INFECTION PREVENTION AND CONTROL

Multi- Resistant Gram Negative Bacilli
Including E.coli and
Acinetobacter Species Policy
Policy Title: Multi-Resistant Gram Negative Bacilli- Including E.coli and Acinetobacter species.

Executive Summary: This policy details the actions to be followed in managing patients with Multi-Resistant Gram Negative Bacilli- Including E.coli and Acinetobacter species.

Supersedes: V2 2009

Description of Amendment(s): Updated to reflect National guidance and organisational changes

This policy will impact on: All staff employed by the Trust including contractors

Financial Implications: Increased use of Personal Protective equipment although this would be within current Directorate ordering

Policy Area: Infection Prevention and Control Trust Wide
Document Reference: ECT002626

Version Number: V3
Effective Date: December 2016

Issued By: Infection Prevention and Control Group
Review Date: December 2019

Authors: Associate Specialist Practitioner, Lead Nurse Infection Prevention and Control
Impact Assessment Date: December 2016

APPROVAL RECORD

<table>
<thead>
<tr>
<th>Committees / Group</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation</td>
<td>December 2016</td>
</tr>
<tr>
<td>Infection Prevention and Control Group</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved and Ratified</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection Prevention and Control</td>
<td>December 2016</td>
</tr>
<tr>
<td>Committee Director of Nursing Quality</td>
<td></td>
</tr>
<tr>
<td>and Performance, DIPC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Received for information</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate SQS Groups</td>
<td>December 2016</td>
</tr>
<tr>
<td>Contents</td>
<td>page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Scope of Policy</td>
<td>4</td>
</tr>
<tr>
<td>Organisational Responsibilities</td>
<td>4</td>
</tr>
<tr>
<td>Definitions</td>
<td>5</td>
</tr>
<tr>
<td>Key Points</td>
<td>6</td>
</tr>
<tr>
<td>Infection Prevention and Control</td>
<td>6</td>
</tr>
<tr>
<td>Contact screening</td>
<td>8</td>
</tr>
<tr>
<td>Training</td>
<td>8</td>
</tr>
<tr>
<td>Monitoring Compliance</td>
<td>8</td>
</tr>
<tr>
<td>References</td>
<td>9</td>
</tr>
<tr>
<td>Equality Impact Assessment</td>
<td>10</td>
</tr>
</tbody>
</table>
1 Introduction
This policy details the management of patients infected with multidrug resistant Gram negative bacteria.

Gram negative bacilli (GNB) are a group of bacteria that includes coliforms, pseudomonas and Acinetobacter, E.coli, Klebsiella, Proteus, Enterobacter and other similar species. Some strains of these bacteria can be classed as being multiple resistant (or multi-resistant) because they are resistant to two or more classes of broad spectrum antibiotics.

This is especially important with regard to patients undergoing intensive care, chemotherapy or complex medical and surgical procedures, as GNB have the ability to cause opportunistic infections such as sepsis, wound infections and UTI's.

The ability of these organisms to acquire resistance to many antibiotic agents can have significant implications in both treating and caring for patients in both the acute healthcare setting and the community.

It is essential that strains of GNB that have become resistant to multiple drugs are controlled effectively to prevent the spread of potentially untreatable infections.

2 Scope of Policy
This policy ensures that all staff within East Cheshire NHS Trust (ECNHST) take prompt action to implementing general principles of infection prevention and control when managing patient identified (or suspected of having) a GNB including E coli and Acinetobacter species.

During normal working hours advice must be sought from the Infection Prevention and Control Team (IPCT) on actions to be implemented, including isolating patients.

Out of hours advice must be sought from the on call Microbiologist by an SPR or above. The clinical area must collate the relevant information from the patient's medical notes and any other microbiological information. Please note that clinical care must not be compromised and discharge planning and services should continue, for example Dieticians, Therapies, Integrated discharge team and Nursing home assessments can be undertaken.

3 Organisational Responsibilities
• The Chief Executive has overall responsibility for ensuring that the Trust has appropriate policies in place and that robust monitoring arrangements are in place.

• The Director of Nursing, Performance and Quality and Director of Infection Prevention and Control (DIPC) has the designated responsibility for ensuring that appropriate arrangements to ensure robust Infection Prevention and Control within the Trust with support of the Lead Nurse Infection Prevention and Control and the Infection Prevention and Control Doctor.

In addition the postholder(s) hold executive responsibility to the Trust board for Infection Prevention and Control within the DIPC role including multidrug resistant organism management and will ensure actions required to minimise the risk to patients, staff and the general public are implemented.
• The Infection Prevention and Control Team (IPCT) will have responsibility for:
  – Ensuring the policy is implemented and monitored across the Trust; in addition they will ensure compliance with any national initiatives or directives
  – Providing support and advice to clinical areas on the detection of GNB ensuring that all controls are in place to minimise risk of spread to other patients, staff, and visitors
  – Advising on screening patients with regard to GNB
  – Investigating suspected incidence of cross contamination
  – Providing and supporting a sustainable programme of audit and education across the health economy.

• Antimicrobial Stewardship Group (ASG) has responsibility for:
  – Ensuring that the hospital has access to an appropriate antibiotic formulary
  – Providing evidence based on guidance for prescribing antimicrobial drugs
  – Monitoring antimicrobial use to ensure it is appropriate and proportionate

• All Employees must ensure they are compliant with Infection Prevention and Control Policies training and standards which are monitored through the appraisal process.

4. Definitions

<table>
<thead>
<tr>
<th>Extended spectrum beta lactamases (ESBL)</th>
<th>Enzymes produced by some GNB which destroy and confer resistance to “extended spectrum” antibiotics such as cephalosporins and penicillins - two of the most widely used antibiotics. Most commonly found in urine, ESBL can be spread from one person to another on contaminated hands or by poor practice in urinary catheter care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbapenemase / Carbapenemase producers (CPE)</td>
<td>Enzymes produce by some GNB’s which confer resistance to Carbapenem antibiotics such as Meropenem. Carbapenem antibiotics are invaluable at treating multi drug resistant GNB including ESBL. An emerging Carbapenemase producing bacteria is Carbapenemase-producing Enterobacteriaceae (CPE).</td>
</tr>
<tr>
<td>Multi-resistant Acinetobacter baumannii</td>
<td>Acinetobacter are common environmental organisms that live in water and damp conditions but can survive in dust. Capable of surviving long periods in the environment and is naturally relatively resistant to usual cleaning methods. Frequently colonised on human skin. Intrinsically resistant to most commonly available antibiotics.</td>
</tr>
<tr>
<td>Multidrug resistant Pseudomonas</td>
<td>Species found in moist environments such as ventilators and suction catheters. Contaminated fluids provide a reservoir of pseudomonads which can provide a source of organism for the direct colonisation and infection of patients. Intrinsically resistant to many antibiotics and multidrug resistant strains can be very difficult to treat. Invasive disease can be associated with high mortality.</td>
</tr>
<tr>
<td>Vancomycin Resistant Enterococci (VRE)</td>
<td>Organism that colonise the bowel and may be implicated in urinary tract infections, peritonitis, cholecystitis and endocarditis. VRE are enterococci that are resistant to the antibiotic Vancomycin. Spread through direct contact via...</td>
</tr>
</tbody>
</table>
5. **Key Points**

5.1 **GNB’s** are commonly found in the gastro-intestinal tract, in water and soil. In hospitalised patients, colonisation of the gastro-intestinal tract and oropharynx with GNBs is common. Any moist environment is favourable to their survival.

5.2 As with all Health Care Acquired Infections (HCAI), Acinetobacter species and other GNBs can be part of the transient flora on the hands of health care workers, on equipment and the patient’s environment.

5.3 Multi-resistant bacteria are seen more frequently in areas that have high usage of broad spectrum antibiotics and where patients have diminished immunity e.g. critical care and oncology units.

5.4 GNBs may achieve antibiotic resistance to a large range of different antibiotics even if they have been exposed to only one or two antibiotics.

5.5 The genes that confer antibiotic resistance can spread to other bacteria.

5.6 Multi-resistant GNBs have been implicated in outbreaks of infection in intensive care units (ITU), neonatal and oncology units, among other places. They can cause a range of infections including urinary tract infections, pseudomonas, surgical site infections and meningitis.

6. **Infection Prevention and Control**

A patient may be colonised rather than infected with multi-resistant bacteria e.g. faecal carriage of multi-resistant GNBs. Colonisation of a patient with an organism will not cause them harm but action may be necessary to prevent further spread.

6.1 **Isolation** (See table below). If a side room is not available, advice must be sought from the IPCT ext. 1597, bleep 3034 or the Consultant Microbiologist via Switch board. Out of hours advice can be sought from the on call Microbiologist via the Site Manager.

In circumstances of an outbreak, patients may be cohort nursed together. This decision must be made in conjunction with the IPCT.

| **Extended spectrum beta lactamases (ESBL)** | A decision on isolation for a patient who is found to have an ESBL infection risk assessment requires a risk assessment. This must be carried out in conjunction with IPCT (or site managers out of hours), taking into consideration any indwelling devices the patient may have e.g. urinary catheters. |
| **Carbapenemase / Carbapenemase producers (CPE)** | A patient found to have CPE always requires a side room. On all subsequent admissions to hospital, a patient with a history of CPE must always be admitted into a side room. |
| **Multi-resistant Acinetobacter** | Patient should be nursed in a side room. Due to limited availability of side rooms a risk assessment may be |
baumannii | required to establish if cohort nursing is practical
---|---
**Multi drug resistant Pseudomonas** | Patient should be nursed in a side room. Due to limited availability of side rooms a risk assessment may be required to establish if cohort nursing is practical

**Vancomycin Resistant Enterococci (VRE)** | A patient found to have VRE always requires a side room. On all subsequent admissions to hospital, a patient with a history of VRE must always be admitted into a side room.

This list is not exhaustive and should be used in conjunction with the Isolation Policy.

**6.2 PPE:** Universal precautions and appropriate personal protective equipment (PPE) must be worn when delivering clinical care and when in contact with the patients’ environment.

PPE includes aprons and gloves, face masks must be worn where a patient has a respiratory infection and aerosol generating procedures are being performed. Eye protection must be worn in circumstances where there is a risk of body fluid splashes.

**6.3 Hand hygiene:** All staff that have had contact with patients must employ good hand decontamination practices. Hand decontamination can be achieved with hand sanitizer or liquid soap and water.

**6.4 Antibiotic treatment:** Antibiotic treatment of infection due to multi-resistant GNBs should be based on the susceptibility testing and clinical situation. Advice can be sought from the on-call consultant microbiologist.

**6.5 Visitors:** Should be asked to decontaminate their hands on entering and leaving the patients environment, and it must be requested that they do not visit other areas or patients within the hospital.

Visitors who are undertaking clinical care with a patient with a confirmed or suspected multi-resistant GNB must be advised and educated on the use of PPE and handwashing in order to protect themselves. **It is not required for visitors to wear PPE if they are just visiting and not providing any clinical care.**

**6.6 Clinical waste:** All clinical waste must be disposed of in the appropriate waste stream. Orange bags must be used for the disposal of waste from a patient with a suspected or confirmed multi-resistant GNB.

**6.7 Linen:** Contaminated linen from a patient with a suspected or confirmed multi-resistant GNB must be disposed of appropriately – in a red alginate bag and then into a white bag.

**6.8 Decontamination of equipment:** Equipment used must be decontaminated appropriately after use. Equipment used on the wards must be cleaned using Clinell Universal wipes or Tristel solution depending on the organism. More information can be found in the Infection Prevention and Control Cleaning Policy.

**6.9 Patient transfers:** If the patient needs to transfer to another department, e.g. X-ray, the department must be notified of the infection control restrictions that are in place. Where possible and practical, the patient must be seen last on a list, unless clinically not appropriate, to minimise the risk of transmission to other patients. Appropriate
cleaning must occur once a patient leaves the department visited. Transfer of patients to other wards is not preferable, unless there is a clinical need for the patient.

If a patient requires a transfer to another hospital, the infection risk must be appropriately communicated to the receiving Trust and to the transport system that will be used to transfer the patient. Failure to do so will result in a greater risk of transmission of infection.

7 Contact screening
The consultant microbiologist and the IPCT will consider if any patients are to be considered a ‘contact’ of a patient with a confirmed multi-resistant GNB and complete a risk assessment of these patients. A decision will be made as to whether any patients require contact screening. If more than one patient is identified as having a positive multi-resistant GNB, then the IPCT and consultant microbiologist will consider whether this constitutes an outbreak and suggest appropriate action as detailed in the Outbreak Policy.

8 Training
All clinical staff must undertake annual Trust infection control mandatory training which incorporates management of Outbreaks. Specific Infection Prevention and Control training to support clinical practice will be delivered by the Infection Prevention and Control Team.

9 Monitoring compliance
The infection prevention and control team will review and investigate incidents reported relating to this policy and audit departments compliance with Outbreak requirements. This will include audit of time to isolate patients utilising the CRIS bed management system and the Infection Prevention and Control ICNET patient record system.

Failure to follow the guidance in this policy will be reviewed as part of the Post Infection Review process and consideration given if this constitutes a Lapse in Care contributing to the further spread of infection.

Non-compliance with the policy will be managed via the appropriate HR process; this will be supported by the Director of Nursing, Performance and Quality, DIPC, and the Medical Director

This policy should be read in Conjunction (as a minimum) with the following Policies which are available on the trust infonet infection control page http://nww.eastcheshire.nhs.uk/infectionscontrol/default.aspx

- Isolation Policy
- Hand Hygiene Policy
- Specific Microorganisms e.g. MRSA, VRE, CPE.
- Standard Precautions Policy
- Outbreak Policy
- Cleaning Policy
References


Equality Analysis (Impact assessment)
Please START this assessment BEFORE writing your policy, procedure, proposal, strategy or service so that you can identify any adverse impacts and include action to mitigate these in your finished policy, procedure, proposal, strategy or service. **Use it to help you develop fair and equal services.**

Eg. If there is an impact on Deaf people, then include in the policy how Deaf people will have equal access.

1. What is being assessed?

<table>
<thead>
<tr>
<th>Outbreak Policy</th>
</tr>
</thead>
</table>

Details of person responsible for completing the assessment:

- **Name:** Anita Swaine
- **Position:** Lead Nurse Infection Prevention and Control
- **Team/service:** Infection Prevention and Control

State main purpose or aim of the policy, procedure, proposal, strategy or service:

(usually the first paragraph of what you are writing. Also include details of legislation, guidance, regulations etc which have shaped or informed the document)

This policy details the management of patients infected with multidrug resistant Gram negative bacteria. Gram negative bacilli (GNB) are a group of bacteria that includes coliforms, pseudomonas and Acinetobacter, E.coli, Klebsiella, Proteus, Enterobacter and other similar species.

2. Consideration of Data and Research

To carry out the equality analysis you will need to consider information about the people who use the service and the staff that provide it. **Think about the information below** – how does this apply to your policy, procedure, proposal, strategy or service

2.1 Give details of RELEVANT information available that gives you an understanding of who will be affected by this document

Cheshire East (CE) covers Eastern Cheshire CCG and South Cheshire CCG. Cheshire West & Chester (CWAC) covers Vale Royal CCG and Cheshire West CCG. In 2011, 370,100 people resided in CE and 329,608 people resided in CWAC.

**Age:** East Cheshire and South Cheshire CCG’s serve a predominantly older population than the national average, with 19.3% aged over 65 (71,400 people) and 2.6% aged over 85 (9,700 people).

Vale Royal CCGs registered population in general has a younger age profile compared to the CWAC average, with 14% aged over 65 (14,561 people) and 2% aged over 85 (2,111 people).

Since the 2001 census the number of over 65s has increased by 26% compared with 20% nationally. The number of over 85s has increased by 35% compared with 24% nationally.
Race
- In 2011, 93.6% of CE residents, and 94.7% of CWAC residents were White British
- 5.1% of CE residents, and 4.9% of CWAC residents were born outside the UK – Poland and India being the most common
- 3% of CE households have members for whom English is not the main language (11,103 people) and 1.2% of CWAC households have no people for whom English is their main language.

Gender
- In 2011, c. 49% of the population in both CE and CWAC were male and 51% female. For CE, the assumption from national figures is that 20 per 100,000 are likely to be transgender and for CWAC 1,500 transgender people will be living in the CWAC area.

Disability
- In 2011, 7.9% of the population in CE and 8.7% in CWAC had a long term health problem or disability
- In CE, there are c.4500 people aged 65+ with dementia, and c.1430 aged 65+ with dementia in CWAC. 1 in 20 people over 65 has a form of dementia
- Over 10 million (c. 1 in 6) people in the UK have a degree of hearing impairment or deafness.
- C. 2 million people in the UK have visual impairment, of these around 365,000 are registered as blind or partially sighted.
- In CE, it is estimated that around 7000 people have learning disabilities and 6500 people in CWAC.
- Mental health – 1 in 4 will have mental health problems at some time in their lives.

Sexual Orientation
- CE - In 2011, the lesbian, gay, bisexual and transgender (LGBT) population in CE was estimated at 18,700, based on assumptions that 5-7% of the population are likely to be lesbian, gay or bisexual and 20 per 100,000 are likely to be transgender (The Lesbian & Gay Foundation).
- CWAC - In 2011, the LGBT population in CWAC is unknown, but in 2010 there were c. 20,000 LGB people in the area and as many as 1,500 transgender people residing in CWAC.

Religion/Belief
The proportion of CE people classing themselves as Christian has fallen from 80.3% in 2001 to 68.9% In 2011 and in CWAC a similar picture from 80.7% to 70.1%, the proportion saying they had no religion doubled in both areas from around 11%-22%.

- Christian: 68.9% of Cheshire East and 70.1% of Cheshire West & Chester
- Sikh: 0.07% of Cheshire East and 0.1% of Cheshire West & Chester
- Buddhist: 0.24% of Cheshire East and 0.2% of Cheshire West & Chester
- Hindu: 0.36% of Cheshire East and 0.2% of Cheshire West & Chester
- Jewish: 0.16% of Cheshire East and 0.1% of Cheshire West & Chester
- Muslim: 0.66% of Cheshire East and 0.5% of Cheshire West & Chester
- Other: 0.29% of Cheshire East and 0.3% of Cheshire West & Chester
- None: 22.69%of Cheshire East and 22.0% of Cheshire West & Chester
- Not stated: 6.66% of Cheshire East and 6.5% of Cheshire West & Chester
**Carers:**
- In 2011, nearly 11% (40,000) of the population in CE are unpaid carers and just over 11% (37,000) of the population in CWAC.

**2.2 Evidence of complaints on grounds of discrimination:** (Are there any complaints or concerns raised either from patients or staff (grievance) relating to the policy, procedure, proposal, strategy or service or its effects on different groups?)

None

**2.3 Does the information gathered from 2.1 – 2.3 indicate any negative impact as a result of this document?**

None

**3. Assessment of Impact**

Now that you have looked at the purpose, etc. of the policy, procedure, proposal, strategy or service (part 1) and looked at the data and research you have (part 2), this section asks you to assess the impact of the policy, procedure, proposal, strategy or service on each of the strands listed below.

**RACE:**
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, racial groups differently?

Yes □ No √

**Explain your response:** For any patient whose first language is not English, as information needs to be provided and understood, staff will follow the trust interpretation policy.

___________________________________________________________________

**GENDER (INCLUDING TRANSGENDER):**
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, different gender groups differently?

Yes □ No √

**Explain your response:** No impacts identified.

___________________________________________________________________

**DISABILITY**
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, disabled people differently?

Yes √ No □

**Explain your response:** Explanations may need to be given to patients with limited understanding about why they are isolated and Personal Protective equipment for example masks are being worn as they may find this anxiety provoking.
AGE:
From the evidence available does the policy, procedure, proposal, strategy or service, affect, or have the potential to affect, age groups differently?
Yes ☐ No √

Explain your response: No impacts identified

LESBIAN, GAY, BISEXUAL:
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, lesbian, gay or bisexual groups differently?
Yes ☐ No √

Explain your response: No impacts identified.

RELIGION/BELIEF:
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, religious belief groups differently?
Yes ☐ No √

Explain your response: No impacts identified.

CARERS:
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect, carers differently?
Yes ☐ No √

Explain your response: Clinical staff need to ensure that carers understand the restrictions in place and how they can support the patient.

OTHER: EG Pregnant women, people in civil partnerships, human rights issues.
From the evidence available does the policy, procedure, proposal, strategy or service affect, or have the potential to affect any other groups differently?
Yes ☐ No √

Explain your response: No other impacts identified.

4. Safeguarding Assessment - CHILDREN

a. Is there a direct or indirect impact upon children? Yes ☐ No √

b. If yes please describe the nature and level of the impact (consideration to be given to all children; children in a specific group or area, or individual children. As well as consideration of impact now or in the future; competing / conflicting impact between different groups of children and young people):

c. If no please describe why there is considered to be no impact / significant impact on children. This policy applies the same as for adult patients. If any concerns are noted with any child these would be escalated via the appropriate
channels. information would be provided to relatives to ensure they understand the need for screening and isolation

5. Relevant consultation
Having identified key groups, how have you consulted with them to find out their views and that the made sure that the policy, procedure, proposal, strategy or service will affect them in the way that you intend? Have you spoken to staff groups, charities, national organisations etc?

This policy has been ratified by the ICC which includes a member of the public. This policy is based on the precautions required by staff to prevent the transmission of microorganisms and protect patients from the risk of Health Care Associated Infection.

6. Date completed: 28/12/2016               Review Date: 28/11/2019

7. Any actions identified:
Have you identified any work which you will need to do in the future to ensure that the document has no adverse impact?

<table>
<thead>
<tr>
<th>Action</th>
<th>Lead</th>
<th>Date to be Achieved</th>
</tr>
</thead>
</table>

8. Approval:
At this point, you should forward the template to the Trust Equality and Diversity Lead lynbailey@nhs.net

Approved by Trust Equality and Diversity Lead:

Date: 28.12.16