University Hospitals of Leicester NHS
NHS Trust

Infection Prevention in Theatres

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Board Director Lead:	Chief Nurse/Director of Infection Prevention
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REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

March 2021 Complete rewrite of guidelines and changed to policy format

July 2024 Minor amendments to policy wording and new appendix 1

Appendix

KEY WORDS

Infection Prevention

Theatres

Skin Prep

Patient warming

Theatre scrubs

1 INTRODUCTION AND OVERVIEW

1.1 This document sets out the University Hospitals of Leicester (UHL) NHS Trusts Policy and Procedures for Infection Prevention Practice within Theatre environments.

2 POLICY SCOPE

2.1 This policy applies to all staff working within Theatre environments across UHL and including UHL in the community..

3 DEFINITIONS AND ABBREVIATIONS

AGP - Aerosol Generating Procedure

CMG – Clinical Management Group

FFP3 – Filtering Face Piece 3

FRSM Fluid Resistant Surgical Mask

MRSA – Meticillin Resistant *Staphylococcus aureus*

ODP- Operating Department Practitioner

VRE – Vancomycin Resistant *Enterococci*

XDR – Extensively Drug Resistant organisms

MDR-Multi Drug Resistant Organism

TAA- Theatre Arrival Area

4 ROLES

4.1 Chief Nurse/Director of Infection Prevention

The Chief Nurse is responsible for Infection Prevention practices within the Trust in their current role as Director of Infection Prevention and Control.

4.2 CMG Clinical Director

The CMG Clinical Director responsible for theatre areas is accountable for the CMG's infection prevention performance. The CMG Clinical Director is expected to set a good example and ensure that others do the same by complying with infection prevention policies. The CMG clinical director for theatres will ensure that any visiting medical staffs into their areas from other CMG's is familiar with this policy and its contents

4.3 CMG Head of Nursing

The CMG Head of Nursing for theatre areas is responsible for ensuring that nursing, midwifery, allied health professionals and ODP staff within the CMG are compliant with this policy.

In conjunction with infection prevention they will ensure this policy is kept up to date.

4.4 Matron

The matron responsible for theatre areas will ensure all aspects of this policy are implemented within their area and carry out any audits as required. The theatre matron will ensure dissemination of this policy occurs both within their

department and to any visitors to their department.

4.5 Infection Prevention Team

The Infection Prevention Team will provide a specialist infection prevention nurse to support CMG's with theatre areas. They will support with education and training and audits where required and ensure support with the review of this policy.

4.6 Staff Working in Theatres

All staff working in theatres is responsible for following the content of this policy and supporting others in the implementation of the policy.

5. POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS

5.1 Theatre Attire

5.1.1 All theatre personnel and visitors who enter the operating theatre must don appropriate theatre attire on entry to the department (it is not allowed to wear theatre attire from home directly to theatre).

5.1.2 This includes scrubs, theatre cap and appropriate non slip anti-static footwear

5.1.3 Jewellery including wrist watches must be removed. Plain wedding band and one pair of stud earrings may be worn only.

5.1.4 Theatre scrubs can be worn outside the theatre environment but **must not** be worn outside of Trust buildings (uniforms and dress code policy).

5.1.5 Sterile surgical gowns and gloves must be donned before the procedure begins to reduce the risk of pathogens contaminating the incision and sterile field and protect staff from exposure to blood and body fluids.

5.1.6 All Personal Protective Equipment **must be** removed before leaving the theatre suite.

5.1.7 The wearing of theatre PPE is not permitted in the Trust operated Restaurants and Coffee Shops, including wellington boots.

5.1.8 Home laundering of theatre attire is not permitted and **must be** sent to the Trusts commercial laundry provider.

5.1.9 Fluid Repellent Surgical Masks (FRSM) must be worn by the surgical team.

In orthopaedic and trauma theatres and other specialities such as cardiac theatres, all staff within the operating theatre **must** wear a FRSM.

FRSM must be changed between patients.

FRSM must not be worn around the neck or put into pockets for future use.

5.1.10 FFP3 Respirators and a long sleeved gown and gloves must be worn when carrying out AGP where the patient is suspected or know to have a respiratory infection that is spread via the aerosol route.

5.1.11 Protective face shields/eye protection must be worn whenever activities place personnel at risk from splashing of blood or body fluids or aerosol contamination.

5.1.12 If theatre attire becomes wet or soiled it must be removed and placed into appropriate laundry bags and clean attire donned.

5.1.13 Footwear must be well fitting, supportive and protective. It must be for theatre use only and cleaned daily and when contaminated using Chlorclean or Clinell

Universal wipes or Milton if blood and body fluids .

5.2 Environment

5.2.1 The movement of personnel in and out of theatre must be limited as opening and closing of doors can disrupt airflow.

5.2.2 When a theatre is in use, access is via anaesthetic or prep rooms and **not** through the theatre doors.

5.2.3 Staff within the theatre during procedures must be kept to a minimum required to safely perform the procedure.

5.2.4 Ventilation system performance will be verified on a yearly basis by a specialist contractor and feedback provided to the Theatre teams on performance.

5.2.5 Theatre ambient temperature is to be monitored according to protocol and action to be taken if outside of parameters.

5.2.6 Where theatre ventilation systems can operate in two modes i.e. ultra clean air (laminar flow) and conventional. Theatre teams must ensure that they are in the correct mode before operating, ultra-clean air is generally only used for elective orthopaedic surgery. This mode can rapidly dry out wound sites therefore unless indicated must not be used in any other type of surgery.

5.3 Equipment

5.3.1 All equipment must be clean before being brought into theatre.

5.3.2 Reusable equipment such as the table, trollies etc. must be cleaned and disinfected between each patient in line with the manufacturer instructions, including any wheels on mobile equipment.

5.3.3 Reusable surgical instruments must be sent for reprocessing to a Trust approved Sterile services contractor or the decontamination hub if endoscopes

5.3.4 A system must be in place to track all surgical instruments

5.3.5 Sterile integrity of instruments must be checked before use and recorded within the tracking system

5.3.6 The integrity of the packaging of any sterile product should be checked on arrival to theatre before opening to ensure that it has not been damaged in transport or during storage.

5.3.7 Sets should be only opened in areas with adequate ventilation i.e. >18 air changes per hour or higher.

5.3.8 Once opened, instruments should be checked for cleanliness and instruments are correct according to the tray content list.

5.3.9 Sterile instruments must be stored in a clean, dry dust free environment

5.3.10 Instruments are set up immediately prior to use as leaving open for long period's increases the risk of external contamination.

5.3.11 Cleaning books will be kept in each theatre to log equipment cleaning. This will be for items such as the table, trollies and monitoring equipment.

5.4 Patients

5.4.1 Patients undergoing surgery as an inpatient require screening for Meticillin Resistant Staphylococcus aureus (MRSA). Specific screening requirements are outlined in MRSA policy B12/2015.

5.4.2 Patients in the High Risk category in the MRSA policy (excluding day case) require nasal mupirocin and Stellisept washes. All elective patients will commence this 48 hours prior to surgery. This will be documented on their medication chart.

5.4.3 Patients who are identified as High Risk of having an extensively drug resistant organism (XDR) must have a rectal swab sent for PCR testing at pre admission. See Carbapenem Resistant Organisms and extensively drug resistant guidelines B64/2019

5.4.4 Patients arriving in TAA with known infection alerts, all staff to follow appendix 1.

5.4.5 Patients must change into appropriate theatre gowns prior to entering the theatre. For some minor procedures such as cataract surgery patients may remain in their own clothing. This may not be possible for emergency procedures.

5.4.6 Hair removal if required **must be** done using a clipper with a disposable head. Hair will be removed as close to the time of incision as possible. Staff will ensure that they have received training on hair removal and competent in the procedure.

5.4.7 Unless contraindicated a single use preparation of Chlorhexidine gluconate in 70% alcohol will be used as surgical skin preparation. If contraindicated alcoholic iodine solution can be used.

5.4.8 If incise drapes are used unless contraindicated an iodophore drape will be used. If iodine is contraindicated non antimicrobial drapes can be used.

5.5 Antibiotic prophylaxis

5.5.1 Appropriate antibiotic prophylaxis is important in some surgical procedures to reduce the risk of infection.

5.5.2 The Trust Surgical Prophylaxis policy (B14/2007) **must be** followed at all times. The guidance is also available on the Antimicrobial website.

5.6 Patient Warming

5.6.1 Patients must be informed of the need to stay warm prior to surgery and the risk of surgical site infection. They should ensure that they have warm clothing available such as a dressing gown and tell staff at any point they feel cold.

5.6.2 Pre-operative temperature must be checked in the hour before they leave the ward or department. Patients are at increased risk of infection if their temperature is below 36.0°C. Preoperative warming must occur unless clinically contraindicated.

5.6.3 Active warming must be maintained throughout the intraoperative phase unless cooling of the patient is required due to the type of surgery performed.

5.6.4 During the intraoperative phase the patient's temperature must be measured at induction of anaesthesia and every 30 minutes thereafter.

5.6.5 Intravenous fluids (500ml or more) and blood products must be warmed to 37° using a fluid warming device.

5.6.6 All irrigation fluids must be warmed in a thermostatically controlled cabinet to a temperature between 38-40°C

5.7 Asepsis

5.7.1 Proper aseptic hand hygiene is a priority at the beginning of any surgical procedure. Always follow the Scrubbing Gowning and Gloving policy (B7/2014)

5.7.2 When performing a procedure all people present including the patient if awake, must know how to prevent contamination of the sterile field and know to avoid moving suddenly, touching the equipment, laughing, sneezing or talking over the sterile field.

5.7.3 All objects used in the sterile field must be sterile.

5.8 Wound care

5.8.1 Tissue viability advice can be obtained from the Tissue Viability Team where required.

5.8.2 Any specific wound management plan must be documented in the patient notes.

5.9 Care of Patients with Known or suspected infections

5.9.1 Patient's alerts must be stated on the operating list and an alert label must be on the patients' medical notes where the patient has a history of an alert organism such as MRSA, MDR, XDR.

5.9.2 Immediately prior to the patient being taken to theatre superfluous equipment must either be removed from the operating room or covered with a plastic sheet which should be removed and disposed of post operatively during cleaning of the theatre.

5.9.3 The patient, if not able to walk should be transported to theatre on a clean bed, trolley or wheelchair.

5.9.4 On arrival to theatre patients should be taken straight into theatre, NOT the anaesthetic rooms, to reduce the risk of environmental contamination. An appropriate transmission based precaution sign must be placed on the doors to theatres.

5.9.5 No unnecessary personnel should enter the theatre during surgery and staff in the theatre must be kept to a minimum.

5.9.6 Ideally patients requiring transmission-based precautions should be last on the list, but if this is not possible the theatre can only be re-used after being cleaned.

5.9.7 Patients who require transmission-based precautions must be recovered in theatre to minimise the number of areas requiring a post infection clean.

5.9.8 A fallow period is required where infectious aerosols have been produced. This is generally 20 minutes. Once this has lapsed the theatre can be cleaned as per normal post infection clean. The patient and staff do not need to remain in the theatre during this fallow period.

5.9.9 Once cleaned the transmission-based precaution sign can be removed.

6 EDUCATION AND TRAINING REQUIREMENTS

6.1 All staff having clinical contact with patients and/or their environment must undertake annual updates on infection prevention policies and guidelines. The annual update involves either online training or completing a paper copy of the workbook. Non-clinical staff must complete and undertake yearly update online training in infection prevention specifically aimed at non-clinical staff.

6.2 Training is currently facilitated by the Infection Prevention Team.

6.3 Infection Prevention training is mandatory within the Trust.

6.4 Educational promotions will be available for members of the public to improve understanding of infectious conditions, communicable diseases and infection prevention practice via the Trust external Website and promotional information available in wards and departments.

Where there are specific training requirements in relation to procedures or types of infection these will be detailed in the specific policy or guidelines.

7. PROCESS FOR MONITORING COMPLIANCE

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements Who or what committee will the completed report go to.
One together toolkit – This toolkit provided an audit process for practices within the theatre environment that relates to prevention of infection	CMG/UHL in the community Lead Nurse/IP CMG Lead	One together toolkit	Annually	CMG Infection Prevention Operation Group

8 EQUALITY IMPACT ASSESSMENT

8.1 The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

8.2 As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

9 SUPPORTING REFERENCES, EVIDENCE BASE AND RELATED POLICIES

One together toolkit- Reducing the risk of infection on the patient's surgical pathway https://www.onetogether.org.uk/home/

The Association for Perioperative Practice Infection Control AfPP - Infection Control - V2.indd

Meticillin Resistant *Staphylococcus aureus* policy B12/2015

Infection Prevention Policy B4/2005

Multi Drug Resistant organisms B63/2019

Carbapenem Resistant (CRO) and Extensively Drug Resistant Policy

Carbapenem Resistant (CRO) and Extensively Drug Resistant Organisms Policy B64/2019

Scrubbing and Gowning Policy B7/2011

Surgical Prophylaxis Policy B14/2007

9 10. PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

The updated version of the Policy will then be uploaded and available through Insite Documents and the Trust's externally-accessible Freedom of Information publication scheme. It will be archived through the Trusts PAGL system

Infection Prevention management for Infection Alert cases in TAA Appendix 1

Serial No:	Description	IP measures
1	Patients with a known CRO/XDR alert that attend outpatient areas where there are no invasive procedures, including phlebotomy, intra-muscular/intravenous injections i.e. attending TAA pre-procedure **NB**. Intra and Post operatively **Enhanced transmission-based precautions required** and Red clean required Trust ref: B64/2019	• Isolation **NOT** required • Standard infection control precautions i.e. Hand hygiene, appropriate PPE based on the interventions. Trust ref: B4/2005
2		
2	Patient with Known CDT/CDI alert • Patient is not having T6/T7 stools NB: If symptomatic T6/T7 stools and C.diff infection cannot be ruled out contact transmission-based precautions required Trust ref: B35/2006	• Isolation **NOT** required • Standard infection control precautions. Trust ref: B4/2005
4	Patient with Known MRSA alert • If they received decolonisation treatment • Three consecutive negative results including the risk factor(s) (within 18 weeks for elective admissions) • If there is no risk factor(s) site present **NB:** If risk factors identified as below * in TAA then intra and post operatively the patient must be nursed in a side room with **Contact precautions**. Amber clean required Trust ref: B12/2015	• Isolation **NOT** required • Standard infection control precautions Trust ref: B4/2005
5	Patient with Known MDR alert • No risk factors* **NB:** If risk factors identified as below * in TAA then intra and post operatively the patient must be nursed in a side room with **Contact precautions**. Amber clean required Trust ref: B63/2019	• Isolation **NOT** required • Standard infection control precautions Trust ref: B4/2005

***Patient with urinary catheter, Central Venous Access Device (CVAD), vascath (except peripheral cannula) productive cough, wounds, ulcers, skin lesions, Urostomy, PEG, drain site (except clean intact surgical wound)**
TAA-Theatre Arrival Area