CH 12

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Westmorland & Furness Council

Community Infection Prevention and Control Policy for Care Home settings

MRGNB, including CPE

(Multi-resistant Gram-negative bacteria, including carbapenemase-producing Enterobacterales)

MRGNB, INCLUDING CPE

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CH 12

MRGNB, INCLUDING CPE

Please note that the internet version is the only version that is maintained. Any printed copies should, therefore, be viewed as 'uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

This Policy has been adopted by:

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Signed: 

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MRGNB, INCLUDING CPE (MULTI-RESISTANT GRAM-NEGATIVE BACTERIA, INCLUDING CARBAPENEMASE-PRODUCING ENTEROBACTERALES)

1. Introduction

Antibiotic resistance is the ability of microorganisms to resist the effects of antibiotics normally used to treat the infections they cause. The increasing prevalence of antibiotic resistant microorganisms, 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.

Numerous 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 in the bowel include *Escherichia coli* (*E. Coli*), Klebsiella, Proteus, Pseudomonas Enterobacter and Acinetobacter. Collectively these bacteria are referred to as gram-negative bacteria (GNB) and are part of our 'good bacteria'. 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).

Groups of MRGNB known as carbapenemase-producing Enterobacterales (CPE) have been identified over recent years. 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 relied on when other antibiotics have failed to treat infections.

2. Key points

- GNB are commonly found in the gastrointestinal tract, in water and in soil, and can be transmitted by contaminated hands and equipment used in care homes.
- 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 contaminated 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, 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.

6. Precautions for MRGNB

Residents with a MRGNB infection or diarrhoea

- Residents with an active MRGNB infection or diarrhoea should be isolated using ‘Transmission based precautions’ (TBPs) until no longer symptomatic.

If they have diarrhoea, 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 personal protective equipment (PPE).

Residents colonised with MRGNB

- Residents colonised with MRGNB do not require isolation. However, if they have diarrhoea, they should be isolated until 48 hours symptom free.
- Colonisation with MRGNB may be long term, therefore, good hand hygiene practice and 'Standard infection control precautions' (SICPs) should be followed by all staff at all times, to reduce the risk of transmission. Refer to the 'SICPs and TBPs Policy for Care Home settings'.
- 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. They can also socialise outside the care home without restrictions.
- 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 their 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, including uniforms and workwear 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, including sharps Policy for Care Home settings' for further details.
- Hands should be cleaned after removing and disposing of PPE.
- There is no need to restrict visitors, but they should be advised to wash their

hands or use alcohol handrub on leaving.

- 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 active MRGNB infection or diarrhoea, enhanced cleaning of their room using a general purpose neutral detergent followed by a chlorine-based disinfectant solution, or equivalent product as per manufacturer's instructions. Alternatively, a combined '2 in 1' detergent and chlorine-based disinfectant solution can be used. A fresh solution must be made up to the correct concentration every 24 hours and the solution container must be labelled with the date and time of mixing.

The room of a resident who has had an active MRGNB infection or diarrhoea should be deep cleaned at the end of the isolation period.

Refer to the 'Isolation Policy for Care Home settings' and 'Safe management of the care environment Policy for Care Home settings'.

For residents who are colonised with MRGNB, their room can be cleaned with a general purpose neutral detergent and warm water, a disinfectant is not required.

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

- Prior to a resident's transfer to and/or from another health or 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.

10. Infection Prevention and Control resources, education and training

See Appendix 2 for the 'MRGNB, including CPE: Quick reference guide'.

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 resources* and CQC registration requirements.

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

- 30 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 IPC educational training events in North Yorkshire.

Further information on these high quality evidence-based resources is available at www.infectionpreventioncontrol.co.uk.

11. References

Department of Health and Social Care (Updated December 2022) *Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance*

NHS England (2022, updated April 2023) *National infection prevention and control manual (NIPCM) for England*

Public Health England (2020) *Framework of actions to contain carbapenemase-producing Enterobacterales* *www.gov.uk/government/publications/actions-to-contain-carbapenemase-producing-enterobacterales-cpe*

Public Health England (2017) *Gram-negative bacteria: prevention, surveillance and epidemiology* *www.gov.uk/guidance/gram-negative-bacteria-prevention-surveillance-and-epidemiology#diagnosis-prevention-and-management*

12. Appendices

Appendix 1: Inter-health and social care infection control transfer form

Appendix 2: MRGNB, including CPE: Quick reference guide

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NHS

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 and Social Care, updated December 2022), states that "The provision of suitable accurate information on infections to service users, their visitors and any person concerned with providing further social care 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 service user and, where possible, a copy filed in their notes.

Service user name:..... Address: ..... NHS number: ..... Date of birth: ..... Service user'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 ☐ N/A ☐

Is the service user an infection risk:
Please tick most appropriate box and give details of the confirmed or suspected organism

☐ Confirmed risk Organisms: .....

☐ Suspected risk Organisms: .....

☐ No known risk

Service user exposed to others with infection, e.g. diarrhoea and/or vomiting, influenza: Yes ☐ No ☐ Unaware ☐

If yes, please state: .....

If the service user 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 ☐ No ☐ Unknown ☐

Relevant specimen results if available

Specimen:				
Date:				
Result:				

Treatment information:

Is the service user aware of their diagnosis/risk of infection? Yes ☐ No ☐

Does the service user require isolation? Yes ☐ No ☐

If the service user requires isolation, phone the receiving facility in advance: Actioned ☐ N/A ☐

Additional information:

Name of staff member completing form: .....

Print name: .....

Contact No: ..... Date .....

Community Infection Prevention and Control, Harrogate and District NHS Foundation Trust
www.infectionpreventioncontrol.co.uk

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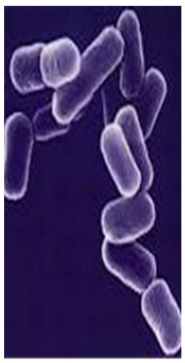
NHS

MRGNB, including CPE: Quick reference guide



What are MRGNB?

- GNB (Gram-negative bacteria) live in the bowel as part of our normal, healthy bacteria. Under certain circumstances they can become resistant to antibiotics, which makes them difficult to treat; these are called MRGNB.
- MRGNB are found most frequently to be colonising residents, but they can cause urinary tract, wound and chest infections.
- MRGNB are transmitted via contaminated hands (staff and residents), inadequately cleaned equipment and from environmental contamination.

IPC precautions for residents with MRGNB, including CPE

Does the resident with MRGNB, including CPE, have signs of an active MRGNB infection and/or diarrhoea?

YES

- Isolate resident using contact TBPs until no longer symptomatic and/or 48 hours without diarrhoea.
- Use disposable apron and gloves when providing hands on care.
- Clean hands using either liquid soap and warm running water or alcohol handrub after removing PPE.

NO

- Apply SICPs at all times.
- Resident can socialise in and outside the care home without restriction.
- Resident hand hygiene is essential after using the toilet and before meals.

Prior to transferring resident to and/or from another health or social care facility, complete transfer documentation.

For further information, please refer to the full Policy which can be found at www.infectionpreventioncontrol.co.uk/care-homes/policies/

Community Infection Prevention and Control
Harrogate and District NHS Foundation Trust
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