ANTIBIOTIC-RESISTANT ORGANISMS (ARO) IN CONGREGATE LIVING SETTINGS (CLS)

What are Antibiotic-Resistant Organisms (ARO)?

Antibiotic-resistant organisms (ARO) are disease-causing bacteria that have changed to resist the antibiotics (drugs) designed to kill them. When this happens, the bacteria can continue to grow and cause infections even after a person has received antibiotic treatment. ARO can be difficult, and sometimes impossible to treat.

Some examples of ARO include:

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Vancomycin- resistant Enterococcus (VRE)
- Extended-spectrum beta-lactamase (ESBL)
- Carbapenem-resistant *Enterobacteriaceae* (CPE)
- Clostridium difficile (C. diff)

One of the main reasons antibiotic-resistances is increasing is the overuse or inappropriate use of antibiotics. In some cases, people can carry an ARO on or in their body without feeling sick or showing any symptoms. This is known as colonization.

How do ARO spread in Congregate Living Settings?

ARO are typically spread in health care settings such as hospitals and long-term care homes. However, they can also be spread in community settings such as gyms, homeless shelters, and other congregate living settings (CLS) especially when proper infection prevention and control practices are not followed.

People who are colonized or infected with an ARO can spread the bacteria to others in two main ways:

- Direct contact: usually through hands, including the hands of health care workers or caregivers
- Indirect contact: through shared items or contaminated surfaces such as towels, taps, or other frequently touched objects

ARO can survive on surfaces for long periods, sometimes for weeks, if those surfaces are not properly cleaned and disinfected. This includes high-touch surfaces areas like door handles, equipment handles, handrails, and bedrails.

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What are the risk factors for an ARO infection in CLS?

An ARO infection is more likely to develop among the elderly, individuals who are hospitalized, and those with severe disease or weakened immune systems.

Other factors that increase the risk of getting an ARO infection include:

- Colonization with an ARO
- Previous hospitalization or transfer between health care facilities
- Receiving recent health care in another country

How are ARO treated?

A person that is colonized with an ARO does not require treatment in most cases.

However, when an infection is caused by antibiotic-resistant bacteria, it can be much more difficult to treat. These bacteria may resist several different antibiotics, and the number of effective treatment options is decreasing as antibiotic resistance continues to grow. At the same time, very few new antibiotics are being developed. Because of this, it is important for residents to use antibiotics only when they are truly needed and to take them exactly as prescribed.

What can be done to prevent the spread of ARO in CLS?

Residents who return home from an extended stay at a health care facility, such as a hospital or rehabilitation centre, or have been in contact with someone who has an antibiotic-resistant organism (ARO), or are positive themselves, do not need to be placed on additional precautions. Routine practices are enough to prevent the spread of ARO in CLS. These include hand hygiene and additional measures.

HAND HYGIENE

Proper hand hygiene is one of the most effective ways to reduce the risk of becoming colonized or infected with an ARO, and it also helps prevent the spread of ARO to others.

Good hand hygiene includes:

- Washing hands with soap and running water for at least 15 seconds, or
- Using alcohol-based hand rub (70-90% ethanol or isopropyl alcohol) if hands are not visibly soiled. Use a thumb-sized amount and rub it over all areas of your hands for at least 15 seconds until they are completely dry.

When to Clean Your Hands

Hands should be cleaned:

- After using the bathroom
- After blowing your nose
- Before preparing food
- Before eating and drinking
- Before and after touching dressings or wounds
- Before entering or leaving a resident room
- After handling dirty laundry or garbage
- When hands are visibly dirty (soiled)

Education and Reminders

It's also important to regularly educate and remind both residents and staff about when and how to perform hand hygiene. Consistent practice helps reduce the spread of ARO and keeps everyone safer.

ADDITIONAL MEASURES

- Staff wear gloves when needed, such as when handling blood and bodily fluids.
- Staff wear gloves and gown when providing direct care to a resident who shows signs and symptoms of an ARO infection, such as diarrhea, fever, or draining wounds.
- When a resident has respiratory symptoms, such as coughing and fever, staff are to conduct a point of care risk assessment before determining what personal protective equipment (PPE) such as gloves, a gown, a mask, and eye protection is necessary.
- Residents with open wounds or lesions should have them covered with clean, dry dressings.
- Enhanced cleaning and disinfection should take place whenever a resident has loose stool or shows signs of an infection. Antibiotics resistance does not mean stronger disinfectants are required. Instead, ensure routine cleaning and disinfection of the resident's room and washroom, every day, along with high-touched surfaces in common areas.
- When a resident has diarrhea and tests positive for C. *difficile*, staff should clean contaminated surfaces and then disinfect it with a chlorine bleach solution at 5,000 ppm. This solution is made by mixing 1-part regular household bleach (5–6% sodium hypochlorite) with 9 parts water. This disinfectant needs to be left on surfaces for 10 minutes.
- Use equipment that is dedicated to one resident whenever possible. If equipment must be shared, it must be properly cleaned and disinfected after each use. This includes mobility equipment like wheelchairs.
- Handle laundry and waste using routine precautions. Double-bagging is not necessary. Garbage from rooms of residents who are colonized or infected with an ARO does not require special handling and should be managed according to the facility's regular waste- disposal policies.

References

https://www.canada.ca/en/public-health/services/antibiotic-antimicrobial-resistance/about-antibiotic-resistance.html

vre-patients-visitors.pdf