Vancomycin/Glycopeptide Resistant Enterococci (VRE/GRE) Guidelines

<table>
<thead>
<tr>
<th>Post holder responsible for Procedural Document</th>
<th>Lead Nurse/Director Infection Prevention &amp; Control</th>
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<tbody>
<tr>
<td>Author of Guideline</td>
<td>Judy Potter</td>
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<td>Division/ Department responsible for Procedural Document</td>
<td>Specialist Services, Infection Prevention &amp; Control</td>
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<tr>
<td>Contact details</td>
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Please specify standard/criterion numbers and tick ✔ other boxes as appropriate

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Other (please specify): |

Note: This policy has been assessed for any equality, diversity or human rights implications

Controlled document
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# Vancomycin/Glycopeptide Resistant Enterococci (VRE/GRE) Guidelines

Ratified by: Infection Control Operational Group: 19th November 2015

Review date: May 2018

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<th>Date</th>
<th>Author (Title not name)</th>
<th>Reason</th>
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<td>7.0</td>
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<td>Lead Nurse</td>
<td>Routine revision</td>
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**Associated Policies:**

N/A

**In consultation with and date:**

Infection Prevention & Control Team: 27/08/15
Consultant Microbiologists: 27/08/15
Infection Control Operational Group: 19th November 2015

**Review Date (Within 3 years):**

May 2018

**Contact for Review:**

Lead Nurse, Infection Prevention & Control

**Executive Lead Signature:**

(Only applicable for Strategies & Policies)

N/A
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1. **INTRODUCTION**

1.1 Glycopeptide-Resistant Enterococci (GRE) are enterococci that are resistant to the glycopeptide group of antibiotics (vancomycin and teicoplanin). In 1986 the first detection of GRE occurred in the United Kingdom and subsequently in other countries (PHE, 2013). GRE are sometimes referred to as VRE (Vancomycin-Resistant Enterococcus).

1.2 *Enterococci* or faecal *Streptococci* colonise the gut of most healthy people. There are many different species of *Enterococci* but only a small number have an ability to cause infection in humans. Infection occurs more commonly in immunocompromised patients and is often associated with the urinary tract or wounds but can also cause bacteraemia and endocarditis. More than 95% of VRE infections are due to *Enterococcus faecium* or *faecalis*. Other species include *Enterococcus gallinarum* and *caseliflavus*.

2. **SIGNIFICANCE**

2.1 Resistance to glycopeptides reduces the options for antibiotic treatment where clinical infection is evident. Resistance in *Enterococci* can transfer to other organisms. For example, the first detected clinical case of Vancomycin Resistant *Staphylococcus aureus* (VRSA) occurred in the USA in 2002. This was caused by vancomycin resistant genes transferring to Meticillin Resistant *Staphylococcus aureus* (MRSA). May 2013 saw the first case of VRSA in Europe. This occurred in a patient in Portugal (Lancet, 2013). The risk of VRSA and potentially untreatable *Staphylococcus aureus* infections is an important reason for controlling the spread of VRE.

3. **PATIENT RISK GROUPS**

3.1 Currently surveillance cultures in the Royal Devon and Exeter NHS Foundation Trust (hereafter known as the Trust) are only conducted in high risk groups, e.g. for neutropenic inpatients. Therefore unless isolated from specimens such as blood cultures or wound swabs, the presence of VRE may go unnoticed. Despite its detection in an at risk population, at present VRE appears to be sporadic rather than endemic in the Trust.

3.2 The emergence of VRE as a clinical problem can often be linked to the convergence of multiple risk factors. Prior and prolonged antibiotic use is an important risk factor. Widespread use of broad spectrum antibiotics, especially cephalosporins is a feature of outbreaks of VRE. Glycopeptide (vancomycin and teicoplanin) use is particularly associated with VRE emergence.

3.3 Other risk factors for acquiring hospital infection with VRE include significant immuno-suppression, admission to a haematology, renal or intensive care unit and prolonged or multiple hospital admissions. Transfer of patients from hospitals with a high rate of VRE reporting may also present a problem.

4. **PREVENTION**

4.1 Prevention of VRE requires recognised risks to be minimised or avoided.

4.2 Appropriate antibiotic prescribing is essential. Cephalosporins should be avoided where possible, especially in high risk areas. Vancomycin use must be controlled. Vancomycin can be used as a first line agent with caution and according to current
treatment guidelines for treating patients with *Clostridium difficile* diarrhoea or colitis as many of the risk factors for VRE exist in these patients.

4.3 As with other organisms, good infection control practice and hygiene are the cornerstone of prevention. This includes appropriate surveillance and isolation of known VRE patients in high risk areas.

5. TRANSMISSION

5.1 Within a hospital setting transmission is by contact. This usually occurs via the unwashed hands of healthcare workers following contact with colonised or infected patients, their equipment or their environment.

6. IDENTIFICATION

6.1 As colonisation is more common than infection, careful consideration is required when interpreting positive microbiology results. When VRE is isolated from a clinical specimen the following screening of the patient is advised. This should be done whether infection or colonisation is suspected. In the case of infection the screening should take place prior to commencement of antibiotics. This is done to minimise the risk of false negative screening results due to antibiotic therapy. If this is not possible then screening can take place a minimum of 48hrs post antibiotic completion.

- Stool sample (or, if unavailable, rectal swab)
- Wound swabs
- Central vascular catheter sites
- Catheter specimen of urine

6.2 If an outbreak of VRE occurs the Infection Prevention and Control Team (IPCT) will advise on the screening of any contacts. The above specimens should also be taken if contact screening is requested.

7. PATIENT TREATMENT AND ONGOING MANAGEMENT

7.1 Patients colonised with VRE (bacteria are present but have no symptoms of infection) do not need treatment. Patients who are infected should receive appropriate antimicrobial therapy.

7.2 However successful treatment of infection does not always indicate clearance of VRE from the body and colonisation can continue. Therefore the following screening is recommended:

- First screen: Obtain swabs/specimens as listed above a minimum of 48 hours after antibiotic treatment has ceased.
- Second screen: If 1st screen results are negative then obtain second screen at least one week after the initial screen.
- Third screen: If 2nd screen results are negative then obtain third screen at least a week after previous screen.

7.3 Patients can be considered clear if carriage has not been detected in three consecutive screens. If it is established that a patient has stool carriage for VRE, there is little value in attempting to identify clearance through screening in the short term. Stool carriage can persist for months or years, and therefore patients who are stool positive should be managed as detailed in section 9 whenever they are
admitted to hospital. On subsequent admission a stool sample can be submitted for VRE screening and if negative the process of clearance screening can commence.

8. **PATIENT INFORMATION**

8.1 To supplement verbal information given to patients regarding their treatment and potential isolation, a patient leaflet has been produced and is available from the Trust. If the patient/family have further questions, the Infection Prevention and Control Team (IPCT) can be contacted.

9. **INFECTION CONTROL MEASURES**

9.1 **Isolation**

9.1.1 Isolation in a single room is essential, with en suite facilities if available. Cohort nursing may be advised by the IPCT in the event of an outbreak.

9.1.2 Source isolation precautions should be initiated. Gloves and aprons must be worn by staff for direct patient contact and cleaning the environment. Protective clothing must be removed prior to leaving the room. It is unnecessary to wear protective clothing for activities that do not involve significant patient or environmental contact, e.g. giving oral medication. Hands must be cleansed immediately after glove removal, in between procedures on the same patient and before exiting the isolation room. In addition, use alcohol gel to hands after leaving the room. Keep the door closed.

9.2 **Maintaining Standards of Care**

9.2.1 It is important to remember that control measures do not compromise standards of care or the need for urgent specialist care. The patient’s overall needs must take precedence.

9.3 **Visits to Other Departments**

9.3.1 Patients can undergo investigations in all departments, provided the department has been informed in advance. Staff within the department should practise standard infection control precautions. Equipment should be decontaminated, in accordance with the decontamination policy, before use on the next patient.

9.4 **Mobilisation**

9.4.1 If isolated in a single room, the patient can leave the room to allow mobilisation in an area away from the ward, e.g. main corridor. This does not mean that the patient can wander freely around the ward where close contact with other vulnerable patients is possible. The distinction must be explained carefully to patients who may find it confusing.

9.5 **Personal Hygiene**

9.5.1 If en suite facilities are not available, patients may use communal facilities but these must be terminally cleaned after use. If patients are leaving an isolation room for this purpose, they must be advised this does not mean they can move freely around the ward.
9.6 Decontamination of Equipment/Environment

9.6.1 To minimise the risk of cross infection via the environment, attention to decontamination is crucial. The room and any patient equipment must be cleaned routinely on a daily basis (as per decontamination policy and procedures) during the patient's stay. On transfer or discharge the room must be cleaned according to the terminal cleaning procedure.

9.7 Transfer/Admission of Patients with VRE

9.7.1 If a patient is to be transferred to another ward or hospital, the receiving clinical staff should be informed. Advice can be sought from the IPCT if required. If a patient who has had VRE on a previous admission is readmitted it is likely that the patient is still colonised. Contact IPCT for more information.

9.8 Transporting by Ambulance or Car

9.8.1 If their clinical condition allows, patients with VRE can be transported in an ambulance with other patients as long as open wounds are covered, they are continent of urine and faeces and the ambulance crew maintains standard infection control precautions.

9.8.2 Likewise, outpatients can be transported in cars without concern for the driver or subsequent passengers, as long as the patient is continent, and any open wounds covered.

10. REFERENCES

PHE 2013 Glycopeptide-Resistant Enterococci (GRE) - Frequently Asked Questions
Available at http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/EnterococciSpeciesAndGRE/GeneralInformation/

European Centre for Disease Prevention and Control. Antimicrobial resistance surveillance in Europe.2011

First case of infection with vancomycin-resistant Staphylococcus aureus in Europe Lancet Volume 382, No. 9888 p205 20 July 2013
Available at http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)61219-2/fulltext?rss%3Dyes
APPENDIX 1: EQUALITY IMPACT ASSESSMENT TOOL

Name of document | Vancomycin/Glycopeptide Resistant Enterococci (VRE/GRE) Guidelines
Division/Directorate and service area | Trust-wide
Name, job title and contact details of person completing the assessment | Judy Potter, Lead Nurse/Director Infection Prevention and Control
Date completed: | 11.09.15

The purpose of this tool is to:
- identify the equality issues related to a policy, procedure or strategy
- summarise the work done during the development of the document to reduce negative impacts or to maximise benefit
- highlight unresolved issues with the policy/procedure/strategy which cannot be removed but which will be monitored, and set out how this will be done.

1. What is the main purpose of this document?
   To provide a framework for treatment and management of patients with VRE/GRE

2. Who does it mainly affect? (Please insert an “x” as appropriate:)
   Carers ☐ Staff ☐ Patients ☒ Other (please specify)

3. Who might the policy have a ‘differential’ effect on, considering the “protected characteristics” below? (By differential we mean, for example that a policy may have a noticeably more positive or negative impact on a particular group e.g. it may be more beneficial for women than for men)
   Please insert an “x” in the appropriate box (x)

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4. Apart from those with protected characteristics, which other groups in society might this document be particularly relevant to... (e.g. those affected by homelessness, bariatric patients, end of life patients, those with carers etc.)?

None

5. Do you think the document meets our human rights obligations?  ☒

Feel free to expand on any human rights considerations in question 6 below.

A quick guide to human rights:

- **Fairness** – how have you made sure it treat everyone justly?
- **Respect** – how have you made sure it respects everyone as a person?
- **Equality** – how does it give everyone an equal chance to get whatever it is offering?
- **Dignity** – have you made sure it treats everyone with dignity?
- **Autonomy** – Does it enable people to make decisions for themselves?

6. Looking back at questions 3, 4 and 5, can you summarise what has been done during the production of this document and your consultation process to support our equality / human rights / inclusion commitments?

   Please give a brief summary- identifying:
   1.) I consulted with the Infection Control Operational Group

7. If you have noted any ‘missed opportunities’, or perhaps noted that there remains some concern about a potentially negative impact please note this below and how this will be monitored/addressed.

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<td>Group that will be responsible for ensuring this carried out:</td>
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