MULTI-DRUG RESISTANT ORGANISMS (MDRO): CONTROL AND PREVENTION POLICY

POLICY

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	X		
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Lead Division/ Directorate	Diagnostics & Outpatients		
Lead Specialty/ Service/ Department	Infection Prevention and Control		
Position of Person able to provide Further Guidance/Information	Nurse Consultant Infection Prevention and Control Other staff in Infection Prevention and Control Team		

Associated Documents/ Information	**Date Associated Documents/ Information was reviewed**
• Carbapenemase-producing Enterobacteriacae Procedure • Multi-Drug Resistant Organisms Procedure	• Both procedures reviewed/ updated alongside this policy (v3.0)
Template control	June 2020

CONTENTS

1.0 INTRODUCTION

Sherwood Forest Hospitals NHS Foundation Trust (Trust) recognises that it has a duty of care to protect patients, staff, contractors and visitors from infection and support the need for effective systematic arrangements, therefore the Trust is committed to reduce the incidence of healthcare associated infections and more importantly, maintaining that reduction as a core element of the Trust patients safety strategy.

Multi-drug resistant organisms present significant clinical, and infection prevention and control challenges in health care provider settings. Some bacteria are naturally resistant to certain types of antimicrobials, whilst others develop or acquire resistance. This policy makes provision for the identification of high risk groups, the isolation and prevention of cross infection measures, prophylaxis for surgical and invasive procedures as well as the surveillance of identified patients at risk.

2.0 POLICY STATEMENT

This policy describes the accountability framework for implementation of the protocols that are recommended within Sherwood Forest Hospitals NHS Foundation Trust for the management and control of multi-drug resistant organisms including:

- Glycopeptide-resistant Enterococci ((GRE) sometimes referred to as Vancomycin Resistant Enterococci (VRE)
- Extended-spectrum β-lactamase producers (ESBLs)
- Carbapenem-producing enterobacteriacae (CPE)
- Multi-resistant Acinetobacter species (MRAB)
- Multi-resistant Pseudomonas species
- Penicillin resistant Pneumococci (PRP)
- and other antimicrobial resistant bacteria, as well as ensuring the safe care and management of all infections and any associated risks

3.0 DEFINITIONS/ ABBREVIATIONS

Trust	Sherwood Forest Hospitals NHS Foundation Trust
Staff	All employers of the Trust including those managed by a third party on behalf of the Trust
Alert organism surveillance	The continuous active monitoring of the incidence of specified microorganisms of clinical interests, or defined by the Department of Health
Alert organisms	Microorganisms that pose a significant risk of transmission to non-infected patients or healthcare workers by either colonisation and/or subsequently infection. Include organisms such as MRSA and other antibiotic resistant microorganisms

Antimicrobial	Substance that kills or interferes with the growth of microorganisms
Antimicrobial resistance	Resistance of a microorganism to an antimicrobial medicine to which it was previously sensitive
Bacteraemia	The presence of bacteria in the blood
Blood stream infection	The presence of microorganisms in the blood with signs of infection. Primary blood stream infection: Inoculated directly into the blood stream via an IV line Secondary blood stream infection, spread to the blood stream from an original focus somewhere in the body i.e. urinary tract
Invasive disease	Microorganisms have invaded parts of the body that are normally free from microorganisms
Screening	Obtaining samples from wounds and clinical devices to determine whether multi-drug resistant organisms are present at those sites
Contact screening	Obtaining samples from patient who have been in close contact with another patient whose has a confirmed infection
Colonisation	When microorganisms, such as bacteria begin to grow and multiply in or on their new host (who then becomes a 'carrier' of the microorganisms)
Contamination	The presence of an unwanted entity in specified location e.g. multi-resistant bacteria in the hospital environment. This could result in colonisation with the microorganisms, which is a necessary stage before infection
Antibiotic sensitivity	Test that shows which antibiotics will be most successful at treating a bacterial infection
Pathogen	A bacterium, virus or other microorganism that can cause disease
RCA	Root Cause Analysis
HCAI	Healthcare Associated Infection
HAI	Hospital Acquired Infections
IPCT	Infection Prevention and Control Team
DIPC	Director of Infection Prevention and Control
IPCD	Infection Prevention and Control Doctor
IPCN	Infection Prevention and Control Nurse
IPCC	Infection Prevention and Control Committee
UKHSA	United Kingdom Health Security Agency
CDC	Centres for Disease Control and Prevention
WHO	World Health Organization
MDRO's	Multi- drug resistant organisms
NICE	National Institute for Health and Care Excellence
GRSA	Glycopeptide resistant Staphylococcus aureus
VRSA	Vancomycin resistant Staphylococcus aureus
VISA	Vancomycin intermediate Staphylococcus aureus
CPE	Carbapenem-producing enterobacteriacae
VRE	Vancomycin Resistant Enterococci
MRAB	Multi resistant Ascinetobacter species
ESBL	Extended-spectrum β-lactamase producers

E.coli	Escherichia coli
GRE	Glycopeptide-resistant Enterococci
MRSA	Meticillin resistant Staphylococcus aureus
PRP	Penicillin resistant Pneumococci
MARPA	Multiple antibiotic resistant Pseudomonas aeruginosa
PPE	Personal protective equipment
CCU	Critical Care Unit
NICU	Neonatal Intensive Care Unit
ED	Emergency Department
CSSD	Central Sterilisation Service Department
CXR	Chest x-ray

4.0 ROLES AND RESPONSIBILITIES

4.1 Chief Executive

The Chief Executive is ultimately responsible for ensuring that there are effective arrangements for infection prevention and control and ensuring it is a core element of the organisational patient safety strategy.

4.2 Director of Infection Prevention and Control

The Director of Infection Prevention and Control (DIPC) has Trust wide responsibility for the development of strategies and policies for the management of infection prevention and control.

4.3 Infection Prevention and Control Team

The Infection Prevention and Control Team (IPCT) will inform and support all staff in relation to the identification, and management requirements of patients with suspected/known infection. They will notify ward staff of newly identified cases of multi-resistant organisms, monitor appropriate and timely isolation of infected patients and audit isolation practices. To alert the DIPC and the Public Health England (PHE) of any outbreaks related to multi-resistant organisms, at Institute of Population Health, Nottingham City Hospital, Hucknall Road, Nottingham, NG5 1QP, telephone 0844 225 4524.

4.4 Divisional General Manager

The Divisional General Manager will ensure that the divisions has well developed clinical governance forum which monitors the application of this policy.

4.5 Heads of Nursing/Midwifery/Matrons

Heads of Nursing/Midwifery are responsible for ensuring that all staff accountable to them are aware of this policy and adhere to its statement. They will actively promote and support all current infection prevention and control measures.

4.6 Ward/Departmental Sister/Charge Nurse

Be alert to MDRO's and take appropriate actions as indicated in this policy, and to liaise with the Consultant Microbiologists and the IPCT as required. Access the medical alert during

assessment to see whether the patient has been diagnosed with an alert organism during a previous admission. Document when precautions according to this policy cannot be implemented for clinical or other relevant reasons, and to report incidents to the IPCT and their Head of Nursing. To also act as exemplary role models and are responsible and accountable for infection prevention and control within their sphere of responsibility. They will ensure that all staff are aware of all relevant infection prevention and control measures.

4.7 Infection Prevention and Control Link Representatives

Infection Prevention and Control Link Representatives will disseminate all relevant infection prevention and control information to staff within their own work environment.

4.8 Occupational Health

The Trust Occupational Health Department is responsible for alerting the IPCT of any conditions amongst Trust employees that could be related to the use of PPE.

4.9 Clinical Team

Be alert to MDRO's and take appropriate actions as indicated in this policy, and to liaise with the Consultant Microbiologist and the IPCT. Ensure compliance with empiric antibiotic policy and practice prudent prescribing at all times. Access the medical alert during assessment to see whether the patient has been diagnosed with an alert organism during a previous admission. Document when precautions according to this policy cannot be implemented for clinical or other relevant reasons and report incidents to the IPCT and Ward Leader. To also be responsible for ensuring that all staff accountable to them are aware of this policy and adhere to its statement. They will actively promote and support all current infection prevention and control measures.

4.10 Consultant Microbiologist

Consultant Microbiologist in conjunction with the Antimicrobial Pharmacist ensures that appropriate antibiotic policies are in place to minimise selective pressure for MDROs. To support, monitor prudent antimicrobial prescribing in specific scenarios. To arrange for typing of specimens where required. Provide advice to medical staff on appropriate diagnostic investigations and clinical management of the patient.

4.11 Pharmacist and Antimicrobial Pharmacist

Pharmacist and the Antimicrobial Pharmacist must support and monitor prudent antimicrobial prescribing by regular review of antimicrobial prescribing across the Trust and request the review of any inappropriate antimicrobial therapy. To feedback antimicrobial prescribing trends and discusses methods to improve practice with prescribers and medical teams where appropriate. Review the Trust Antimicrobial policies on an ongoing basis in consultation with the Consultant Microbiologist and the Drug and Therapeutic Committee. To provided core training to medical staff in prudent antimicrobial prescribing.

4.12 Microbiology Laboratory

The Microbiology Laboratory will ensure that appropriate techniques are in place for the detection and reporting of MDRO's. The Biomedical Scientist will undertake testing for

MDRO's on clinical relevant samples in line with the PHE /national guidelines for testing and report abnormal results in a timely manner via WinPath or by telephone to the IPCT.

4.13 Strategic Planning and Commercial Development Directorate

Strategic Planning and Commercial Development Directorate along with Central Nottinghamshire Hospital Plc. (CNH) and Skanska Facilities Services (SFS) are responsible for ensuring the on-going maintenance of the ventilation systems and the general environment of the isolation rooms and side rooms used for the purpose of isolation.

4.14 Medirest

Medirest, as the Trust cleaning contractors are responsible for ensuring appropriate cleaning measures are in line with the Trust policy to minimise the risk of transmission, including:

- Ensuring that the room/bed space used for patients with known or suspected infections are cleaned daily
- Ensuring that the room/bed space used for patients with known or suspected infections are clean according to the 'RAG: Isolation Level Clean' specifications following the discharge/transfer of the patient
- Ensuring that the room/bed space is cleaned in accordance with the 'RAG: Isolation Level Clean' specifications prior to the admission of a patient who requires protective isolation
- Ensuring that all healthcare cleaners have the knowledge and skills required to undertake daily and isolation cleaning of single rooms used for isolation purposes
- Ensuring that all Medirest staff comply with this policy

5.0 APPROVAL

This policy has been approved at the Infection Prevention and Control Committee

6.0 DOCUMENT REQUIREMENTS (POLICY NARRATIVE)

6.1 Introduction

Some bacteria are naturally resistant to certain types of antimicrobials, whilst others develop or acquire resistance. If an antimicrobial is given to treat an infection, it kills the sensitive bacterial, but any resistant ones can survive and multiply. Infections caused by resistant microorganisms fail to respond to conventional treatment, resulting in prolonged illness and greater risk of death, this is especially pertinent if there are delays in recognising multidrug resistant infections, or inappropriate antimicrobials have been prescribed and administrated. For these reasons, the prevention of infection and control of these multi-resistant bacteria is vital.

Multi-drug resistance organisms are resistant to three or more groups of antibiotics, they are clinically significant because:

- they are resistant to many antibiotics commonly used in healthcare

- treatment may require 2nd line antibiotics, which may be less effective or have more side effects
- depending on the species they may colonise the environment for long periods of time
- they may colonise patients and eradication may not be possible
- strains exist that are resistant to all known antibiotics

It is important to control the spread of MDRO's, due to the limited therapeutic alternatives, the increasingly compromised in-patient population, and the potential for transfer of resistance to other pathogenic bacteria and development of further resistance. The epidemiology of MDRO infection can be complex, hospitals may be affected by sporadic cases of MDROs, epidemics or endemic colonisation and infection. Each of these situations will need to be managed in different ways, depending on the risk to the patients involved.

- Multi drug resistance gram negatives:
  - Extended spectrum β-lactamase producing organisms (ESBL's)
  - Usually E. coli, Klebsiella
  - Resistant to cephalosporin's and frequently resistant to many other antibiotics including ciprofloxacin and aminoglycoside

- Amp C producers
  - Usually Enterobacter, Serratia, Citrobacter
  - Resistant to 3rd generation cephalosporin's, β-lactam combinations i.e. co-amoxiclav, piperacillin/tazobactam and frequently resistant to many other antibiotics including ciprofloxacin and aminoglycosides

- Multi-Drug resistant Pseudomonas
  - Resistant to at least 2 of the following: ceftazidime, Piperacillin/Tazobactam, gentamicin and ciprofloxacin. Can occasionally be resistant to carbapenems

- Any gram negative microorganisms can be a carbapenemase producer. Suspicion should be high when a patient has spent significant time in or been treated in hospitals abroad

- When a microorganisms such as Stenotrophomonas or Acinetobacter becomes established in the clinical environment it can be difficult to eradicate

6.2 Incident reporting and investigation

Events resulting in failure to adopt infection prevention and control precautions and/or incidents which have results in cross contamination **must** be reported as per the Trust incident reporting procedures. All related incidents will be accompanied by investigation and action planning as required. In addition:

- all outbreaks of MDRO will be reported as Serious Incident via the Datix system
- all bacteraemia infections caused by a MDRO will be investigated using a Root Cause Analysis (RCA) approach

6.3 Surveillance of multi-drug resistant organisms

The IPCT will carry out routine surveillance of alert organism data from microbiology reports to monitor trends to detect outbreaks and 'hot spot' areas of infections. All new cases of hospital acquired MDRO's will be reported monthly by ward to the clinical divisions. The IPCT will carry out enhanced surveillance for specific bacteraemia in line with the Department of Health requirements, and an RCA / post infection review (PIR) will be performed by the clinical teams for all hospital acquired cases.

6.4 Antimicrobial resistance

The MDRO's referred to in this policy are antibiotic resistant variants of bacteria that may exist as commensals (microorganisms that form part of the bacteria that we all live with, such as those colonising the skin, gut, upper respiratory tract). Many commensals have beneficial roles, but some are opportunistic pathogens. Or they may be environmental microorganisms, particularly those that thrive in moist environments such as Pseudomonas and Acinetobacter causing disease in susceptible individuals.

There are several mechanisms of resistance:

- some bacteria prevent the antibiotic getting into their cells
- some get the antimicrobial out of their cells before it can harm them
- some destroy the antimicrobial by producing enzymes against it

6.5 Control of antimicrobial usage

The emergence and spread of MDRO's is encouraged by the use of broad spectrum antimicrobials for prolonged periods of time. Antimicrobial guidelines indicate the most appropriate type and duration of treatment for common infections. It may be necessary to recommend different treatment where MDRO's are prevalent, it is important that advice is sought from the Consultant Microbiologist.

Before prescribing antimicrobial, medical staff must always take note of the patient's previous microbiological history, particularly previous history of MDRO, and may need to be considering the use of an antibiotic active against the MDRO. Deviations from the policy must have associated rational documented in the patient medical notes. Antimicrobial prescriptions must state an approximate course length in the form of a stop or review date.

If surgical antimicrobial prophylaxis is required for a patient known to be, or to have been recently colonised with a MDRO, a prophylaxis regimen which incorporates cover against the microorganisms must be used. If infection caused by MDRO is suspected, an antimicrobial combination known to include activity against the microorganism must be used.

6.6 Acquisition

Patients may acquire MDRO's in a number of ways:

- Patients may have acquired the MDRO at some stage in the past and have continued to carry the MDRO (colonisation)
- Patients may acquire the MDRO following direct or indirect transmission from other individuals or from the environment during the provision of their healthcare
- MDRO's occasionally arise due to antibiotic pressures

6.7 Colonisation

MDRO's can colonise patients on a permanent basis, the patient then acts as a continuing source of the MDRO, which may contaminate the environment or spread to other patients. Furthermore, antibiotic resistance genes may be passed on to unrelated bacteria within the patient commensal, thereby disseminating resistance yet further. Once a patient is colonised, infections may result, particularly if natural defensive barriers are breached or reduced e.g. due to surgery, invasive devices, immunosuppressive agents, or the killing off of 'good' bacteria by antibiotics to which the organism is resistant.

6.7.1 Decolonisation

Decolonisation, the removal of the microorganisms when it is not causing an infection, can be impossible and is rarely indicated other than MRSA and sometimes Penicillin resistant Pneumococci (PRP). Colonisation may therefore be prolonged or even lifelong. The decision to relax precautions is based on a combination of:

- the microorganisms
- the site colonised
- the significance of cross infection

6.7.2 Infection

Colonisation can result in infection, in general infection caused by MDROs is no more severe than infection caused by non-resistant forms but, unless the presence of an MDRO is anticipated or known about, the initial choice of antibiotic may be inappropriate. As these infections become more widespread, forced to use broader spectrum antibiotics, this by natural selection, will favour the development of increasingly resistant strains, reducing the antibiotic selection further.

6.7.3 Contacting the Infection Prevention and Control Team

Clinical staff should contact the IPCT when they have a patient with a previous MDRO or a current suspected MDRO by using:

- Via mobile phone/office telephone (answer machine service available)
- Via email
- In person during routine daily ward visits

6.8 Screening

Routine screening is not conducted for MDRO's, the effects of screening compared with MRSA screening is less clear, especially when the microorganism is rare, the effort would be best directed elsewhere.

Successful laboratory diagnosis depends on requesting the appropriate test and the collection of samples at the appropriate time, using the correct technique and equipment; ensuring they are transported to the microbiology laboratory without delay. Clinical samples must include all relevant clinical details on the request form / ICE request, and samples must be labelled clearly, prepared and transported promptly to the microbiology laboratory. It is essential that the microbiology laboratory knows when a sample was taken as delayed or poor quality samples can yield unhelpful or misleading results and may not be processed.

6.9 Results communication

Confirmed microbiology laboratory results (both positive and negative) are available for immediate viewing by the clinical teams via the ICE/Orion systems. Patients newly diagnosed with MDRO's must be reviewed by medical staff with a view to determining the clinical significance of the results. This may include review and reassessment of current antibiotic therapy and wound management. Medical staff must contact the Consultant Microbiologist for advice on managing infections due to MDRO's, especially as antimicrobial sensitivities may not be reported and immunocompromised patients may require complex antimicrobial therapies.

6.10 Informing the patient

In-patients will be informed of positive results by the medical and nursing staff caring for them, as transfer to isolation will be required, and appropriate treatment should be commenced. Results must be communicated to in-patients within 24 hours unless the medical team feels that there are valid reasons for the patient not to be informed, and this must be documented in the patients' medical records.

Decisions regarding whether or not the patient should be informed of positive results following discharge reside with the Consultant in charge of the patient's care or a senior member of that medical team. Medical staff may determine that it is acceptable practice to inform the patient of results during their next planned attendance unless any urgent treatment is necessary. If the patient is no longer attending the Trust and/or has no imminent appointment, it will be necessary for medical staff to discuss options with the patients GP or other medical colleagues now caring for the patient.

6.11 Staff carriage

There have been no published reports implicating staff carriage as a source of patient colonisation or infection. Screening of staff may be required when:

- There is epidemiological evidence which suggests that certain members of staff may be associated with a number of patient cases
- When a protracted outbreak is not controlled by strict attention to control measures aimed at the patient(s) and their environment

The IPCT will determine whether any member of staff require screening and will liaise with Occupational Health Department to ensure that staff are managed confidentially and screening and decolonisation and/or management are coordinated.

6.12 Risk factors for acquisition and colonisation

Risk factors for colonisation or infection will depend upon the individual and the microorganism concerned, but generally the risk factors for colonisation and infection with an MDRO are:

- Recent hospitalisation, particularly if abroad
- Previous colonisation or infection with MDRO
- Recent contact with a patient colonised or infected with an MDRO
- Multiple hospital admission

- Prolonged in-patient stay
- Admission to CCU, renal or haematology units
- Admission from a Care Home (residential or nursing)
- Recent invasive procedures
- Exposure to multiple courses of broad spectrum antibiotics

6.13 Treatment

Treatment is not required for MDRO colonisation per-se (other than MRSA, refer to ICP 24). Antimicrobial therapy must be selected with care, whether for treatment or prophylaxis. Before prescribing medical staff should always, take note of the patient's previous microbiological history (particularly previous history of MDRO's), refer to the susceptibility results and seek advice from the Consultant Microbiologist. Removal of the underlying focus of, or risk factor for, infection i.e. drainage of any abscesses, removal of invasive devices and withdrawal of unnecessary antimicrobials will often be the mainstay of treatment.

6.14 Infection prevention and control measures to limit further spread of MDRO's

Standards of care must be maintained, and the presence of an MDRO must not compromise the patients overall medical requirements. Infection control measures over and above good standard precautions are generally necessary to minimise the spread of MDROs to further susceptible patients. These will depend upon the microorganism and the site or nature of the colonisation or infection, but the overarching principles are as follows:

- Isolation of patient (Refer to ICP 31)
- Nursing staff caring for the patient must ensure that an appropriate, approved isolation sign is place at the entrance to the isolation room and all staff and visitors are informed
- Optimal hand hygiene is performed (Refer to ICP 17)
- Bare below the elbow principles must be adhered to by all Trust and non-Trust staff who enter the clinical area
- Optimal use of Personal Protective Equipment (PPE) (Refer to ICP 9), disposable gloves and yellow disposable plastic aprons must be kept outside the room and worn by all staff when entering the room. Full gowns should be consider for prolonged close contact or in cases where splashing with body fluids is possible. Facial protection should be considered if there is a potential for droplet spread or aerosol generation. All PPE must be removed and disposed of as infectious waste in accordance with the Trust waste policy, before leaving the room, or sooner if it becomes heavily contaminated or damaged
- It is not necessary to wear PPE when transferring a patient through the hospital but is required if assisting a patient to transfer between a bed/chair and or trolley
- Appropriate handling of linen (Refer to ICP 10), key principles for handling soiled or contaminated laundry are:
    - bed linen, clothing must be changed daily, or more frequently if required
    - take care that dispersal of bacteria from these items is minimised during handling, i.e. do not shake the items or handling them in any way that may aerosolise infectious agents
    - contain soiled/infected/used linen in a laundry bag at the point of generation into a red alginate bag and sealed inside the room, then handed to a second

member of staff outside the room, who is also wearing appropriate PPE, who places the red linen bag into the white plastic linen bag, sealed and take immediately to the waste hold

- Patient who do not have relatives/carers able to launder personal items must be encouraged to use hospital clothing and towels
- Patient own clothing, which is soiled must be double bagged, clearly labelled patient property/patient clothing bags, and remove from the patient area as soon as possible. Advice the relatives to wash the clothing at the highest temperature recommended by the clothing manufacturer, and to wash the clothing separately to clothing of any other family members
- Exclusion: electric fans or other equipment likely to create air current **must** not be used in a cohort bay and should be avoided if possible in a side room
- Dedicated equipment to a single patient i.e. BP cuff, stethoscope commodes etc, to avoid the sharing of equipment between patients. Wherever possible such items must remain within the isolation area for use for the infected patient only and must be cleaned routinely on a daily basis
- Use single-use equipment or single patient use disposable equipment wherever possible
- If the use of reusable equipment is unavoidable, then these must be adequately decontaminated according to manufacturer's instructions before use for another patient, even if the equipment is used between patients in a cohort area
- Medical equipment must be dedicated to the patient until the patient is discharged. The equipment must then be appropriately decontaminated before it can be used on another patient
- Any item of medical equipment, including beds and mattress, that requires repair or service, must be decontaminated in accordance with ICP 5, a certificate of decontamination attached before the item is sent to/collected by MEMD
- All spillages of blood must be cleaned by nursing staff as soon as possible using the Trust approved spill kits
- Equipment in the room must be kept to a minimum to facilitate cleaning

6.15 Isolation

All patients with a confirmed or suspected MDRO must be isolated in a side room. For microorganisms that are carried in the gut i.e. GRE, ESBLs the patient must have dedicated toilet facilities, If this is not possible, the patient must have a dedicated commode or a toilet that is clearly marked for their exclusive use. Patients cohorted together with the same condition may share the same toilet facilities. Commodes must be cleaned after every use with a Clinell® Sporicidal wipes.

Appropriate signage must be used outside of the room and appropriate PPE must be made available. Medical and nursing records must be kept outside of the room. Doors must be kept closed, if this compromises the patients care then a documented risk assessment must be carried out. Rooms must be clutter free, and only have essential equipment single or dedicated in use.

The number of people entering the room must be kept to the necessary minimum. All efforts must be used to avoid using bank, agency or staff from other clinical areas to provide the necessary care to patients with MDRO.

MDRO's are likely to be carried long term, even if screens are negative i.e. GRE, ESBL which persist in the gut, isolation may be for the duration of admission and possible future admissions.

6.16 Visitors

It is essential to advise others of the actions and precautions required but patient confidentiality must be maintained. In general it is not necessary for visitors to wear PPE, but they must be advised on hand washing and/or use of alcohol based hand rub. Protective clothing is required if the visitor is helping to provide direct care i.e. personal care, then the visitor needs to be taught by clinical staff how to put on and remove appropriate PPE, where to dispose of the PPE and hand hygiene. If visiting other patients in the Trust, they should be advised to visit patients who are colonised or infected with MDRO last.

6.17 Movement of patient

Transfer of patients to other areas must be minimised to reduce the risk of transmission, however the presence of an MDRO must not be allowed to compromise a patient's care. Patients can undergo investigations in all departments provided that:

- receiving department has been notified in advance, in order that staff have sufficient time to make the appropriate preparations
- the IPCT have been contacted for advice
- they do not wait in communal areas, hence minimising contact with other patients
- any open wounds/lesions which is colonised/infected with an MDRO must be covered with an impermeable
- where possible the patient should be 'last on the list'
- the staff transferring and accepting the patient maintain standard infection control precautions and consider whether PPE is required for the patient or themselves
- transfer to another healthcare provider i.e. hospital, clinical needs must take priority, staff at the transferring ward must inform the relevant staff at the receiving hospital
- being colonised or infected with a MDRO is not a reason for refusing treatment/investigations
- patients with a MDRO must only transfer to another ward due to clinical necessity, discussion with the IPCT is essential to aid transfer
- the patient must not be transferred until the receiving area is prepared
- in the situation of a patient being transferred with a MDRO, without the full knowledge of the receiving area, the incident must be reported via Datix, and the IPCT informed

6.18 Discharge planning

In general MDRO's does not present a risk to people in the community. Patients may be discharged home even if still colonised with MDROs, however discharge to other healthcare providers may be more complicated and require careful liaison. It is important that all relevant healthcare professionals i.e. ambulance staff, Care Home staff, GP, receiving ward etc are made aware that the patient is colonised.

6.19 Death

The same infection control precautions apply to the handling of deceased patients as in life. Lesions must be covered with impermeable dressing, cadaver bags are not required for any of the microorganisms described in this policy, but may be required for alternative reasons.

6.20 Cleaning and decontamination

For MDRO infections, additional cleaning may be required, which will be requested by the IPCT. Equipment and the environment is a common source of cross infection for MDRO's. Following the trust's Disinfection Policy, purchasing equipment that has been reviewed by the IPCT (in relation to cleaning requirements), and following the ''RAG' Level Cleans'. Endoscopes have been associated with several outbreaks; special care must be taken with equipment such as cameras which require separate cleaning procedures (DH 2013).

6.21 Management of outbreaks

Two or more epidemiologically linked hospital acquired infection (HAI) cases by the same microorganisms will result in an investigation, which will utilise the Root Cause Analysis (RCA) approach. Further actions (Refer to Appendix A) will be determined by the IPCT; out of hours the On-call Consultant Microbiologist must be contacted via the switchboard, to decide whether or not to put a temporary halt on further admissions or discharge. The IPC may escalate the actions, which may include environmental sampling and staff screening. Outbreaks will be managed in line with the Trust outbreak policy (Refer ICP 27), including ward or bay closures. Public Health England (PHE) will be informed of events and actions taken.

6.22 Communication

- The IPCT must be informed when a patient is admitted with a suspected MDRO; they will assist in deciding which measures are required. All confirmed MDRO's, will have an alert activated on Medway by the IPCT, and an alert sticker will be inserted into the patients' medical records
- On discharge, the patient discharge summary must include the carriage and any further precautions or treatment required
- The patient must be informed of their carriage of a MDRO
- When an outbreak is suspected, an outbreak meeting must be convened and ICP 27 followed.

7.0 MONITORING COMPLIANCE AND EFFECTIVENESS

Minimum Requirement to be Monitored (WHAT – element of compliance or effectiveness within the document will be monitored)	Responsible Individual (WHO – is going to monitor this element)	Process for Monitoring e.g. Audit (HOW – will this element be monitored (method used))	Frequency of Monitoring (WHEN – will this element be monitored (frequency/ how often))	Responsible Individual or Committee/ Group for Review of Results (WHERE – Which individual/ committee or group will this be reported to, in what format (eg verbal, formal report etc) and by who)
Use of personal protective equipment	IPCT	Audit	Monthly	IPCC
Hand hygiene compliance	IPCT	Audit	Monthly	IPCC
Input at flow meetings regarding repatriations to the Trust	IPCT	Daily attendance at Bed Meetings	Quarterly	IPCC

8.0 TRAINING AND IMPLEMENTATION

Education is central to all infection prevention and control activity. With MDRO's clinical staff will often be faced with a microorganisms they rarely treat and cannot be expected to be familiar with. Although there is no specific training for this policy the following core infection prevention and control training will be provided:

- Clinical staff to receive practical hand hygiene training on induction and every year thereafter
- Clinical staff to receive face-to-face induction training on aspects of infection prevention and control precautions to prevent the spread of all known or undisclosed transmissible infection, every year thereafter

If further assistance and/or training required, this can be sought from senior colleagues and/or the Infection Prevention and Control Team.

9.0 IMPACT ASSESSMENTS

- This document has been subject to an Equality Impact Assessment, see completed form at Appendix B
- This document is not subject to an Environmental Impact Assessment

10.0 EVIDENCE BASE (Relevant Legislation/ National Guidance) AND RELATED SFHFT DOCUMENTS

Evidence Base:

Guidelines for the prevention and control of multi-drug resistant organisms (MDRO) excluding MRSA in the healthcare setting

Department of Health. 2013. HTM 01-06 – Decontamination of flexible endoscopes: Operational management.
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Related SFHFT Documents:

- CARBAPENEMASE-PRODUCING ENTEROBACTERIACAE PROCEDURE
- Multi-Drug Resistant Organisms Procedure

11.0 KEYWORDS

CRE, VRE, ESBL, MRO, GRE, MRAB, PRP, antimicrobial, infection, isolation, measures, organism, antibiotic, colonisation.

12.0 APPENDICES

- Appendix A – Checklist for management of an outbreak, suspected outbreak or cluster of cases colonised or infected with a multi-resistant microorganisms
- Appendix B – Equality Impact Assessment Form

Appendix A: Checklist for management of an outbreak, suspected outbreak or cluster of cases colonised or infected with a multi-resistant microorganisms

Early communications	Ensure senior managers, the board, and key senior clinical/ward staff are made aware of the case(s)
Instigation of immediate control measures	Isolation, implementation of source isolation precautions Dedicated cohort staff Dedicated nursing and medical equipment Enhances standard precautions
Convene an outbreak control team (OCT) will vary dependent on the causative agent	Team membership: Infection Prevention and Control Doctor/Consultant Microbiologist, Nurse Consultant Infection Prevention and Control/Infection Prevention and Control Nurse, Clinical representative and senior nurse manager, Medirest representative, Communication department, Pharmacy, Trust executive representative, Senior representative from the PHE Centre
Infection Prevention and Control Team	Line list of cases, produce and maintain an epidemic curve (or running tally for repeat sporadic cases. Microbiological investigations to date, diagnostic and screening, plus results Epidemiological investigation to date Current hypothesis(es) for outbreak/cluster Control measures to date and effectiveness, include compliance/audit history Antimicrobial practice and compliance to policies Staff training and awareness
OCT produce incident/outbreak control plan including:	Agreement on leadership, roles and responsibilities Frequency of meeting and reporting schedule (may change over time) Action plan for ongoing investigations and control measures (including timelines) Plans for maintaining and reinforcing enhanced cleaning schedule (increased frequency and terminal cleaning for rooms of affected patients), if evidence of transmission Transfer and discharge arrangements for affected patients Additional expert advice required Consideration of external expert or peer support visit in 'difficult to control' outbreaks Communications strategy including patients, relatives, the media and additional professionals/organisations
Communications	Inform, update IPCT and microbiologist of neighbouring Trusts, and Trusts where there is regular inter-trust transfer from one unit to another e.g. liver units (where one unit is affected) Inform other healthcare providers/Trust outside of the area/region which the Trust liaises with on the patient pathway, sporadically or routinely Maintain regular liaison with PHE Centre Ensure no affected patient is transferred to another healthcare facility without verbal advice, this includes transfers to Care Homes, intermediate care or Hospices Ensure no affected patient is discharged without receiving documentation on their status for future reference for other healthcare providers

APPENDIX B – EQUALITY IMPACT ASSESSMENT FORM (EQIA)

Name of service/policy/procedure being reviewed: Multi-Drug Resistant Organisms: Control and Prevention Policy			
New or existing service/policy/procedure: Existing			
Date of Assessment: 23/06/2022			
For the service/policy/procedure and its implementation answer the questions a – c below against each characteristic (if relevant consider breaking the policy or implementation down into areas)			
Protected Characteristic	a) Using data and supporting information, what issues, needs or barriers could the protected characteristic groups' experience? For example, are there any known health inequality or access issues to consider?	b) What is already in place in the policy or its implementation to address any inequalities or barriers to access including under representation at clinics, screening?	c) Please state any barriers that still need to be addressed and any proposed actions to eliminate inequality
The area of policy or its implementation being assessed:			
Race and Ethnicity:	None	None	None
Gender:	None	None	None
Age:	None	None	None
Religion:	None	None	None
Disability:	None	None	None
Sexuality:	None	None	None
Pregnancy and Maternity:	None	None	None
Gender Reassignment:	None	None	None
Marriage and Civil Partnership:	None	None	None
Socio-Economic Factors (i.e. living in a poorer neighbourhood / social deprivation):	None	None	None

What consultation with protected characteristic groups including patient groups have you carried out? • Nil
What data or information did you use in support of this EqIA? • National guidance
As far as you are aware are there any Human Rights issues be taken into account such as arising from surveys, questionnaires, comments, concerns, complaints or compliments? • No

Level of impact

From the information provided above and following EQIA guidance document Guidance on how to complete an EIA (click here), please indicate the perceived level of impact:

Low Level of Impact

For high or medium levels of impact, please forward a copy of this form to the HR Secretaries for inclusion at the next Diversity and Inclusivity meeting.

Name of Responsible Person undertaking this assessment: Sally Palmer
Signature: Sally Palmer
Date: 23/06/2022