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

Evelyn Cook, RN, CIC
Associate Director
OBJECTIVES

► Review Isolation Precautions
► Review how Multi-drug Resistant Organisms (MDROs) emerge
► Review the management of MDROs
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.
After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between patient contacts.
Your 5 Moments for Hand Hygiene

1. Before touching a patient
2. Before clean/aseptic procedure
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings

SPICE®
HAND HYGIENE

You’ve got trouble on your hands

The CDC says that keeping your hands clean is one of the most effective things you can do to prevent the spread of diseases.

Yale EMERGENCY MANAGEMENT
http://www.yale.edu/secretary/emergency/index.html

SOAP + WATER

SPICE
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)
To effectively reduce the growth of germs on hands, handwashing must last at least 15 seconds and should be performed by following all of the illustrated steps.

Poster credit: World Health Organization (WHO)
http://www.who.int/gpsc/tools/HAND_WASHING.pdf
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.
To effectively reduce the growth of germs on hands, **hand rubbing** must be performed by following all of the illustrated steps. **This takes only 20–30 seconds!**

[http://www.who.int/gpsc/tools/HAND_RUBBING.pdf](http://www.who.int/gpsc/tools/HAND_RUBBING.pdf)

credit: WHO
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

<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Protective Equipment (PPE)</td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin</td>
</tr>
<tr>
<td>Gown</td>
<td>During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated</td>
</tr>
<tr>
<td>Mask, eye protection</td>
<td>During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation</td>
</tr>
</tbody>
</table>
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**
<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soiled equipment</td>
<td>Handle in a manner that prevents transfer of microorganisms to others and to the environment; wear gloves if visibly contaminated; perform hand hygiene</td>
</tr>
<tr>
<td>Environmental Control</td>
<td>Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in patient-care areas</td>
</tr>
<tr>
<td>Laundry</td>
<td>Handle in a manner that prevents transfer of microorganisms to others and to the environment</td>
</tr>
<tr>
<td>Needles and sharps</td>
<td>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</td>
</tr>
<tr>
<td>Patient Resuscitation</td>
<td>Use mouthpiece, resuscitation bag, other ventilation devices to prevent contact with mouth and oral secretions</td>
</tr>
<tr>
<td>Component</td>
<td>Recommendation</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Patient placement</td>
<td>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.</td>
</tr>
<tr>
<td>Respiratory hygiene/cough etiquette (source containment of infectious respiratory secretions in symptomatic patients, beginning at initial point of encounter)</td>
<td>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, &gt;3 feet if possible.</td>
</tr>
</tbody>
</table>
RESPIRATORY HYGIENE/COUGH ETIQUETTE

Cover your mouth and nose with a tissue when you cough or sneeze or cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.
RESPIRATORY HYGIENE/COUGH ETIQUETTE

Wash hands with soap and warm water

or

clean with alcohol-based hand cleaner.
<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Injection Practices</td>
<td>Apply to the use of needles, cannulas that replace needles, and, where applicable intravenous delivery systems</td>
</tr>
<tr>
<td></td>
<td>• Use aseptic technique</td>
</tr>
<tr>
<td></td>
<td>• Needles, cannulae and syringes are sterile, single-use items</td>
</tr>
<tr>
<td></td>
<td>• Use single-dose vials for parenteral medications whenever possible</td>
</tr>
<tr>
<td></td>
<td>• Do not administer medications form single-dose vials or ampules to multiple patients</td>
</tr>
<tr>
<td></td>
<td>• Do not keep multidose vials in the immediate patient treatment area</td>
</tr>
<tr>
<td></td>
<td>• Do not use bags or bottles of IV solution as a common source of supply for multiple patients</td>
</tr>
<tr>
<td>Special Lumbar Procedures</td>
<td>Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space</td>
</tr>
</tbody>
</table>
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.
Standard Precautions + Transmission Based Precautions = Isolation Precautions
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
ROUTES OF TRANSMISSION

- Direct Contact
- Indirect Contact
- Droplet
- Airborne (Aerosol)
CONTACT PRECAUTIONS

Private room or Cohort
Gown and gloves prior to entry
Hand hygiene
Dedicate equipment
Disinfect shared equipment

PRECAUCIONES DE CONTACTO
Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase guantes al entrar al cuarto.
C. difficile and Norovirus
### CONDITIONS OR DISEASES POTENTIALLY REQUIRING CONTACT PRECAUTIONS

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

<table>
<thead>
<tr>
<th>Disease/Condition</th>
<th>Duration of Isolation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seasonal Influenza</td>
<td>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 healthcare facility. Droplet precautions for 5 days from onset of symptoms</td>
</tr>
<tr>
<td>Pandemic influenza</td>
<td></td>
</tr>
<tr>
<td>Meningococcal Diseases: meningitis, pneumonia</td>
<td>For 24 hours after treatment has started</td>
</tr>
<tr>
<td>MRSA pneumonia</td>
<td>For duration of illness (also use Contact Precautions)</td>
</tr>
<tr>
<td>Strep Throat</td>
<td>For 24 hours after treatment has started</td>
</tr>
<tr>
<td>Rhinovirus (cold)</td>
<td>For duration of illness</td>
</tr>
</tbody>
</table>
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

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**AIRBORNE INFECTION ISOLATION PRECAUTIONS**

*Visitors must report to Nursing Station before entering.*

- Perform hand hygiene before entering and before leaving room
- Wear N95 respirator when entering room
- Keep door closed
- Dietary may not enter

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**PRECAUCIONES AMBIENTALES**

*Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase mascar N95 con filtro al entrar al cuarto. Mantenga la puerta cerrada. No debe entrar el dietista.*
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

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

*Non-immune healthcare personnel should not care for residents with Chickenpox or Shingles*
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
<table>
<thead>
<tr>
<th>Clinical Syndrome or Condition</th>
<th>Potential Pathogens</th>
<th>Empiric Precautions (always includes Standard Precautions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diarrhea</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute diarrhea with infectious cause is incontinent or diapered patient</td>
<td>Enteric Pathogens</td>
<td>Contact Precautions</td>
</tr>
<tr>
<td><strong>Rash or Exanthems, generalized, unknown etiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petechial/Ecchymotic w/ fever</td>
<td>Neisseria meningitides</td>
<td>Droplet Precautions for 1st 24hrs of antimicrobial therapy</td>
</tr>
<tr>
<td>Vesicular</td>
<td>Varicella-zoster, herpes simplex, vaccinia viruses</td>
<td>Airborne plus Contact precautions</td>
</tr>
<tr>
<td><strong>Respiratory Infections</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cough/fever/upper lobe infiltrate</td>
<td>Tb, Respiratory Viruses, S. pneumoniae, S. aureus</td>
<td>Airborne Precautions plus contact</td>
</tr>
<tr>
<td><strong>Skin or Wound Infection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abscess or draining wound that cannot be covered</td>
<td>Staphylococcus aureus, group A streptococcus</td>
<td>Contact Precautions Add Droplet for the first 24 hours of antimicrobial therapy if group A strep disease suspected</td>
</tr>
</tbody>
</table>
DISCONTINUING TRANSMISSION-BASED PRECAUTIONS

- Remain in effect for limited period of time (i.e. while the risk for transmission persist or for the duration of illness)
- Disease specific recommendations in Appendix A of guideline
  - Type and duration of precautions
You must post the sign on the door.
<table>
<thead>
<tr>
<th></th>
<th>Airborne</th>
<th>Droplet</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>Airborne Infectious Isolation (AII) room preferred; private room; door closed</td>
<td>Private Room Preferred; door may remain open</td>
<td>Private room preferred: Either disposable single-use or dedicated use of patient care equipment to one resident</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
</tr>
<tr>
<td>Gloves</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Wear gloves upon entry and discard before leaving</td>
</tr>
<tr>
<td>Gown</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Wear gown upon entry and discard before leaving</td>
</tr>
<tr>
<td>Mask</td>
<td>N-95 respirator or PAPR prior to entry</td>
<td>Surgical mask upon entry</td>
<td>Standard Precautions</td>
</tr>
<tr>
<td>Eye Protection</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Bacteria</th>
<th>Abbreviation</th>
<th>Antibiotic Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>MRSA</td>
<td>Methicillin-resistant</td>
</tr>
<tr>
<td><em>Enterococcus</em> (faecalis/faecium)</td>
<td>VRE</td>
<td>Vancomycin-resistant</td>
</tr>
<tr>
<td><em>Enterobacteraceae</em> (E. coli/Klebsiella, etc)</td>
<td>CRE (KPC)</td>
<td>Carbapenem-resistant</td>
</tr>
<tr>
<td><em>Pseudomonas/Acinetobacter</em></td>
<td>MDR</td>
<td>Many drug classes</td>
</tr>
</tbody>
</table>
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

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

Pathogens can be transferred from healthcare surfaces to HCP hands without direct patient contact
ROLE OF THE ENVIRONMENT

Survival of Pathogens

<table>
<thead>
<tr>
<th>PATHOGEN</th>
<th>Survival Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td>7 days - 7 months</td>
</tr>
<tr>
<td>Acinetobacter</td>
<td>3 days - 5 months</td>
</tr>
<tr>
<td>C. difficile</td>
<td>5 months</td>
</tr>
<tr>
<td>VRE</td>
<td>5 days - 4 months</td>
</tr>
<tr>
<td>Norovirus</td>
<td>12 - 28 days</td>
</tr>
<tr>
<td>HBV</td>
<td>7 days</td>
</tr>
<tr>
<td>HCV</td>
<td>6 hours - 4 days</td>
</tr>
<tr>
<td>HIV</td>
<td>minutes - hours</td>
</tr>
</tbody>
</table>

SURVIVAL (in months) 0 1 2 3 4 5 6 7
THOROUGHNESS OF CLEANING

Mean = 32%
INCREASED RISK FROM PRIOR OCCUPANT

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
REPORTING AND RECOGNITION OF MDRO LAB RESULTS

- Facilities should have a protocol for rapidly reporting positive MDRO lab results to clinicians
  - Facilitates quick initiation of interventions
- Consider empiric precautions while awaiting lab results
  - Contact precautions for resident with diarrhea
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
DIFFICULTIES WITH CONTACT PRECAUTIONS

▶ Lack of private rooms and limited ability to move residents
▶ Determining the duration of Contact Precautions
  ▶ Unable to restrict resident mobility and socialization/therapy for long periods
  ▶ Unlikely to document clearance of carriage
▶ Large population of residents with unrecognized MDRO carriage
RECOGNIZING PRIOR COLONIZATION

- Residents can be colonized with MDROs for months
- Identifying previously colonized or infected residents allows for timely interventions
  - Knowledge allows for planning the safest care
- For every known MDRO carrier, there are probably 3 others we don’t know
RESIDENT PLACEMENT

MDRO

- 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)
RESIDENT CHARACTERISTICS TO CONSIDER – “THE 5 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.
WHEN TO USE CONTACT PRECAUTIONS AND RESTRICTED MOVEMENT

- Active symptoms of a contagious infection
  - Nausea/vomiting
  - New or worsening diarrhea
  - New or worsening respiratory symptoms
  - New, undiagnosed fever

- Precautions and restrictions are time limited
  - Infection is ruled out and/or symptoms resolve
WHEN TO DISCONTINUE CONTACT PRECAUTIONS

- Resume Standard Precautions once high-risk exposures or active symptoms have discontinued

- Communication to care-givers and clear documentation of rationale is key
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!!