Glycopeptide Resistant Enterococci (GRE) policy

Version 2

September 2014
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Introduction
Enterococci are Gram positive bacteria that are commonly found in the bowel of humans and animals. They rarely cause infection. They are occasionally responsible for urinary tract infections (UTIs), often related to the use of indwelling catheters, and more rarely cholangitis, endocarditis and gut-related sepsis. Two main types are associated with human diseases: *Enterococcus faecalis* and *Enterococcus faecium*. *Enterococcus faecium* is more common to cause bacteremic infections.

Glycopeptide resistant enterococci (GRE) are resistant to vancomycin, usually teicoplanin and often other antibiotics. During mid 1980s enterococci resistant to vancomycin emerged and therefore often termed as Vancomycin Resistant Enterococci (VRE). GRE usually tend to cause colonisation rather than infection but when they cause serious infection, they are difficult to treat because of less therapeutic option.

Hospital outbreaks of GRE have been reported mainly from renal dialysis, transplant, haematology and intensive care units. Risk factors for colonisation and infection with GRE include previous antibiotic therapy (especially with glycopeptides, cephalosporins, or carbapenems), immunosupression, prolonged hospital stay, and admission to intensive care, renal, haematology or liver units. Once gut colonisation has occurred, carriage can be prolonged and there is no effective means of eradication.

1. **Purpose of this Policy**
The purpose of this document is to:
- To establish infection prevention and control procedures for suspected and confirmed cases of GRE.
- To ensure that healthcare workers are aware of the actions and precautions required to minimise the risk of GRE transmission between patients, staff and visitors.

2. **Scope**
This policy applies to all staff working in the Royal Cornwall Hospitals NHS Trust.

3. **Definitions / Glossary**
**Enterococci** – gram positive bacteria normally residing in the human gut.

**Glycopeptides** – these are antibiotics which inhibit cell wall synthesis. Current drugs in this class include vancomycin and teicoplanin.

**Resistant organism** – one that will not be inhibited or killed by a normal dosage of an antimicrobial agent.
4. **Ownership and Responsibilities**

4.1. **Chief Executive**
- Ensure that infection prevention and control is a core part of clinical governance and patient safety programmes
- Promote compliance with infection prevention and control policies in order to ensure low levels of healthcare associated infections
- Awareness of legal responsibilities to identify, assess and control risk of infection

4.2. **Director of Infection Prevention and Control**
- Oversee infection control policies and their implementation
- Responsible for infection prevention and control team
- Report directly to the Chief Executive and Trust Board
- Challenge inappropriate hygiene practice and antibiotic prescribing
- Assess impact of plans/policies on infection prevention and control
- Member of clinical governance and patient safety structures

4.3. **Infection Prevention and Control Team**
- Provide advice and education on infection control special precautions for a patient who is found to have GRE.
- To assess the risk of infection
- Refer to microbiologist where appropriate
- Promote good practice and challenge poor practice
- Assist in root cause analysis of GRE bacteraemia and outbreaks
- Review and update GRE policy

4.4. **Matrons/Ward Sisters/Charge Nurses**
- Must establish a cleanliness culture across their units and promote compliance with infection control guidelines
- Encourage a culture of good hand hygiene practice and lead by example
- Ensure compliance with this policy
- Must ensure that resources are available for healthcare workers to undertake effective standard and isolation precautions.
- Provide training in the use of this policy as relevant to work situations

4.5. **Consultants**
- Must promote compliance with infection control guidelines
- Lead root cause analysis of GRE bacteraemia and outbreaks
- Encourage a culture of good hand hygiene practice and lead by example
- Ensure compliance with this policy
4.6. All Healthcare Staff
- Must be familiar with and adhere to this policy to reduce the risk of cross-infection
- Promote good practice and challenge poor practice
- Refer to the infection prevention and control team if unable to follow the policy guidelines
- Keep their patient informed of their GRE status and provide information as necessary
- Contribute to and participate in root cause analysis of GRE bacteraemia and outbreaks

4.7. The Hospital Infection Prevention and Control Committee
The Hospital Infection Prevention and Control Committee is responsible for:
- Approving this Policy

5. Standards and Practice

5.1. Identification of a patient with GRE
GRE is diagnosed from a clinical specimen sent to the Microbiology laboratory. It is most often found in blood, wound swabs or urine samples.

Routine screening is not normally performed to detect GRE unless specifically advised by IPAC team or microbiologist.

Wards will be informed of a positive result by Microbiology and/or the IPAC team. A newly diagnosed patient will be “flagged” on the PAS/Maxim clinical alert system by the IPAC team. On subsequent admissions the clinical alert will also appear on the inside cover of the patients notes as well as on the PAS/Maxim system.

It is the responsibility of admitting staff to ensure that the clinical alerts are checked. If the patient has previously been positive for GRE then the IPAC team must be informed at the earliest opportunity.

The IPAC team will conduct a risk assessment and advise on the infection prevention and control measures.

The Medical Microbiologists will provide advice on the antibiotic treatment of GRE infection.

5.2. Key infection control principles for the management of patients with GRE
It is important to control the emergence and spread of GRE for the following reasons:
- the limited therapeutic alternatives
- the increasingly high risk in-patient population
• the potential for transfer of glycopeptide resistance to more pathogenic bacteria such as S. aureus (including MRSA)

5.2.1. Isolation of patient
A patient found to be GRE positive must be isolated in a single room at the first available opportunity.

**High priority isolation** must be carried out for all new GRE positive patients in the current admission. Patients who are known positive in previous admissions and require admission to a high risk areas i.e. ITU, HDU, haematology, oncology and renal unit, must be isolated. Previously positive patients who require admission to a low risk area will also require **high priority isolation** if they have:
* Diarrhoea
* Patient with enterostomies
* Catherised patients or patients with urinary incontinence with GRE colonization of Urinary tract

In other care settings a patient with rectal carriage of GRE (known positive) may be of less risk to other patients if he/she does not have diarrhoea, is able to get up to the toilet and has clean personal habits. This category of patient should also be isolated at earliest opportunity. Where an isolation room is unavailable, these patients should receive contact precautions in a bay after discussion with the IPAC team. The decision to isolate urgently or not will be based on whether the patient has diarrhoea, catheter or systemic infection and the vulnerability to infection of the other patients in that clinical area.

When isolation is not possible all attempts should be made to avoid any contact of GRE positive patients with patients having **risk factors** to develop GRE colonisation or infection this would include:
* Patients on broad spectrum antibiotics,
* Immunosuppressed patients
* Patients with a central venous catheter,
* Patients requiring renal dialysis,
* Patients who have had recent transplant or implant surgery.

<table>
<thead>
<tr>
<th>High priority isolation: The following patients must be isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td>New GRE positive</td>
</tr>
<tr>
<td>Known GRE positive in any previous admissions</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Glycopeptide Resistant Enterococci (GRE) Policy

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5.2.2. Use of Chlorhexidine skin washes

There is evidence to suggest that chlorhexidine body wash may be effective in preventing carriage of GRE, and possibly bloodstream infections in high risk groups. Therefore it is recommended that patients who are admitted to the Critical Care Unit and Haematology/oncology in-patient ward are prescribed daily chlorhexidine body washes for the duration of their hospital admission. It is important to note that reports of anaphylaxis have been reported following the use of chlorhexidine therefore patient sensitivity should be assessed prior to use.

5.2.3. Personal Protective Equipment (PPE) and Hand hygiene

Effective hand decontamination is the most important measure to prevent and control the spread of GRE. Staff should use standard precautions after contact with urine or faeces to prevent spread. Staff must put on gloves when entering the isolation room and wear a plastic apron if substantial contact with the patient or environmental surfaces is anticipated. PPE must be removed followed by hand washing before coming out of the isolation room. Hands must be decontaminated between each patient contact whether or not the patient is known to be colonised with GRE. Alcohol gel is effective on GRE, so should be used in all potential situations as recommended in the Standard Precautions policy. Hand decontamination must be reinforced in the outbreak setting.

5.2.4. Environmental cleaning

During the care of a patient with GRE, the clinical environment may become heavily contaminated and can persists for months if not properly cleaned and decontaminated.

Daily enhanced cleaning:
The environment and equipment used on patients must be cleaned after use with Hypochlorite based cleaning products. GRE can survive for long time on phones, pagers, stethoscopes, BP cuffs, key boards and other high touch surfaces and special care should be taken to clean and decontaminate all items while caring a GRE positive patient.

Terminal cleaning:
After discharge/transfer of GRE positive patient, isolation room (or the whole bay if not isolated) must be deep cleaned, including curtain change, in an attempt to reduce environmental contamination.

5.2.5. Disposal of linen and waste

- Appropriate personal protective equipment must be used and hand decontamination must always be performed after disposal of waste and removal of gloves.

- Care must be taken not to shake linen or hold it close to uniform.

- All used linen must be placed in a hot water soluble bag (refer to linen policy)
• All waste must be disposed of appropriately as clinical waste.

5.2.6. Transfer of patients with GRE
If a patient with GRE needs to have an investigation in another department e.g. X Ray, the department they are visiting should be informed so that the staff can take appropriate precautions. Application of Standard Precautions with particular attention to hand hygiene is sufficient.

   Equipment should be cleaned using hypochlorite based cleaning products

   Portering staff do not need to wear protective clothing whilst transporting patients. They only need to wear protective clothing if there is any possibility of having close contact with the patient and they must decontaminate their hands after removal.

5.3. Visitors and relatives
Visitors/relatives should be encouraged to visit patients. Gloves and aprons are not required, unless they are helping with nursing care or visiting other patients in the hospital on the same day. However, visitors must decontaminate their hand on leaving the ward.

5.4. Discharge of patient
It is the responsibility of the medical staff caring for the patient to ensure that the receiving hospital/healthcare setting is aware of the GRE diagnosis.

   The ward staff must ensure that the receiving hospital/healthcare setting is aware of the precautions that have been in place on initial referral.

   N.B. Studies have shown that rectal colonisation with GRE should not be a barrier to acceptance of a patient in a nursing home as long as nursing home staff understand basic infection prevention and control practices.

5.5. Screening and decolonisation
GRE carriage is usually rare and routine screening is not normally performed unless specifically advised by IPAC team or microbiologist. There is no effective decolonisation for GRE. Once positive, GRE can be carried in the gut for an indefinite period.

   Regular Chlorhexidine body wash is effective to reduce the skin colonisation and is recommended in high risk areas.
5.6. Discontinuation of Infection Control Special Precautions
Carriage of GRE can be prolonged and clearance of GRE is difficult to establish. Infection control special precautions must not be discontinued without the approval of the IPAC team.

5.7. Increase in the number of cases of GRE
If two or more cases of colonisation or infection with GRE occur on the same ward within one month the Infection control Team will:
- Visit the ward to inspect standards of cleanliness and, if necessary, undertake environmental sampling.
- Isolates will be sent for typing if available.
- Ensure patients who have extra-intestinal colonisation or infection with GRE are isolated.
- Remind ward staff of the importance of careful and regular hand decontamination.
- Request daily enhanced cleaning of the whole ward.

6. Dissemination and Implementation
This policy will be implemented via the following routes:
- The policy will be included in the Trust’s Document Library
- The policy will be circulated to all Link Practitioners, Ward Sisters/Charge Nurses and Matrons

Each Division is responsible for the full implementation of this policy and will ensure it is accessible to all staff.

7. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Compliance with Standards and Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Director of Infection Prevention and Control (DIPC)</td>
</tr>
<tr>
<td>Tool</td>
<td>In the event of a case of GRE bacteraemia occurring RCA to be undertaken by ward/clinical team</td>
</tr>
<tr>
<td>Frequency</td>
<td>As each case occurs</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>RCA reviewed at the HCAI review meeting</td>
</tr>
<tr>
<td></td>
<td>Actions to reviewed at the Infection Prevention and Control Steering Group.</td>
</tr>
<tr>
<td></td>
<td>Divisional Management Team to report back on progress with actions at Hospital Infection Prevention and Control Committee.</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Hospital Infection Prevention and Control Committee to monitor progress on actions</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Required changes to practice will be identified and actioned within a month. The ward manager/matron will take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders</td>
</tr>
</tbody>
</table>

8. **Updating and Review**
This policy will be reviewed at least every 3 years by the Infection Prevention and Control department, or more frequently if considered necessary.

9. **Equality and Diversity**
This document complies with the Royal Cornwall Hospitals NHS Trust Equality and Diversity Statement.

10. **Equality Impact Assessment**
The Initial Equality Impact Assessment Screening Form is at Appendix 2.
### Appendix 1: Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Glycopeptide Resistant Enterococci (GRE) Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>3 November 2014</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>3 November 2014</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>3 November 2017</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Infection Prevention and Control Department</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 254969</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>These guidelines provide the information required to prevent the spread of GRE.</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Glycopeptides Resistance Enterococcus</td>
</tr>
<tr>
<td>Target Audience:</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Executive Director Nursing, Midwifery, Therapies and AHP’s</td>
</tr>
<tr>
<td>Date revised:</td>
<td>1 May 2014</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Glycopeptide Resistant Enterococci (GRE) Policy V1</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Hospital Infection Prevention and Control Committee</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Louise Dickinson</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval:</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical / Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>CQC Outcome 8</td>
</tr>
</tbody>
</table>
Related Documents:


Training Need Identified? To be determined by Ward Managers
# Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.03.11</td>
<td>1.1</td>
<td>New Policy</td>
<td>Dr Prithviraj Chakrabarti</td>
</tr>
<tr>
<td>02.06.11</td>
<td>1.2</td>
<td>Formatted to new revised policy template</td>
<td>Louise Dickinson</td>
</tr>
<tr>
<td>01.05.14</td>
<td>2</td>
<td>Policy reviewed, Formatted to new template. Inclusion of the use of chlorhexidine washes in high risk groups</td>
<td>Louise Dickinson</td>
</tr>
</tbody>
</table>

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**All or part of this document can be released under the Freedom of Information Act 2000**

**This document is to be retained for 10 years from the date of expiry.**

**This document is only valid on the day of printing**

**Controlled Document**

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.
### Appendix 2. Initial Equality Impact Assessment Screening Form

<table>
<thead>
<tr>
<th>Name of service, strategy, policy or project (hereafter referred to as <em>policy</em>) to be assessed: Glycopeptide Resistant Enterococci (GRE) policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area: Infection Prevention and Control</td>
</tr>
<tr>
<td>Name of individual completing assessment: Louise Dickinson</td>
</tr>
<tr>
<td><strong>1. Policy Aim</strong>*</td>
</tr>
<tr>
<td><strong>2. Policy Objectives</strong>*</td>
</tr>
<tr>
<td><strong>3. Policy – intended Outcomes</strong>*</td>
</tr>
<tr>
<td><strong>4. How will you measure the outcome?</strong></td>
</tr>
<tr>
<td><strong>5. Who is intended to benefit from the Policy?</strong></td>
</tr>
<tr>
<td><strong>6a. Is consultation required with the workforce, equality groups, local interest groups etc. around this policy?</strong></td>
</tr>
<tr>
<td><strong>b. If yes, have these groups been consulted?</strong></td>
</tr>
</tbody>
</table>
| **c. Please list any groups who have been consulted about this procedure.** | Infection Prevention and Control Steering Group  
Hospital Infection Prevention and Control Committee |
7. The Impact
Please complete the following table.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>✔</td>
<td></td>
<td>Infections may affect any age</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>✔</td>
<td></td>
<td>Infections may affect any gender</td>
</tr>
<tr>
<td>Race / Ethnic communities / groups</td>
<td>✔</td>
<td></td>
<td>Infections may affect any groups.</td>
</tr>
<tr>
<td>Disability - Learning disability, physical disability, sensory impairment and mental health problems</td>
<td>✔</td>
<td></td>
<td>Infections may affect all regardless of disability</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>✔</td>
<td></td>
<td>Infections may affect any religion</td>
</tr>
<tr>
<td>Marriage and civil partnership</td>
<td>✔</td>
<td></td>
<td>Infections may affect all people – married or otherwise</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>✔</td>
<td></td>
<td>Infections may affect any pregnant woman. Pregnant members of staff may need to take additional precautions depending on the organism involved.</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>✔</td>
<td></td>
<td>Infections may affect all regardless of sexual orientation</td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. **or**
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended. Yes ✔ No

9. If you are not recommending a Full Impact assessment please explain why.

None of the equality strands have been identified in the initial impact assessment.

Signature of policy developer / lead manager / director

Louise Dickinson

Date of completion and submission

2nd May 2015

Names and signatures of members carrying out the Screening Assessment

1. Louise Dickinson

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust’s web site.

Signed: Louise Dickinson

Date: 2nd December 2014