



## Community Infection Prevention and Control Policy for Care Home settings

# MRGNB including ESBL and CPE (Multi-resistant Gram-negative bacteria including Extended-Spectrum Beta-Lactamase and carbapenemase-producing Enterobacteriaceae)

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MRGNB INCLUDING ESBL AND CPE

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## Contents

## Page

1. Introduction.....	4
2. Key points.....	4
3. Routes of transmission .....	5
4. Treatment.....	5
5. Clearance specimens .....	5
6. Precautions for MRGNB .....	6
7. Environmental cleaning .....	7
8. Referral or transfer to another health or social care provider .....	7
9. Information for residents, family and visitors .....	7
10. Infection Prevention and Control resources, education and training.....	8
11. References .....	8
12. Appendices.....	8
 Appendix 1: Inter-Health and Social Care Infection Control Transfer Form .....	  9

# MARGNB INCLUDING ESBL AND CPE

## MRGNB INCLUDING ESBL AND CPE

### 1. Introduction

The increasing prevalence of antibiotic resistant micro-organisms, especially those with multiple resistance, is an international concern.

Antibiotic resistance makes infections difficult to treat. It may also increase the length of severity of illness, the period of infection, adverse reactions (due to the need to use less safe alternative drugs), length of hospital admission and overall costs.

Many bacteria are normally found in the bowel. Not all are resistant to antibiotics and not all will cause serious illness. Species of bacteria commonly found include *Escherichia coli* (*E. Coli*), Klebsiella, Proteus, Pseudomonas Enterobacter and Acinetobacter. Collectively these bacteria are referred to as Gram-negative bacilli (GNB). These bacteria, under certain circumstances can become resistant to antibiotics and may require infection control management. They are referred to as **Multi-resistant Gram-negative bacteria** (MRGNB).

Some MRGNB contain beta-lactamases (**extended spectrum beta lactamases** or ESBL's) which can destroy/inactivate even broad spectrum antibiotics such as penicillin, trimethoprim, cefuroxime and cefotaxime.

New MRGNB known as CPE (**carbapenemase-producing Enterobacteriaceae**) have recently been identified. These resistant strains of bacteria carry a carbapenemase enzyme that destroys carbapenem antibiotics, the powerful group of antibiotics such as imipenem which is used in hospitals. Until now, these have been the 'last resort' antibiotics medics have relied on when other antibiotics have failed to treat infections.

### 2. Key points

- Gram-negative bacteria (GNB) are commonly found in the gastro-intestinal tract, in water and in soil and can be part of the transient flora carried on the hands of staff and on equipment used in care homes.
- Multi-resistant Gram-negative bacteria (MRGNB) are found most frequently in residents who have received broad spectrum antibiotics and where residents have diminished immunity.
- The bacteria commonly achieve antibiotic resistance by producing an enzyme which can destroy or inactivate broad spectrum antibiotics.

- The genes that carry antibiotic resistance can spread to other bacteria and control of MRGNB requires comprehensive infection control and appropriate antibiotic prescribing.
- MRGNB are likely to be passed on via the faecal/oral route and are usually identified in stool and urine specimens.
- The majority of residents with MRGNB are colonised which means bacteria are present, but they do not have symptoms of infection and antibiotic treatment is not required unless they develop symptoms.
- MRGNB can cause urinary tract infections, pneumonia and surgical site infections.
- Residents who are colonised with MRGNB do not usually pose a risk to healthy people, but may be a risk to those who are vulnerable.

### 3. Routes of transmission

- Direct spread via hands of staff and residents.
- Equipment that has not been appropriately decontaminated.
- Environmental contamination.

Although MRGNB can be spread via equipment, the most common route is by contact with an infected or colonised resident. Therefore, the importance of good hand hygiene before and after direct contact with a resident is essential.

### 4. Treatment

Giving antibiotics to asymptomatic (colonised) residents to clear the organism is not recommended because it is not causing an infection.

Antibiotic treatment should only be given to a resident who has clinical signs of infection.

### 5. Clearance specimens

MRGNB clearance specimens, including faecal samples or swabs for CPE, are not required. Repeat specimens should only be taken if the resident has clinical signs of an infection, e.g. pyrexia, pain on micturition.

## 6. Precautions for MRGNB

### Residents with a MRGNB infection

- Residents with a MRGNB active infection should be isolated until no longer symptomatic, unless they have diarrhoea, when they should be isolated until 48 hours symptom free – refer to the 'Isolation Policy for Care Home settings'.
- During isolation, staff should wear disposable apron and gloves when providing hands on care.
- Hands should be cleaned after removing and disposing of each item of personal protective equipment, e.g. pair of gloves, apron.

### Residents colonised with MRGNB

- Residents colonised with MRGNB do not require isolation.
- Colonisation with MRGNB may be long term, therefore, good hand hygiene practice and standard infection control precautions should be followed by all staff at all times, to reduce the risk of transmission of infection.
- A resident with MRGNB present in their urine who is not catheterised and is continent with no symptoms of a urinary tract infection is very unlikely to present a risk to others.
- Residents can visit communal areas, e.g. dining room, television room and can mix with other residents.
- Hand hygiene is essential after direct contact with a resident, or their surroundings, using either liquid soap and warm running water or alcohol handrub.
- Residents should be encouraged to wash hands or use skin wipes after using the toilet and before meals.
- Disposable apron and gloves should be worn when in contact with body fluids.
- Normal laundry procedures are adequate. However, if laundry is soiled with urine or faeces, it should be treated as infected. Items that are soiled should be washed at the highest temperature the item will withstand – refer to the 'Safe management of linen Policy for Care Home settings'.
- Staff should ensure if the resident has any wounds, they are covered with an appropriate dressing, as advised by a healthcare professional, e.g. GP, Tissue Viability Nurse, Community Nurse.
- No special precautions are required for crockery/cutlery and they should be dealt with in the normal manner.
- Waste contaminated with body fluids should be disposed of as infectious waste - refer to the 'Safe disposal of waste Policy for Care Home settings' for further details.

- Hands should be cleaned after removing and disposing of each item of personal protective equipment, e.g. pair of gloves, apron.
- There is no need to restrict visitors, but they should be advised to wash hands or use alcohol handrub on leaving.
- Residents should not be prevented from visiting day centre, etc., and may socialise outside the care home.
- If a resident requires hospital admission, the hospital staff should be informed of the resident's MRGNB status. This will enable a risk assessment to be undertaken to determine whether the resident should be isolated on admission, see Section 8 below.

## 7. Environmental cleaning

Whilst a resident is isolated due to an MRGNB infection, enhanced cleaning of their room using a bactericidal product effective against MRGNB or a chlorine-based disinfectant solution should be implemented. Refer to the 'Isolation Policy for Care Home settings' and 'Safe management of the Care Environment Policy for Care Home settings'.

## 8. Referral or transfer to another health or social care provider

- Prior to a resident's transfer to and/or from another health and social care facility, an assessment for infection risk must be undertaken. This ensures appropriate placement of the resident.
- Transfer documentation, e.g. an Inter-Health and Social Care Infection Control (IHSCIC) Transfer Form (see Appendix 1) or patient passport, must be completed for all transfers, internal or external and whether the resident presents an infection risk or not. Refer to the 'Patient placement and assessment for infection risk Policy for Care Home settings'.
- There are no special transport requirements.

## 9. Information for residents, family and visitors

Information about the infection should be given to residents and/or family and visitors. Information and factsheets are available to download at [www.infectionpreventioncontrol.co.uk](http://www.infectionpreventioncontrol.co.uk).

## 10. Infection Prevention and Control resources, education and training

The Community Infection Prevention and Control (IPC) Team have produced a wide range of innovative educational and IPC resources designed to assist your Care Home in achieving compliance with *The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance* and CQC registration requirements.

These resources are either free to download from the website or available at a minimal cost covering administration and printing:

- 29 IPC Policy documents for Care Home settings
- 'Preventing Infection Workbook: Guidance for Care Homes'
- 'IPC CQC Inspection Preparation Pack for Care Homes'
- IPC audit tools, posters, leaflets and factsheets
- 'IPC Bulletin for Care Homes'

In addition, we hold educational study events in North Yorkshire and can arrange bespoke training packages and 'Mock IPC CQC Inspections'. Prices vary depending on your requirements and location.

Further information on these high quality evidence-based resources is available at [www.infectionpreventioncontrol.co.uk](http://www.infectionpreventioncontrol.co.uk).

## 11. References

Department of Health (2015) *The Health and Social Care Act 2008: Code of Practice on the Prevention and control of healthcare associated infections*

Department of Health (2007) *Essential Steps to safe, clean care. Reducing healthcare associated infections (HCAI) in primary care trusts, mental health trusts, learning disability organisations, independent healthcare facilities, care homes, hospices, GP practices and ambulance services*

NHS England and NHS Improvement (March 2019) *Standard infection control precautions: national hand hygiene and personal protective equipment policy*

Public Health England (2015) *Toolkit for managing carbapenemase-producing Enterobacteriaceae in non-acute and community settings*

## 12. Appendices

Appendix 1: Inter-Health and Social Care Infection Control Transfer Form



**Inter-Health and Social Care Infection Control Transfer Form**

The *Health and Social Care Act 2008: Code of Practice on the prevention and control of Infection and related guidance* (Department of Health 2015), states that “suitable accurate information on infections be provided to any person concerned with providing further support or nursing/medical care in a timely fashion”. This form has been developed to help you share information with other health and social care providers. The form should accompany the patient and, where possible, a copy filed in the patient’s notes.

Patient Name: ..... Address: ..... NHS number: ..... Date of birth: ..... Patient's current location: .....	GP Name and contact details:												
Receiving facility, e.g., hospital ward, hospice: ..... If transferred by ambulance, the service has been notified: Yes <input type="checkbox"/> N/A <input type="checkbox"/>													
Is the patient an infection risk: Please tick most appropriate box and give details of the confirmed or suspected organism <input type="checkbox"/> Confirmed risk      Organisms: ..... <input type="checkbox"/> Suspected risk      Organisms: ..... <input type="checkbox"/> No known risk													
Patient exposed to others with infection, e.g., D&V, Influenza: Yes <input type="checkbox"/> No <input type="checkbox"/> Unaware <input type="checkbox"/> If yes, please state: .....													
If the patient has a diarrhoeal illness, please indicate bowel history for last week, if known, (based on Bristol Stool Form Scale): ..... Is diarrhoea thought to be of an infectious nature? Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/>													
<b>Relevant specimen</b> results if available <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 25%;">Specimen:</td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td>Date:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Result:</td> <td></td> <td></td> <td></td> </tr> </table> Treatment information:		Specimen:				Date:				Result:			
Specimen:													
Date:													
Result:													
Is the patient aware of their diagnosis/risk of infection? Yes <input type="checkbox"/> No <input type="checkbox"/>													
Does the patient require isolation? Yes <input type="checkbox"/> No <input type="checkbox"/>													
If the patient requires isolation, phone the receiving facility in advance: Actioned <input type="checkbox"/> N/A <input type="checkbox"/>													
Additional information:													
Name of staff member completing form: ..... Print name: ..... Contact No: .....      Date: .....													