

Utah healthcare-associated infections guide:
**Multidrug-resistant
organisms**

Updated: January 2023

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Multidrug-resistant organisms (MDRO) are a serious threat in healthcare. The purpose of this guide is to provide healthcare workers, both frontline staff and administrative level staff, with essential information on how to contain and manage MDROs at work. The pages in this document can be copied and hung around the facility as a quick reference for healthcare workers throughout their shifts. Please reach out to the Department of Health and Human Services Healthcare-Associated Infections/Antimicrobial Resistance (HAI/AR) program with any questions, HAI@utah.gov.

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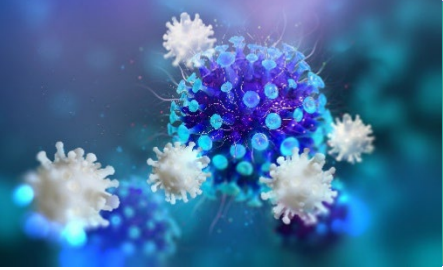
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Resources for administrators





About MDROs

Frequently asked questions

What are MDROs?

MDROs (**multi**drug-**resistant** **org**anisms) are germs (bacteria/fungi/etc.) resistant to medications (like antibiotics) designed to kill them. That means the germs are not killed and continue to grow. Infections caused by these germs are very hard to treat. There are many types of organisms that fall into the MDRO category, sometimes called the MDRO umbrella. One category of MDRO is called carbapenem-resistant organisms (CROs).



CROs are a group of bacteria that can cause severe infections in people who have recently received care in a healthcare setting. Carbapenem resistance occurs when the bacteria develop the ability to defeat the most powerful antibiotics designed to kill them. Types of CROs include Carbapenem-resistant Enterobacterales (CRE), Carbapenem-resistant *Acinetobacter* (CRA), and Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA). These CROs and some other MDROs are discussed in more detail later in this binder.



Carbapenem resistant organisms (CROs)

- Carbapenem-resistant *Acinetobacter*
- Carbapenem-resistant Enterobacterales
- Carbapenem-resistant *Pseudomonas aeruginosa*

Candida auris

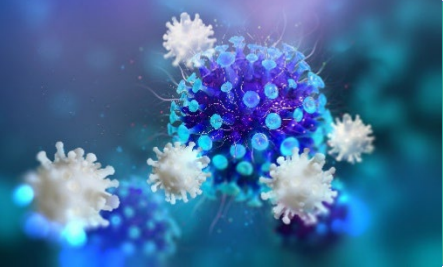
Other MDROs

Why should I care about MDROs?

MDROs are part of a broader issue called antimicrobial resistance. Antimicrobial resistance includes bacteria and fungi that develop the ability to defeat the drugs designed to kill them. Germs that are not killed keep growing and infecting people. Antimicrobial resistant infections can be difficult, sometimes impossible, to treat. There are fewer treatment options for infections caused by MDROs.



MDROs are common in long-term care settings (McKinnell et al., 2019, Mody et al., 2018). Residents are at a greater risk for severe illness or death from an MDRO due to age and weakened immune systems.



About MDROs

Frequently asked questions



Why are precautions used for residents with MDROs who are not sick?

The germ may still live on or in the resident indefinitely after symptoms are gone. This is called colonization. Patients should remain in precautions throughout their healthcare stay because precautions keep the germ from spreading to others.



How do MDROs spread?

MDROs can spread between residents or staff members through shared medical devices, and on high-touch surfaces in healthcare settings, such as hospitals and long-term care. Even people who are not currently sick can spread an MDRO to others.



What can I do to prevent the spread of MDROs?

All staff members can protect themselves, residents, and visitors by correctly using personal protective equipment (PPE) and cleaning their hands often. Follow the appropriate precautions outlined by your supervisor. Correctly cleaning and disinfecting medical devices and dry surfaces is important to prevent germs from spreading on surfaces.



Candida auris

(kan•duh•aduh aa•ruhs)

(Administrators and directors of nursing)



About—*Candida auris*, or *C. auris*, a yeast, is an emerging public health concern due to its potential for multidrug-resistance and ability to spread in healthcare settings. Between 30–60% of patients with an invasive *C. auris* infection die within 30 days (Centers for Disease Control and Prevention, 2019d).



Reservoirs—Reservoirs are places where organisms live, without causing infections. Reservoirs for *C. auris* reservoirs include:

- Skin and digestive tract (can live in or on patients without causing infections or symptoms, this is called colonization)
- Droplet transmission can also play a role when the infection is in the respiratory system.
- Environmental surfaces (e.g., bed rails, call lights, and furniture are all high touch surface reservoirs)
- Shared equipment (patient lift, walkers, vital sign machines)

A person can be colonized with *C. auris* without symptoms and still spread it to others. Of those who have *C. auris*, 5–10% will develop invasive infections (Rossow et al., 2020).



Why are we worried—

1. *C. auris* is highly drug-resistant:
 - 90% of isolates are resistant to at least one antifungal (Centers for Disease Control and Prevention, 2021a).
 - 30% of isolates are resistant to at least two antifungals (Centers for Disease Control and Prevention, 2021a).
2. Residents can become colonized and develop invasive infections.
 - *C. auris* causes severe illness in residents and can cause other infections.
3. Spreads in healthcare facilities.
 - *C. auris* is difficult to treat as not all healthcare disinfectants are effective at eliminating the organism. Certain strains can be resistant to all classes of antifungals.



Candida auris

(kan•duh•aduh aa•ruhs)

(Administrators and directors of nursing)



How to identify *C. auris*—*C. auris* can be misidentified as other types of fungi. *C. auris* is identified when a LTCF submits clinical specimens to a laboratory with specialized technology. Administrators and nursing directors should understand their laboratory's ability to identify *C. auris* organisms correctly.



Who is at risk—*C. auris* disproportionately affects LTCFs and their residents. Risk factors for *C. auris* include:

- Residents with serious underlying medical conditions
- Longer lengths of stay
- Received multiple antimicrobials



Who to screen—

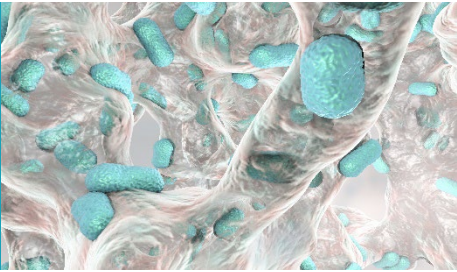
Preventative screening

- Admission screening to distinguish importation of MDROs into a facility from transmission within a facility. Prioritize admission screenings for residents with:
 - Close contact with a resident/patient with confirmed *C. auris* infection or colonization
 - History of stay in healthcare facility with an outbreak of *C. auris*
 - History of healthcare stay in a state with increased *C. auris* cases
- Proactive screenings, or point prevalence survey, in high-risk units

Reactive screening in response to a case in a healthcare facility*

- Including roommates, residents/patients on the same unit or hallway, and residents/patients at high-risk including those with indwelling devices (urinary catheter, central line), mechanical ventilation, and those with wounds

***Unless otherwise advised by public health authorities**



Carbapenem-resistant *Acinetobacter*

(a•suh•neh•tuh•bak•tr)

(Administrators and directors of nursing)



About—*Acinetobacter* is a group of bacteria commonly found in the environment. The bacteria can survive on environmental surfaces and shared equipment for long periods and can cause pneumonia, as well as wound, bloodstream, and urinary tract infections. There are many types of *Acinetobacter*. The most common is *Acinetobacter baumannii* which accounts for most *Acinetobacter* infections in humans (Centers for Disease Control and Prevention, 2019a).

Carbapenem-resistant *Acinetobacter* infections mostly occur in those who recently received care in a healthcare setting. Carbapenem resistance occurs when the bacteria develop the ability to defeat some of the strongest antibiotics designed to kill them (carbapenems). Some *Acinetobacter* bacteria are resistant to almost all antibiotics which makes them multidrug-resistant organisms (MDRO).



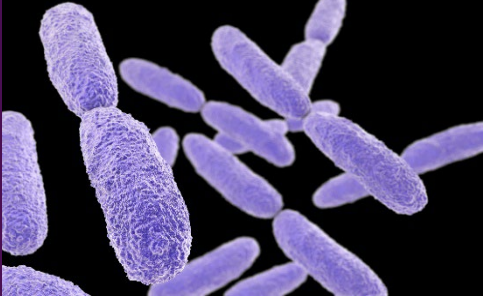
Reservoirs—Reservoirs are places where organisms live, without causing infections. Reservoirs for *Acinetobacter* include:

- Skin and digestive tract (can live in or on patients without causing infections or symptoms, this is called colonization)
- Environmental surfaces (e.g., call lights, bedrails, door handles, privacy curtains)
- Water, premise plumbing, and biofilms (pathogens that grow in drains, sinks, and shower heads)
- Devices (e.g., vital sign carts, stethoscope, blood pressure cuffs)



Who is at risk—Patients in long-term care facilities (LTCF) and other healthcare settings are at higher risk for *Acinetobacter* infections, especially those who:

- Are on ventilators
- Utilize devices, such as catheters or central venous catheters
- Recently stayed at an intensive care unit (ICU)
- Have extended hospital stays
- Have open wounds (surgical incision, pressure wounds, or any non-intact skin)



Carbapenem-resistant Enterobacterales

(en•tr•ow•bak•tr•al•es)

(Administrators and directors of nursing)



About—Enterobacterales are a large group of different types of bacteria that commonly cause infections in healthcare settings. Enterobacterales bacteria constantly find new ways to avoid the effects of the antibiotics used to treat the infections they cause, which makes it a multidrug-resistant organism (MDRO).

When Enterobacterales develop resistance to the group of antibiotics called carbapenems, the germs are called carbapenem-resistant Enterobacterales (CRE).



Reservoirs—Reservoirs are places where organisms live, without causing infections. Reservoirs for CRE include:

- Skin and digestive tract (can live in or on patients without causing infections or symptoms, this is called colonization)
- Environmental surfaces (e.g., call lights, bed rails, door handles, privacy curtains)
- Water, premise plumbing, and biofilms (pathogens that grow in drains, sinks, and shower heads)
- Devices (e.g., vital sign carts, stethoscope, blood pressure cuffs)

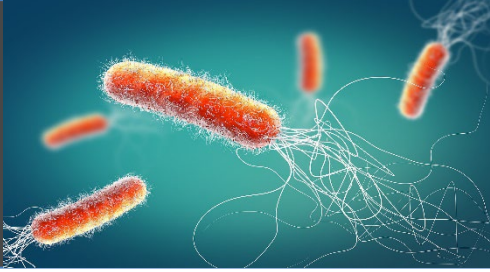


Why are we worried—CREs are a serious threat to public health because CRE infections are difficult to treat. CRE infections have been associated with mortality rates of up to 50% for hospitalized patients (Centers for Disease Control and Prevention, 2019c). The movement of patients throughout the healthcare system allows CREs to quickly spread between other facilities in the region.



Who is at risk—Patients in long-term care facilities (LTCF) and other healthcare settings are at higher risk for CRE infections, especially those who:

- Are on ventilators
- Utilize devices, such as catheters or central venous catheters
- Recently stayed at an intensive care unit (ICU)
- Have extended hospital stays
- Have open wounds (surgical incision, pressure wounds, or any non-intact skin)



Pseudomonas aeruginosa

(soo•duh•mow•nuhs eh•roo•gi•now•suh)
(Administrators and directors of nursing)



About—*Pseudomonas aeruginosa*, or *P. aeruginosa* is a bacteria found in the environment, such as soil and water. *P. aeruginosa* can cause infections in the blood, lungs (pneumonia), and other parts of the body.

P. aeruginosa is a multidrug-resistant organism (MDRO). It constantly finds new ways to avoid the effects of the antibiotics used to treat the infections they cause. If the bacteria develop resistance to several types of antibiotics, it can make treatment in the healthcare setting very difficult.

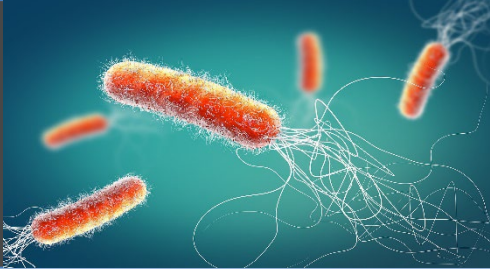


Reservoirs—Reservoirs are places where organisms live, without causing infections. Reservoirs for *P. aeruginosa* include:

- Skin and digestive tract (can live in or on patients without causing infections or symptoms, this is called colonization)
- Environmental surfaces (e.g., call lights, bed rails, door handles, privacy curtains)
- Water, premise plumbing and biofilms (pathogens that grow in drains, sink, and shower heads)



Why are we worried—In 2017, multidrug-resistant *P. aeruginosa* caused an estimated 32,600 infections among hospitalized patients and 2,700 estimated deaths in the United States (Centers for Disease Control and Prevention, 2019e). Some *P. aeruginosa* bacteria are resistant to almost all antibiotics making it very difficult to treat.



Pseudomonas aeruginosa

(soo•duh•mow•nuhs eh•roo•gi•now•suh)
(Administrators and directors of nursing)



Who is at risk—Patients in long-term care facilities (LTCF) and other healthcare settings are at higher risk for *P. aeruginosa* infections, especially those who:

- Are on ventilators
- Utilize devices, such as catheters or central venous catheters
- Recently stayed at an intensive care unit (ICU)
- Have extended hospital stays
- Have open wounds (surgical incision, pressure wounds, or any non-intact skin)



How *P. aeruginosa* spreads—*P. aeruginosa* lives in the environment and can be spread to people in healthcare settings when they are exposed to water or soil contaminated with this organism.

Resistant strains of the organism can also spread in healthcare settings from person to person through contaminated hands, equipment, or surfaces. Healthcare facilities should have a water management plan to reduce risk of exposure to organisms like *P. aeruginosa* (Centers for Disease Control and Prevention, 2019f).

MDRO threats

In healthcare settings



Summary of MDROs list

This binder provides details for a few high priority MDROs; however, there are more MDROs to be aware of. The CDC tracks 18 antimicrobial resistance threats and issues a report every few years (Centers for Disease Control and Prevention, 2022).



MDROs of highest concern in healthcare facilities

The following MDROs have been categorized as high priority by the CDC. These germs can spread easily in long-term care settings.

- *Candida auris* (*C. auris*)
- Carbapenem-resistant Organisms (CROs)
 - Carbapenem-resistant *Pseudomonas aeruginosa* (*P. aeruginosa*)
 - Carbapenem-resistant *Acinetobacter baumannii* (CRAB)
 - Carbapenem-resistant Enterobacterales (CRE)
- *Clostridioides difficile* (*C. diff*)



Other MDROs of concern

The following MDROs are seen in a broad range of healthcare settings and locations. It is important to be aware of these germs and know how your facility would respond.

- Drug-resistant *Neisseria gonorrhoeae*
- Drug-resistant *Campylobacter*
- Antifungal-resistant *Candida*
- ESBL producing Enterobacterales
- Vancomycin-resistant *Enterococcus* (VRE)
- Drug-resistant nontyphoidal *Salmonella*
- Drug-resistant *Salmonella* serotype Typhi
- Drug-resistant *Shigella*
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Drug-resistant *Streptococcus pneumoniae*
- Drug-resistant Tuberculosis (TB)
- Erythromycin-resistant group A *Streptococcus* (GAS)
- Clindamycin-resistant group B *Streptococcus* (GBS)

Infection prevention and control measures for MDROs



How to prevent the spread—Regularly educate, demonstrate, and audit the following infection prevention and control measures:

- Hand hygiene techniques
- Appropriate patient placement for standard and transmission-based precautions (i.e., droplet, contact, and enhanced barrier)
- Correct donning and doffing procedure for personal protective equipment (PPE) based on precaution type
- Environmental cleaning and disinfection procedures including product choice, technique, and staff responsibilities
- Antimicrobial stewardship (optimizing antimicrobial use)

Personal protective equipment (PPE) recommendations

In **acute care settings**, **contact precautions** should be implemented. **Droplet precautions** should also be used in cases when there is identified or suspected infection or colonization in the respiratory tract.



In **nursing homes**, [enhanced barrier precautions](#) should be used. **Contact precautions** should be used if:

- There is a presence of acute diarrhea, draining wounds, or other sites of secretions or excretions unable to be covered or contained
- During a suspected or confirmed MDRO outbreak for a limited time in consultation with public health authorities
- When directed by public health authorities

Environmental cleaning and disinfection



- Clearly define cleaning and disinfecting responsibilities between housekeeping and clinical staff
- Choose appropriate disinfectant from [EPA's List K](#) ([EPA List P](#) for *C. auris*) and the manufacturer's instructions for equipment to be cleaned
- Follow the product label for appropriate use of the disinfectant, including contact time

Infection prevention and control measures for MDROs

Antimicrobial stewardship in long-term care

Antimicrobial stewardship is a set of commitments and actions to optimize treatment of infections while reducing the adverse events from antibiotic and other antimicrobial use (Centers for Disease Control and Prevention, 2021b).

Antibiotics are among the most frequently prescribed medications in long-term care facilities, with as many as 70% of residents in a long-term care facility receiving one or more courses of systemic antibiotics in a year. Other studies have shown that 40–75% of antibiotics prescribed in long-term care facilities may be unnecessary or inappropriate.

The **7 core elements of antimicrobial stewardship** include, leadership commitment, accountability, drug expertise, action, tracking, reporting, and education.



Who to screen

Carbapenem-resistant organisms (CROs) (CRE, CRA, CRPA)

Preventive screening

- Admission screening upon arrival to identify patients with MDROs. Prioritize admission screenings for residents with:
 - Close contact with a resident/patient with a confirmed CRO infection or colonization
 - History of a stay in a healthcare facility experiencing a CRO outbreak
 - History of a healthcare stay in a state with increased CRO cases
- Proactive screenings or point prevalence survey in high-risk units

Reactive screening in response to a case in a healthcare facility*

- Includes roommates, residents/patients on the same unit or hallway, and residents/patients at high-risk including those with indwelling devices (urinary catheter, central line), mechanical ventilation, and those with wounds

***Unless otherwise advised by public health authorities**



Infection prevention and control measures for MDROs

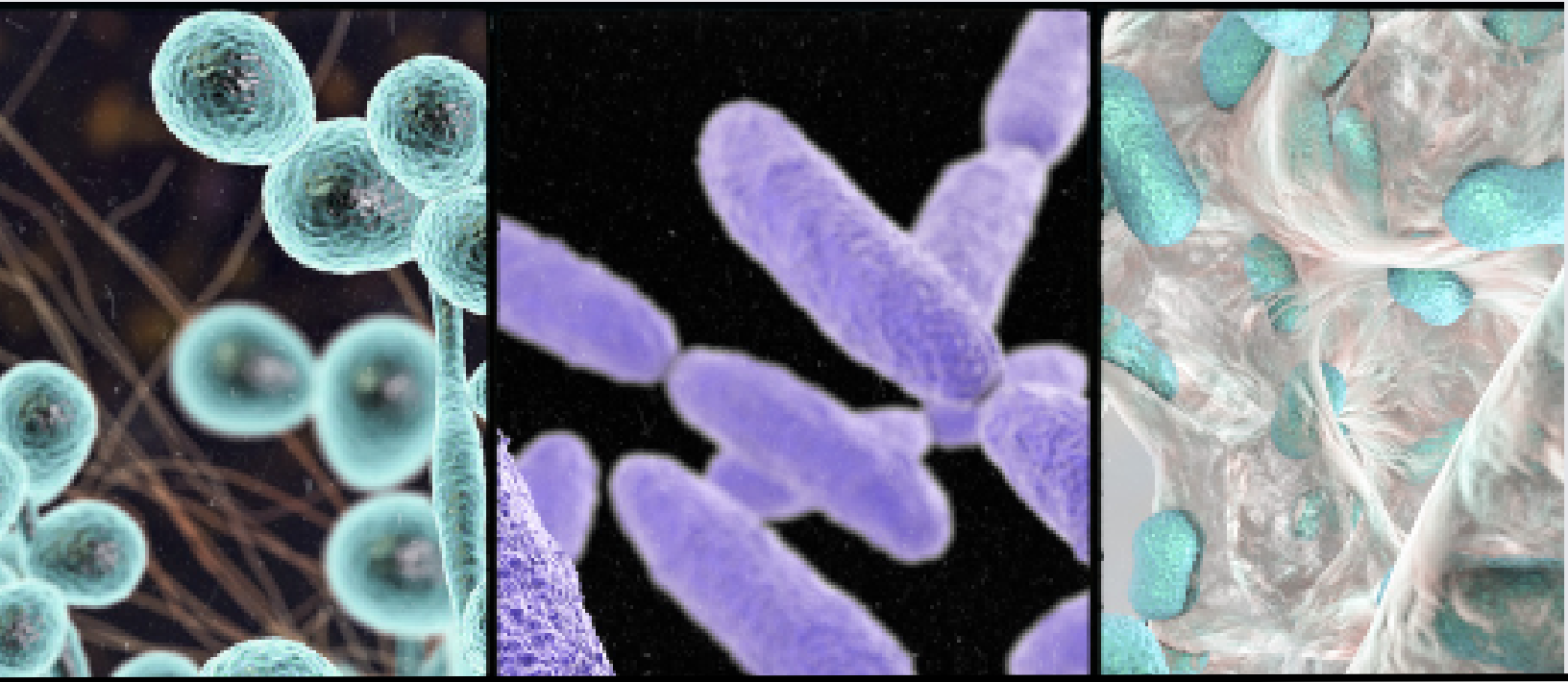
How to manage

Treatment: Patients with a MDRO usually do not need antibiotics unless they have active signs and symptoms of an infection. For those who are infected, treatment is often complex and further testing or consultation may be necessary for appropriate antibiotic selection.

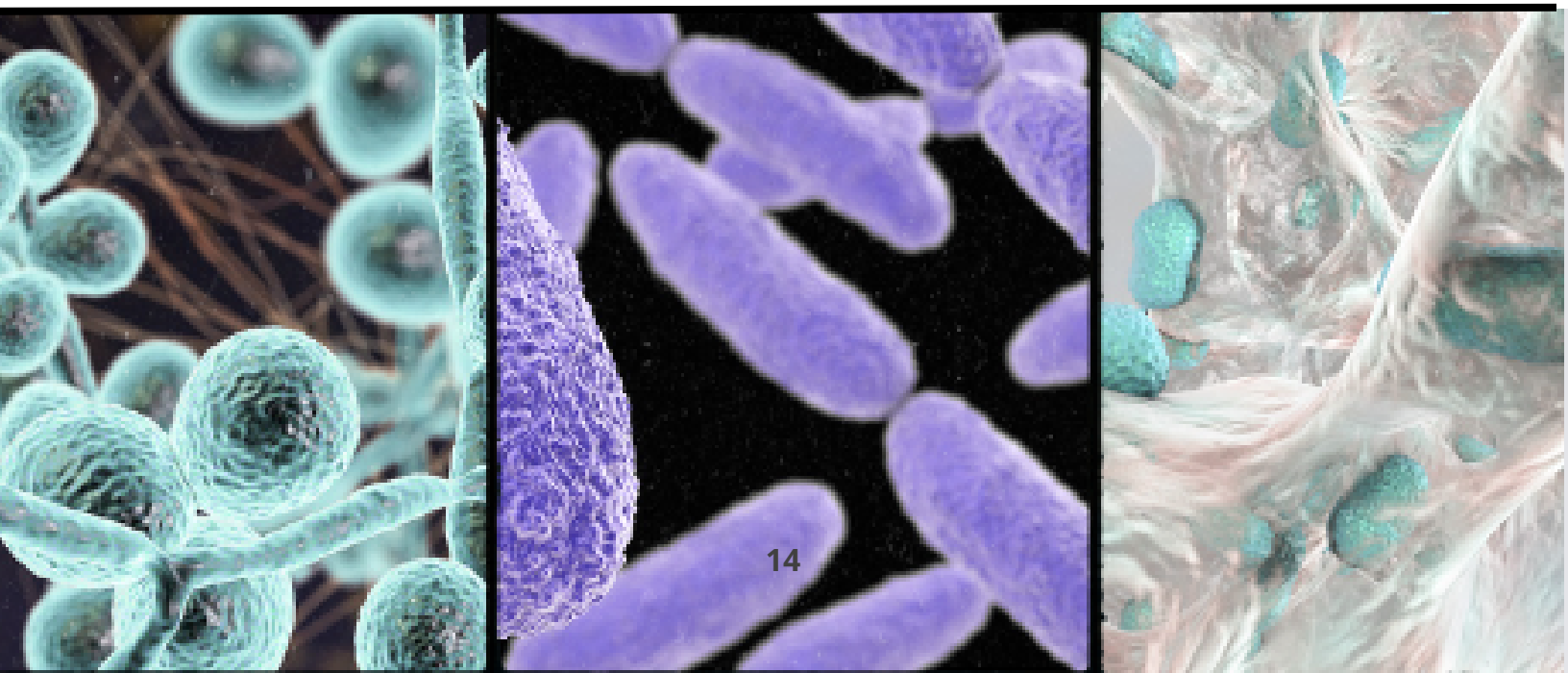
Reporting: When your facility suspects or confirms a resident with a MDRO, you should:

- Report cases to the public health department within 3 working days
- Communicate the resident's MDRO status upon interfacility transfer





Resources for staff: print-outs and flyers





Candida auris

(kan•duh•aduh aa•ruhs)

(Yeast)



About—*Candida auris*, or *C. auris*, is a type of yeast that can cause severe illness and even death, especially in patients with serious medical problems in hospitals and long-term care facilities. *C. auris* is often multidrug-resistant, which means drugs commonly used to treat *C. auris* infections may not work (Centers for Disease Control and Prevention, 2019a). Understanding a little about *C. auris* can help us protect ourselves and others from this germ, and help keep it from spreading in healthcare settings.



Reservoirs and pathways—Reservoirs are places where germs live. Some reservoirs for *C. auris* include:

- The skin
- On dry surfaces, such as call lights, bed rails, and patient tables
- Water and wet surfaces, such as sinks and drains
- On devices and shared equipment, such as patient lifts, physical therapy equipment, and wheelchairs

Pathways are the ways germs spread from one place to another. *C. auris* can spread through touching contaminated surfaces, equipment, or people.



Who is at risk—Patients in hospitals and other healthcare settings are especially at risk because their immune systems are weakened. Within healthcare, some patients are more susceptible to *C. auris*, including:

- Patients with lines or tubes which enter their body
- Patients who have used antibiotics or antifungal medications
- Patients who have long healthcare stays



How to prevent the spread—The best ways to prevent the spread of *C. auris*:

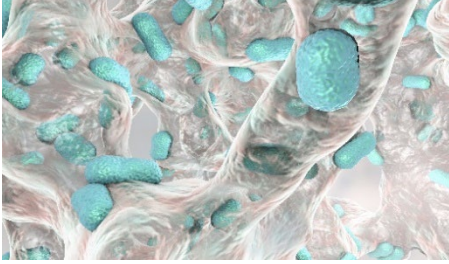
- Wash your hands with soap and water or use alcohol-based sanitizer often.
- Wear a gown and gloves when you care for a patient with *C. auris*.
- Follow any signs at the entryway of the patient's room for what precautions to take.
- Talk to your supervisor about what kind of disinfectant to use when you clean areas where a patient with *C. auris* has been because many common cleaners and disinfectants are not effective against *C. auris*.



Find out more:



www.cdc.gov/fungal/candida-auris/



Carbapenem-resistant *Acinetobacter*

(a•suh•neh•tuh•bak•tr)

(Bacteria)



About—*Acinetobacter* is a group of bacteria commonly found in the environment, such as soil and water. There are many types of *Acinetobacter* bacteria. Some *Acinetobacter* bacteria are resistant to almost all antibiotics, which makes them multidrug-resistant organisms (MDRO). Carbapenem-resistant *Acinetobacter baumannii* (CRAB) is the most common type that infects humans.



Reservoirs/pathways—Reservoirs are places where germs live. Reservoirs for *Acinetobacter* include:

- The skin
- On dry surfaces, such as call lights, bed rails, and door handles
- Water and wet surfaces, such as drains or shower heads
- On devices, such as blood pressure cuffs, catheters, and ventilators
- In dirt and dust

Pathways are the ways germs spread from one place to another. *Acinetobacter* spreads through touch by touching contaminated hands, respiratory secretions, open wounds, or contaminated surfaces and equipment.



Who's at risk? Patients in hospitals and other healthcare settings are especially at risk because their immune systems are weakened. Some patients are more susceptible to *Acinetobacter* infections, such as those who:

- Are on ventilators
- Use devices such as catheters or central lines
- Have open wounds, such as from surgery, burns, or pressure ulcers



How to prevent the spread—The best ways to prevent the spread of *Acinetobacter*:

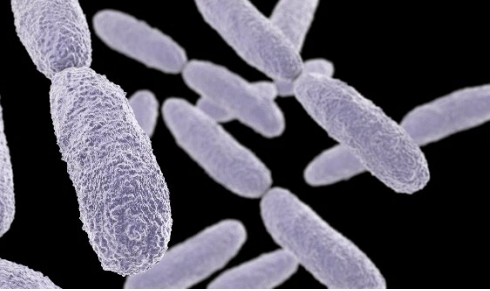
- Wash your hands or use alcohol-based sanitizer often
- Wear a gown and gloves when caring for patients with *Acinetobacter*
- Follow any signs posted at the entryway of the patient's room for what precautions to take
- Talk to your supervisor about which disinfectant to use when cleaning rooms and equipment used by a patient with *Acinetobacter*



Find out more



<https://www.cdc.gov/hai/organisms/acinetobacter.html>



Carbapenem-resistant Enterobacterales

(en•tr•ow•bak•tr•al•es)

(Bacteria)



About—Carbapenem-resistant Enterobacterales (CRE) are types of bacteria that can cause severe infections in the bloodstream, lungs, gastrointestinal (GI) tract, and urinary tract. CREs are resistant to many of the strongest antibiotics, which can make treating them nearly impossible (Centers for Disease Control and Prevention, 2019c). This is called multidrug-resistance.



Reservoirs and pathways—Reservoirs are places where germs live. Some reservoirs for CRE include:

- The skin and GI tract
- On dry surfaces, such as bed rails and call lights
- Water and wet places, such as sinks, drains, and toilets
- On devices, such as stethoscopes, blood pressure cuffs, and patient lifts

Pathways are the ways germs spread from one place to another. CRE can spread through touch, including contact with people, especially contact with wounds or stool (poop); through healthcare workers' hands; or through medical equipment and devices that haven't been cleaned correctly.



Who is at risk—Patients in hospitals and healthcare settings are more likely to get a CRE infection because they often have weaker immune systems. Some patients are also more likely to get sick if they:

- Take more antibiotics
- Require devices like urinary catheters or ventilators for their care



How to prevent the spread—The best ways to prevent the spread of CRE:

- Wash your hands or use alcohol-based sanitizer often.
- Wear a gown and gloves when you care for patients with CRE.
- Follow any signs at the entryway of the patient's room for what precautions to take.
- Talk to your supervisor about what kind of disinfectant to use when cleaning areas where a patient with CRE has been.

Find out more



<https://www.cdc.gov/hai/organisms/cre/index.html>



Pseudomonas aeruginosa

(soo•duh•mow•nuhs eh•roo•gi•now•suh)

(Bacteria)



About—*Pseudomonas aeruginosa* (*P. aeruginosa*) is a bacteria found in soil and water in the environment. Every year, it causes thousands of people to die and even more become very sick. (Centers for Disease Control and Prevention, 2019e). Multidrug-resistant *P. aeruginosa* can defeat the antibiotics designed to kill it. Some types of *P. aeruginosa* resist almost all antibiotics, making it very difficult to treat.



Reservoirs and pathways—Reservoirs are places where germs live. There are many places *P. aeruginosa* can live in healthcare settings, such as:

- The skin and GI tract
- On dry surfaces, such as bed rails, linens, tables and call lights
- Water and wet places, such as sinks, drains, and toilets
- On devices, such as stethoscopes, blood pressure cuffs and patient lifts
- In dirt and dust

Pathways are the ways germs spread from one place to another. *P. aeruginosa* spreads easily in healthcare settings. This germ can spread through water and touch onto surfaces, to other people, and to objects that will touch other people.



Who is at risk—Patients in hospitals and other healthcare settings are especially at risk because their immune systems may be weakened. Within healthcare settings, some patients are more susceptible, including:

- Patients who are on ventilators
- Patients with wounds, such as from surgery, burns, or pressure ulcers
- Patients with indwelling medical devices, such as urinary or central venous catheters



How to prevent the spread—The best ways to prevent the spread of *P. aeruginosa*:

- Wash your hands with soap and water or use alcohol-based hand sanitizer.
- Wear a gown and gloves when you care for patients with *P. aeruginosa*.
- Follow all precautions listed on signs at the entryway of a patient's room.
- Ask your supervisor which disinfectants to use when you clean areas where a patient who has *P. aeruginosa* has been, as not all disinfectants are effective against it.



Find out more



<https://www.cdc.gov/hai/organisms/pseudomonas.html>

FIGHT ANTIMICROBIAL RESISTANCE WITH INFECTION CONTROL

Antimicrobial resistance happens when germs like bacteria and fungi develop the ability to defeat the drugs designed to kill them. That means the germs are not killed and continue to grow and spread.

As a frontline healthcare worker, you play an important role in fighting antimicrobial resistance.

When you practice infection control, you stop resistant germs from:



Entering the body and causing infections through procedures and medical devices



Spreading to people from surfaces like bedrails or the hands of healthcare workers



Moving with patients when they are transferred between facilities



Spreading into the community, making them harder to control

Infection control fights resistance by:



Infection control also protects you from getting sick and decreases the risk of spreading germs to patients.

Check out Project Firstline resources to learn more about how you can protect your patients, yourself, and your community from antimicrobial resistance.

www.cdc.gov/ProjectFirstline

WE HAVE THE POWER
TO STOP RESISTANT
INFECTIONS. **TOGETHER**



Environmental Protection Agency (EPA) Cleaner and Disinfectant Reference Chart

EPA Registration Number	Brand Name(s)	List B	List G	List H	List K	List L	List N	List P	List Q	Dilution?	Surface type
	All numbers	<i>Mycobacterium Tuberculosis (TB)</i>	<i>Norovirus (Noro)</i>	<i>MRSA and VRE</i>	<i>Clostridium Difficile (C-Diff)</i>	<i>Ebola Virus</i>	<i>SARS-CoV-2 (COVID)</i>	<i>Candida Auris</i>	<i>Emerging Viral Pathogens (EVP)</i>		
1677-226	VIRASEPT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No	Table 3
9480-8	PDI SANI-CLOTH BLEACH WIPES, Orange top	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Hard, non-porous surfaces
1677-237	OXYCIDE DAILY DISINFECTANT CLEANER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 fl. oz per 1 gallon of water	Table 3
46781-12	CAVICIDE 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Table 1, 5 & 7
46781-14	CAVIWIPES BLEACH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Table 7
46781-15	CAVICIDE BLEACH AKA CaviBleach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use, Unused product should be diluted with water before disposal in a sanitary sewer	Table 7
56392-8	DISPATCH HOSPITAL CLEANER DISINFECTANT TOWELS WITH BLEACH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Table 1 Surfaces
70590-1	HYPE-WIPE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Disinfecting Sites table
70627-60	OXIVIR WIPES	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Areas table
9480-14	PROJECT FLASH SPRAY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Table 1 & 2
56392-7	DISPATCH HOSPITAL CLEANER DISINFECTANT WITH BLEACH	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use, Unused product should be diluted with water before disposal in a sanitary sewer	Table 1
67619-12	CPPC TSUNAMI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ready to Use	Table 1

EPA Registration Number	Brand Name(s)	Organism							
		<i>Mycobacterium Tuberculosis (TB)</i>	<i>Norovirus (Noro)</i>	<i>MRSA and VRE</i>	<i>Clostridium Difficile (C-Diff)</i>	<i>Ebola Virus</i>	<i>SARS-CoV-2 (COVID)</i>	<i>Candida Auris</i>	<i>Emerging Viral Pathogens (EVP)</i>
Organism Contact Time									
1677-226	VIRASEPT	2 minutes and 30 seconds	1 minute	4 minutes	10 minutes	No data	15 seconds	4 minutes	No data
9480-8	PDI SANI-CLOTH BLEACH WIPES, Orange top	2 minutes	1 minute	1 minute	4 minutes	No data	1 minute	N/A	No data
1677-237	OXYCIDE DAILY DISINFECTANT CLEANER	10 minutes	3 minutes	3 minutes	5 minutes	No data	3 minutes	3 minutes	No data
46781-12	CAVICIDE 1	1 minute	1 minute	1 minute	N/A	No data	1 minute	1 minute	No data
46781-14	CAVIWIPES BLEACH	3 minutes	3 minutes	3 minutes	3 minutes	N/A	1 minute	3 minutes	No data
46781-15	CAVICIDE BLEACH AKA CaviBleach	3 minutes	3 minutes	3 minutes	3 minutes	N/A	1 minute	3 minutes	No data
56392-8	DISPATCH HOSPITAL CLEANER DISINFECTANT TOWELS WITH BLEACH	No data	1 minute	1 minute (MRSA)	3 minutes	No data	1 minute	N/A	No data
70590-1	HYPE-WIPE	1 minute	No data	2 minutes	4 minutes	No data	No data	N/A	No data
70627-60	OXIVIR WIPES	5 minutes	1 minute	30 seconds	N/A	No data	1 minute (15 seconds)	5 minutes	No data
9480-14	PROJECT FLASH SPRAY	1 minute	1 minute	1 minute	5 minutes	N/A	1 minute	1 minute	No data
56392-7	DISPATCH HOSPITAL CLEANER DISINFECTANT WITH BLEACH	N/A	1 minute	3 minutes	3 minutes	No data	3 minutes	3 minutes	No data
67619-12	CPPC TSUNAMI	N/A	1 minute	30 seconds	3 minutes	No data	1 minute	3 minutes	No data
No Data - Product is listed on EPA approved list but contact time is not explicitly stated									
N/A - Not an EPA approved cleaner									

Agencia de Protección Ambiental (EPA) Tabla de Referencia de Limpiadores y Desinfectantes

EPA Número de Registro	Nombre(s) de Marca	Lista B	Lista G	Lista H	Lista K	Lista L	Lista N	Lista P	Lista Q	Dilución?	Tipo de Superficie
	<i>All numbers</i>	<i>Tuberculosis Mycobacteriana (TB)</i>	<i>Norovirus (Noro)</i>	<i>SARM e ERV</i>	<i>Colitis inducida por Clostridioides (C-Diff)</i>	<i>Virus del Ebola</i>	<i>SRAS-CoV-2 (COVID)</i>	<i>Cándida Auris</i>	<i>Patógenos Virales Emergentes (PVE)</i>		
1677-226	VIRASEPT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No	Table 3
9480-8	PDI SANI-CLOTH BLEACH WIPES, Orange top	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Hard, non-porous surfaces
1677-237	OXYCIDE DAILY DISINFECTANT, CLEANER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 fl. oz por 1 galón de agua	Table 3
46781-12	CAVICIDE 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Table 1, 5 & 7
46781-14	CAVIWIPES BLEACH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Table 7
46781-15	CAVICIDE BLEACH AKA CaviBleach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar, el producto sin usar debe diluirse con agua antes de desecharlo en un alcantarillado sanitario	Table 7
56392-8	DISPATCH HOSPITAL CLEANER, DISINFECTANT TOWELS WITH BLEACH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Table 1 Surfaces
70590-1	HYPE-WIPE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Disinfecting Sites table
70627-60	OXIVIR WIPES	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Areas table
9480-14	PROJECT FLASH SPRAY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Table 1 & 2
56392-7	DISPATCH HOSPITAL CLEANER, DISINFECTANT WITH BLEACH	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar, el producto sin usar debe diluirse con agua antes de desecharlo en un alcantarillado sanitario	Table 1
67619-12	CPPC TSUNAMI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lista para usar	Table 1

EPA Número de Registro	Nombre(s) de Marca	Organismo							
		<i>Tuberculosis Mycobacteriana (TB)</i>	<i>Norovirus (Noro)</i>	<i>SARM e ERV</i>	<i>Colitis inducida por Clostridioides (C-Diff)</i>	<i>Virus del Ebola</i>	<i>SRAS-CoV-2 (COVID)</i>	<i>Cándida Auris</i>	<i>Patógenos Virales Emergentes (PVE)</i>
Tiempo de Contacto con el Organismo									
1677-226	VIRASEPT	2 minutos y 30 segundos	1 minuto	4 minutos	10 minutos	sin datos	15 segundos	4 minutos	sin datos
9480-8	PDI SANI-CLOTH BLEACH WIPES, Orange top	2 minutos	1 minuto	1 minuto	4 minutos	sin datos	1 minuto	N/A	sin datos
1677-237	OXYCIDE DAILY DISINFECTANT, CLEANER	10 minutos	3 minutos	3 minutos	5 minutos	sin datos	3 minutos	3 minutos	sin datos
46781-12	CAVICIDE 1	1 minuto	1 minuto	1 minuto	N/A	sin datos	1 minuto	1 minuto	sin datos
46781-14	CAVIWIPES BLEACH	3 minutos	3 minutos	3 minutos	3 minutos	N/A	1 minuto	3 minutos	sin datos
46781-15	CAVICIDE BLEACH AKA CaviBleach	3 minutos	3 minutos	3 minutos	3 minutos	N/A	1 minuto	3 minutos	sin datos
56392-8	DISPATCH HOSPITAL CLEANER, DISINFECTANT TOWELS WITH BLEACH	sin datos	1 minuto	1 minuto (SARM)	3 minutos	sin datos	1 minuto	N/A	sin datos
70590-1	HYPE-WIPE	1 minuto	sin datos	2 minutos	4 minutos	sin datos	sin datos	N/A	sin datos
70627-60	OXIVIR WIPES	5 minutos	1 minuto	30 segundos	N/A	sin datos	1 minuto (15 segundos)	5 minutos	sin datos
9480-14	PROJECT FLASH SPRAY	1 minuto	1 minuto	1 minuto	5 minutos	N/A	1 minuto	1 minuto	sin datos
56392-7	DISPATCH HOSPITAL CLEANER, DISINFECTANT WITH BLEACH	N/A	1 minuto	3 minutos	3 minutos	sin datos	3 minutos	3 minutos	sin datos
67619-12	CPPC TSUNAMI	N/A	1 minuto	30 segundos	3 minutos	sin datos	1 minuto	3 minutos	sin datos
Sin Datos - el producto figura en la lista aprobada por la EPA, pero el tiempo de contacto no se indica explícitamente									
N/A - No es un limpiador aprobado por la EPA									

How to Read a Disinfectant Label

Read the entire label.

The label is the law!

Note: Below is an **example** of information that can be found on a disinfectant label

Active Ingredients:

What are the main disinfecting chemicals?



ACTIVE INGREDIENTS:

Alkyl (60% C14, 30% C16, 5% C12, 5% C18)
Dimethyl Benzyl Ammonium Chloride10.0%
OTHER INGREDIENTS:90.0%
TOTAL:100.0%

EPA REG NO. 55555-55-55555

EPA Registration Number:

U.S. laws require that all disinfectants be registered with EPA.

CAUTION

Signal Words (Caution, Warning, Danger):

How risky is this disinfectant if it is swallowed, inhaled, or absorbed through the skin?

Directions for Use (Instructions for Use):

Where should the disinfectant be used?

What germs does the disinfectant kill?

What types of surfaces can the disinfectant be used on?

How do I properly use the disinfectant?

Contact Time:

How long does the surface have to stay wet with the disinfectant to kill germs?

Directions for Use

INSTRUCTIONS FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For Disinfection of Healthcare Organisms:

Staphylococcus aureus,
Pseudomonas aeruginosa.

To Disinfect Hard, Nonporous Surfaces:

Pre-wash surface.
Mop or wipe with disinfectant solution.
Allow solution to stay wet on surface for at least 10 minutes.
Rinse well and air dry.

PRECAUTIONARY STATEMENTS:

Hazardous to humans and domestic animals. Wear gloves and eye protection.

CAUSES MODERATE EYE IRRITATION. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Avoid contact with foods.

FIRST AID: IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

POISON CONTROL: Call a Poison Control Center (1-866-366-5048) or doctor for treatment advice.

STORAGE AND DISPOSAL: Store this product in a cool, dry area away from direct sunlight and heat. When not in use keep center cap of lid closed to prevent moisture loss. Nonrefillable container. Do not reuse or refill this container.

Precautionary Statements:

How do I use this disinfectant safely? Do I need PPE?

First Aid:

What should I do if I get the disinfectant in my eyes or mouth, on my skin, or if I breathe it in?

Storage & Disposal:

How should the disinfectant be stored? How should I dispose of expired disinfectant? What should I do with the container?



EXP MM-DD-YYYY



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



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CONTACT PRECAUTIONS



EVERYONE MUST:



Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:



**Put on gloves before room entry.
Discard gloves before room exit.**



**Put on gown before room entry.
Discard gown before room exit.**

**Do not wear the same gown and gloves
for the care of more than one person.**



**Use dedicated or disposable equipment.
Clean and disinfect reusable equipment
before use on another person.**





MEDIDAS DE PRECAUCIÓN POR CONTACTO



Todos deben:



Limpiarse las manos, incluso antes de entrar y al salir de la habitación.

Los proveedores de atención médica y el personal deben, además:



**Ponerse guantes antes de entrar a la habitación.
Desechar los guantes antes de salir de la habitación.**



**Ponerse una bata antes de entrar a la habitación.
Desechar la bata antes de salir de la habitación.**

No usar la misma bata ni los mismos guantes para atender a más de una persona.



**Usar equipo de uso exclusivo o desechable.
Limpiar y desinfectar el equipo reutilizable antes de usarlo para otra persona.**





DROPLET PRECAUTIONS



EVERYONE MUST:

Clean their hands, including before entering and when leaving the room.



Make sure their eyes, nose and mouth are fully covered before room entry.



or



Remove face protection before room exit.





MEDIDAS DE PRECAUCIÓN POR GOTITAS



Todos deben:

Limpiarse las manos, incluso antes de entrar y al salir de la habitación.



Asegurarse de tener los ojos, la nariz y la boca totalmente cubiertos antes de entrar a la habitación



o



quitarse la protección facial antes de salir de la habitación.





ENHANCED BARRIER PRECAUTIONS



EVERYONE MUST:



Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:



Wear gloves and a gown for the following High-Contact Resident Care Activities.

**Dressing
Bathing/Showering
Transferring**

**Changing Linens
Providing Hygiene
Changing briefs or assisting with toileting**

Device care or use:

**central line, urinary catheter, feeding tube,
tracheostomy**

Wound Care: any skin opening requiring a dressing



Do not wear the same gown and gloves for the care of more than one person.

CS19-306149-A



**U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention**



MEDIDAS DE PRECAUCIÓN DE BARRERA AVANZADAS



Todos deben:



Limpiarse las manos, incluso antes de entrar y al salir de la habitación.

Los proveedores de atención médica y el personal deben, además:



Usar bata y guantes para las siguientes actividades de alto contacto del cuidado de los residentes

Vestir

Bañar o duchar

Trasladar

Cambiar ropa de cama

Ayudar con la higiene personal

Cambiar ropa interior o ayudar para usar el baño

Cuidado o uso de dispositivos: vía central, sonda urinaria, tubo de alimentación, traqueostomía

Cuidado de heridas: todo corte en la piel que requiera vendaje



No usar la misma bata ni los mismos guantes para atender a más de una persona.



**U.S. Department of
Health and Human Services
Centers for Disease
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