

# Prevention of Multi-Drug Resistant Organisms (MDRO)

National Patient Safety Goal;  
Prevention of Healthcare Associated Infection

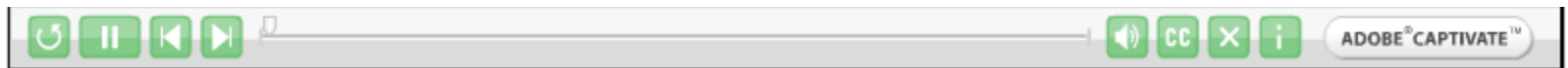
Corporate **MDRO Prevention Team**

Target Audience: **All healthcare workers.**

# Course Navigation

Advance through the course using the navigation bar on the bottom of the screen.

Just click the forward button *(shown below)*



# Objectives



- Define healthcare associated infections and multi drug resistant organism (MDRO) infections
- List risk factors for MDROs.
- Identify isolation precautions for patients with MDROs.
- Review strategies for prevention of MDROs.

# What are Healthcare Associated Infections and Multi-Drug Resistance Organisms? (MDROs)

- Healthcare associated infection (HAI): Infections acquired in hospital by a patient who was admitted for a reason other than that infection. This infection was not present /incubating at the time of admission.
- Multi-drug resistant bacteria (MDRO) are bacteria that are resistant to one or more classes of antibiotics
- Healthcare associated infections (HAI) account for over 1 million infections each year leading to over 90,000 deaths.



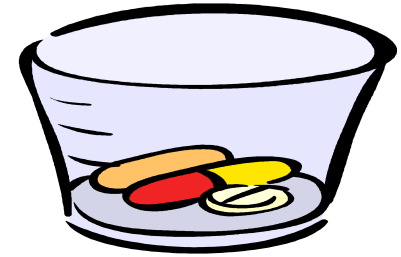
# Organisms identified as MDROs at Novant Health Facilities

- MRSA (Methicillin resistant *Staph aureus*)
- VRE (Vancomycin resistant *Enterococcus*)
- *Clostridium difficile* (*C. diff*)
- *Burkholderia* species. (*highly resistant strains*)
- *Acinetobacter* species. (*highly resistant strains*)
- *Pseudomonas* species. (*highly resistant strains*)
- Organisms labeled as ESBL (Extended Spectrum Beta-Lactamase) or CR (Carbapenem-resistant)



# Patients at Risk for MDROs

- ❑ Immunocompromised
- ❑ Elderly patients
- ❑ Higher severity of illness
- ❑ Chronic conditions - hemodialysis
- ❑ Extended hospital stay
- ❑ Intensive Care Unit stay
- ❑ Prior antibiotic use
- ❑ Transfers from other acute/chronic care facilities
- ❑ Poor compliance with Infection Prevention practices



# Contact Precautions

*Recommended method of hand hygiene:*

*Alcohol based hand sanitizers or soap  
& water (when hands are visibly soiled)*

***GOWNS & GLOVES***

***upon entry to the room.***

***Every Person, Every Time***

# Contact Precautions



## 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/or when touching patient's intact skin, surfaces, or articles in close proximity



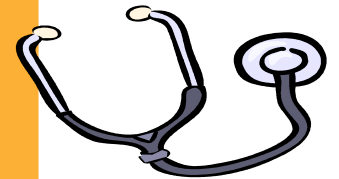
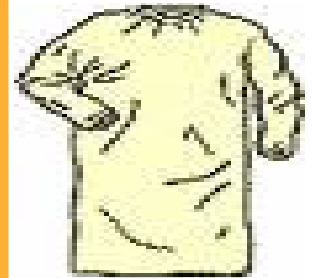
Wear gown when entering room or patient cubicle or if clothing will touch patient items



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.*



Refer to Isolation Precautions Policy for specific recommendations for each precaution category



# Contact Enteric Precautions for C. difficile



## CONTACT PRECAUTIONS



*Visitors must report to Nursing Station before entering.*

### 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/or whenever touching the patient's intact skin, surfaces, or articles in close proximity.



Wear gown when entering room or cubicle and/or 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.*

Refer to Isolation Precautions Policy for specific recommendations for each precaution category

# Ambulating the Patient with MDROs

- Patients without draining wounds, diarrhea or uncontrolled secretions may ambulate
- Patient must wash their hands and wear clean gown or clothing.
- Patient may ambulate in assigned nursing unit and / or therapeutic session area ONLY (patients are not allowed into other patient rooms)
- Clean PPE should be worn by staff while ambulating patients.
- PPE is ONLY allowed in hallways if needed for care of the patient and is an extension of direct patient care (i.e., Rehab/ PT care, etc.)

**Refer to NH Isolation Policy**

# Prevention **Strategies for** MDROs

- Hand Hygiene
- Isolation Precautions: *Gown and Gloves, Every Person Every Time*
- Equipment/ Environmental cleaning
- Surveillance screening - PPP (Patient Problem Pathogen : refer to NH PPP Policy)
- Identification of MDRO patient and isolation when re-admitted (flagging medical record)
- Education
  - Staff, Patients and Visitors



# Hand Hygiene

- Sanitize hands before donning PPE (Personal Protective Equipment)
- Sanitize after contact with the patient or their environment
- Wash hands with soap and water when visibly soiled or when leaving a **Contact Enteric Precaution** room
- Refer to NH Hand Hygiene Policy



# Equipment Cleaning

- All reusable equipment must be cleaned between patient use
  - Blood pressure cuffs
  - Stethoscopes
  - Pulse oximeters
- Comprehensive equipment cleaning policy can be found at: [Cleaning and Disinfection of Non Critical Medical Devices](#)



# Surveillance Screening: Patient Problem Pathogen (PPP) policy – MRSA & VRE Only

Early screening to decrease risk of transmission by identification and isolation of patients infected or colonized MRSA and VRE only.

Who is screened?

- Patients admitted from long term care facilities
- Admission and readmissions to critical care units
- Chronic hemodialysis patients
- Patients hospitalized >10 days are screened on day 10 and every 10 days thereafter.
- Patients with positive MRSA/ VRE results greater than six months will be re-screened

# Alert Notification and Flagging of MDROs

- Laboratory will verbally alert unit of MDRO lab results
- Laboratory report generated to indicate MDRO and organisms (i.e. MDRO: MRSA)
- Electronic medical record will be flagged with MDRO designation for future readmissions.
- Early identification insures prompt isolation
- Nursing to initiate appropriate isolation protocol per NH Isolation Precaution policy.

# Patient Education

- General MDRO handout
- Organism specific handouts
- Can be found on Intranet under
  - Clinical Resources > -Infection Prevention Education Modules >??

## □ Visitor education

- Signage on door
- Handouts per request





# References

- Cohen, A. L, et al.: Recommendations for metrics for multidrug-resistant organisms in healthcare settings: SHEA/HICPAC position paper. *Infect Control Hosp Epidemiol* 29:901-903, Oct. 2008
- Siegel, J.D., et al.: 2007 Guidelines for Isolation Precautions: Preventing the Transmission of Infectious Agents in Healthcare Settings. *Am J Infect Control* 35:S65-S164, Dec. 2007
- Siegel, J.D., et al.: Management of multi-drug resistant organisms in health care settings, 2006. *Am J Infect Control* 35:S165-S193, Dec. 2007.
- Yokoe D. S, et al.: A compendium of strategies to prevent healthcare-associated infections in acute care hospitals. *Infect Control Hosp Epidemiol* 29:S12-S21, Oct. 2008



# CONGRATULATIONS!

You have now completed  
Prevention of MDROs

*Please continue to the test instructions on the next slide*

# Post Test

1. Which of the following organisms are considered a MDRO?

- a. MRSA
- b. *Acinetobacter* sp. c.
- C. C diff.
- d. all the above.

2. Extended healthcare length of stay and prior antibiotic use are risk factors for acquiring a MDRO. (*Circle one*)

True or False.

3. What isolation precaution is used for the MDRO C. diff?

- a. Contact
- b. Droplet
- c. Airborne
- d. Contact Enteric

4. Hand hygiene, equipment cleaning, alert notification and education are strategies to prevent the spread of MDROs and HAIs? (*Circle one*)

True or False

# Answer Key

1. D

2. True

3. D

4. True

Certificate of Completion  
is hereby granted to

---

to certify that he/she has completed

Prevention of  
Multi-Drug Resistant Organisms  
(MDRO)