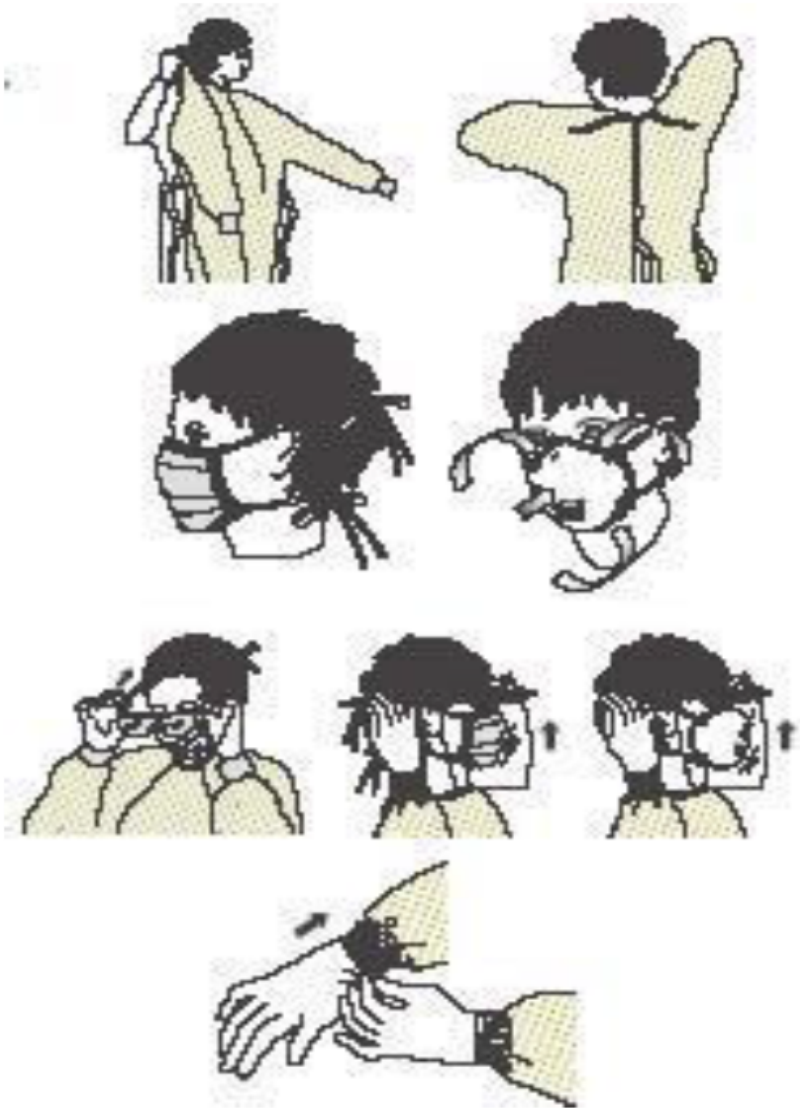
- Secure ties or elastic band at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

GOGGLES/FACE SHIELD

- Put on face and adjust to fit

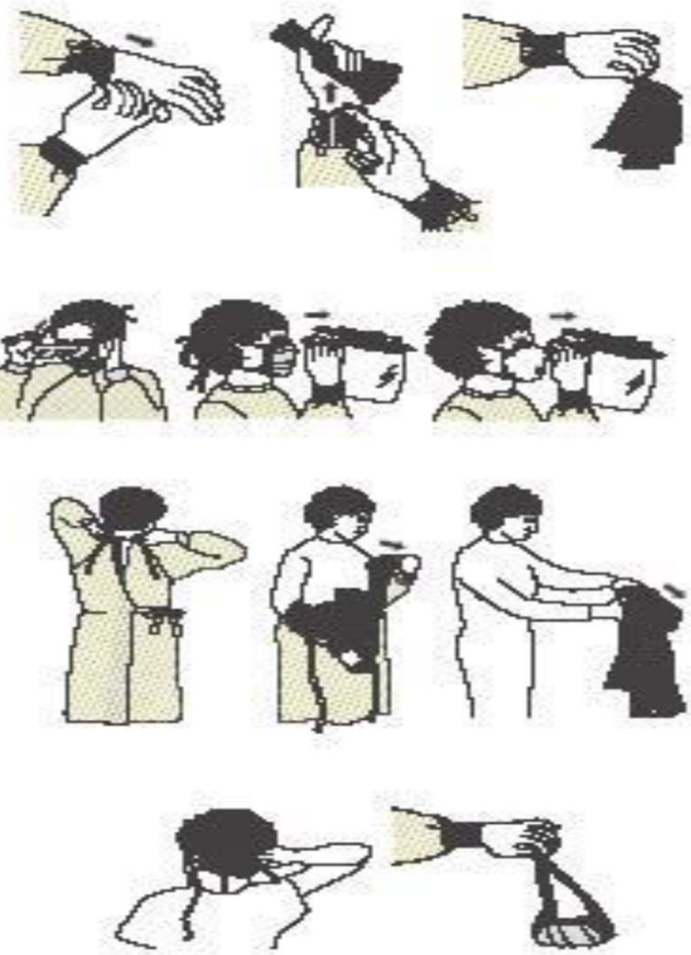
GLOVES

- Use non-sterile for isolation
- Select according to hand size
- Extend to cover wrist of isolation gown



DOFFING PPE

- **Gloves**
  - Grasp outside of glove with opposite gloved hand, peel off
  - Hold removed glove in gloved hand
  - Slide fingers of ungloved hand under remaining glove at wrist
- **Goggles/Face Shield**
  - To remove, handle by “clean” head band or ear pieces
  - Place in designated receptacle
- **Gown**
  - Unfasten neck, then waist ties
  - Remove gown using a peeling motion
  - Gown will turn inside out
  - Hold away from body, roll into a bundle and discard
- **Mask**
  - Grasp ONLY bottom then top ties/elastics and remove
  - Discard
- **Wash hands or use an ABHR immediately after removing PPE**



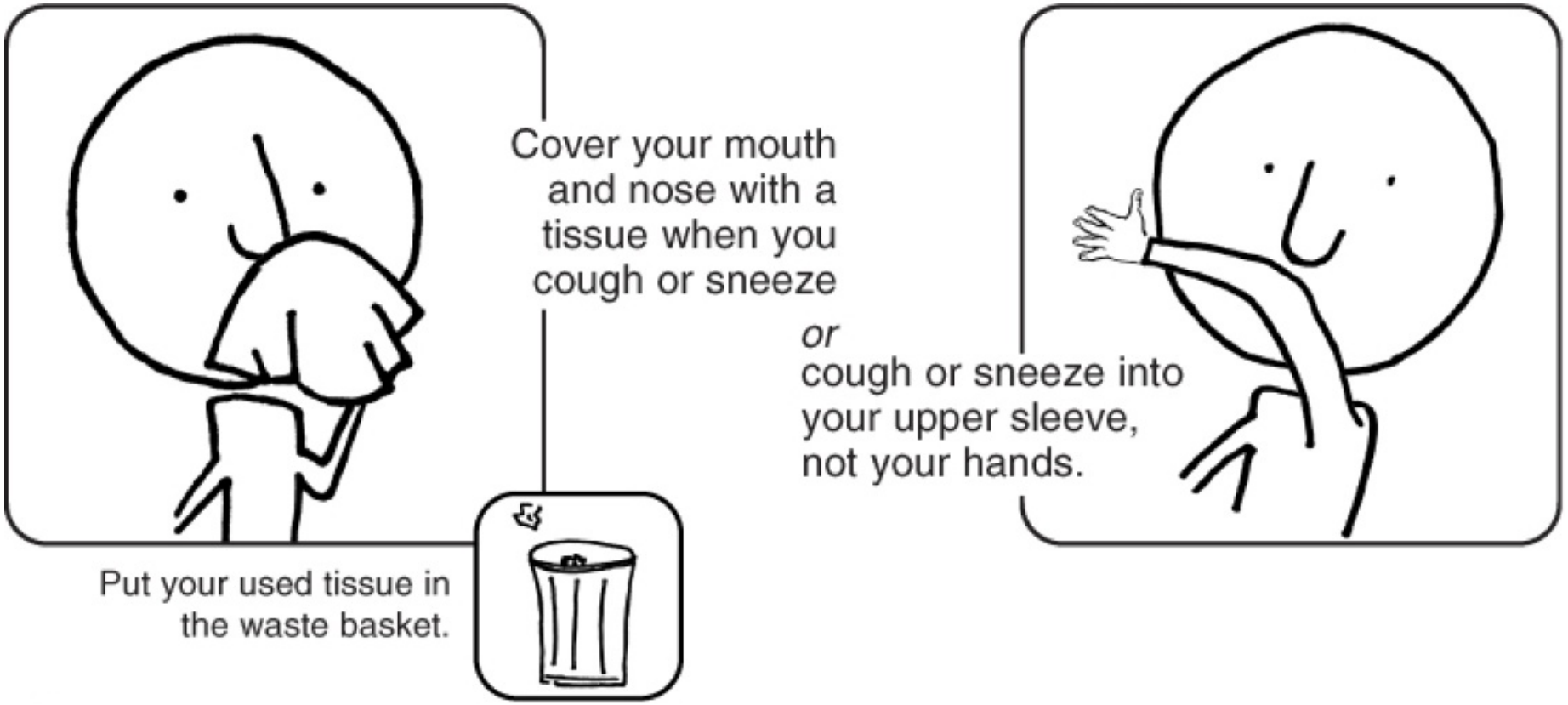
OR


Obstetrical Towelette

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.

RESPIRATORY HYGIENE/COUGH ETIQUETTE

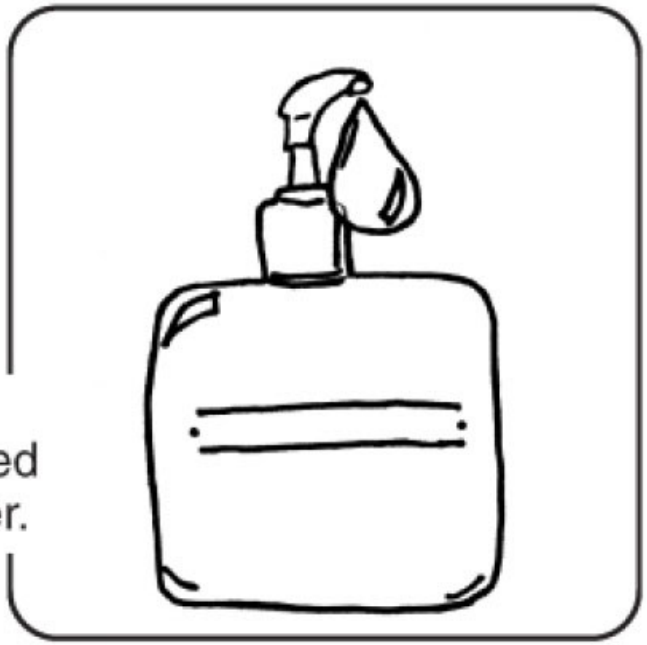


RESPIRATORY HYGIENE/COUGH ETIQUETTE

Wash hands with soap and warm water

or

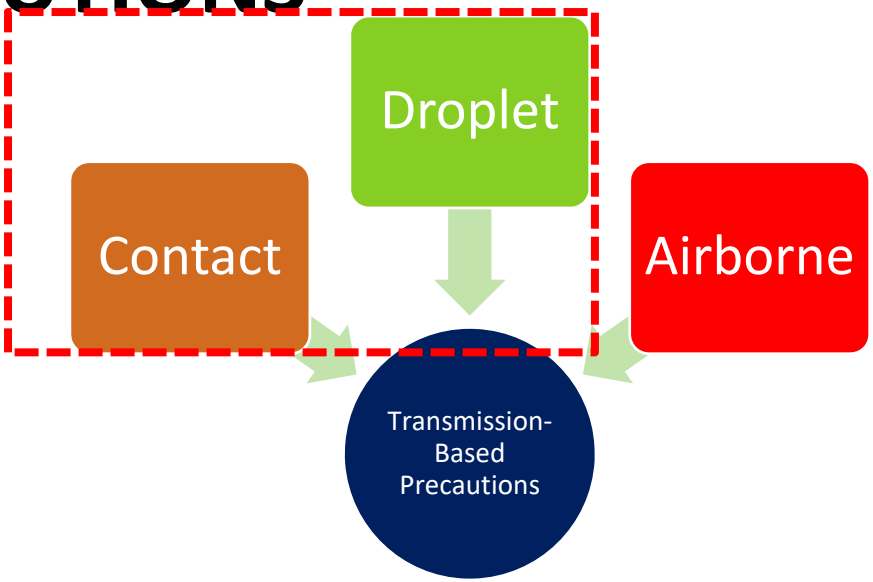
clean with alcohol-based hand cleaner.



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.



CRITERIA FOR ASSIGNING TRANSMISSION-BASED PRECAUTIONS

- Category is assigned if there was strong evidence for person-to-person transmission
- Category assignment reflects predominant mode(s) of transmission
- If no evidence of person-to-person transmission via major routes, use Standard Precautions
- Low risk for person-to-person transmission and no evidence of health-care associated transmission, use Standard Precautions

Private room or Cohort

Gown and gloves prior to entry

Hand hygiene

Dedicate equipment

Disinfect shared equipment

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C. difficile and Norovirus

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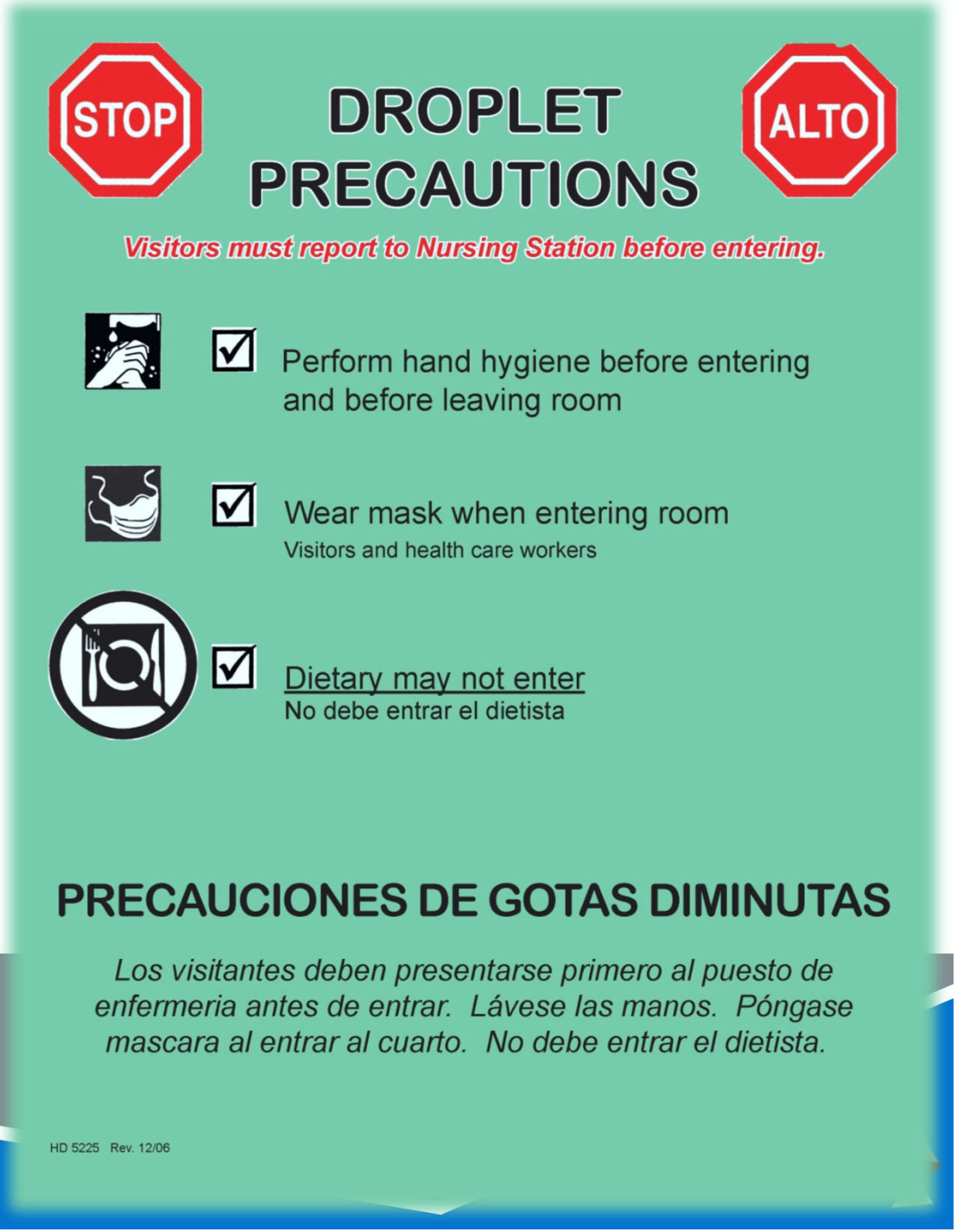
CONDITIONS OR DISEASES POTENTIALLY REQUIRING CONTACT PRECAUTIONS

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

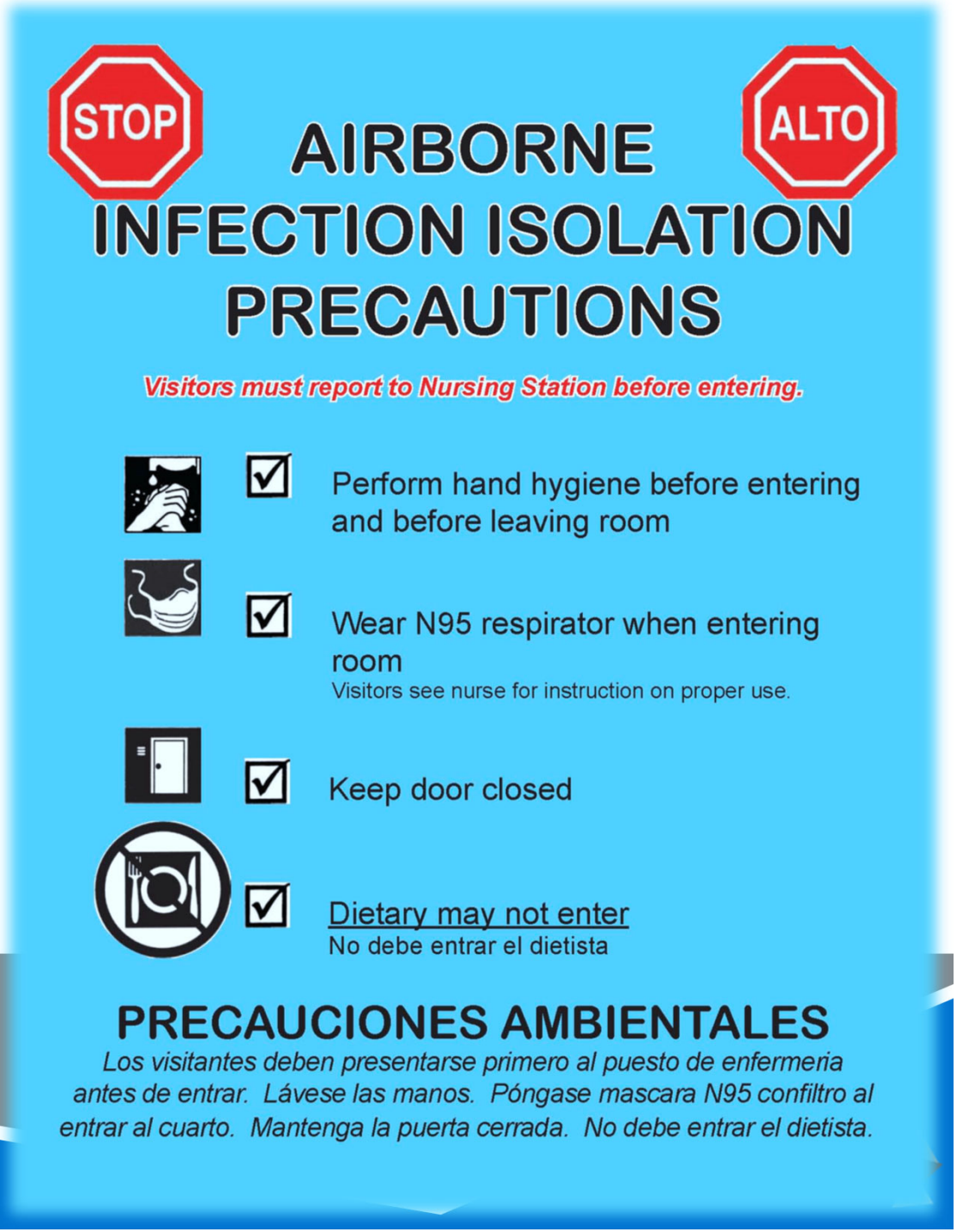
- Surgical mask prior to entry
- No special ventilation
- Private room or Cohort
- Hand hygiene
- Residents use mask outside of room



CONDITIONS OR DISEASES REQUIRING DROPLET PRECAUTIONS

Disease/Condition	Duration of Isolation
Seasonal Influenza **Pandemic influenza**	Review the CDC seasonal guidance: for 2016-2017 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

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SYNDROMIC AND EMPIRIC APPLICATION OF TRANSMISSION-BASED PRECAUTIONS

- Diagnosis requires lab confirmation
- Culture-based lab test require 2 or more days
- Precautions should be implemented while awaiting results
  - Based on clinical presentation and likely pathogen
- Reduces transmission opportunities

Clinical Syndrome or Condition	Potential Pathogens	Empiric Precautions (always includes Standard Precautions
Diarrhea		
Acute diarrhea with infectious cause is incontinent or diapered patient	Enteric Pathogens	Contact Precautions
Rash or Exanthems, generalized, unknown etiology		
Petechial/Ecchmotic w/ fever	Neisseria meningitides	Droplet Precautions for 1st 24hrs of antimicrobial therapy
Vesicular	Varicella-zoster, herpes simplex, vaccinia viruses	Airborne plus Contact precautions
Respiratory Infections		
Cough/fever/upper lobe infiltrate	Tb, Respiratory Viruses, S. pneumoniae, S. aureus	Airborne Precautions plus contact
Skin or Wound Infection		
Abscess or draining wound that cannot be covered	Staphylococcus aureus, group A streptococcus	Contact Precautions Add Droplet for the first 24 hours of antimicrobial therapy if group A strep disease suspected

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)

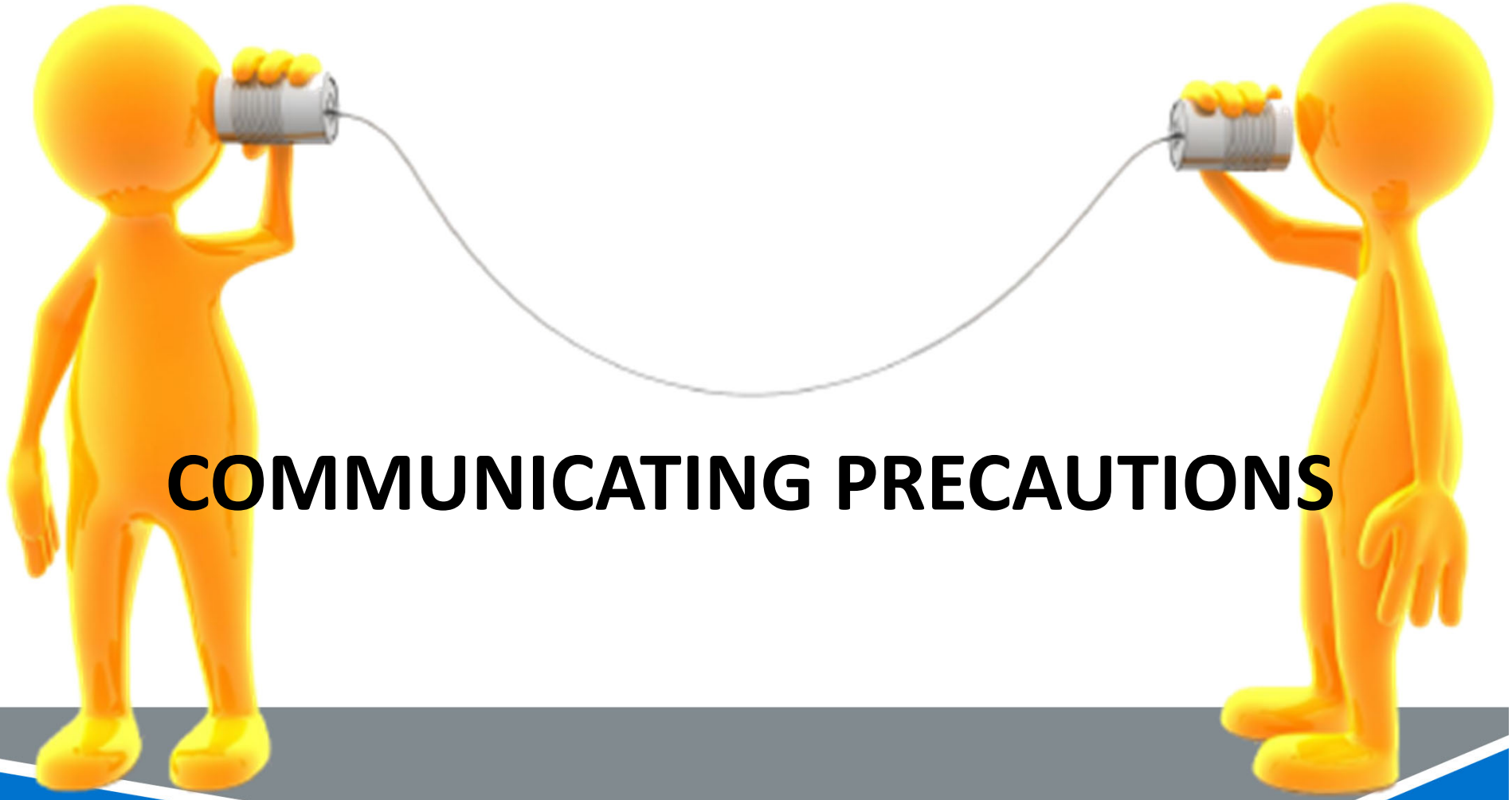
Appendix A Updates [September 2018]

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.



COMMUNICATING PRECAUTIONS

You must post the sign on the door.

	Airborne	Droplet	Contact
Room	Airborne Infectious Isolation (AII) room preferred; private room; door closed	Private Room Preferred; door may remain open	Private room preferred: Either disposable single-use or dedicated use of patient care equipment to one resident
Hand Hygiene	Standard Precautions	Standard Precautions	Standard Precautions
Gloves	Standard Precautions	Standard Precautions	Wear gloves upon entry and discard before leaving
Gown	Standard Precautions	Standard Precautions	Wear gown upon entry and discard before leaving
Mask	N-95 respirator or PAPR prior to entry	Surgical mask upon entry	Standard Precautions
Eye Protection	Standard Precautions	Standard Precautions	Standard Precautions

MANAGEMENT OF MULTI-DRUG RESISTANT ORGANISMS

2006

GROWING COMPLEXITY IN THE NH RESIDENT POPULATION

- Increased post-acute care population
  - Growing medical complexity
  - Increased exposure to devices, wounds, and antibiotics
- High prevalence of multidrug-resistant organisms

EPIDEMIOLOGICALLY IMPORTANT PATHOGENS

Any infectious agent that have one or more of the following characteristics

- ✓ Propensity for transmission within facilities
- ✓ Antimicrobial resistance implications
- ✓ Associated with serious disease; increased morbidity and mortality
- ✓ A newly discovered or re-emerging pathogen

MORE ON EPIDEMIOLOGICALLY IMPORTANT PATHOGENS

- Some pathogens of concern are not multi-drug resistant (MDRO)
  - Norovirus
  - Group A strep
  - *C. difficile*
- Similar strategies used to control MDROs used to control pathogens other than MDROs

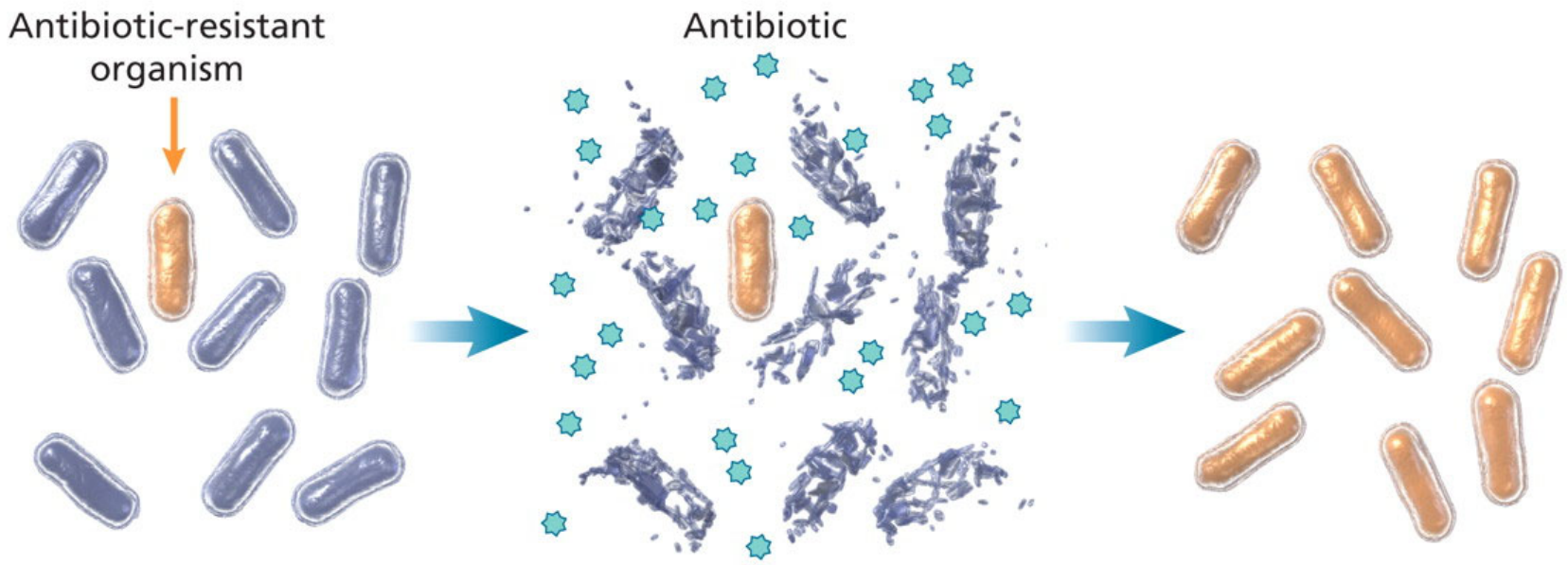
ABC'S OF MDROS

Bacteria	Abbreviation	Antibiotic Resistance
Staphylococcus aureus	MRSA	Methicillin-resistant
Enterococcus (faecalis/faecium)	VRE	Vancomycin-resistant
Enterobacteraceae (*E. coli/Klebsiella*, etc)	CRE (KPC)	Carbapenem-resistant
Pseudomonas/ Acinetobacter	MDR	Many drug classes

MDRO DEVELOPMENT HEALTHCARE SETTINGS

- Antibiotic pressure
- Device utilization

ANTIBIOTIC PRESSURE



Population of bacteria with a subset of antibiotic-resistant organisms.

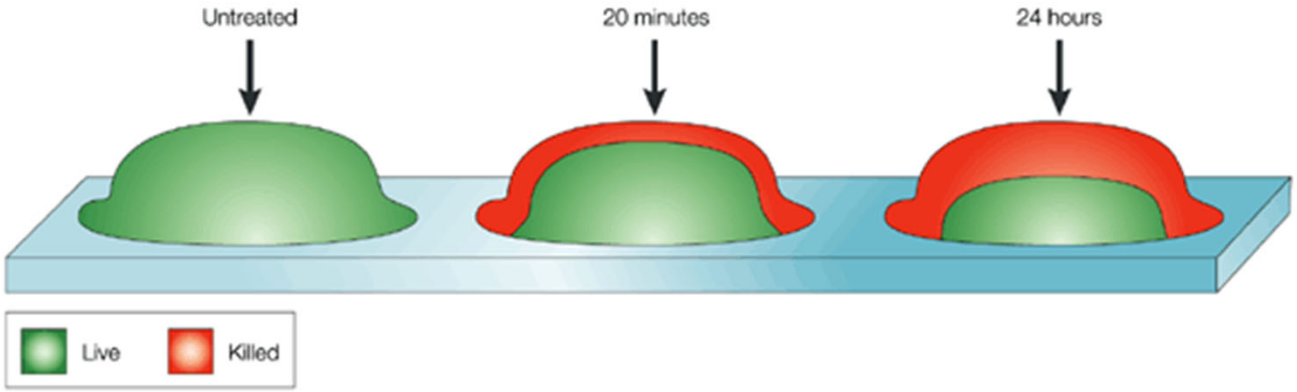
In the presence of an antibiotic, susceptible strains are killed; the resistant strain survives.

The resistant strain proliferates and may be capable of causing a new infection.

HOW RESISTANCE DEVELOPS IN BIOFILMS

A THIN COATING CONTAINING BIOLOGICALLY ACTIVE AGENTS, WHICH COATS THE SURFACE OF STRUCTURES SUCH AS THE INNER SURFACES OF CATHETER, TUBE, OR OTHER IMPLANTED OR INDWELLING DEVICE.

- Bacteria with biofilms grow differently than free floating bacteria
- Antibiotics cannot penetrate the biofilm
- Bacteria within a biofilm talk to each other and share traits that allow some to become resistant



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.

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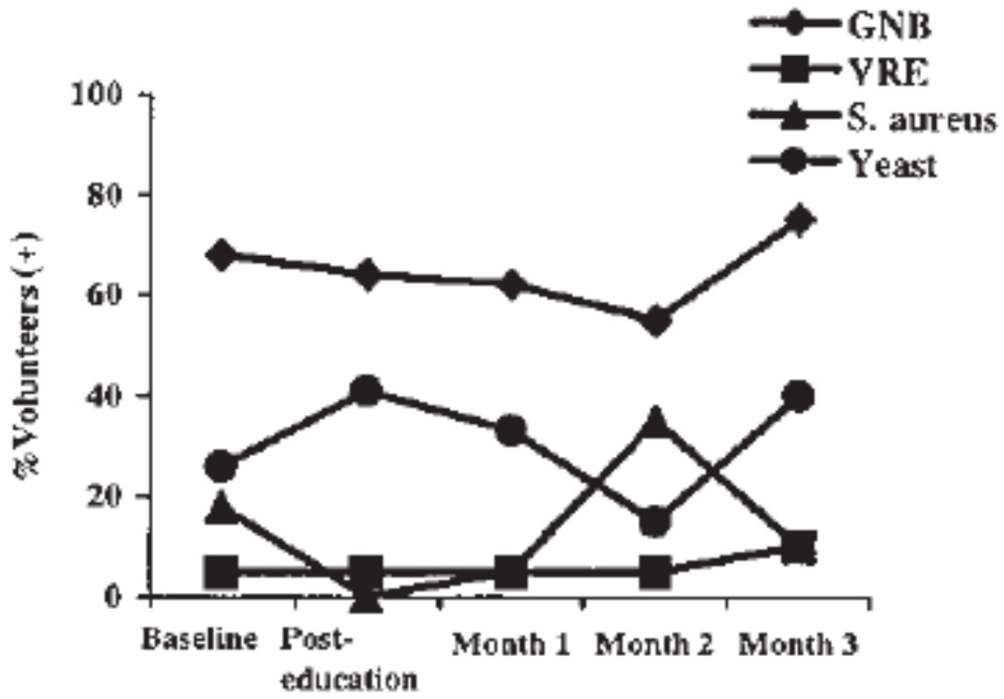
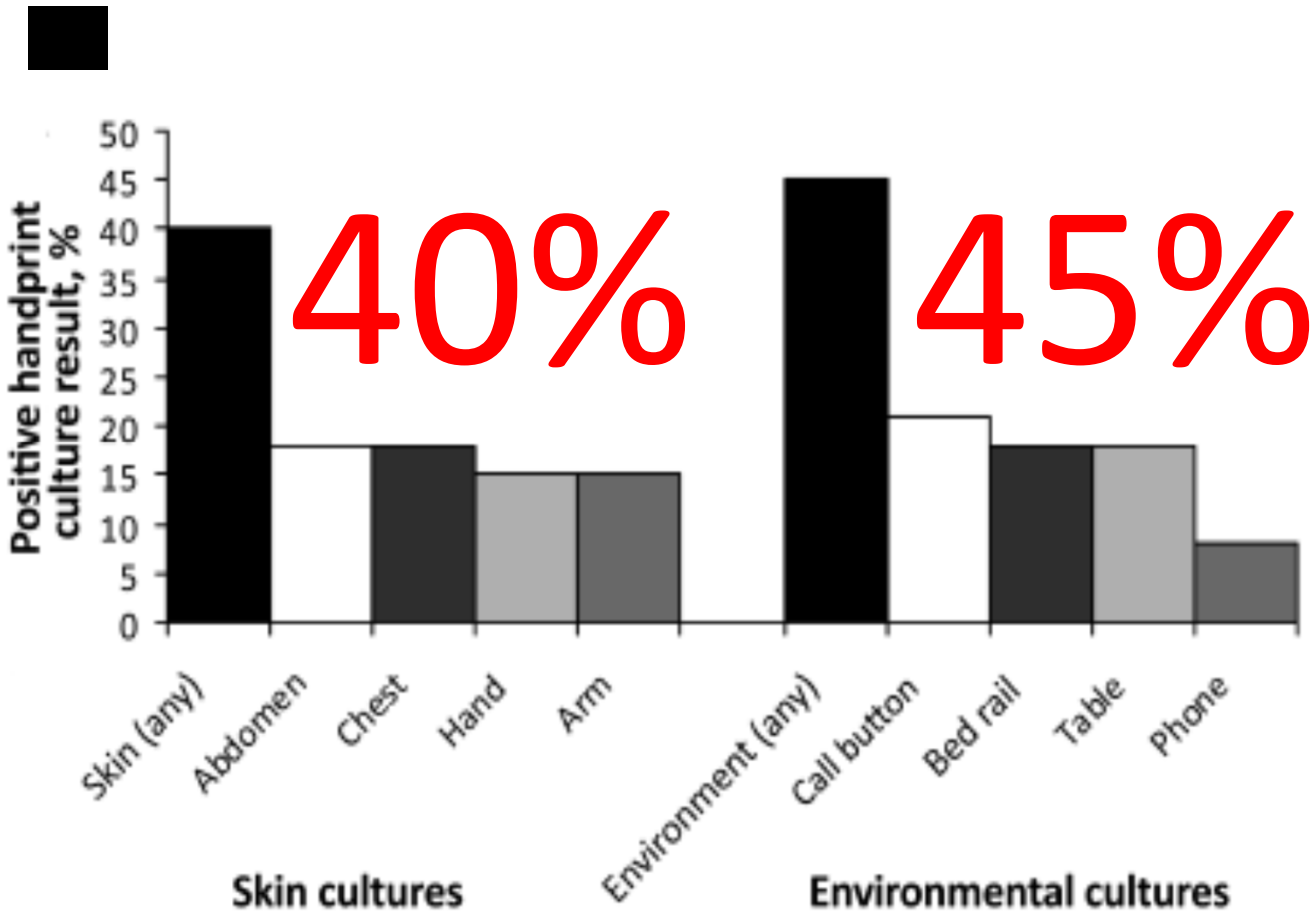
BACTERIAL CONTAMINATION OF HANDS PRIOR TO HAND HYGIENE IN A LTCF



- Gram negative were the most common bacteria cultured from hands
- Most Gram negative bacteria live in the bowels or colonize the urine!!

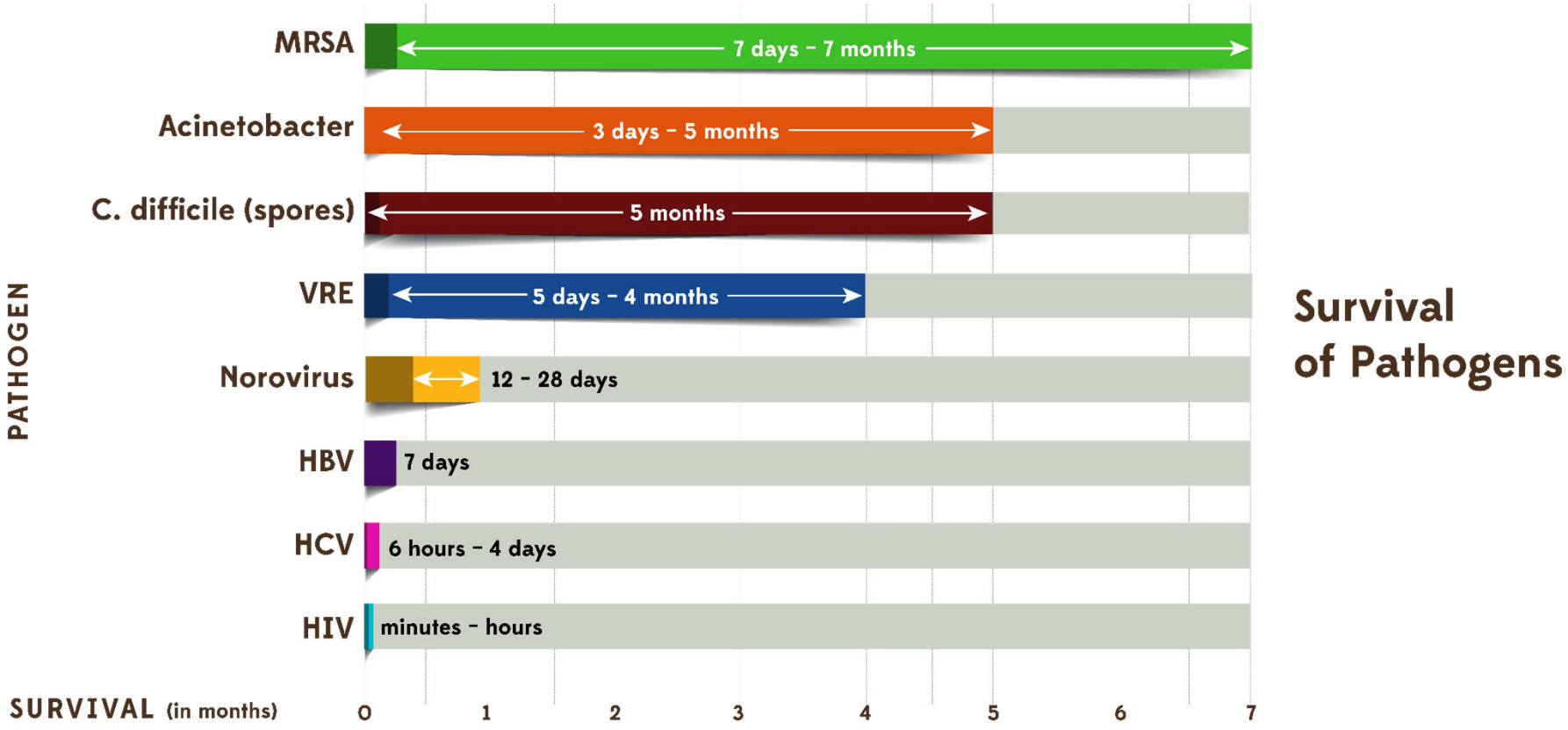
Mody L, et al. Infect Control Hosp Epi. 2003; 24:165-71

ENVIRONMENT-TO-HAND-TO-PATIENT

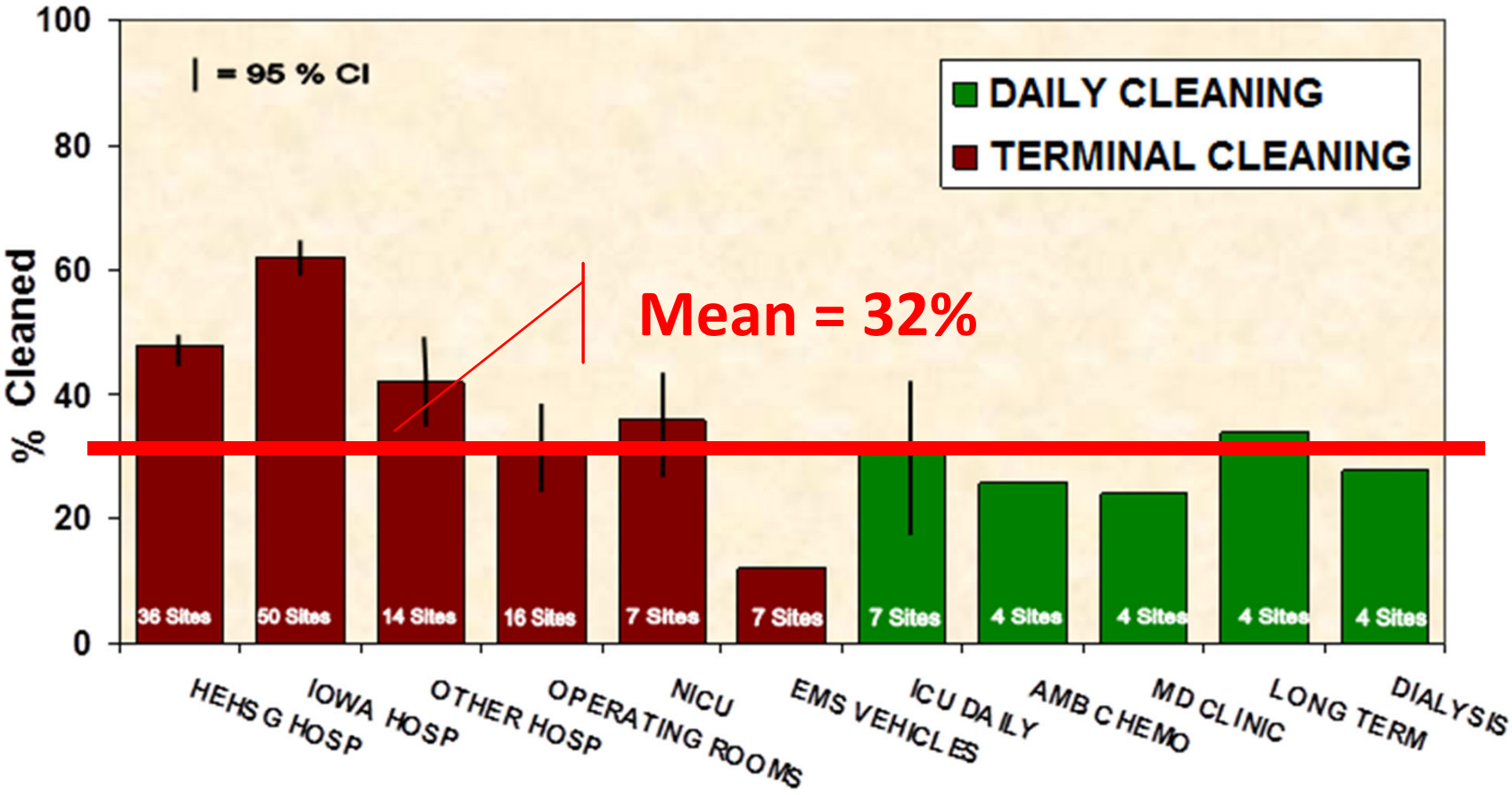


Pathogens can be transferred from healthcare surfaces to HCP hands without direct patient contact

ROLE OF THE ENVIRONMENT

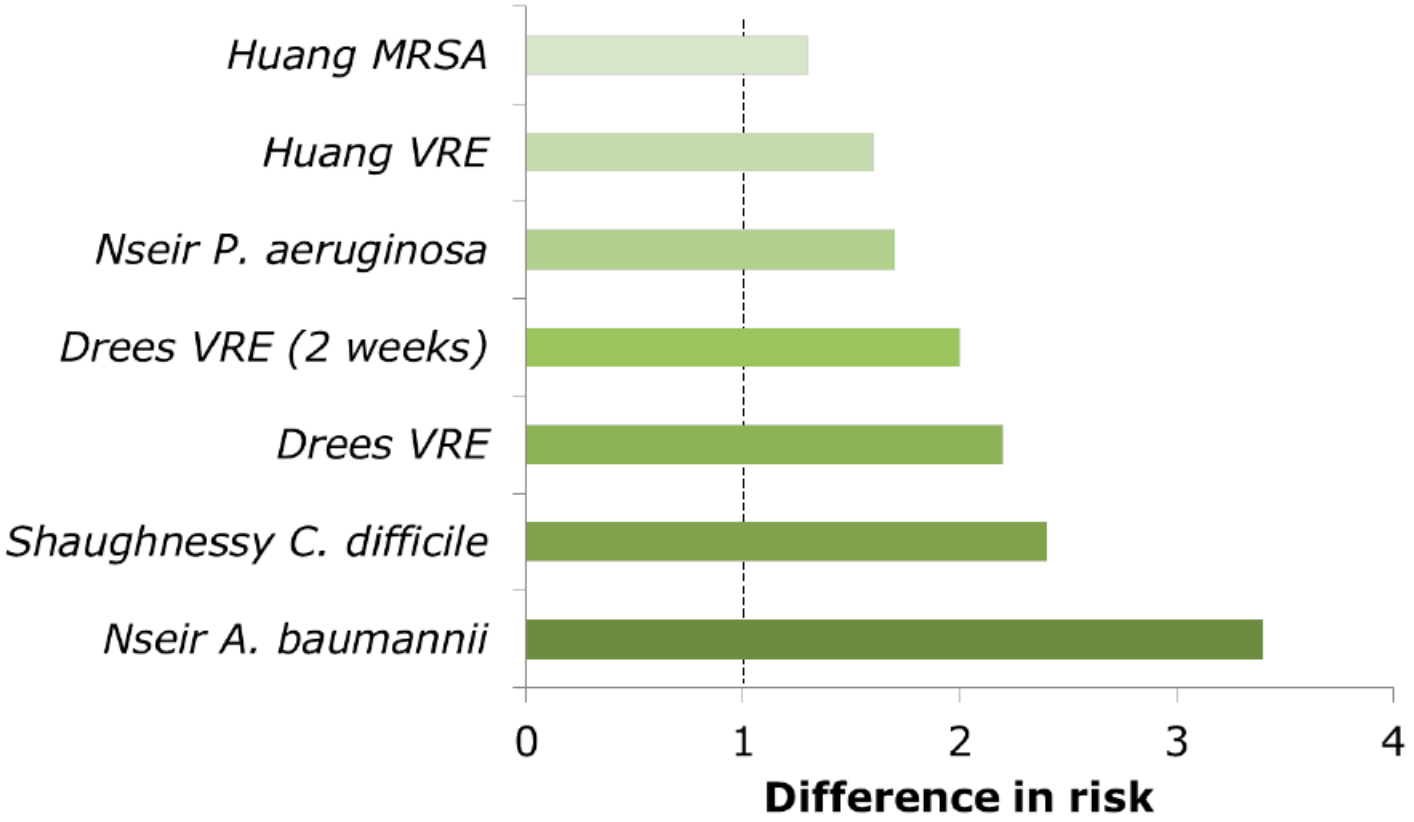


THOROUGHNESS OF CLEANING



Carling P, et al. APIC, 2012

INCREASED RISK FROM PRIOR OCCUPANT



Otter J, et al. *Infect Control Hosp Epidemiol.* 2011; 32:687-699

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."

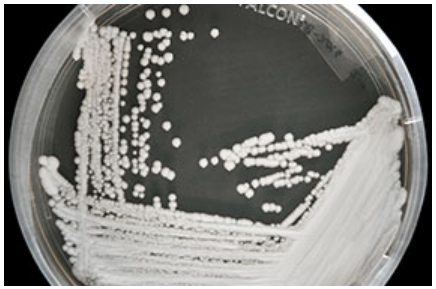
V.A.5.c.iii. For MDRO colonized or infected patients without draining wounds, diarrhea, or uncontrolled secretions, establish ranges of permitted ambulation, socialization, and use of common areas based on their risk to other patients and on the ability of the colonized or infected patients to observe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

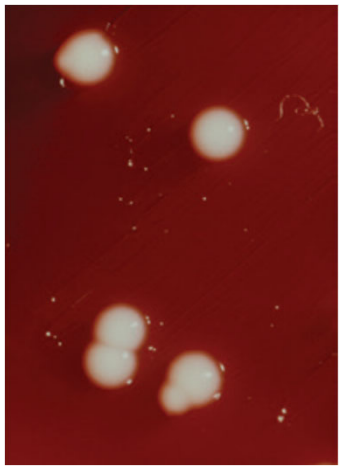
Component	Recommendation
Personal Protective Equipment (PPE)	
Gloves	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin
Gown	During procedures and patient-care activities when contact of clothing/exposed skin with blood/body 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)?

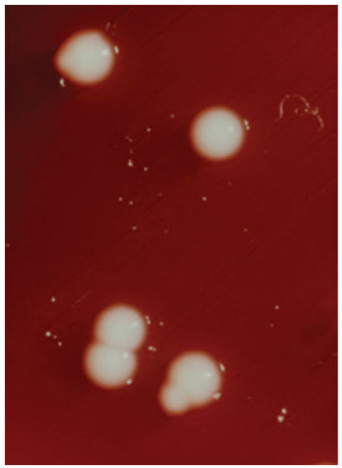
- In lower-acuity post-acute care settings (e.g., non-ventilator units of skilled nursing facilities, rehabilitation facilities), the use of Contact Precautions is more challenging and should be guided by the potential risk that residents will serve as a source for additional transmission based on their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

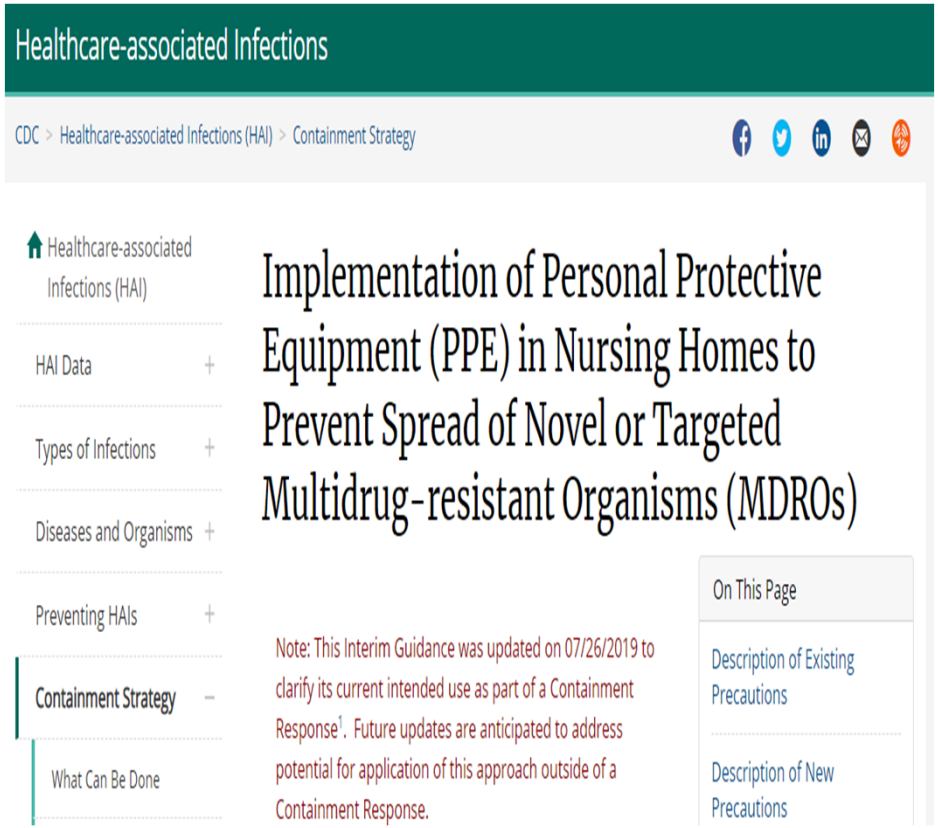
- Examples of when gowns and/or gloves might be used include the following:
  - Bathing residents
  - Assisting residents with toileting
  - Changing residents' briefs
  - Changing a wound dressing
  - Manipulating patient devices (e.g., urinary catheter)



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 DOES NOT 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 DOES do:
  - Does provide guidance for PPE use and room restriction in nursing homes for preventing transmission of novel or targeted MDROs, including as part of a public health containment response

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 (EBP)

- Expands the use of PPE beyond situations in which exposure to blood and body fluids is anticipated (i.e. Standard Precautions)
- Refers to the use of gown and gloves during high-contact resident care activities that provide opportunities for transfer of MDROs to staff hands and clothing

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) **REGARDLESS** of MDRO colonization status (*when a novel or targeted MDRO has been identified on the unit)*
  - Infection **OR** colonization with a novel or targeted MDRO when *Contact Precautions do not apply*
  - 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 requiring 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

SUMMARY

- Contact Precautions:
  - All residents with an MDRO when there is acute diarrhea, draining wounds or other sites of secretions/excretions that cannot be contained or covered
  - 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

- Enhanced Barrier Precautions:
  - Intended to provide guidance for PPE use and room restriction in nursing for preventing transmission of novel or targeted MDROs, including as part of a public health containment response
- 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

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

AR Containment webinar series: Implementation of PPE in Nursing Homes to Prevent Spread of Novel or Targeted MDROs
Nimalie D. Stone, MD, MS; September 3rd, 2019

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

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)

PRACTICAL TIPS

- Maintain ongoing database of residents with history of MDRO carriage (known colonization or infection)
- Incorporate risk factors for MDRO carriage and acquisition into care planning
- Have protocols for implementing and discontinuing Contact Precautions
- Assess staff knowledge of MDRO transmission and steps for prevention
- HAND HYGIENE, HAND HYGIENE, HAND HYGIENE!!