York Teaching Hospital NHS
NHS Foundation Trust

Infection Prevention Guidelines Control and Prevention of Extended Spectrum Beta Lactamase (ESBL)

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Version:	3 (previously policy)
Approved by:	Infection Prevention Team
Date approved:	August 2015
Review date:	August 2018

Version History Log

This area should detail the version history for this document. It should detail the key elements of the changes to the versions.

Version	Date Approved	Version Author	Status & Location	Details of Significant Changes
1	Sept 11	Jane Balderson	IPT	First version
2	-	L. Horton-Fawkes	IPT	Change of door notice and the term ‘standard & contact’ to ‘enhanced’
3	Aug 2015	Jane Balderson	IPT	Converted to guidelines Updated to latest PHE advice

Contents

1) Introduction

These guidelines outline the management of patients with Extended-Spectrum Beta-Lactamase and the infection control measures needed to minimise the spread of these organisms that are in addition to standard precautions.

Extended-Spectrum Beta-Lactamase producing organisms (ESBL) are coliforms that produce an enzyme (Beta-lactamase), which renders the organism resistant to some antibiotics.

2) Scope

These guidelines apply to all staff working or attending patients in clinical areas.

3) Detail – see appendices

ESBL can cause infection, particularly urinary infections. These can sometimes progress to cause infections such as ESBL bacteraemia, which can be more serious. As ESBL are resistant to many antibiotics the infections caused by them can be more difficult to treat. Specific guidelines for control and prevention of ESBL are therefore justified.

ESBL are part of the faecal flora therefore spread is likely to occur via the faecal-oral route. Faecally contaminated equipment and poor management of urinary catheters are examples of possible spread.

The main sites of colonisation or infection are urine, faeces, wounds, skin (moist areas) and sputum.

4) Accountability

All healthcare professionals and volunteers are responsible and accountable to the Chief Executive for the correct implementation of these guidelines.

Professional staff are accountable according to their professional code of conduct.

5) Dissemination and Implementation

These guidelines will be disseminated through the Consultants; Clinical Directors; Directorate Manager; Matrons; and Ward Managers via emails and meetings.

6) Monitoring and Auditing

Minimum Requirements	Monitoring	Responsibility for monitoring	Frequency	Reported to
a. Isolation	IPT documentation records. CPD whiteboard records. IPN Clinical Support Visits	IPT with Systems and Network	Daily review of side room use Monthly review of isolation compliance for MRSA alerted patients	Directorates where issues raised
a. Antimicrobial prescribing	Antimicrobial formulary audits by Antimicrobial Stewardship Team	Antimicrobial Stewardship Team	Monthly	Clinical teams

7) Consultation

The Stakeholder is the Hospital Infection Prevention Committee

8) Supportive Evidence

https://www.gov.uk/government/publications/extended-spectrum-beta-lactamases-esbls-treatment-prevention-surveillance/extended-spectrum-beta-lactamases-esbls-faqs

Trust Isolation Policy - http://staffroom.ydh.yha.com/policies-and-procedures/clinical/infection-prevention/isolation-procedures/view

9) Appendices

Appendix 1 – Clinical practice guidance
Appendix 2 – Management guidelines
Appendix 3 – Enhanced precautions door notice

Appendix 1 – Clinical practice guidance

Prevention and control (where the patient is known to have ESBL colonisation or infection)

- Clinical staff will be informed by Infection Prevention Team

- Effective hand hygiene in accordance to the World Health Organisation 5 moments for hand hygiene is of paramount importance in reducing spread. Disinfectant hand gel is very effective against ESBL.

- If the patient is known to have ESBL antibiotic choices must be discussed with a medical microbiologist as organisms may be resistant to first line antibiotics. A restrictive approach to antibiotic prescribing will reduce the selective pressure for colonisation and infection caused by ESBL.

- Personal protective equipment (aprons, gloves) are required where there is a risk of exposure to blood or body fluids.

- Reusable clinical equipment (e.g. - medical devices, commodes, beds) must be decontaminated after every use using disinfectant wipes or a chlorine based product correctly diluted to 1000 parts per million (ppm) of available chlorine. ESBL organisms survive best in moist environments therefore equipment must be dried after cleaning.

- A chlorine based product correctly diluted to 1000 parts per million (ppm) of available chlorine must be used for environmental cleaning.

- Optimum infection prevention and control requires isolation of the patient. Whenever possible patients should be placed in a single room with their own toilet facilities. A risk assessment is required where single rooms are limited – Infection Prevention Team (IPT) will advise. The risk assessment should include:

  - The site where ESBL has been isolated - discharging wounds, expectorating sputum and skin shedding are higher risk sites.

- Where the patient will be managed (ICU and surgical wards are higher risk areas)
- Whether the patient is infected or colonised.

Patients must stay in isolation for the duration of their hospital inpatient stay.

Screening

If infection is suspected prompt diagnosis and recognition of the presence of ESBL will help determine treatment options. This will require appropriate specimens being sent for laboratory testing.

Routine screening of patients or staff for ESBL is not currently required.

Stool samples received in the laboratories from Haematology and Oncology inpatients will be tested for ESBL in addition to any requested tests.

Treatment

There are few antibiotic choices that are effective against ESBL. All ESBL-producing E. coli are resistant to cephalosporins and most penicillins. Many are also resistant to fluoroquinolones, trimethoprim, tetracycline and some other antibiotics. Infected patients where treatment is being considered must be discussed with the Medical Microbiologists.

Colonised patients would not normally require treatment.

Discharge of patients

- Discharge planning/assessment must not be delayed because of ESBL.
- Inter-hospital transfers for clinical reasons should not be prevented.
- Inform receiving hospitals, General Practitioners and other healthcare agencies of the presence of ESBL:
- Complete an Electronic Discharge Notification (EDN) /Discharge letter/ inter-healthcare transfer form (IHTF) – place a copy of the IHTF in the patient's notes.

- Ambulance Transportation - Patients may be transported with others in the same ambulance without any special precautions.

- Deceased Patients - Body bags are not required.

Outbreaks

If there is an outbreak of ESBL (two or more acquired cases within a ward with the same sensitivity pattern) the IPT will review and convene an outbreak meeting if required. Refer to the Management and Control of Outbreaks guidelines.

Reporting of ESBL incidence

ESBL incidence is reported monthly by ward and Trust on the Q drive.

Appendix 2

Patient ID

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Date + Time: ……

The registered nurse in charge of this patient is responsible for the dissemination of information regarding care and management of the patient with Multi Resistant Gram negative Bacilli (e.g. ESBL producing organisms; AmpC; carbapenamase production such as KPC) and gram positive resistant organisms such as Vancomycin Resistant Enterococci (VRE)

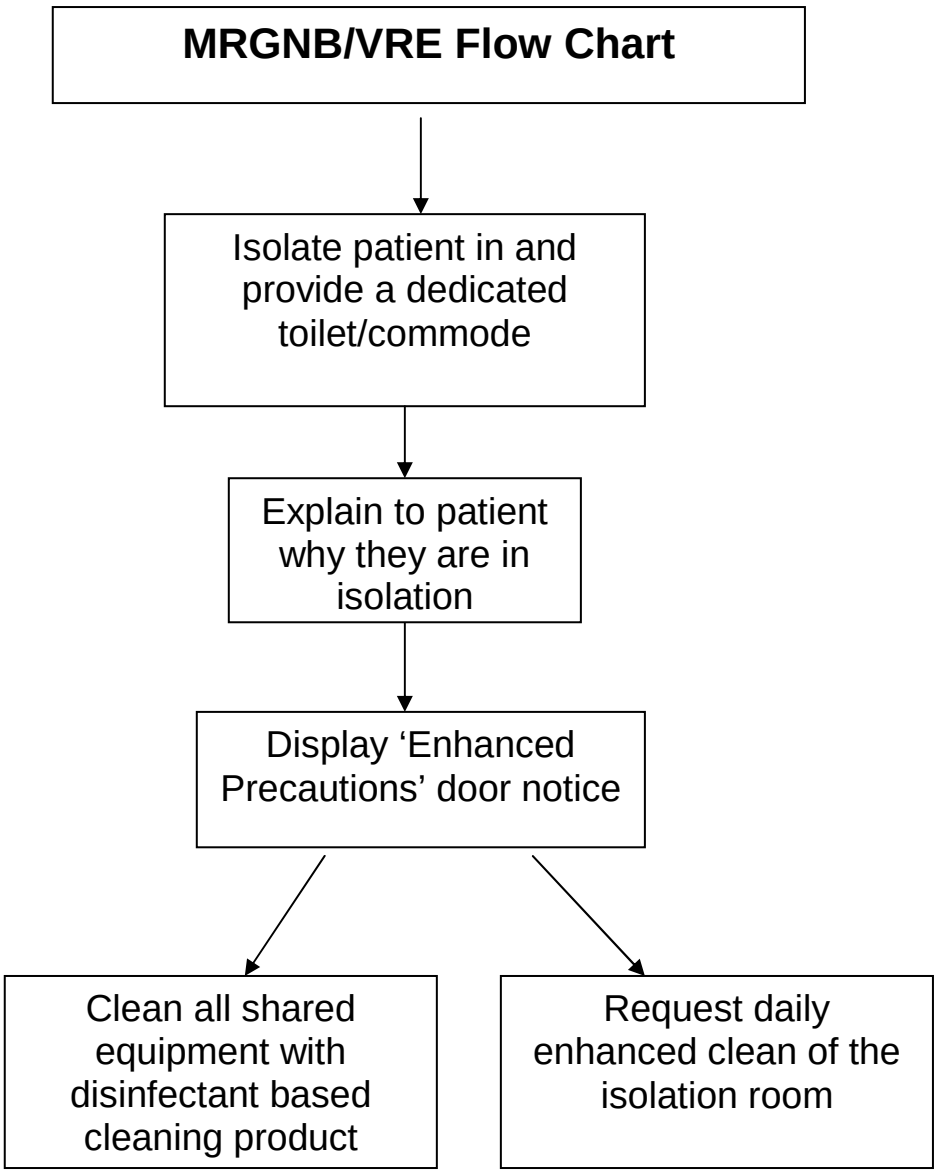
Resistant organisms can be spread from direct contact (person to person) **or** indirectly via contaminated equipment/environment, therefore it is essential that we;

- ☐ Discuss cases with the Infection Prevention Team/microbiologists
- ☐ Isolate the patient in a side room with their own toilet/commode
- ☐ Ensure effective hand hygiene before and after patient contact
- ☐ Always wear disposable gloves and aprons when risk of body fluid exposure including manipulating/ emptying urinary catheters
- ☐ Arrange daily Enhanced clean of the patient's room for the length of their stay
- ☐ Clean all reusable equipment between patients and between each use using disinfectant based cleaning products

Always display 'Enhanced Precautions' door notice

Please refer to door notice for full instructions on Hand Hygiene, Waste/Linen Disposal and Environmental Cleaning

Infection Prevention Management of MRGNB/VRE



On discharge to another health care facility the nurse in charge of the patient's care must complete an Inter-Healthcare Transfer Form which will inform the receiving health care provider of the patient's Infection Prevention status.

For further advice contact the Infection Prevention Team

Signature of nurse receiving information, initiating care and disseminating information ……

Appendix 3 – Door notice