

Preventing the spread of carbapenem-resistant Enterobacteriaceae (CRE) outside healthcare settings

Enterobacteriaceae are a large group of bacteria that can often be found in stools and form normal gut flora, but in some cases these bacteria can cause disease. This group includes Klebsiella, Enterobacter, Citrobacter, Salmonella, Escherichia, Shigella, Yersinia, Proteus, Serratia. Enterobacteriaceae that are resistant to carbapenems are abbreviated CRE.

Carbapenems are a group of antibiotics commonly used to treat serious infections. If bacteria are resistant to carbapenems, it means that treatment with this group of antibiotics is ineffective. However, infections with these bacteria can be treated as the bacteria are rarely resistant to all antibiotics.

Mode of infection and transmission

Carbapenem-resistant Enterobacteriaceae are most commonly transmitted from person to person in healthcare settings, hospitals and social care institutions: via contaminated hands, surfaces, medical devices (most commonly intravenous catheters, urinary catheters) or contact with an open wound. They can also be unintentionally transmitted by healthcare staff to the patients they care for. In healthcare, we follow recommendations to prevent the spread of CRE in healthcare settings. In recent years, there has been an increase in the incidence of CRE in many countries around the world, including Slovenia. Persons with associated chronic diseases and those requiring hospital treatment are most susceptible to CRE infection.

Bacteria that are discovered accidentally are not removed with antibiotics. Professionally, bacterial carriage is called colonisation. Although the carrier feels perfectly healthy, it is possible to transmit the bacteria to another person. Carriage is usually long-lasting (it can last for several months or years). Carriage is verified by retesting, e.g. on admission to hospital or adult care home. If bacteria from the gut are transferred to other places in the body and cause different infections, these are treated. In this case, we are talking about a bacterial infection.

Preventive measures to prevent the spread of CRE outside healthcare settings

No special measures are needed in the case of cohabitation with a colonised person in the home environment. Careful personal hygiene and strict hand washing with warm running water and soap are sufficient. It is a good idea for the colonised family member to have his/her own towel or a towel that is not used by others for personal care. Paper towels may also be used. We advise changing towels daily.

If the member is bed-bound, frail or immobile, we advise the use of cleansing wipes and alcohol hand sanitiser. The person caring for the colonised person should use protective gloves and an apron when contact with secretions (urine, faeces) is possible. After finishing the work and removing the gloves, the person should disinfect his/her hands. Hand washing and disinfection is also advised after handling soiled nappies and dressings.

Underwear must be changed daily. Hand washing and disinfection is recommended after handling contaminated underwear or bed linen. You can wash your laundry together with the laundry of other household members. Washing at 60 °C or above is recommended.

It is important to maintain hygiene in the home environment by regularly cleaning rooms and surfaces, especially toilets. Wash used cleaning cloths in a washing machine. It is important to clean the toilet or bathroom more often. Here you can occasionally use a disinfectant, following the manufacturer's instructions. Wash cutlery and dishes in the dishwasher (if possible), otherwise by hand with detergent and hot water. Separation of cutlery is not necessary. Periodically wipe personal equipment used by the colonised person (eyeglasses, hearing aids, etc.) with disinfectant alcohol wipes.

There is no risk to other family members if hygiene recommendations are followed. Exclusion from collectives and informing the kindergarten/school/employer/organisers of extracurricular and other

activities of the carrier is not necessary, as the estimated risk of transmission in these settings is very low, taking into account general hygiene recommendations.

When you come into contact with a healthcare provider, alert the doctor or nurse that you are (were) a carrier of carbapenem-resistant bacteria (CRE).

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