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.
HAND HYGIENE

- 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/aqueptic procedure
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings
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/emergency/index.html

SOAP + WATER
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., *Clostridium 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)
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.
✓ Do not wear artificial fingernails or extenders when having direct contact with patients at high risk
✓ Keep natural nails tips less than 1/4-inch long
✓ Wear gloves when contact with blood or other potentially infectious materials, mucous membranes, and nonintact skin could occur
✓ Remove gloves after caring for a patient. Do not wear the same pair of gloves for the care of more than one patient, and do not wash gloves between uses with different patients
✓ Change gloves during patient care if moving from a contaminated body site to a clean body site
## STANDARD PRECAUTIONS

<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Protective Equipment (PPE)</td>
<td><strong>Gloves</strong> For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin</td>
</tr>
<tr>
<td></td>
<td><strong>Gown</strong> 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></td>
<td><strong>Mask, eye protection</strong> During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation</td>
</tr>
<tr>
<td>Component</td>
<td>Recommendation</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<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>
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</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.
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)
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

**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>
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

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
- 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><strong>Shingles (Herpes zoster. Varicella zoster)</strong></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/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>
<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>Room</th>
<th>Airborne Infectional Isolation (AII) room preferred; private room; door closed</th>
<th>Private Room Preferred; door may remain open</th>
<th>Private room preferred: Either disposable single-use or dedicated use of patient care equipment to one resident</th>
</tr>
</thead>
<tbody>
<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>
MDRO *multidrug resistant organisms*

Each year nearly **2 million** patients in the United States get an infection in a hospital. Of those patients, about **90,000 die** as a result of their infection. More than **70%** of the bacteria that cause hospital-acquired infections are resistant to at least one of the drugs most commonly used to treat them. Persons infected with drug-resistant organisms are more likely to have **longer hospital stays** and require **treatment with second- or third-choice drugs** that may be **less effective, more toxic, and/or more expensive**.

CDC: Management of Multi-drug Resistant Organisms in Healthcare Facilities
2006
MULTI-DRUG RESISTANT ORGANISMS (MDRO)
DEFINITION(S)

- For epidemiologic purposes, MDROs are defined as microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents.

  *Centers for Disease Control and Prevention*

- Multidrug resistant organisms (MDRO) are defined as bacteria that have become resistant to more than one class of antimicrobial agents and usually are resistant to all but one or two commercially available antimicrobial agents, complicating treatment of illnesses they cause.

  *Alliance for Prudent Use of Antibiotics (APUA)*
WHY ARE MDROS SUCH A BIG DEAL

- In most instances, MDRO infections have clinical manifestations that are similar to infections caused by susceptible pathogens.
  - However, options for treating patients with these infections are often extremely limited.
- These limitations:
  - Influence antibiotic usage patterns
  - Suppress normal flora
  - Environment for development of colonization (i.e., selective advantage)
- Increased lengths of stay, costs, and mortality also have been associated with MDROs
- Vancomycin resistance has been reported to be an independent predictor of death from enterococcal bacteremia
- MRSA-colonized patients more frequently develop symptomatic infections
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
## 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>
MORE ON EPIDEMIOLOGICALLY IMPORTANT PATHOGENS

- Some epidemiologically important pathogens not multi-drug resistant (MDRO)
  - Norovirus
  - Group A strep
  - *C. difficile*

- Similar strategies used to control potential transmission
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
RESERVOIR OF MDROS

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.
### 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>Acinetobacter</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%

Carling P, et al. APIC, 2012
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
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
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.
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
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
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!!