

Ask an IP

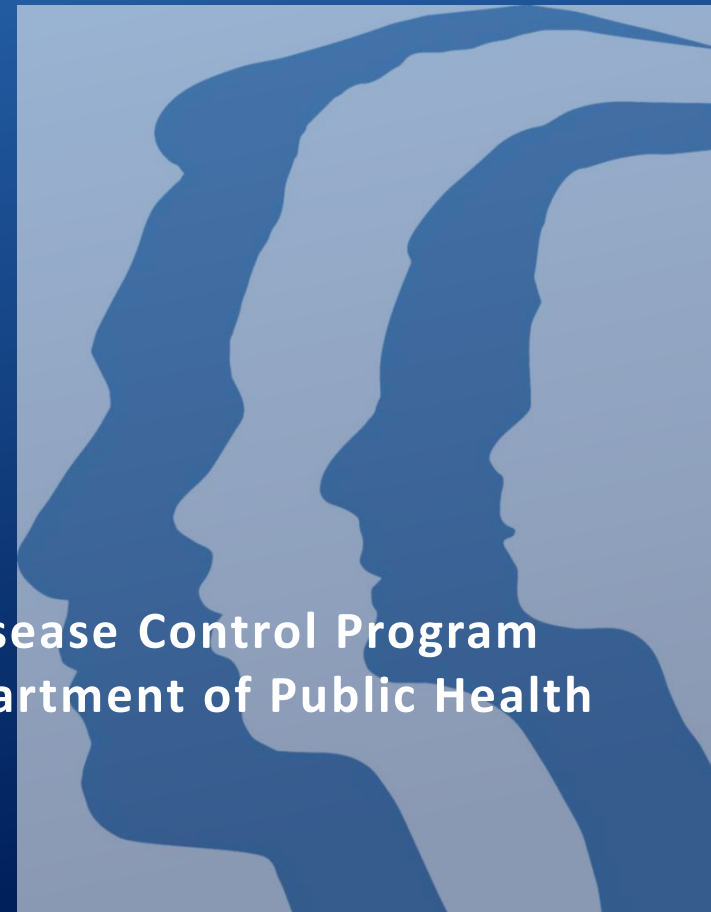
Learning and Communication Series

Week 9 – Multidrug Resistant Organisms (MDROs)

Wednesday, 5/4/22



Acute Communicable Disease Control Program
Los Angeles County Department of Public Health





Disclosures

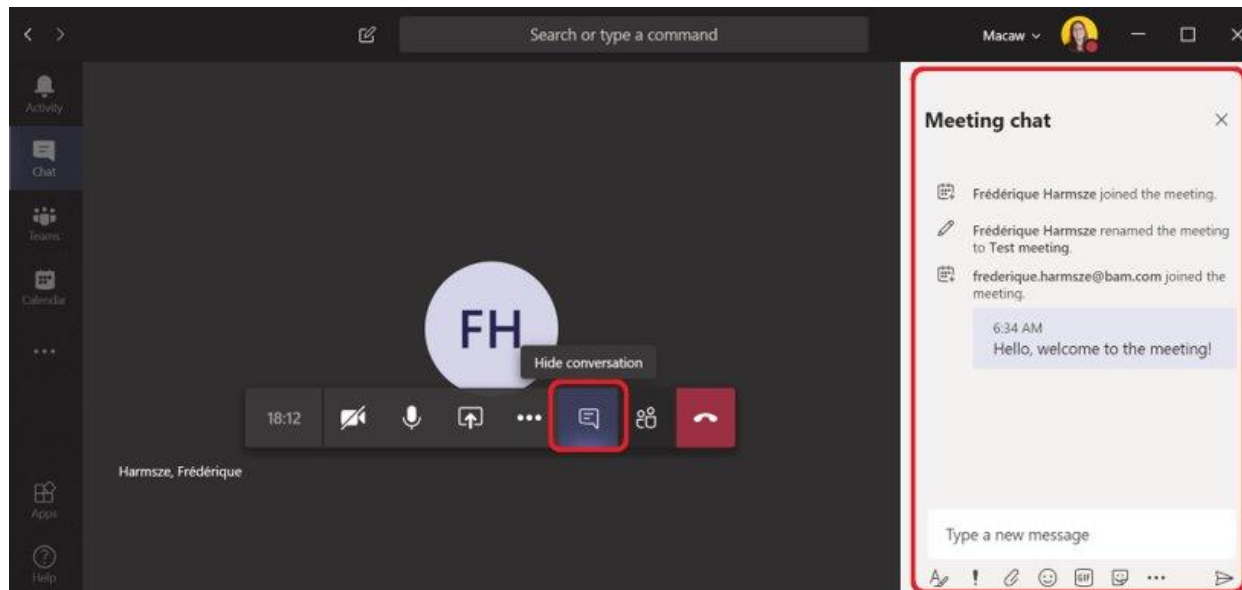
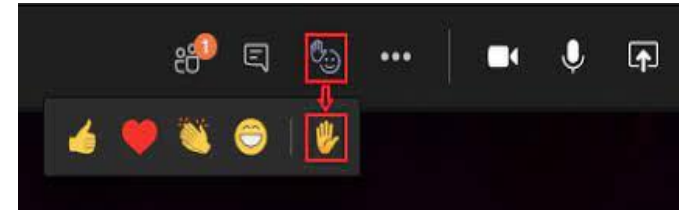
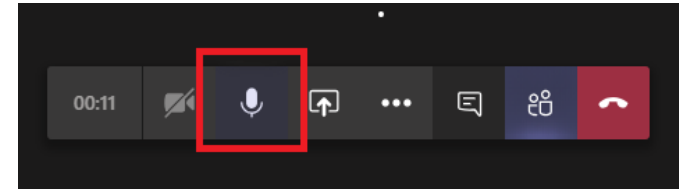
There is no commercial support for today's call

Neither the speakers nor planners for today's call have disclosed any financial interests related to the content of the meeting

This call is meant for healthcare facilities and is off the record and reporters should log off now

Housekeeping

- How to Mute/Unmute (Ctrl+ Shift+ M):
 - Press the Mute button on your phone if dialing in
- How to Raise Hand:
- How to use Chat:





Reminder

The purpose of this Learning and Communication Series is to **review core infection prevention practices** (beyond COVID-19) that must be used in all care settings, and to **foster discussion** among LA County Skilled Nursing Facilities about infection control practices.

We would like to remind everyone that the LAC DPH SNF COVID-19 Guidance has been updated as of March 31, 2022. Please take time to review this updated information. We will not be reviewing COVID-19 guidelines (including CDPH AFLs) during these sessions.

Link to Guidelines:

<http://publichealth.lacounty.gov/acd/ncorona2019/healthfacilities/snf/prevention/>

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Slides: <http://publichealth.lacounty.gov/acd/infectionpreventionseries.htm>

What do you need to know?



- What are MDROs?
- What types of infections do MDROs cause?
- What causes MDROs?
- How MDROs spread?
- How can we prevent MDROs?

What are MDROs?

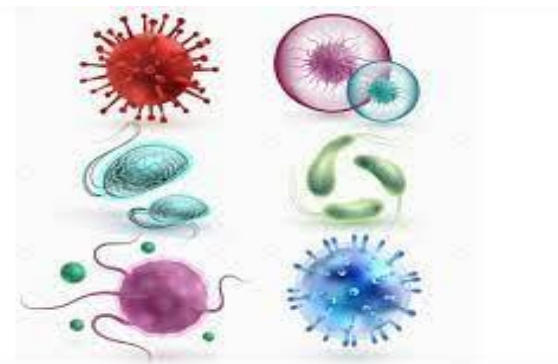


- MDROs are multidrug resistant organisms or microbes that are resistant to one or more types of drugs that are normally used to treat them.
- MDROs can be fungi, viruses, and parasites but many are bacteria.

<https://www.cdc.gov/infectioncontrol/guidelines/mdro/background.html>

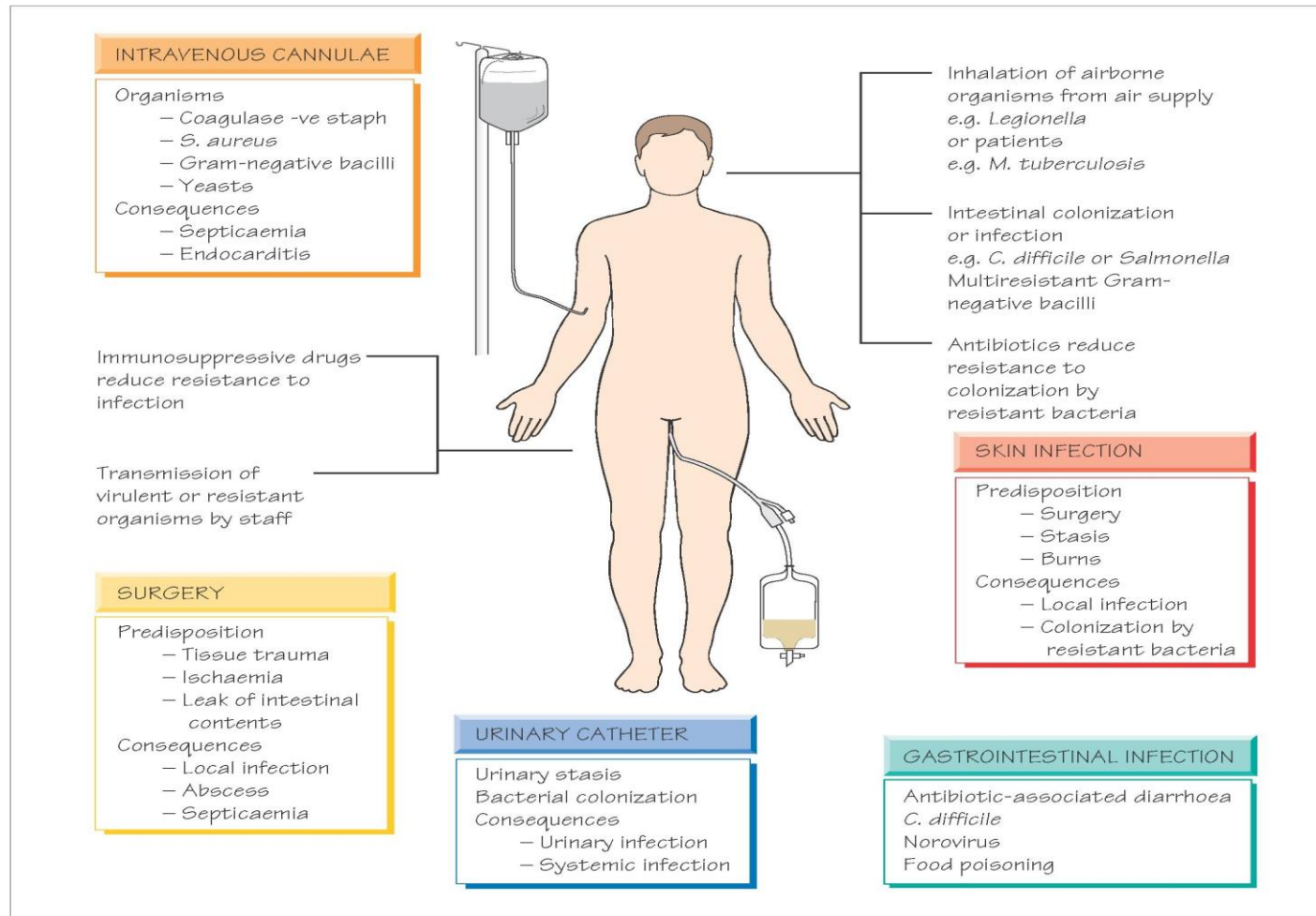
There are many kinds of MDROs

- Some examples are:
 - *Candida auris*
 - Carbapenem-resistant Enterobacteriaceae (CRE)
 - Carbapenem-resistant Acinetobacter Baumannii (CRAB)
 - Carbapenem-resistant Pseudomonas Aeruginosa (CRPA)
 - Vancomycin-resistant staphylococcus aureus (VRSA)
 - Vancomycin-resistant Enterococci (VRE)
 - Methicillin-resistant staphylococcus aureus (MRSA)

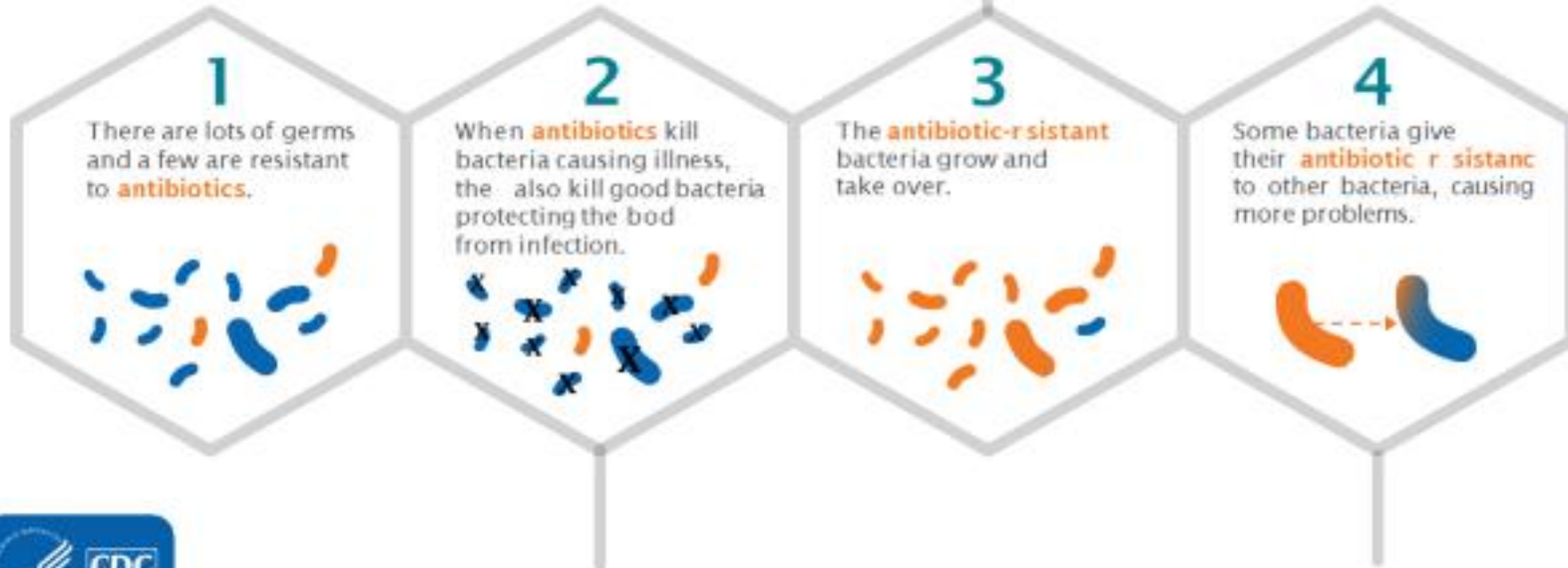


<https://www.cdc.gov/drugresistance/biggest-threats.html>

Sources of MDRO Infection Acquisition



HOW ANTIBIOTIC RESISTANCE HAPPENS



www.cdc.gov/antibiotic-us

When antibiotics are used inappropriately, they can also kill good bacteria that protect the body from infections with the bacteria that make you sick. This can allow the bacteria that are drug resistant to grow and multiply.

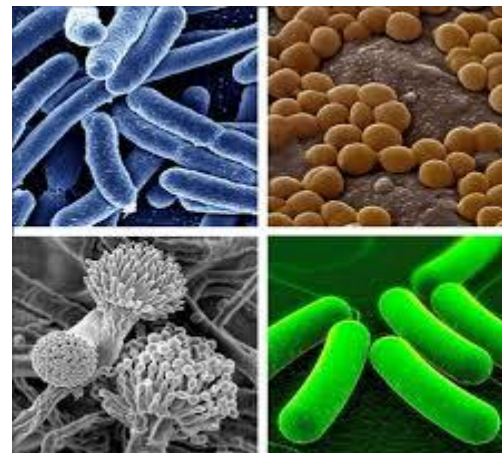
What types of infections do MDROs cause?

- MDROs can cause infection in any part of the body.

- Common locations for infections may include:
 - Bloodstream
 - Lungs
 - Skin
 - Surgical Site
 - Urinary Tract
 - Wounds



How do MDROs spread?



- From person to person by the hands of the healthcare personnel.
- On objects or high touched surfaces such as bed rails, medication cart handles, bedside tables, IV tubes and catheters.
- From person to person through direct contact.
- Some people with MDRO in their body may not show any signs or symptoms of infection (called “colonized”) but can still spread it to others.

How can MDROs be prevented?

Perform Standard and Transmission Based Precautions

- Hand Hygiene
- Don/doff PPE at the right moments
- Enhanced Standard Precautions (ESP)
- Contact Precautions
- Environment and Equipment Cleaning and Disinfection

Education and Training of all healthcare personnel

Conduct Surveillance

Administrative Measures

Implement an Antibiotic Stewardship Program

Cohorting



How can MDROs be prevented?

☐ Use Standard and Transmission-Based Precautions

- Hand Hygiene – use soap and water or ABHR (alcohol-based hand rub) when hands are not visibly soiled
- Utilize Hand Hygiene Audit tools to increase compliance

<https://bit.ly/HHAdherenceTool>

Your 5 Moments for Hand Hygiene

1	BEFORE TOUCHING A PATIENT	040001	Wash your hands before touching a patient or approaching further.
2	BEFORE ASEPTIC PROCEDURE	040002	To protect the patient against harmful germs on your hands.
3	AFTER BODY FLUID EXPOSURE	040003	Wash your hands to eliminate contact germs and prevent cross-contamination.
4	AFTER TOUCHING A PATIENT	040004	To protect the patient against harmful germs, including the patient's own, from staying on their body.
5	AFTER TOUCHING PATIENT SURROUNDINGS	040005	Wash your hands immediately after an exposure to body fluids and other germs.

World Health Organization | Patient Safety | SAVE LIVES Clean Your Hands

Hand Hygiene Technique with Alcohol-Based Formulation

ⓐ Duration of the entire procedure: 20-30 seconds

- 1a Apply a palmful of the product in a cupped hand, covering all surfaces.
- 1b Rub hands palm to palm.
- 2 Rub hands palm to palm.
- 3a Tight palm over left forearm with interlaced fingers and vice versa.
- 3b Palm to palm with fingers interlaced.
- 4 Backs of finger to opposing palm with finger interlocked.
- 5 Backs of finger to opposing palm with finger interlocked.
- 6a Rotational rubbing of left thumb clasped in right palm and vice versa.
- 6b Rotational rubbing, backside and towards with clasped fingers of right hand in left palm and vice versa.
- 7 Rotational rubbing, backside and towards with clasped fingers of right hand in left palm and vice versa.
- 8 Once dry, your hands are safe.



https://www.researchgate.net/figure/Alcohol-Based-Handrub-technique-according-to-WHO-guidelines_fig1_314741113

<https://openwho.org/courses/IPC-HH-en>

How can MDROs be prevented?

- Use of PPE (Personal Protective Equipment)
Gloves, Gown, Mask, Goggles, Face shield
- Utilize Contact Precautions Adherence Monitoring Tool
<https://bit.ly/CPAdherenceMonitoringTool>

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

This type of PPE is used only to protect the health care workers against contact with a patient and cannot, alone or in combination with other measures, prevent the transmission of an airborne PPE. The procedure for putting on and removing PPE should be tailored to the specific use of PPE.

- 1. GOWN**
 - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
 - Fasten in back of neck and wrist.
- 2. MASK OR RESPIRATOR**
 - Secure ties or elastic bands at middle of head and neck
 - Fit flexible band to nose bridge
 - Fit snug to face and below chin
 - Fit-check respirator
- 3. GOGGLES OR FACE SHIELD**
 - Place over face and eyes and adjust to fit
- 4. GLOVES**
 - Extended to cover wrist of isolation gown

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Use uniform pocket
- Change gloves after become heavily contaminated
- Perform hand hygiene

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

- 1. GLOVES**
 - Outside of gloves are contaminated!
 - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
 - Hold removed glove in gloved hand
 - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
 - Discard gloves in a waste container
- 2. GOGGLES OR FACE SHIELD**
 - Outside of goggles or face shield are contaminated!
 - If your hands get contaminated during goggles or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Remove goggles or face shield from the back by lifting head band or ear pieces
 - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container
- 3. GOWN**
 - Gown front and sleeves are contaminated!
 - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
 - Roll gown away from neck and shoulders, touching inside of gown only
 - Turn gown inside out
 - Fold or roll into a bundle and discard in a waste container
- 4. MASK OR RESPIRATOR**
 - Front of mask/respirator is contaminated! — DO NOT TOUCH!
 - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Grasp bottom face or straps of the mask/respirator, then the ones at the top, and remove without touching the front
 - Discard in a waste container
- 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**

PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



<https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>

How can MDROs be prevented?

- Enhanced Standard Precautions

These precautions should be used during high contact care for residents with high-risk characteristics for MDRO colonization and transmission (including *Candida auris*)*, even if MDRO status is unknown:

- Functional Disability
- Incontinence
- Presence of indwelling devices
- Ventilator-dependence
- Wounds, unhealed pressure ulcers

This would include all residents in a subacute unit.

STOP ALTO
Enhanced Standard Precautions
Medidas de Precaución Estándar Avanzadas
See nurse before entering the room
Ver a la enfermera antes de entrar al cuarto.

EVERYONE MUST:
Todos deben:

- Clean hands on room-entry and when exiting.
Limpieza de manos antes de entrar al cuarto y al salir.

PROVIDERS AND STAFF MUST ALSO:
Los proveedores de salud, personal de enfermería y personal de apoyo:

- Wear gloves and a gown for the high-contact resident care activities listed.
Usar guantes y bata para las actividades de atención al residente de alto contacto de la siguiente lista.

8 Moments for Enhanced Standard Precautions
8 momentos para medidas de precaución estándar avanzadas

1. Activities of daily living (showering, grooming, bathing, changing facilities, feeding, medication, etc.) Actividades de la vida diaria (bañarse, afeitarse, peinarse, cambiarse, alimentarse, etc.)	2. Tubing or changing intravenous lines Tubo conectado a la línea intravenosa o que haya sido desconectado
3. Caring for devices or giving medical treatment Cuidar dispositivos de soporte vital o dar tratamiento médico	4. Wound care Cuidado de heridas
5. Mobility assistance or preparing to assist with mobility Ayuda para la movilidad o preparar para asistir con la movilidad	6. Cleaning the environment Limpieza del ambiente

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Enhanced Standard Precautions

Hand Hygiene

- Clean hands when entering room and when leaving the room.

PPE

- Perform hand hygiene & don PPE appropriately before entering patient's room to provide care.
- Wear a gown (gown change).
- Wear appropriate eye protection when care.
- Remove, store PPE, and perform hand hygiene in room after activity complete.

Room Assignment

- Place the high-risk resident in the single-occupancy room. When single occupancy room is not available, when the resident with a compatible roommate (such as a resident with same MRSA or respiratory mechanism shared illness).
- Single-occupancy rooms, consider each room as a separate room and change gown and gloves and perform hand hygiene when moving from contact with one resident to contact with another resident.

Visitors

- Visitors shall follow enhanced Standard Precautions as outlined above.

Resident Transport

- Resident requiring transport that transport barrier precautions are required.
- Practice hand hygiene before and after transporting the resident.

Room Cleaning

- Use standard precautions while cleaning including appropriate PPE use.
- Sanitize the use of equipment in the single-occupancy room.
- Single-occupancy rooms should be cleaned when possible.
- Disinfect reusable clinical care equipment using the EPA approved disinfectant before use on another resident.

Ambulation

- To ambulate the resident outside of room, wheelchair or gait belt should not be used.

Please refer the QR code on the right to view the CDC Guidelines for Infection Prevention, Preventing Transmission of Infections: Agents of Healthcare Settings.

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How can MDROs be prevented?

■ Contact Precautions

These precautions should be used to help prevent the spread of infectious agents that spread by direct or indirect contact with a resident or a resident’s environment such as, but not limited to: Hepatitis (Type A), scabies, skin abscesses with heavy drainage (until drainage stops), diarrhea (not *C. diff*), and certain multi-drug resistant organisms (MDROs) such as *Candida auris*.



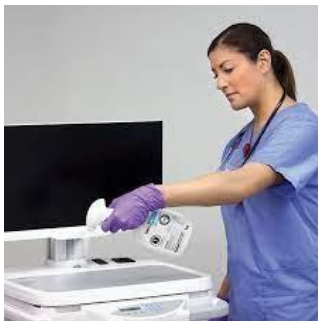
*Contact Precautions should be utilized if there is a known MDRO transmission in the facility and/or the resident with a confirmed MDRO has acute diarrhea, draining wounds, or other sites of secretions or excretions that unable to be covered or contained.

How can MDROs be prevented?

- **Environment and Equipment Cleaning and Disinfection**



- Environmental cleaning is part of Standard Precautions, which should be applied to all patients in all healthcare facilities. It is a fundamental intervention for infection prevention and control (IPC) and prevent environmental and equipment transmission of MDROs.
- CDPH recommends to use disinfectants under <https://bit.ly/EPAListP> effective against *C.auris* in all sub acute facilities.
- “Who Cleans What” for healthcare facilities to ensure that all surfaces, devices, and equipment are properly cleaned at the right times by the right staff



How can MDROs be prevented?



- **Education and training of healthcare personnel**

- Healthcare facilities should provide education and training on risks and prevention of MDRO transmission during orientation and periodic educational updates for healthcare personnel.

<https://www.cdc.gov/infectioncontrol/guidelines/mdro/recommendations.html#va2>

How can MDROs be prevented?



- **Surveillance**

- Healthcare facilities should establish systems to ensure that clinical microbiology laboratories promptly notify appropriate facility staff (e.g., infection control staff, medical director/designee) when a MDRO is detected



How can MDROs be prevented?

■ Administrative Measure

- Make MDRO prevention/control an organization resident safety priority.
- Implement a multidisciplinary process to monitor and improve healthcare personnel adherence to recommended practices for all transmission-based precautions
- Implement systems to designate residents known to be colonized or infected with a targeted MDRO
- To notify receiving healthcare facilities and personnel prior to transfer residents with MDRO within or between facilities

How can MDROs be prevented?

■ Antibiotic Stewardship

- A set of coordinated approaches to improve the use of antimicrobials, such as antibiotics, within a healthcare facility. Antimicrobial stewardship is not only important in preventing the spread of antimicrobial resistance, but also improves patient outcomes and reduces costs for healthcare facilities.

- All SNFs in CA are required to have an ASP per SB311

- Here are some links to a few resources:
 - <http://publichealth.lacounty.gov/acd/docs/AskAnIPWeek1Session2.pdf>
 - <https://www.ahrq.gov/nhguide/index.html>
 - <https://www.cdc.gov/antibiotic-use/core-elements/nursing-homes.html>

How can MDROs be prevented?

■ Cohorting/Room Placement

- Multiple patients can be cohorted in a room only if they share the same organism.
For example:
 - A positive *C.auris* patient and a suspect *C.auris* patient cannot share the same room.
 - A patient positive for *C.auris* and another MDRO cannot be placed in the same room as a patient only positive for *C.auris*
- Residents known to be infected or colonized with MDRO should be placed in a private room with a private bathroom whenever feasible. Priority for a private room should be given to residents who are at higher risk of transmission and those being treated for an active MDRO infection.
- If private rooms are not available, efforts should be made to cohort residents with MDRO (the same infectious agent) to confine their care to one area, and to prevent spread to susceptible patients, otherwise compatible residents who are at lower risk acquiring MDRO (e.g., residents that do not have indwelling devices, do not have open wounds, and are less dependent on staff for ADLs).



Programming

Session	Date (2022)	Topic
Week 1	March 9 th , 2022	Personal Protective Equipment (PPE)
Week 2	March 16 th , 2022	Office Hours
Week 3	March 23 rd , 2022	Introduction to QAPI in SNFs
Week 4	March 30 th , 2022	Office Hours
Week 5	April 6 th , 2022	Introduction to Microbiology
Week 6	April 13 th , 2022	Office Hours
Week 7	April 20 th , 2022	Environmental Services (EVS)
Week 8	April 27 th , 2022	Office Hours
Week 9	May 4th, 2022	Multi-Drug Resistant Organisms (MDRO)
Week 10	May 11 th , 2022	Office Hours



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Questions

