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 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
<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand Hygiene</td>
<td>After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between patient contacts.</td>
</tr>
<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>
THE GOLDEN RULES FOR HAND HYGIENE

Hand hygiene must be performed exactly where you are delivering health care to patients (at the point-of-care).

During health care delivery, there are 5 indications when it is essential that you perform hand hygiene.

To clean your hands, you should prefer handrubbing with an alcohol-based formulation, if available. Why? Because it makes hand hygiene possible right at the point-of-care, it is faster, more effective, and better tolerated.

You should wash your hands with soap and water when visibly soiled, after care of resident with diarrhea, before and after eating or handling food, and after using the bathroom.

You must perform hand hygiene using the appropriate technique and time duration.
<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><strong>Patient placement</strong></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><strong>Respiratory hygiene/cough etiquette</strong> (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

Put your used tissue in the waste basket.

or

cough or sneeze into your upper sleeve, not your hands.
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
Standard Precautions + Transmission Based Precautions = Isolation Precautions
Modes of Transmission

Contact
  Direct
  Indirect

Droplet

Airborne

Combination (contact + Airborne)
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
Perform hand hygiene before entering and before leaving room.

Wear gloves when entering room or cubicle, and when touching patient’s intact skin, surfaces, or articles in close proximity.

Wear gown when entering room or cubicle and whenever anticipating that clothing will touch patient items or potentially contaminated environmental surfaces.

Use patient-dedicated or single-use disposable shared equipment or clean and disinfect shared equipment (BP cuff, thermometers) between patients.

Limit patient movement.
C. difficile and Norovirus

SPECIAL ENTERIC

- Perform hand hygiene **before** entering room AND wash hands with **soap and water** before leaving room.
  - Lávese las manos con agua y jabón.

- Wear gloves when entering room or cubicle, and whenever touching the patient’s intact skin, surfaces, or articles in close proximity.

- Wear gown when entering room or cubicle and whenever anticipating that clothing will touch patient items or potentially contaminated environmental surfaces.

- Use patient-dedicated or single-use disposable shared equipment or clean and disinfect shared equipment (BP cuff, thermometers) between patients.

PRECAUCIONES DE CONTACTO

Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase guantes al entrar al cuarto.
## CONDITIONS OR DISEASES 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>
RESIDENT REQUIREMENTS – CONTACT PRECAUTIONS

- Stay in Room, unless allowed to participate in activities
- Wash hands frequently
  - Leaving Room
  - Before and after activities
  - Before and after eating
  - After using bathroom
- Do not share personal items (razors, towel, etc.) with other residents
Surgical mask prior to entry
No special ventilation
Private room or Cohort
Hand hygiene
Residents use mask outside of room

STOP

DROPLET PRECAUTIONS

Visitors must report to Nursing Station before entering.

☑️ Perform hand hygiene before entering and before leaving room

☑️ Wear mask when entering room
Visitors and health care workers

☑️ Dietary may not enter
No debe entrar el dietista

PRECAUCIONES DE GOTAS DIMINUTAS

Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase mascarar al entrar al cuarto. No debe entrar el dietista.
# CONDITIONS OR DISEASES REQUIRING DROPLET PRECAUTIONS

<table>
<thead>
<tr>
<th>Disease/Condition</th>
<th>Duration of Isolation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seasonal Influenza</strong></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 health care facility. Droplet precautions for 5 days from onset of symptoms</td>
</tr>
<tr>
<td><strong>Pandemic influenza</strong></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>
RESIDENT REQUIREMENTS – DROPLET PRECAUTIONS

- Stay in Room, unless necessary for therapy or treatment
- Wear a surgical mask when being transported outside of room.
- Wash hands frequently
  - Leaving Room
  - Before and after activities
  - Before and after eating
  - After using bathroom
- Observe Respiratory Hygiene/Cough Etiquette
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

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
  Visitors see nurse for instruction on proper use.
- Keep door closed
- Dietary may not enter
  No debe entrar el dietista

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

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>Standard Precautions</td>
</tr>
<tr>
<td>Localize in patient with intact immune system with lesions that can be contained/covered</td>
<td>Airborne and Contact precautions for duration of illness</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/Ecchmotic 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>
</tbody>
</table>
| 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 |
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
COMMUNICATING 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><strong>Room</strong></td>
<td>Airborne Infectious Isolation (AI) 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><strong>Hand Hygiene</strong></td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
</tr>
<tr>
<td><strong>Gloves</strong></td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Wear gloves upon entry and discard before leaving</td>
</tr>
<tr>
<td><strong>Gown</strong></td>
<td>Standard Precautions</td>
<td>Standard Precautions</td>
<td>Wear gown upon entry and discard before leaving</td>
</tr>
<tr>
<td><strong>Mask</strong></td>
<td>N-95 respirator or PAPR prior to entry</td>
<td>Surgical mask upon entry</td>
<td>Standard Precautions</td>
</tr>
<tr>
<td><strong>Eye Protection</strong></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
MDROS: EPIDEMIOLOGICALLY IMPORTANT PATHOGENS

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

1. Propensity for transmission within facilities
2. Antimicrobial resistance implications
3. Associated with serious disease; increased morbidity and mortality
4. A newly discovered or re-emerging pathogen
MORE ON EPIDEMIOLOGICALLY IMPORTANT PATHOGENS

- Some really bad pathogens are not multi-drug resistant
  - 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

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

X marks the location where VRE was isolated in the room.
## SURVIVAL OF PATHOGENS ON SURFACES

<table>
<thead>
<tr>
<th>Pathogen</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td>7 days – 7 months</td>
</tr>
<tr>
<td>VRE</td>
<td>5 days – 4 months</td>
</tr>
<tr>
<td><em>Acinetobacter</em></td>
<td>3 days -5 months</td>
</tr>
<tr>
<td><em>C. difficile</em> (spores)</td>
<td>5 months</td>
</tr>
<tr>
<td>Norovirus</td>
<td>12 – 28 days</td>
</tr>
</tbody>
</table>

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
ASSESSING HAND HYGIENE

Hand hygiene is one of the most effective measures to reduce HAIs and avoid preventable deaths

- Hand hygiene intervention should include:
  - Easy access to soap and water/alcohol-based hand rubs
  - Observation of practice – particularly before and after contact with residents or their immediate environment
  - Provide feedback – “on the spot” feedback is preferred when failure is observed
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
CONTACT PRECAUTIONS - YES, NO, OR MAYBE

54 y/o male transferred to your facility for short-term rehab following a total hip replacement

- Had a positive MRSA nasal swab pre-operatively
  - no signs of active infection on admission
- Transferred with urinary catheter in place

Do you place him on Contact Precautions?
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
Hand Hygiene
- Before/after PPE use
- During resident care

Gown and Glove for direct resident care
- Don prior to room entry
- Remove prior to exit

Dedicated non-essential items for resident care
- Decrease transmission
- BP cuffs, Stethoscopes, etc

Private room or cohort resident if possible

CONTACT PRECAUTIONS

Visitors must report to Nursing Station before entering.

- Perform hand hygiene before entering and before leaving room.
- Wear gloves when entering room or cubicle, and when touching patient’s intact skin, surfaces, or articles in close proximity.
- Wear gown when entering room or cubicle and whenever anticipating that clothing will touch patient items or potentially contaminated environmental surfaces.
- Use patient-dedicated or single-use disposable shared equipment or clean and disinfect shared equipment (BP cuff, thermometers) between patients.

PRECAUCIONES DE CONTACTO
Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase guantes al entrar al cuarto.
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
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)
HIGH-RISK RESIDENTS – CONTACT PRECAUTIONS DURING DIRECT CARE

High-risk exposures for MDRO transmission if known carrier and high-risk for acquisition if non-carrier

- Presence of wounds (fresh/new, multiple, increased stage/size, active drainage)
- Indwelling devices (IV lines, urinary catheters, tracheostomy, PEG tubes)
- Incontinence
- Current antibiotic use
- Dementia
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)
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
CASE 1

88 y/o old man recently returns to your facility following hospitalization for dehydration and UTI.

- Urine culture grew MRSA
- Resident is ambulatory and continent of urine
- Resident is alert, oriented and cooperative
DOES HE REQUIRE CONTACT PRECAUTIONS?

- Yes
- No
CASE 2

- 78 y/o woman admitted to your facility s/p 1 week stay in hospital and 1 week stay in rehab s/p broken hip repair.
- While in rehab she was noted to have purulent drainage from incision.
  - Culture was positive for *MDR-Acinetobacter baumanii*
- After transfer to your facility the resident is noted to be constantly removing the dressing and touching her incision.
- Resident is disoriented and unable to follow instructions.
- Drainage has increased and resident has a temperature of 101°F.
DOES THIS RESIDENT REQUIRE CONTACT PRECAUTIONS?

- Yes
- No
CASE 3

87 y/o man recently transferred to LTC following prolonged ICU stay

- Hospital course was complicated by C. difficile infection
- Resident is continuing to have 4-8 episodes of diarrhea daily and is incontinent
- Resident is complaining of severe abdominal cramps and now has a temperature of 100.8°F.
WHAT PRECAUTIONS ARE INDICATED?

- Standard
- Contact
- Enteric Contact
- Airborne
ONCE DIARRHEA RESOLVES, DO YOU NEED TO CULTURE THE STOOL AGAIN?

- Yes, we have to test to see if infection is resolved
- No, testing is not indicated in residents who have formed stool and are doing well clinically
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!!
THANKS!!!

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