



Hospital Out-Patient and Day Care for people colonised with Antimicrobial Resistant Organisms (AMRO) including Carbapenemase Producing Enterobacterales (CPE)

CPE Expert Group

National Guidance Document, Version 1.0

Scope of this Guidance

This document is intended for IPC Practitioners and other healthcare workers in the Acute Hospital Sector. For further information on the scope of this guidance, refer to page 5 of this document. Additional guidance or to confirm that you are using the most current version of this guidance, please go to www.hse.ie/hcai and www.hpsc.ie

Next review of this guidance document

This guidance document will be reviewed in 12 months (September, 2019).



Table of Contents

	Page
Glossary of terms	3
Standard Precautions	4
Transmission Based Precautions	4
Contact Precautions	4
Scope of Guidance	5
Statement of Principle	6
Background	6
Skin and Nose Colonising AMRO	7
Gut-Colonising AMRO	7
What is CPE?	8
CPE Colonisation	9
Defining what we mean by a CPE Contact?	10
Guidance	10
1. Communication	10
2. Out-Patient Attendance (including ante-natal care)	11
• Before attending	11
• Reception and Waiting Room	11
• Where care is delivered	11
• Healthcare Worker Practice	12
• Environmental Cleaning	13
Appendix:	14
Contact Card	15
Colonisation Card	15
Non-Clinical Staff	16
Clinical Staff in Acute Hospitals	16
Clinical Staff in community services	17



Glossary of Terms

AMRO = Antimicrobial-resistant Organism

CPE = Carbapenemase Producing Enterobacterales

ED = Emergency Department

ESBL = Extend Spectrum Beta-Lactamase Producing Enterobacterales

Isolation = Isolation refers to accommodation of one person in a single room

MRSA = methicillin-resistant *Staphylococcus aureus*

Person/People = the terms person/people are generally used in this document and are in general interchangeable with the terms client, service user or patient.

IPC = Infection Prevention and Control

VRE = Vancomycin Resistant Enterococci



Standard Precautions

Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the person, in any setting where health care is delivered. Standard Precautions include — hand hygiene, use of personal protective equipment (such as gloves, masks, and eye-wear) and other elements as outlined in national guideline available at the following link.

<http://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/standardprecautions/>

Transmission Based Precautions

Transmission-Based Precautions are the second tier of basic IPC and are to be used in addition to Standard Precautions for people who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission. Transmission based precautions include Contact Precautions, Droplet Precautions and Airborne Precautions. In most circumstances in relation to AMRO any additional precautions required are likely to be Contact Precautions.

Contact Precautions

Contact precautions are measures taken in addition to Standard Precautions for people with known or suspected infection or colonisation with organisms that represent an increased risk for contact transmission. These include, but are not limited to, 1. Appropriate placement, 2, Use of Personal Protective Equipment, 3. Limited transport and movement of people, 4 Use of disposable or dedicated patient care equipment and 5. Prioritized cleaning and disinfection of rooms.

Definitions are based on documents from the Centre for Disease Control and Prevention available at the following links.

<https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html>

<https://www.cdc.gov/oralhealth/infectioncontrol/summary-infection-prevention-practices/standard-precautions>



Scope of Guidance

This document is intended for IPC Practitioners and other healthcare workers in the Acute Hospital Sector. It is intended to support consistent practice with respect to balancing the welfare of the colonised person and the need to minimise risk of spread of AMRO including CPE. This guidance does not apply to day-care patient settings where the intensity of care delivered is of similar intensity to in-patient care. If the person is required to undress fully and requires a bed (e.g. certain procedures) the approach to IPC should generally be similar to that which applies to in-patients. Guidance with respect to IPC practice relevant to in-patient care is addressed in the document “Interventions for Control of Transmission of CPE in the Acute Hospital Sector” available at www.hse.ie/hcai.

In all cases where people are attending for a procedure involving endoscopy or surgical incision the IPC practices that apply in relation to the performance of the procedure are the same as for hospital in-patients. However pre-and post- procedure reception and placement generally do not require segregation of people colonised or infected with CPE and other specific precautions that may apply in the in-patient setting (see below).

This guidance does not apply to people shedding air borne AMRO in particular multidrug resistant *M. tuberculosis*.

Note that from time to time healthcare workers may be asked for advice on hospital visiting by people colonized with AMRO who intend to visit hospital in-patients. In general no specific measures or restrictions are required with respect to people colonised with AMRO, including CPE, who wish to visit a relative or friend in hospital. All hospital visitors should be encouraged to perform hand hygiene. Visitors should not use patient toilets.



Statement of Principle

Each person colonised or infected with an AMRO is entitled to receive the best care that the healthcare service can reasonably provide to them. In most cases this can be achieved with minimal risk of spread of AMRO provided the healthcare worker and the colonised or infected person are able to comply with some basic precautions.

Background

Antimicrobial resistance is a major challenge to healthcare delivery systems in Ireland and throughout the world. Control of antimicrobial resistance is grounded in improved use of antimicrobial agents (antimicrobial stewardship) and better control of the spread of antimicrobial resistant organisms (IPC). The website www.antibioticprescribing.ie is very valuable support for appropriate antimicrobial prescribing in the community.

The most fundamental element of managing the risk of spread of microorganisms is the consistent application of Standard Precautions in all healthcare setting and with all people all the time. Standard Precautions are critical because there is no system that will immediately and consistently identify all people colonised or infected with AMRO.

Additional steps may also help to manage the risk. These include screening people to identify AMRO (including CPE) and the application of additional Transmission Based Precautions, such as Contact Precautions in relation to people who are known to have or who are considered at high risk of having colonisation or infection with AMRO. Transmission-Based precautions are applicable to delivery of in-patient care in the acute hospital setting. The approach taken in this acute-care setting is not applicable in the context of delivery of care in most out-patient and day-care settings. However specific precautions in addition to Standard Precautions may occasionally be advised for staff delivering care in the community in very specific circumstances.



In all settings measures to manage the risk of dissemination associated with AMRO must be balanced with the imperative of delivering appropriate care to people in a timely manner and respecting the right of people to visit relatives and friends in hospital.

For practical purposes it is useful to distinguish between skin and nose surface colonising AMRO (MRSA) and gut colonising AMRO (CPE, ESBL and VRE).

Skin and Nose Colonising AMRO

For those AMRO that colonise the skin and nose the risk of environmental and hand contamination is more persistently present as contact of hands with the face and nose are frequent behaviours that may be more common when the person has a respiratory tract infection or nasal drip. In many cases it may be possible to eradicate or minimise surface colonisation with MRSA through application of a decontamination protocol if there is a clinical indication for doing so.

Gut-Colonising AMRO

This group of bacteria include a number of antibiotic resistant bacteria that have been a problem for many years including VRE and ESBLs. It also includes a major new concern CPE. There is more detail on CPE below. These organisms spread from person to person through the faecal-oral route, that is to say that are shed in faeces. Traces of faeces, that are often invisible, can be transferred to hands and to other surfaces by touch. The organisms can then be transferred from hand and surfaces to the mouth either directly or from contamination of food or utensils.

It follows from the above that for those with gut colonising AMRO the principal issue is about managing the risk of faecal contamination of hands and surfaces. Provided the person is continent, fully dressed, has no behavioural disturbance and is supported as necessary in performing correct hand hygiene and dressing after visiting the toilet the risk of person to person spread and environmental contamination is very low in most settings. There is no established protocol internationally for decolonisation of the gut of people with AMRO.



Regardless of known or suspected AMRO status, a person who has diarrhoea or who is incontinent of faeces must be prioritised for immediate care in the appropriate setting, to ensure dignity and respect as well as for IPC purposes.

What is CPE?

CPE is the latest major wave of antimicrobial resistant organisms that is spreading throughout the world including Ireland. At the moment spread of CPE is mainly a problem in the acute hospital setting.

The gut of every normal, healthy human contains bacteria including a group of bacteria called Enterobacterales. This group of bacteria includes *E. coli* and *Klebsiella pneumoniae*. When Enterobacterales get into the bladder, kidney or bloodstream, they can cause infection (cystitis, pyelonephritis, sepsis).

CPE are a particular variant of these common gut bacteria that have become resistant to a critical group of antibiotics, the carbapenems. They are often also resistant to many other antibiotics. Although they are resistant to antibiotics, in most other respects they are like other Enterobacterales bacteria. Like other Enterobacterales bacteria they are harmless when they are in the gut.



CPE Colonisation

A person who carries CPE in the gut but who has no clinical symptoms or illness related to the CPE is said to be colonised. People may also have asymptomatic CPE colonisation of urine, leg ulcers or indwelling devices. People colonised with CPE (no clinical evidence of infection) should not be treated with antibiotics. Antibiotics do not clear the colonisation from the gut and in fact are likely to make the colonisation more intense and last longer. People who are colonised with CPE should be given a small plastic card to show to healthcare workers to tell them that are a CPE contact. This card is illustrated in the appendix to this document.

When people colonised with AMRO including CPE develop clinical evidence of infection more often than not the infection that they have is not caused by the AMRO. For example upper respiratory tract infection, bronchitis, pneumonia, sinusitis, skin infection, cellulitis is very unlikely to be caused by CPE even in a person colonised with CPE. In a person colonised with CPE just as in everyone else these are most likely due to viral infection (upper respiratory tract and bronchitis) or the usual bacterial suspects for pneumonia (pneumococcus) and cellulitis (*Staphylococcus aureus* or Group a Streptococcus). In most cases of people colonised with AMRO the guidance available on www.antibioticprescribing.ie remains appropriate most of the time.

CPE in the gut do not cause diarrhoea, vomiting or abdominal pain. In a small number of people colonised with CPE in the gut the CPE may cause cystitis, pyelonephritis or sepsis. In this case many of the antimicrobial agents commonly used in the community do not work, however, there are some antibiotics that are effective.

If a person colonised with CPE develops clinical evidence of infection they may need treatment directed towards the AMRO and consultation with a Consultant Microbiologist or Infectious Disease Physician may be appropriate. In that case, in so far as it is appropriate given the persons overall care plan, transfer to an acute hospital is generally appropriate. See <https://www.hse.ie/eng/about/who/cspd/ncps/sepsis/>



Defining what we mean by a CPE Contact?

A CPE contact is a term used to refer to a person who has been identified by an IPC team or public health doctor as having significant exposure to a person colonised or infected with CPE and as a result of this exposure is at higher risk of being colonized with CPE. A person is generally identified as a CPE contact because they have spent hours in the same space in a healthcare setting as someone who is colonized with CPE. Identification of a person as a CPE contact generally relates to exposure to CPE in the acute hospital setting. Being a CPE contact does not mean that the person is colonized with CPE but that the risk of them being colonized with CPE is higher than for other people. People who are CPE contacts should have been given a small plastic card to show to healthcare workers to tell them that they are a CPE contact. This card is illustrated in the appendix to this document. In most cases in the community all that is required in relation to a CPE Contact is to be particularly conscious of Standard Precautions. When CPE contacts are admitted to an acute hospital they are offered testing for CPE and special precautions are taken in their care. Additional information on CPE including Fact Sheets is available at www.hse.ie/cpe.

Guidance

1. Communication.

People who are colonised or infected with AMRO should be encouraged to bring this to the attention of the healthcare worker each time they present for healthcare. They should have been given a small plastic card to support them in bringing this to the attention of healthcare workers. These cards are illustrated in the appendix.

When a person who is known to have colonisation with AMRO presents for care, the healthcare worker who first becomes aware of this should ensure that other healthcare workers are alerted to this fact on a need to know basis.



Communication should be discrete and on a need-to-know basis so as to protect privacy and dignity. Detailed guidance related to communication regarding AMRO is available in the document “Discussing HCAI and AMRO with patients” available at www.hse.ie/hcai

2. Out-Patient Attendance (including ante-natal care)

Before attending

People colonised with AMRO should be scheduled for care on the same basis as other people. They should not be required to attend last at the clinic and should not generally be put “last on the list” for day case procedures.

All people, but especially those known as colonised with AMRO including CPE should be encouraged to clean their hands regularly.

Reception and Waiting Room

People colonised with AMRO should not be segregated from other people at reception or in the general waiting area where they are sitting fully dressed.

People colonised with AMRO do not generally require segregated toilet facilities in the waiting area. As in all healthcare settings there should be adequate toilets. Toilets in hospital reception and waiting areas should be cleaned at regular intervals. At a minimum toilets should be cleaned once during the day (at about mid-day) and at the end of each day that the facility is in use. In addition toilets should be cleaned promptly at any time if staff become aware that the toilet is soiled.

Where care is delivered

In some settings where people have relatively long stays in treatment areas providing services to extremely vulnerable people (for example haematology and oncology day treatment wards) a designated toilet for use by known CPE colonised



people should be considered as essential. [Access may be controlled by code provided to relevant people and staff]. Where this is not possible in the day care area these people should receive treatment in an appropriate room in the hospital in-patient area.

In general no specific measures are required with respect to people colonised with gut AMRO including CPE who are engaging in group classes or rehabilitation activities provided they are continent, full dressed and do not have any behavioural disturbance.

Healthcare Worker Practice

All staff should follow Standard Precautions when delivering healthcare to any person at any time. When a person is known to have infection or colonisation with an AMRO staff should be particularly careful with respect to their practice of Standard Precautions and should take additional precautions when required.

Hand hygiene is a critical element of Standard Precautions. All healthcare workers needs to carry out hand hygiene according to the WHO recommended method and opportunities (my five moments of hand hygiene). In most healthcare settings, with hands that are visibly clean, use of alcohol hand rub is the quickest and most effective method for performing hand hygiene. Alcohol hand rub should be available in all areas where clinical care is delivered. If hands are visibly soiled or have had direct contact with body fluids washing with soap and water is required. When washing with soap and water thorough drying of hands after washing is essential.

In settings where there is very limited direct physical contact with the person there is no requirement for the healthcare worker to wear personal protective equipment. Examples include brief social contact such as shaking hands.

If there is significant physical contact with the person, for example physical examination of an undressed patient, the healthcare worker should use personal protective equipment such as an apron where required. Gloves may also be required in some settings for example when contact with blood, body fluids or indwelling devices is likely. When apron and or gloves are used they should be disposed of



immediately after use. Hand hygiene should always be performed after gloves are removed.

It is not necessary to cover chairs in the examination room if the person is sitting fully clothed.

As with all people, if the person is undressed for examination, examination couches should be covered with a disposable cover that is disposed of immediately after use. There is no requirement for further cleaning of the couch between people unless there is visible contamination.

Where re-usable equipment for example a stethoscope is used those elements of the equipment in contact with the person's skin should be decontaminated with an appropriate disinfectant immediately after use.

Unless it is likely to interfere significantly with clinical evaluation of the person's blood pressure, blood pressure cuffs should generally be applied over light clothing (such as a shirt sleeve) to minimise contamination from direct contact with skin. Where this is not possible disposable covers for the cuffs may be appropriate. In larger out-patient areas or clinics caring for a high proportion of AMRO colonised or infected people it may be practical to set aside a particular room for care of AMRO colonised or infected people.

Environmental Cleaning

Any surface in a clinical area that the person has had direct contact with while undressed should be cleaned and disinfected immediately after the person leaves the room and before it is used for another person. There is no requirement for increased frequency of cleaning of floors walls and other non-contact surfaces after an examination room is used for an AMRO colonised person unless there is visible soiling or there was a significant incident of body fluid contamination.



Appendix: CPE Cards - Contact Patients and CPE Patients – information is for admission/reception/administration staff in hospitals, GP practices and community based services

CPE is the newest in a long line of what people sometimes call “superbugs”. When we talk about “superbugs’ we mean bacteria that are hard to kill with antibiotics. Of all the superbugs we have had so far CPE is the hardest to kill with antibiotics. We think the number of people who carry CPE in Ireland is still fairly small (probably 2000 to 3000 people). This means that if we take very good care of people who carry CPE over the next couple of years there is still time to stop CPE becoming very common.

Some patients who have already been identified as either CPE Colonised or as a CPE Contact have been given a card. There are pictures of these cards below. The purpose of the card is to help them tell healthcare workers that they are CPE Colonised or a CPE Contact. CPE Colonised means that they have been proven to carry CPE but it does not mean that CPE is causing an infection.

CPE Contact does NOT mean that they have been proved to carry CPE but that they are at higher risk than most people of carrying CPE because they spent some time in hospital close to a patient who was known to have CPE.

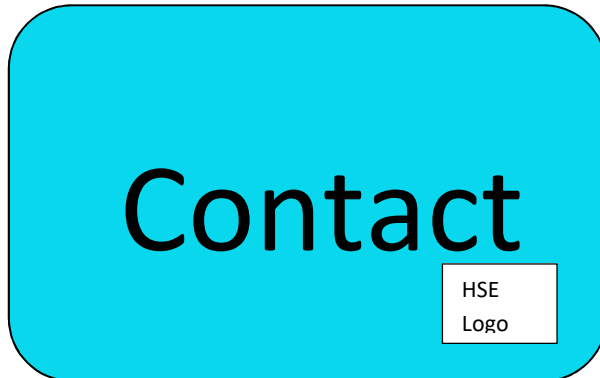
Patients who have been given these cards have been asked to show this card to staff any time they access healthcare. They may show the card to admission/reception/administration staff/doctors/nurses or other healthcare workers.

This note is to tell you what to do if you are shown a “Colonisation” card or a “Contact” card.

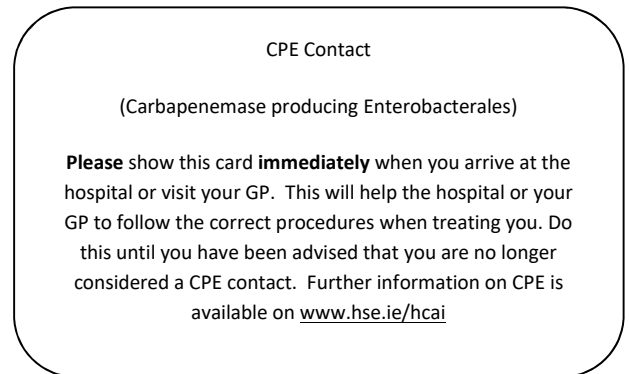


Contact Card

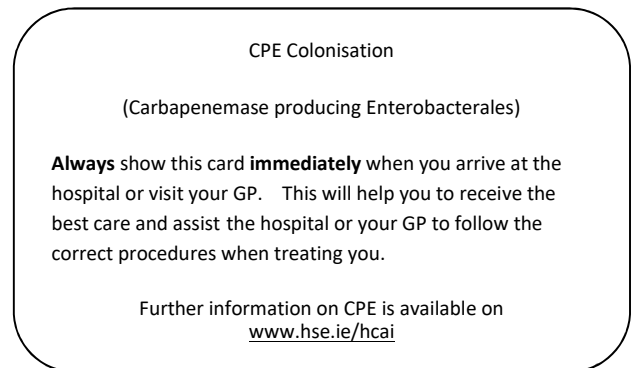
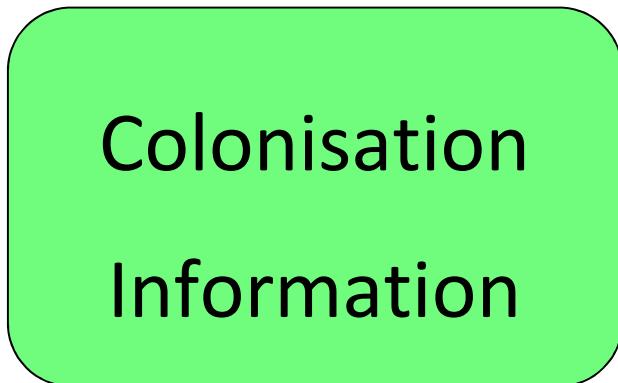
Front



Back



Colonisation Card



People who carry CPE (or any other microbe) or who have been identified as CPE Contacts have equal rights to treatment and services. Their treatment/admission should not be compromised or delayed due to concerns regarding CPE.



Non-Clinical Staff

- These patients are not a significant risk to you.
- If the patient is in a reception area or a waiting room they do not need to sit separately from other people and you should be careful not to say or do anything that cause the patient embarrassment or gives any information about the patient to patients or members of the public in the reception or waiting area.
- You should bring the card to the attention of the clinical staff who will be responsible for the patient as soon as possible.

Clinical Staff in Acute Hospitals

- CPE Colonised patients do not need to be segregated from others when sitting in the waiting area.
- CPE colonised patients are one of the highest priorities for rapid single room isolation when they enter the clinical care space.
- The most senior member of staff on duty who is managing patient placement should be informed promptly.
- If for any reason the patient cannot immediately be placed in a single room with en-suite facilities be scrupulous in applying Standard Precautions and Contact Precautions while waiting for a single room to become available.
- Alert the Infection Prevention and Control Team during working hours.
- CPE Contact patients do not need to be segregated from others when sitting in the waiting area.
- CPE Contact patients are at increased risk of carrying CPE.



- CPE Contact patients should be placed in single room isolation as soon as possible when they enter the clinical care space.
- As soon as possible collect a rectal swab for testing for CPE from the patient and send to the laboratory with a clear indication that the patient is a CPE Contact.
- The most senior member of staff on duty who is managing patient placement should be informed promptly.
- If for any reason the patient cannot immediately be placed in a single room with en-suite facilities be scrupulous in applying Standard Precautions and Contact Precautions while waiting for a single room to become available.
- Alert the Infection Prevention and Control Team during working hours.
- Additional information and guidance related to CPE are available at www.hse.ie/hcai

Clinical Staff in community services (including GP practices, public health nurses, therapy staff and dental staff)

- Take particular care to follow Standard Precautions, in particular hand hygiene, when caring for CPE Colonised or CPE Contact patients.
- If you have close physical contact with CPE Colonised patients use personal protective equipment (gloves and apron when appropriate)
- Additional information and guidance related to CPE are available at www.hse.ie/hcai
- There is expert guidance in place for all hospitals and health services to use when providing care for patients with CPE or CPE contacts. The information is accessible at www.hse.ie/hcai