

GLYCOPEPTIDE RESISTANT ENTEROCOCCI (GRE)	Clinical Guideline Register No: 08028 Status: Public
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1.0 Purpose

- 1.1 Glycopeptide Resistant Enterococcus (GRE) is a bacterium which has developed resistance to the glycopeptide antibiotics including vancomycin and teicoplanin. GRE infections usually affect the most vulnerable of patients and can easily spread from patient to patient, leading to outbreaks of infection. Previously enterococci were always sensitive to the glycopeptides. Recently however, there has been a large increase in Glycopeptide Resistant Enterococci (GRE).
- 1.2 GRE are extremely difficult to treat. GRE lives in the bowel and research indicates that eradication attempts have not been successful or worthwhile.
- 1.3 There is a risk that if these organisms are allowed to spread they can transfer their glycopeptide resistance to organisms like MRSA, making these even more difficult to treat.
- 1.4 It is vital to prevent the spread of GRE as resistant organisms in general have significant morbidity and mortality and are difficult to treat. The purpose of this guideline is to outline the precautions required to reduce the spread of GRE within the healthcare setting and reduce the risk of infection.
- 1.5 Procedures within this guideline are based on the report of a combined working party commissioned by the Department of Health (see references). Whilst this guideline aims to cover most situations and eventualities, there will be exceptions which may require discussion with the Infection Prevention and Control Team (IPT)
- 1.6 To comply with the Health and Social Care Act 2008, Trusts must have and adhere to policies designed for the individual's care which will help to prevent and control infections.

2.0 Definition of GRE – Glycopeptide Resistant Enterococci

- 2.1 The two most common species of Enterococci are *Enterococcus faecalis* and *Enterococcus faecium* these are Gram positive cocci which normally colonise the gastro intestinal tract. In vulnerable patients they can cause infection e.g. urinary tract infection, wound infection, intravenous line infection, septicaemia, endocarditis, etc. These infections can usually be treated with amoxicillin or a glycopeptide (teicoplanin or vancomycin).
- 2.2 When they become resistant to the glycopeptide antibiotics e.g. vancomycin or teicoplanin they become known as GRE.

3.0 Scope

- 3.1 This policy applies to all patients who have been assessed as colonised or infected with this potentially infectious micro organism. This includes children and neonates.

4.0 Equality and Diversity

4.1 Mid Essex Hospital Services NHS Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.

5.0 Responsibilities

5.1 Managing Director

- The Managing Director has overall responsibility for ensuring that the Trust has the necessary management systems in place to enable the effective implementation of this policy and overall responsibility for the health and safety of staff, patients and visitors.

5.2 The Chief Medical Officer

- The Chief Medical Officer has strategic responsibility for ensuring systems are in place to promote awareness of this policy amongst medical staff and to provide support in adhering to practice as described.

5.3 The Director of Nursing

- The Director of Nursing has strategic responsibility for ensuring systems are in place to facilitate the nursing staff's awareness of this policy and appropriate support is given to enable staff in delivering practice as outlined in this policy.

5.4 Director of Infection Prevention and Control (DIPC)

- The DIPC will have operational responsibility for the effective implementation of this policy.
- The DIPC will give expert advice around the care and liaise with the medical teams around positive results and antibiotic treatment if required.
- The DIPC will liaise with the patient's GP, if required when a result becomes available post patient discharge.
- The DIPC will include the number of GRE cases in blood cultures in the monthly and annual DIPC report.
- In the event of an outbreak (two or more cases epidemiologically linked) the DIPC will chair the outbreak meetings and determine appropriate actions to be taken.
- The DIPC will include details of all outbreaks in the monthly and annual DIPC report.
- Liaise with outside agencies i.e. Public Health England where required.

5.5 Infection Prevention and Control Team (IPT)

- The IPT will ensure all staff are made aware of this policy and have access to the GRE patient information leaflet.
- The IPT will inform the ward staff and medical team of a positive result.
- The IPT will offer expert advice in order to prioritise the use of single rooms / cohort nursing and regarding the standard infection prevention precautions required.
- The IPT will support medical and nursing staff in explaining the result to the patient if necessary.
- The IPT will arrange for a positive result to be sent to the patient's GP if the result becomes available post patient discharge.
- The IPT will investigate promptly if there is more than one case on the same ward / department to determine whether the cases are epidemiologically linked. All the necessary information will be fed back to the DIPC.

5.6 All staff

- Will comply with this policy.
- Will liaise with the IPT if advice and support is needed regarding: patient placement, the infection prevention precautions required or explaining the result to the patient.
- The team caring for the patient will explain the result to the patient and ensure a patient information leaflet is provided if appropriate.
- All staff have a responsibility to ensure that infection prevention is embedded into their everyday practice and applied consistently at all times
- Medical staff will comply with the antimicrobial prescribing policy

6.0 Route of Transmission of GRE Bacteria

6.1 The use of Glycopeptides and other antibiotics e.g. quinolones, encourages the emergence of GRE. Antibiotics therefore must be prescribed judiciously to prevent GRE from spreading.

6.2 GRE may be spread in 2 main ways:

- **The hands** - GRE can spread on the hands of hospital and community staff. Hand washing therefore is an extremely important means of controlling infection.
- **The environment** - The environment that comes into close contact with patients may also be contaminated and serve as a source of contamination of staff hands. Thorough

cleaning of the environment is therefore another essential measure. During outbreaks GRE has been found on staff uniforms, bed linen, beds, commodes, floors, blood pressure cuffs, stethoscopes, locker tops, chairs and in bathrooms, etc.

7.0 At Risk Groups

7.1 Patients who are at risk of becoming colonised or infected with GRE are those who:

- Have a history of previous hospitalisations
- Have had recent antibiotic therapy and/or multiple antibiotic therapies
- Have underlying disease especially hepato-biliary disease
- Have permanent in-dwelling invasive devices e.g. percutaneous endoscopic gastroscopy tubes (PEGS) or urinary catheters.
- Are highly dependent patients (i.e. those in ITU or HDU)

8.0 Infections caused by GRE

8.1 In vulnerable patients GRE can cause a variety of infections e.g. urinary tract infection, wound infection, invasive line infection, septicemia and endocarditis.

9.0 Screening of Patients

9.1 Screening swabs only to be taken on the advice of the Infection Prevention Team.

9.2 Clinical details, recent and current antibiotic history must be written or entered on the request form.

9.3 One request form can be used for all specimens. Ensure “GRE Screen” is written on the form.

9.4 Sites to be screened in both known positive and contact patients include: -

- Rectal swab
- Perineal swab
- Mouth swab
- Nose swab should be taken from contact patients.
- In patients known to be carrying GRE it is also worth taking wound swabs, leg ulcer swabs, and swabs of invasive devices as well as catheter specimens of urine if the patient is catheterised.

10.0 Treatment of GRE Infections

10.1 Faecal carriage of GRE may persist for months or years. Chronic carriers and those subject to frequent hospital admissions are a potential source of cross infection.

10.2 While eradication attempts have not been proven to be successful or worthwhile, it may be necessary to treat a patient’s clinical infection with GRE.

At this stage advice should be sought from the on call Consultant Microbiologist. The use of Glycopeptides and other antibiotics e.g. quinolones, encourages the emergence of GRE. Antibiotics therefore must be prescribed judiciously to prevent GRE from spreading.

10.3 Prescriptions to be administered according to the Trust Antibiotic Guidelines or specialist microbiology advice.

11.0 Preventing the Spread

11.1 Standard infection prevention precautions such as hand hygiene, appropriate use of personal protective equipment (gloves and aprons), environmental cleaning, and restriction of antibiotics, have been shown to be effective in preventing transmission in outbreak situations.

11.2 Hand Hygiene

- Hand washing with soap and water is effective; however alcohol hand rubs are a quick and accessible alternative when hands are not visibly soiled and are very effective at killing GRE when used correctly
- It is vital to perform hand hygiene before and after patient contact regardless of glove usage and other protective measures
- Hands must be cleansed with alcohol hand rub immediately after leaving the isolation room where applicable.

11.3 Isolation

- The decision to isolate a patient should be based on the infection risk and routes of transmission should be considered. Patients with GRE and diarrhoea or incontinence are at higher risk of spreading GRE. The Isolation policy should be used to assist with prioritisation of side room allocation. The Infection Prevention Team will also advise. This assessment affecting the decision regarding isolation must be documented in the nursing notes.
- When isolation is advised this should be in a single room with ensuite facilities. If a toilet is not available a commode must be designated for the sole use of that patient. It must be thoroughly cleaned after each use. A standard isolation poster must be placed on the outer door of the single room to inform staff and visitors of the precautions to take.
- If more than one patient is infected these may be cohort nursed, under the guidance of the Infection Prevention Team.

11.4 Duration of isolation

- Isolation should be continued until the patient is discharged or a patient with a higher infection risk requires isolation.

- If the patient is isolated due to diarrhoea then they may be moved out of isolation 72 hours after their symptoms have settled

11.5 **Protective clothing**

- Disposable gloves and aprons should be worn where there is contact with bodily fluids and when handling contaminated items e.g. dressings.
- Visitors only need to wear gloves and aprons if carrying out physical care such as bed bathing or toileting.
- For standard isolation, protective clothing is not required if entry to the room merely involves delivering meals, drugs or simply talking to the patient. However, hand hygiene should still be undertaken on entry and exit of the room because environmental surfaces including door handles could be contaminated.
- Prior to exit from the room, aprons and gloves must be removed and placed in a clinical waste bin followed by thorough hand decontamination. Alcohol hand rub must be applied after leaving the room.

11.6 **Disposal of faeces/urine**

- Excreta can be disposed of directly into the toilet adjoining the room. If no toilet is available, a designated commode must be used.

11.7 **Disposal of clinical waste**

- Orange clinical waste bags must be used to dispose of potentially infectious waste

11.8 **Cutlery/crockery**

There are no special precautions regarding cutlery and crockery.

11.9 **Medical equipment**

- Patients must use designated equipment, which must be cleaned and disinfected on discharge. If unable to designate for the sole use of the patient, then equipment must be cleaned according to the decontamination policy prior to re-use on another patient.
- Always ensure that the manufacturer's instructions are followed.

11.10 **Room cleaning**

- Rooms must be cleaned daily, paying special attention to dust-collecting areas and horizontal surfaces according to the cleaning policy and isolation policy.

11.12 **Linen**

- Use a water-soluble red bag then put into the laundry's white bag.

12.0 Education of Patients, Relatives and Visitors

- 12.1 In cases where the patient is isolated, nursing staff must inform the patient of the reason for the precautions being taken.
- 12.2 Patients and relatives will require reassurance that although carriage of the organisms may persist for a long period of time and may reappear in apparently “cured” patients, there is no risk to healthy relatives or others outside the hospital.
- 12.3 Visitors should be discouraged from having contact with other patients in the ward or hospital, or if visiting more than one patient, to visit the affected patient last.
- 12.4 Visitors need only wear protective clothing if they are going to be involved in ‘hands on care’ as above.
- 12.5 Visitors should be instructed to decontaminate their hands on entry and leaving the room.

13.0 Discharge from Hospital

- 13.1 The presence of GRE must not impede discharge of the patient to their own home or alternative care facilities. However if the patient is discharged to alternative care facilities then the presence of GRE must be communicated to the GP and the admitting facility in the discharge summary. If the patient is discharged to another hospital then the Infection Prevention Team of the receiving hospital should be informed. In general, GRE neither presents a risk to healthy people in the community or to patients in residential or nursing homes who do not have catheters, wounds or other lesions.
- 13.2 Following discharge or transfer, a terminal clean of the room is required according to the cleaning policy. The curtains must also be changed.

14.0 Ambulance Transportation

- 14.1 Notify the Ambulance Service in advance of the patient’s GRE status. Ambulance services have their own Infection Control protocols for the transportation of patients. Only patients who are considered to be dispersers of GRE (patients with skin disorders, incontinence of urine and/or diarrhoea) will require a separate ambulance.
- 14.2 Most GRE patients can be transported with other patients.

15.0 Outbreaks

- 15.1 If there is an outbreak (two or more cases epidemiology linked), the Infection Prevention and Control Team will advise on action to be taken and the need for screening.

16.0 Patient Death

- 16.1 The infection prevention precautions taken when laying out the dead patient should be the same as in life. Any lesions are to be covered with impermeable dressings. Body bags are **not necessary** unless the patient has some other condition e.g. Hepatitis B / C or HIV etc.
- 16.2 No special Infection prevention precautions other than those normally used by mortuary personnel and undertakers are required.

17.0 Surveillance

- 17.1 The DIPC will include the number of GRE cases in blood cultures in the monthly and annual DIPC report.

18.0 Audit and Monitoring

- 18.1 Compliance with this policy will be monitored as part of the Infection Prevention and Control audit programme and results reported in the divisional scorecards which are monitored at The Infection Prevention and Control Group. Directorates are required to develop localised action plans as appropriate.
- 18.2 The Infection Prevention and Control Group reviews the Infection Prevention and Control policies.
- 18.3 Any untoward incidents around GRE would be recorded in the monthly DIPC report and shared across the organisation as appropriate.

19.0 Implementation and Communication

- 19.1 This policy will be issued to the following staff groups to disseminate and ensure their staff are made aware of the policy:
- Ward Sisters/Charge Nurses
 - Departmental Managers - issue to relevant nursing staff within their department
 - Bed Management Team / Service Co-ordinators
 - Heads of Nursing & Director of Operations
 - Lead Nurses
 - Head of Hotel Services
 - Consultants – to issue to relevant medical staff
 - Occupational health
- 19.2 The guideline will also be issued via the Staff Focus and made available on the Intranet and a hard copy available in the Ward/Department Infection Prevention Policy folder.

20.0 References

Department of Health (2015) The Health and Social Care Act 2008 Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance

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