

## OTHER TIPS FOR PREVENTION AND CONTROL

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### Handwashing

Handwashing!!!

- Before and after each patient contact
  - After removing gloves
  - After handling contaminated items
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### Room Placement and Transfers

Infected or colonized patients should be placed in a single room or in the same room as other patients with the same bacteria and antibiotic resistance (cohorted). The need for isolation should be explained to the patient and family. Family members should be encouraged to continue to visit the patient and may assist in his/her care as instructed.

When transferring a patient, notify the receiving department, unit or facility of the resistant bacteria so that appropriate precautions can be implemented. The presence of resistant bacteria does not mean that a patient cannot be transferred.

For patients discharged to home, the patient, family and caregivers should be instructed on handwashing and environmental cleaning. Additional education should be provided to patients who require wound dressing changes and/or have invasive devices such as urinary catheters.

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### Protective Equipment

Use personal protective equipment (PPE) according to your facility's infection control policies and procedures. At a minimum, follow the CDC recommendations for Standard Precautions: Wear gloves when coming into contact with any body substances including urine and feces. Wear a gown when tasks may lead to soiling or contact of clothing with contaminated items. Wear a mask according to posted instructions.

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### Patient Equipment

Use patient-specific equipment for patients when possible; at a minimum use patient-specific equipment for patients in isolation or precautions. Examples of patient-specific equipment include blood pressure cuffs, thermometers and covers, tourniquets and stethoscopes.

Adequately clean and disinfect reusable equipment between patients. Follow facility procedures for cleaning, disinfection and sterilization.

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### Environmental Cleaning

Clean environmental surfaces regularly and when soiled use the disinfectant approved for use in your facility. Use disposable cloths. Change mop heads and change water as needed and after the cleaning.

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### Outbreak Management

An outbreak or epidemic of resistant bacteria will require special actions and precautions. It is important to notify your infection control professional immediately if you suspect an outbreak.

**IF YOU HAVE QUESTIONS:  
CALL YOUR INFECTION  
CONTROL PROFESSIONAL**

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## Multiple-Drug Resistant Bacteria Prevention and Control

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Infection Control and Epidemiology

# Multiple-Drug Resistant Bacteria



## Examples of Drug Resistant Bacteria

MRSA (Methicillin Resistant *Staphylococcus aureus*) was first recognized during the 1960s. Today, MRSA is a worldwide problem not only in healthcare facilities, but also in the community at large.

VRE (Vancomycin Resistant Enterococci) developed because of use and misuse of antibiotics including vancomycin and can be spread from person to person.

Health professionals and researchers are concerned that bacteria may develop resistance to all previously effective antibiotics, eliminating all current treatment options for these disease-causing bacteria.

There are other types of microbes that may be resistant. These include:

MDR-TB (Multiple-drug resistant Mycobacterium tuberculosis) developed because of patient non-compliance with taking medications and can be spread from person to person, especially immunocompromised persons such as those with HIV or AIDS.

PPNG (Penicillinase producing *Neisseria gonorrhoeae*) developed because of patient non-compliance with antibiotic therapy and overuse of penicillin and can spread person-to-person primarily through sexual relations.

## Factors that contribute to bacterial resistance

Some bacteria have intrinsic resistance to antibiotics, but resistance can be acquired by bacteria due to:

### 1. Antibiotic use or misuse.

Sometimes these drugs are given to patients when they should not be. An example is when a patient is given antibiotics for a viral infection such as a cold or the flu. This can result in the killing off of "normal flora" and allowing the multiplication of resistant bacteria.

### 2. Patient non-compliance.

Often patients fail to follow the instructions for when and how much medicine should be taken. For example, sometimes as patients feel better they think they can stop taking their medications, even though they have not taken the full course. This allows bacteria that have not yet been killed to survive and develop resistance.

Patient risk factors for developing multiple-drug resistance:

- Previous antibiotic therapy
- Extended length of stay in healthcare facilities
- Underlying diseases such as diabetes or immune suppression
- Use of invasive devices such as intravascular catheters, urinary catheters or ventilators
- Age over 65 or low-birth weight neonates

## Some modes of transmission of multiple-drug resistant bacteria

- Unwashed hands
- Gloves worn from patient to patient
- Contaminated environmental surfaces
- Inadequately cleaned and disinfected equipment
- Inadequate or inappropriate use of antibiotic agents

## Impact of multiple-drug resistance

- Treatment failures of serious infections
- Deaths due to treatment failures
- Extended length of stays in healthcare facilities
- Long-term complications
- Increased treatment costs

## First steps in prevention and control

- Proper handwashing
- Use antibiotics as prescribed
- Instruct patients and families on the importance of following the prescribed medications course
- Isolate or cohort colonized and infected patients
- Develop open communication channels between the lab, infection control and all healthcare givers to improve early identification of resistant bacteria
- Assist the laboratory and pharmacy in tracking occurrences (prevalence and incidence) of resistant bacteria