University Hospitals of Derby and Burton NHS Foundation Trust

TRUST POLICY AND PROCEDURES FOR THEATRES RDH SITE

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	V2	2009	Jenny Cuttell	To update and reflect changes in practice and associated Trust Policies
	V3	2009	Pam Twine	Minor amendment
	V4	2013	Jenny Cuttell	To update and reflect changes in practice and consult associated Trust Groups and Policies
	V5	2018	Nigel Roberts Jenny Cuttell Safer Surgery Group	National Safety Standards for Invasive Procedures (NatSSIPs) Association for Perioperative Practice Standards. Support practice change and the learning from incidents.
	V6	June 2020	Claire Saunders	Addition of a sentence for tha management of bungs, sheaths and caps during surgery
Intended Recipients: Trust staff, theatre staff, surgeons, anaesthetists, students and visitors to theatre				
Training and Dissemination: Safer Surgery Group, Departmental Meetings, Theatre Training, Local Induction and orientation of new staff (registered, agency, non- registered) and students.				

To be read in conjunction with: Transfusion Handbook, Trust Policy and Procedure for the Transfusion of Blood and Blood Components, Transfusion Policy (& Exclusion Form), Specimens Policy, Trust Policy and Procedure for Infection Control, Trust Policy and Procedures for the Management of Inoculation Incidents, Trust Policy and Procedure for Hand Hygiene, Trust Dress Code Policy, Policy for the prevention and management of natural rubber latex allergy in healthcare workers and others, Management of the Latex Sensitive Patient in the Operating Theatre, Booking of Emergency/ Urgent Cases in the Operating Theatre, Escort Guidance, Guideline for Surgical Scrubbing, Trust Medicines Code, Trust Policy for Radiation Protection.	
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Approving Executive Signature	

Content

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TRUST POLICY AND PROCEDURES FOR THEATRES

1. Introduction

This documents sets out the National Safety Standards for Invasive Procedures (NatSSIPs) that have been created to bring together national and local learning from the analysis of Never Events, Serious Incidents and near misses (NHS England 2015).

2. Purpose and Outcomes

These standards are a minimum standard, based on national best practice and in place to improve patient safety and reduce harm. They apply to everyone and all services who perform invasive procedures, and are the standards we expect at the Royal Derby Hospital. It should be read in conjunction with Standards and Recommendations for Safe Perioperative Practice (2016).

3. Definitions Used

Theatre Practitioners	Lead practitioners, senior practitioners and theatre practitioners who are registered nurses and registered Operating Department Practitioners (ODP)
Assistant Theatre Practitioners (ATP)	ATP is a highly trained non- registered role who is trained to act in scrub practitioner and non- scrub roles
QUAD	Theatre quality assurance audit which monitors standards of practice are carried out in all operating departments monthly. QUAD is reported to Safer Surgery Group quarterly.

4. Key Responsibilities/Duties

4.1 Lead Theatre Manager

The lead theatre manager is responsible for the service in the operating theatre. Chair of the Safer Surgery Group, member of DQRG and DMT. Ensures Theatre Policies are up to date, aligned with national policies and guidelines, to include the learning from national and local incidents. Ensures effective systems and monitoring processes are in place to monitor compliance with theatre policy.

4.2 Theatre Managers

Manages allocated theatre areas, are members of the Safer Surgery Group and responsible for the development, distribution and monitoring of the Trust Theatre Policy.

4.3 Theatre Practitioners

Lead Practitioners, Senior Theatre Practitioners and Theatre Practitioners are responsible for the distribution and adherence to Trust Theatre Policy. Ensures theatre policy is discussed on induction of all new staff and students. Ensures that practice is based on this policy and adhered to.

4.4 Assistant Theatre Practitioners (ATP)

ATPs are highly trained for scrub practitioner and non- scrub roles. They are therefore responsible that practice is based on Trust Theatre Policy and adhered to.

4.4 Health Care Assistants (HCA)

HCAs are trained to support the perioperative team and responsible that their practice is based on Trust Theatre Policy and adhered to.

4.5 Apprentices

Apprentices are being trained towards the role of the HCA and play a vital part supporting the perioperative team. They are responsible for adhering to Trust Theatre Policy.

4.5 Professional Development Advisor (PDA)/ Facilitator (PDF)

PDA/Fs ensures Trust and local learning and development programmes include Theatre Policy.

4.7 Trust Staff

All Trust staff e.g. surgeons, anaesthetists, radiographers, etc. who are required to work in the operating theatre as part of the management of patients attending, or to provide direct/ or indirect patient care are responsible for maintaining standards and compliance with the Trust Theatre Policy.

5. Theatre Policy

5.1 Access of Personnel

5.1.1 Controlled access of personnel to the operating theatre is essential to reduce bacterial contamination. Only those personnel required for the normal functioning of the theatre should be allowed routine access. All other personnel such as maintenance staff, students or medical sales representatives should obtain permission for access from the theatre manager or designated deputy before entering the clean area.

All staff is reminded that unnecessary movement within the clean zones of the theatre should be avoided. The definition of clean zones and the detailed practice for an individual theatre or theatre department shall be the responsibility of the theatre manager.

5.1.2 Any sales representatives found to be 'cold calling' in clinical or non-clinical areas may be refused admission to Trust premises.

5.1.3 There should be no relatives allowed into an operating theatre with a patient during operative procedures. However, in exceptional circumstances a decision for the relative to attend theatre might be in the best interests of the patient e.g. for the psychological and emotional care of a child or adult with learning needs.

5.2 Assistance for the Anaesthetist for GA, Regional Blocks and Sedation

Trained assistance for the anaesthetist must be provided wherever anaesthesia is provided. The safe administration of anaesthesia cannot be carried out singlehandedly; competent and exclusive assistance is necessary at all times. Theatre managers must insist on adequate resources to employ, train and develop sufficient numbers of assistants to ensure a safe anaesthesia service in accordance with good practice.

(Clinical Guideline CG-ANAES/2016/008 and The Anaesthesia Team 3 2010).

5.3 Mobile Phones

Mobile phones must not be used for personal use in the clinical areas, unless in exceptional circumstances with permission from the theatre manager/ designated person in charge.

5.4 Theatre Attire

All personnel must change into freshly laundered work clothing when entering the theatre except in acute emergencies. Refer to ***Trust Dress Code Policy*** for wearing theatre clothing. All of the team involved in an infected case must change their theatre clothing after the procedure. ***(Trust Infection Control Manual).***
It is prohibited to wear scrub gowns outside of the theatre.

5.4.1 Theatre Linen and Gowns

As the technology of theatre gowns and fabrics is changing, no specific recommendations are made in this document. An annual assessment of gowns and drape fabrics will be carried out in line with requirements current at the time.

All theatres will provide adequate personal protective equipment (PPE) for the face and eyes. These must be used wherever possible. All in the scrubbed team must wear disposable gowns for infected cases ***(Trust Infection Control Manual).***

5.4.2 Footwear

Footwear should be provided for all personnel working in theatres and should be used only in the operating theatre. All footwear worn in the clean zone of the theatre should conform to CE Standards. The footwear must be reserved solely for use in the operating theatre. CE Standards state that shoes should be anti slip, breathable, antistatic and water resistant. They should be cleaned regularly by the individual.

5.3.3 Jewellery and Rings

The wearing of jewellery within the hospital is covered by the ***Trust Dress Code Policy*** and the ***Trust Hand Hygiene Policy***. However, within the

operating theatre it is advised that only the minimum of jewellery should be allowed.

All rings, including wedding rings, should be removed before scrubbing up takes place. No jewellery should be worn by those scrubbing up and no wrist watches worn by personnel moving patients or performing clinical procedures where effective hand hygiene is necessary. One pair of stud earrings may be worn if not scrubbing up.

5.3.4 Caps/Hats/Hoods

These should cover the hair completely, including fringes, sideburns and beards. Hair covering should be worn at all times in the clean zone of the theatre department.

A uniform colour code of hair covering is used throughout theatres, four different colours are used:-

- Blue for registered theatre practitioners, qualified ATPs, surgeons and anaesthetists
- Green for students
- Pink for non registered theatre staff
- White for visitors

5.3.5 Masks

Clean theatre masks must be used by the scrub team (for their own protection). The minimum standard for the Trust is that masks are worn by all staff at the operating table, and for staff in the theatre during Orthopaedic and prosthetic surgery.

Masks must be worn as per manufacture guideline over the mouth and nose.

Masks must be discarded after a case and replaced with a fresh mask, between cases and if they become wet. Masks should be removed by touching the ties only, contact with the part of the mask covering the nose and mouth should be avoided.

5.3.6 Eye protection

It is strongly advised that eye protection (glasses, goggles or visors) must be worn by the scrub team. Disposable visors must be discarded between

cases and immediately after use. Reusable eye protection must be cleaned between cases by the wearer.

5.3.7 Visitors

Visitors who enter the theatre complex need not change however whilst those entering the operating theatre itself, should be properly attired.

There is no evidence to support the practice of parents or other carers wearing over gowns or overshoes in the anaesthetic rooms or recovery areas. However all visitors to Orthopaedic theatres must change into theatre clothing or the over gown/ over shoes provided before entering the theatre suite.

5.5 Immunity to Hepatitis B

All staff working in operating departments, who are in regular contact with blood or other body fluids, should receive Hepatitis B immunisation, including post immunisation testing and regular follow - up booster doses. This can be arranged through the Occupational Health Service.

5.6 Operating Theatre Sessions

The Planned Care Division, in consultation with Lead Theatre Manager, Theatre Managers and Medical staff, should agree the operating session start and finish times for the theatres under their control. These should be regularly reviewed. Any late changes to the sessions should be communicated to recovery at the earliest convenience to ensure staffing covered.

5.6.1 Operating Lists

All operating lists should include the following criteria under an agreed format:-

- Date of session
- Session start time
- Surgeon name
- Patient forename and surname
- Date of birth
- Hospital number
- Sex
- Ward
- Procedure description
- Special notes/comments

The lists should be produced through the operating theatre IT system, ORMIS, or if this is not possible, typed or clearly printed by hand in block capitals. The full name and hospital number must always be included on the operating list. Local or general anaesthesia must also be stated clearly. Abbreviations such as 'R' and 'L' for the operation site should never be used, 'right' and 'left' should be written out fully. Only approved abbreviations may be used for certain specialities.

Infected cases, MRSA, active tuberculosis, risk of blood borne virus and any special requirements should be clearly marked on the list.

A latex allergy case should be first on the list, preferably in the morning ***(Clinical Guideline for the Management of the Latex Sensitive Patient in Theatre).***

Both morning and afternoon lists should be printed and distributed by 4pm by theatres on the previous day, or on a Friday for Monday's list. The following distribution should be the minimum to safeguard patient confidentiality:-

- Operating theatres, including anaesthetic, receiving and recovery rooms
- All associated wards
- Other departments, such as x-ray where appropriate

Caldicott guidance should be adhered to with regard to the display and disposal of operating lists.

Emergency lists should be managed in accordance with the Trust and local policy ***(Booking of Emergency/ Urgent Patients in the Operating Theatre).***

5.6.2 Alteration of Operating Lists

Any operating list which needs to be altered before 4pm on the day prior to the list taking place, or on a Friday for the Monday list should be altered on ORMIS. Any operating list that needs to be altered after 4pm on the day prior to the list taking place, or on a Friday for a Monday list should be communicated to the relevant theatre.

The Theatre Manager or designated deputy shall be responsible for arranging the alteration of any operating list and will ensure that all copies

within the operating department are altered and all other relevant wards/ departments are informed.

If the decision to alter the list is made outside of the operating department e.g. the ward, then the person making the alteration has the responsibility for altering all the lists locally and informing theatre.

The theatre person receiving this information similarly has the responsibility of altering all lists in the operating department.

Alterations should be kept to a minimum, and if at all, the first patient on the list should not be altered.

Operating list alterations/ cancellations also need to be communicated with recovery/ ICU/ SDU/ theatre co-ordinator/ level 5 managers and noted on ORMIS.

5.7 Marking of Patients

5.7.1 Identification of Correct Site

The consultant, operating surgeon, or nominated deputy who is marking the patient will explain the reasons for the marking and confirm with the patient that the operation site is identified correctly.

In cases where the patient does not have capacity to confirm the site, this will be undertaken by two medical practitioners and documented within the health record.

5.7.2 Site Marking

An indelible marker pen must be used. The mark must be an arrow that extends to, or near to the incision site and should remain visible after the application of skin preparation solution.

Whenever possible the mark should be placed so that it will be clearly visible after the application of sterile drapes. Surgical operations involving side (laterality) must be marked at, or near to the intended incision.

Where there are procedures involving a side (laterality) and the approach is via a laparoscope for example, the patient should be marked.

For digits on the hand and foot, the mark must extend to the correct specific digit ascertained from the patient, reliable documentation and images.

The site marking must be done preoperatively on the ward/ ELAD prior to pre- medication and/or arrival to the operating department.

Anaesthesia/surgery must not be commenced until the operative site has been marked.

5.7.3 Circumstances Where Site Marking May Not Be Possible/Appropriate

- Where emergency surgery must not be delayed

- Teeth and mucous membranes – All surgical tooth extractions, within a clinical area, are to be hand written by the operating medical practitioner on the white board. This is identified at the WHO stop moment and an identified whiteboard for this purpose only. This is utilised along side the WHO stop moment as described in this policy.
- Cases of bilateral simultaneous organ surgery, such as bilateral tonsillectomy and squint surgery
- Situations where laterality cannot be confirmed following examination under anaesthetic or exploration in theatre, such as revision of squint surgery ***(NPSA 2005).***

5.8 Sending for Patients in the Operating Department

5.8.1 Sending Slips

The receiving staff co-ordinate the sending for patients from the ward/ ELAD, or within agreed working protocols for that DCU/ operating department.

When patient sending slips are used, they must contain the following information:-

- Theatre
- Patients full name
- Hospital number
- Ward or location of patient

The sending slip should only be written at the time of sending for that particular patient and not written in advance. The sending slip must be returned with the patient, attached to their notes.

5.8.2 Walking Patients

The operating department will either call the ward to send for a patient, or take a slip with patient details to the ward/ department when the patient is required for surgery. This slip will be used as identification control when the patient arrives in the operating department.

It is the nurse's responsibility on the ward/ department to check that the patient detail is correct, use and sign the Pre-Procedure Checklist and assure the correct patient is taken to theatre.

Patients must wear appropriately fitting footwear and a dressing gown over their theatre gown for thermal comfort, privacy and dignity.

5.8.3 Patient Transport to the Operating Department

All patients who have had pre-medication must be taken to the operating department on a trolley. All other patients are risk assessed on mobility by using the approved manual handling risk assessment tool prior being taken to theatre by means of walking, wheelchair or trolley (as appropriate). Safe footwear, thermal comfort, privacy and dignity must be considered whichever mode of transport is used.

5.8.4 Children

Children require psychological support to ensure that the experience of going to theatre is not as traumatic as it could be. The parent/ guardian, and an appropriate member of staff will escort the child to the operating department, be available in the anaesthetic room if appropriate, and be there as soon in the recovery room as possible post surgery.

A toy, book or comforter may be taken to the anaesthetic room and be available in recovery. When safe, it is the discretion of the recovery practitioner, when the parent or guardian can be allowed into recovery.

When sending for a paediatric patient out of hours, refer to the ***Pathway for Sending for Paediatric Theatre Patients Out of Hours.***

5.8.5 Privacy and Dignity

Careful consideration must be given to the specific needs of the patient, including the need for privacy by the use of appropriate clothing, paper pants, own pants (depending on site of surgery), cotton crop- tops, etc whenever possible. Patients may prefer to wear cotton jogger bottoms or boxer shorts under a gown. Privacy and dignity should be maintained throughout the operating theatre including the receiving room where sensitive discussions are held.

If patient gowns have been removed or soiled during surgery, they should be replaced with clean dry items as soon as practicable before transfer to recovery.

5.9 Documentation and Patient Checking Procedure Ward/ Operating Department Receiving Room/ Anaesthetic Room

5.9.1 Ward- Completion of the Trust Pre- Procedure Checklist must be undertaken and signed on the originating ward/ department by a suitably trained member of staff before the patient is requested for theatre.

At each stage of the checking procedure (ward, receiving room, anaesthetic room) the patient must be asked to **state** (not confirm) their full name, address, date of birth and the anatomical location of the intended procedure. Asking the patient to state their own name and date of birth promotes Positive Patient Identification (PPI).

The patient responses must be checked against the notes, consent form, ID band, the marked surgical site and the operating list. Patients should not be transferred to the operating department without a signed consent form unless there are exceptional circumstances.

Patients do not automatically need to be escorted to theatre by a member of the ward/ department staff however, where the transfer involves neonates, acute mental illness, mother's in labour or a potential need for drug intervention requiring nurse / midwife administration, the nurse or midwife should escort the patient. Where the patient lacks capacity is dying or distressed a member of ward staff should escort the patient to assure theatre staff can verify identity and consent ***(Trust Transfer Policy- Escort Guidelines for Adult Patients).***

5.9.2 On Arrival at the Operating Department

On arrival at the operating department receiving room and prior to transfer to the anaesthetic room, an appropriately trained theatre person must review the patient's theatre checklist against that patient; including identity

band, the consent, operating list and all other information on the Trust Pre- Procedure Checklist. They must also sign the checklist.

If the patient lacks capacity then it is not necessary to confirm details with the patient if the consent is signed by both parties. The surgeon undertaking the procedure remains ultimately responsible for confirming the identity of the patient, the consent and marking of the operating site. However, theatre staff have a responsibility to check the identity band, the appropriate consent form has been filled in by both parties, under the patients best interest, against the operating list and all other information on the Trust Pre- Procedure Checklist. They must also sign the checklist.

The appropriately trained theatre person must also check that all relevant notes and charts accompany the patient to theatre such as:-

- Notes
- Addressograph labels
- Anaesthetic chart
- Consent form

On arrival to the operating department, according to ***NICE Guidance (2008) The Management of Inadvertent Hypothermia in Adults***, patient temperature should be checked prior to surgery.

In the Anaesthetic Room the anaesthetist and theatre practitioner will check the details of the patient again, as outlined in the WHO procedure below.

5.10 Communication in the Operating Theatre

Five Steps to Safer Surgery

World Health Organisation (WHO) Surgical Safety Team Briefings and Checklist

The World Health Organisation ***(WHO 2009)*** surgical safety briefings and checklist has been implemented and developed in Derby operating theatres since 2010 as the primary patient checking process prior to surgical procedures. It is considered to be best practice nationally ***(NatSSIPs 2015, LocSSIPs 2016 and NPSA 2009)*** and recognises that human factors are involved when serious untoward incidents (SUI) occur. WHO team briefs and checklists are in place to:

- Strengthen commitment of clinical staff to address patient safety issues within a surgical setting
- Ensure positive patient identification
- Improve anaesthetic safety practices
- Ensure correct site surgery, no retention of foreign objects and no wrong prosthesis insertion
- Avoid surgical site infections (SSI) with use of the SSI bundle
- Improve communications within the Multi Disciplinary Team (MDT)
- Ensuring equipment availability

Core team:

The core team are those members of the surgical team who are involved in the care of the patients on the operating list; Operating surgeon, anaesthetist, trainees, scrub practitioner, anaesthetic practitioner, HCAs, apprentice's, F1's, students, radiographers, radiologists and sales representatives who are essential for a specified procedure etc.

A set of safety checks are verbalised and documented on the ORMIS care plan and Pre-Procedure & WHO Checklist at vulnerable times in the patient journey through admission to discharge. Patient safety is of the highest priority in an operating theatre.

5.10.1 WHO Team Briefings: WHO Team Briefing will take place at the start of every operating list with the core team:

- To be done prior every operating list, with the core team. It is best practice to be surgeon led
- Team introductions to include the core team, F1s, students, etc. who are involved in the care of the patients during the list. Names and roles are written on the 'white board'
- Surgeons, anaesthetists and theatre team are to share relevant information regarding the care of the patients
- Surgeons: Beds, cancellations, additions, changes, order, infection risks, significant blood loss, special investigations, special equipment, prosthesis/ implants required, positioning and potential critical events
- Anaesthetists: patient concerns, type of anaesthetic, additional support for possible airway management issues, special investigations, drug requirements, medical devices/ pumps/ monitors required
- Theatre staff- equipment issues, availability of implants/prosthesis, clarity of list, staffing, student scrub involvement, etc.

- The 8am board meeting in general theatres must include recovery staff
- The Team Briefing Document must be filled in during the briefing and displayed on the whiteboard for the entire list. This can be used during handover to any new member of the theatres team. It must be retained in a folder in theatre.

5.10.2 WHO Safety Checklist- Sign In- Anaesthetic Room Checklist: To be read out loud before anaesthesia and initiated before any treatment/ preparation for surgery.

- Positive Patient Identification (PPI) established by asking patient to state their identity, DOB and address. Cross checked with ID band, hospital number and addressograph label on notes
- Correct operation, side and site established by asking patient to state. Cross check with operating list, consent form & operation mark (if appropriate)
- Check allergies, prosthesis/ pacemaker insitu, NBM (if appropriate)
- Anaesthetist and anaesthetic practitioner to confirm (if applicable); equipment is ready for airway issues, blood is available, anaesthetic machine has been checked, all drugs required are available
- The checklist documentation must be signed

Block Stop Moment: A STOP BEFORE YOU BLOCK approach is considered as best practice according to the Safe Anaesthesia Liaison Group ***(SALG 2012)*** and endorsed by the Association of Anaesthetists of Great Britain & Ireland ***(AAGBI).***

- All patients requiring a regional block must have a 'pause' or side/site check immediately prior to inserting a regional block needle
- The anaesthetist and anaesthetic practitioner must check if the regional block is required
- Check that the block injection site has been marked and confirmed for side and site with patient/list/consent
- The checklist must be signed

5.10.3 WHO Safety Checklist- Time out/ Stop Moment. Every patient entering the operating theatre for a surgical procedure will receive a **Time Out/ STOP MOMENT** immediately prior to surgery. This is the final safety check and must be engaged with by the whole core team.

NO STOP, NO OP: Scrub practitioners are supported not to provide skin preparation solution or surgical instrumentation until the **STOP MOMENT** has occurred.

The core team must be present, focused and **STOP** all activity to verbally confirm the following:

- Establish PPI with patient (if awake) and intended procedure against ID band, consent form, operation mark and operating list
- State known allergies/ insitu prosthesis/ pacemaker
- Surgeon to state anticipated surgical events (if applicable)
- Surgeon to state if VTE prophylaxis is planned, prescribed, to be administered
- Surgeon has all essential imaging displayed
- Anaesthetist to state concerns from anaesthesia (if applicable)
- Anaesthetist to consider that the applicable components of the SSI bundle are in place: Antibiotic prophylaxis, hair clipped, glycaemic control and patient warming
- Scrub practitioner to confirm that all equipment is ready and available for the operation
- The checklist must be signed

5.10.4 WHO Safety Checklist- Sign Out: Scrub theatre practitioner to verbally confirm with the team, prior to patient leaving theatre. It is the time for checking that there will be no retained foreign objects/ never events or any issues with the team.

- The ‘actual procedure’ performed with a verbal check from the surgeon to include any additional procedures . This is recorded in the operation register and on ORMIS and hTrack.
- Confirm swab/sharp/instrument counts are correct
- Specimens have been checked by two members of staff, confirmed with surgeon and recorded on ORMIS
- Tourniquet/ throat pack is removed (if applicable)
- Noted any procedural/ equipment issues required to be addressed
- Stated key concerns for handover to recovery/ICU e.g. blood products transfused/ drains/ pressure area issues/ swabs left insitu.

5.10.5 WHO Safety Checklist- WHO Team De-briefings: Are intended to occur with the core team at the end of the operating list. This is to support the team after the list and address any concerns raised.

Key elements for debrief are:

- Things that went well
- Any problems
- Any areas of improvement?

Actions to include:

- What we the team can change
- Who will lead and feedback for the next speciality team brief

5.10.6 Handover from procedural team to post-operative recovery *(Recovery Policy)*

Theatre practitioners to use **SBAR1** to handover to recovery/ ICU staff. An Anaesthetist and Scrub/ Responsible Practitioner will handover and sign for:

S – Situation

- Patient name (wrist band must be attached to the patient)
- Surgical team/ theatre
- Operation/ procedure details and variances
- Details of any local anaesthetics given by the surgeon
- Closure
- Packs
- Dressings/ casts
- Location and types of drains
- Provide catheter PU details

B – Background

- Allergies
- Infection risk
- Issues in theatres/
- IR1s

A – Assessment

- Estimated blood loss
- Peri-operative progress e.g. position & total time of procedure, grafts
- Skin check result and/ or areas of concern
- Surgical specific care required from surgeon and concerns discussed at WHO ‘sign out’

R – Recommendations

- For on-going care

The Scrub/ Responsible Practitioner and recovery practitioner must sign the peri-operative care pathway for validity and handover.

5.10.7 Identification Wristband

If it is necessary to remove the patient's identification wristband, then this should be carried out by the member of the theatre team who then will remain responsible for re- attaching the a new wristband to the patient before leaving the theatre. The identity wristband must be kept with the patient's notes and on no account be discarded.

Note: An identity wristband must be replaced before transfer to recovery/ ICU. If an identity band printer is not available, then re-attach the cut off identity band with tape securely to a limb prior to leaving the operating theatre. This is essential for the ongoing care of the patient if unconscious or sedated. If the identity wristband has not been replaced, the recovery/ ICU practitioner should locate staff from that theatre team to confirm patient identity and attach a new identity band.

5.11 Documentation of Patients in the Operating Department

5.11.1 Pre-Procedure Checklist

The Pre-Procedure Checklist to be completed by ward/ department for all patients prior to surgery. The Team Briefing Record, WHO Surgical Safety Checklist and Debriefing Record to be completed at all phases of surgery.

5.11.2 Operations Register

It must be emphasised that the Operating Register is a permanent record of the procedure carried out in that theatre and may be required to be produced in a court of law. Therefore, this Register must be filled in promptly, completely and accurately. This Register will become the official swab book and all swab checks will be recorded and signed for by those staff undertaking the counts.

5.11.3 Ongoing Patient Treatment

Before leaving the theatre the scrub practitioner must ensure that the patient's perioperative care plan is complete on ORMIS, and then signed for a SBAR1 formal hand over to the recovery practitioner.

The decision to allow the patient to leave the operating department or recovery area is the sole responsibility of the surgeon, if under local anaesthetic with no anaesthetist present, or the anaesthetist.

Ensure the WHO sign out has been verbally confirmed with the team and documented. In certain circumstances the recovery practitioner has the responsibility of discharging the patient back to the ward on behalf of the surgeon / anaesthetist.

If in-patients are being transferred to DCU awaiting bed or discharge home, TTOs and fit notes must be completed where appropriate before transfer. If this is not done there are delays to discharge and ongoing treatment.

5.12 Hospital Beds in Theatre

If appropriate to the care of the patient, this is a joint decision between the surgeon and theatre manager/designated deputy. Ward beds may go into theatre, but must be made up with fresh linen prior to entering the theatre area.

In the orthopaedic department beds allowed are: Unstable spines, dislocated hips, skeletal traction patients and patients over 110kg, with agreement of the surgeon.

Where beds are not allowed to go into theatre, two staff members must accompany the patient to recovery to assist in safe patient transfer onto the bed.

5.13 Correct Orientation of X-Ray Images in Theatre

If there are any previous imaging examinations which are pertinent to the current operation, the surgeon must ensure these are displayed on the viewing boxes/PACS:-

- The surgeon must assure themselves that the images are displayed correctly
- The images should be marked with a (R) for right and/ or (L) for left marker

During the WHO Stop Moment staff and surgeon should refer to the x-rays to check they are correct with the surgical site markings and consent.

An IR1 form must be completed before proceeding if there was a (L) or (R) marker discrepancy on the x-ray image.

If there is any conflict between the affected side on the x-ray image and the affected side marked on the patient, this should be bought to the attention of the surgeon and the operation must not commence until resolved. IR1 forms must be filled in for all discrepancies.

Patient x-rays should be taken off the viewing screen, once the patient leaves theatre and before another patient enters. This is the responsibility of the operating surgeon. At the end of a session all patient x-rays should be off screens and systems shut down.

When using the image intensifier be sure that the image projected (and stored on PACS) represents the correct laterality of the body part being screened/operated on. I.e. When injecting a left sided joint, be sure that the image intensifier reflects that on screen and is saved on PACS as such.

This has obvious patient safety implications but also medico legal ramifications as the image stored is part of the patient record which may be accessed at a later date and needs to be a true reflection of the procedure.

5.14 Preparation of Surgical Site

Patients should be prepared for (clipping and skin preparation) their procedure in accordance with the ***Infection Control Guidance for Theatre (Trust Infection Control Manual and Appendix 1).*** The surgical site mark must be an arrow that extends to or near the incision site and should remain visible after the application of skin preparation. It is desirable that the mark be visible after the application of theatre drapes.

5.15 Prosthesis Verification

Prior to the start of any operating list, staff must identify the prosthesis needed for the whole day, in their allocated theatre.

5.15.1 Check before the WHO moment: Staff must systematically check available prosthesis within the operating department (to include expiry dates)

5.15.2 WHO Team Briefing: Prosthesis required must be confirmed by the operating surgeon

Feedback on the availability of the prosthesis must be communicated by the person responsible for the implant check.

5.15.3 WHO stop moment: Prosthesis to be confirmed as part of the equipment check at the time of the stop moment.

5.15.4 Prosthesis request: The surgeon performing the procedure must verbally request the required prosthesis

The size and brand is confirmed verbally by the scrub practitioner to the circulator

The circulator leaves theatre to collect the requested implant.

5.15.5 Visual checks: Immediately before the prosthesis is opened and handed to the scrub team a visual check MUST take place to include expiry date.

The operating surgeon must clearly see the prosthesis outer packaging and verbally confirm this is the desired implant(s).

It is ESSENTIAL that the scrub practitioner is shown the outer packaging and verbally confirms the implant(s).

A final confirmation between the surgeon and scrub practitioner to clarify that the implant(s) can be opened and handed into the sterile field.

5.15.6 Prosthesis Compatibility: When implants are required at different intervals throughout a procedure it is VITAL that the compatibility between separate implants is identified.

All implant identifiers must be retained and recorded for traceability and accountability. All implant identifiers must be retained and recorded for traceability and accountability.

5.16 Procedures for Checking Swabs, Sharps and Instruments

Unintended retained objects are considered a Never Event ***(DH 2015/16)*** and careful documentation can significantly reduce, if not eliminate these incidents ***(AORN 2010 and AfPP 2016).*** All checks will be carried out by the scrub theatre practitioner and circulating person, one of who must be professionally registered. ‘Registered’ when used, denotes RGN and ODP qualifications.

For continuity of care during cases and managing late finishes: Staffing for cases must be reassessed during the operating list. At an appropriate time in the day, staff must escalate the possibility of list overrun to team leaders. For example, scrub practitioners who are due to finish work at 6pm and there is potential for finishing 5 or 10 minutes late, the scrub practitioner should stay to complete the case. This reduces the potential for miscounts when handing over swab, needle & instruments.

If it is necessary for the scrub theatre practitioner to change during a procedure due to operation length, comfort or shift change, a check of swabs, sharps and instruments (and any extra items) must be performed and documented on ORMIS. This will be a verbal and visual count by both people.

5.16.1 Swabs

Before commencement of each operation:-

- All swabs opened onto the instrument trolley must be checked
- All swabs must be packed in bundles of five and be of uniform size and weight
- Any package containing fewer or more than five, must be removed from the procedure area immediately to the theatre sluice, communicated to the theatre team and noted on the whiteboard
- Each bundle will be opened and the contents of each counted to ensure that it contains five swabs and checked for radio- opaque marker. The process of counting the swabs will be as follows:-

  a) Each swab must be counted individually by moving each swab from a pile of ‘uncounted’ swabs onto a separate pile of new ‘counted’ swabs. Each bundle of five must be secured with a red tie, these ties will be securely retained on a discard- a- pad. This enables them to be counted as part of the swab check
  b) The total number of swabs in use will be recorded on the swab board by the circulating practitioner. It is the scrub practitioner’s responsibility to ensure that swabs are recorded immediately after checking. All swabs recorded on the swab board will always be noted in multiples of five

During the operation:-

- Extra swabs will be checked in the same manner as above. The number checked will be recorded on the swab board immediately
- The process of checking all swabs in use will be as follows:-

a) Swabs outside the sterile field will be counted first
b) Then swabs on the instrument trolley
c) Then the ones in use by the operating surgeon
d) Swabs should be counted as the total number indicated on the board e.g. if 4 bundles of swabs are recorded on the board then they should be counted as 20

Swabs should be opened out so that they are not rolled or screwed up to be counted out of the sterile field and counted separately, 5 at a time, into a plastic bag. The red tag must be added to the bag of 5 swabs before it is tied. The bag will be tied, and will always be retained in theatre until the end of the operation so that they are included in subsequent counts. This bag should be marked as containing 5 swabs (if swabs are being counted out and weighed during that operation). This bag of 5 swabs and red tag is tied and kept within eyesight of the scrub practitioner; each bundle of 5 swabs is kept in a separate bag.

Medium and Large Swabs should be opened out so they are not rolled or screwed up, checked that any tape is still securely attached. When they are passed out of the sterile field, medium or large swabs which need weighing are counted out one at a time into a plastic bag, weighed immediately and the bag is labelled after weighing as containing one medium or large swab. When 5 individual packs have been bagged, then they will be counted and placed in another plastic bag and labelled as containing 5 medium or large swab. The red tag must be added to the bag of 5 medium or large swabs before it is tied. If medium or large swabs do not need weighing they can be counted out in 5's. Any bag of 5 must be retained in theatre until the end of the case so that they can be included in subsequent counts.

For operations which will require a large quantity of swabs (over 50, or 10 packs of 5) can be counted into a clinical waste bag and labelled as containing 50 swabs and again retained until the end of the case when the final count is verified. Red tags managed in the same way as stated above.

Swab counting during closure or equivalent:-

- All swabs will be counted before closure of any internal cavity or organ e.g. bladder or uterus, reduction of dislocated joint and securing prosthesis. At this point the scrub theatre practitioner will ask for confirmation from the surgeon if there are any items, swabs, instruments that they are aware of retained in the cavity. If the

surgeon decides to close a cavity before the scrub theatre practitioner is satisfied about the accuracy of the count, or if there is an unsatisfactory count, the scrub practitioner should inform the person in-charge of theatre immediately.

- The surgeon should be informed that the count is correct and this information should be acknowledged with a verbal response from the surgeon.

At the end of the operation:-

- Both the scrub and circulating practitioner will count swabs used and those still available for use, and satisfy themselves that the count is correct. The surgeon will be informed when the check of swabs are correct. The scrub practitioner will illicit a verbal response from the surgeon that they have heard and understood.

- It should be noted that the scrub practitioner and surgeon should keep a careful check of any swabs still in use during closure of the wound or equivalent.

When the skin is closed or equivalent:-

A final swab check will be made by both scrub and circulating practitioner after the skin is closed, or equivalent and **before** the patient leaves theatre. The surgeon should be informed that the count is correct by stating that 'swabs are correct' and this information should be acknowledged with a verbal response from the surgeon. If not acknowledged, should be documented in the notes, ORMIS.

- Any dressing packs/ green gauze not containing a radio-opaque marker will not be opened until the final count/check has been verified
- The scrub practitioner will state when the swabs, at the end of the case, can be disposed of
- If the count is incorrect, the scrub practitioner will inform the surgeon and the person in-charge

5.16.2 Action to be Taken if Swab Count is Not Correct

If the swab count is incorrect, and if, though a systematic search, has failed to reveal the missing swab/swabs/packs, the following procedure will be carried out:-

- If the condition of the patient permits, the patient will be x- rayed before the anaesthetic is discontinued to ensure the missing swab is not inside the patient. A plain x-ray is recommended ***(MHRA 2005).*** Fluoroscopy/ image intensifier should not be used as they can fail to locate radio opaque swabs
- When a count shows a discrepancy, the person in- charge of that theatre will inform their manager/ designated deputy and the surgeon will inform their consultant
- **A record of the discrepancy must be made in the medical notes, on ORMIS under scrub comments, in the Theatre Register and an IR1 form completed. Ensure "swab check correct" is recorded as <u>NO</u> on ORMIS.**

All of these will be signed by the scrub practitioner, circulator and surgeon. However, if the surgeon feels that the procedure is such that it would be impossible to have left a swab inside, then the x- ray can be dispensed with, but the surgeon takes full responsibility for this decision and it will be recorded that they have accepted this responsibility.

5.16.3 Miscellaneous Items

All sheaths, caps and bungs must be immediately removed and discarded off the sterile working trolley into the clinical waste bag

The use of pharyngeal/ throat packs has largely been discontinued and is rarely indicated due to risk of retention and palate abrasions. Gauze packs should only be used in exceptional circumstances. However, if a throat pack is used this should be justified by the surgeon or anaesthetist for each patient as appropriate. This person inserting the throat pack must assume the responsibility for ensuring its removal.

The following checking method must be used:-

- Visual check: label patient on the forehead with an adhesive 'throat pack' notice and leave part of the throat pack protruding
- Documentation: 'two person' check on insertion and removal of throat pack, record on theatre white board on insertion and removal
- Removal is part of the WHO 'sign out' if a throat pack is used

Any item left in an anatomical cavity during a procedure e.g. tapes/slings/sloops/BERT bags/pins/swabs/pledgets must be checked by both scrub and circulating practitioners before and after use and recorded on the swab board in the same way as swabs.

Any swabs left inside the patient intentionally must be recorded in the notes by the surgeon, in the Operating Register and care plan (ORMIS).

Refer to Guidewires, Introducers, Stiffeners - ***Full Clinical Guideline Reference no.: CG-TRUST/2016/001.***

5.16.4 Sharps

The scrub and circulating practitioners will count all the needles, blades and other sharps accepted on to the tray out loud and in unison before the start of the operation.

It is not recommended to open all packaging during the initial count as situation and requirements change. Unnecessary sharps may increase the risk of inoculation incidents and add to the cost of the procedure if not needed.

Where possible, safer sharps products will be trialled and implemented in line with the Health and Safety (Sharp Instruments in Healthcare) Regulations 2013. If safer sharps products are not available for certain procedures, the following must be adhered to ***(Appendix 2- section 5.2- Safe Sharps Practice within the Operating Theatre).***

All scrub practitioners must use either a sharps safety box or a sticky sharp safe discard-a- pad wherever sharps are used This is separate to the discard-a-pad used to manage red tags.

Plastic hypodermic sheaths must be removed and discarded by the scrub practitioner from the sterile field into the 'offensive' waste bag. The unsheathed hypodermic needle must be stored in non puncturable poly ware. This also includes other plastic items that are at risk of being retained inside a wound e.g. plastic tips from diathermy forceps and plastic from 3 way taps must be discarded.

Blades are not accepted by fingers. They must be received by an appropriately robust instrument and mounted onto the BP handle safely; and removed carefully in the same manner on to a sticky sharp safe discard-a-pad or blade remover system. Mounted blades on BP handles must be contained in an appropriately sized puncture resistant kidney dish.

Double-ended sutures will be counted as two sutures. The scrub practitioner, after handing a needle to the surgeon, should not; where possible, part with another needle until the used one has been returned and checked to ensure it is intact. If more than one needle is used at one

time, the scrub practitioner must take extra care that all the needles are returned to them.

As an extra precaution for sutures, the packets should be retained on the tray and counted to ensure that the number of packets corresponds with the number of sutures. The scrub and circulating practitioners will count the sharps before closure of any cavity and the scrub practitioner will inform the operating surgeon at once when correct.

If more blades, sutures or hypodermic needles are required during the operation, there will be a cumulative count displayed on the white board. For example sutures, at the start of the case the initial suture count will be displayed on the white board as Sutures: 1 - if a double ended suture is needed during the operation, the 1 will be crossed, but **NOT** wiped off, and 3 total sutures displayed. This will help the scrub and circulating practitioners tally final counts.

After skin closure and **before** the patient leaves theatre, the scrub theatre practitioner will check all sharps on the tray before disposing of them. If this count is incorrect, the scrub theatre practitioner must inform the surgeon immediately; and if a systematic search cannot locate the suture, then carry out the same procedure as in 5.13.2.

Missing micro items (e.g. needles that cannot be detected on x-ray) must be recorded on ORMIS. An IR1 form filled in and person in charge informed. X-rays should be performed at the discretion of the surgeon. It may be necessary to use the microscope to locate the missing item within the operative field.

The scrub practitioner is responsible for the safe disposal of all sharps.

5.16.5 Instrumentation

The scrub practitioner and the circulator will count all the instruments on the tray, out loud and in unison against the supplied printed tray checklist, before the start of the operation and any subsequent instruments must be checked as they are opened.

Trays and tray lists are standardised to assist with counting.

Instrument tray tracking stickers must be retained in the notes for future reference.

The scrub practitioner can, at any time, request that a tray be checked. Both the scrub and circulating practitioner will audibly count swabs, instruments before, during and after the operation.

Any instrument that can be disassembled must be checked that all components are present and correct, against the supplied printed checklist.

When additional instruments are required during the operation, they must be counted at the time to be included in the sterile field. For example, Lehey's are needed: 2 x Lehey's that are packaged together are opened, the 2 Lehey's checked against the barcode, the bar code is retained safely on the sterile field and the 2 Lehey's are noted on the theatre white board and traceability stickers filed on the careplan.

When another tray is opened for one or more extra instruments, the lid must be completely removed and a full check of the tray must be carried out at the earliest convenience.

In the event of NCEPOD 1 emergency ***(NCEPOD 2004)*** it is recognised that it is not always feasible to perform an initial check where this will delay surgical intervention. In these circumstances all packaging must be retained and a count facilitated at the earliest convenience and documented on ORMIS.

At the end of the operation:-

- On commencement of closure, the scrub theatre practitioner must be confident that all swabs, sharps and instruments are correct

- If any discrepancies in the count are found, the same procedure as for missing swabs should be instigated

- Dropped/ discarded/ dirty or broken instruments will be shown to the scrub theatre practitioner with their component parts and placed in an accessible position for checking

- A service report on Synergy Track should be created and the broken, dirty, missing instrument returned to sterile services The surgeon must be informed that the checking of swabs, sharps and instruments is correct and the scrub theatre practitioner will then elicit a response from the surgeon that they heard and understood

- The counting sequence should be of a logical progression e.g. from small to large, the recommended sequence is swabs, sharps and instruments and must be performed uninterrupted
- All swabs, sharps and instruments are verbalised as part of the WHO 'sign out' before the patient leaves theatre
- Instrument checklists for each tray will be completed with hospital numbers (confidentiality), date, ward number and the scrub and circulating practitioner's names

5.16.6 Colour of Swabs in the Operating Department

All swabs to be used in the operation, where there is a surgical incision made, will be white and contain a radio- opaque marker. Swabs used for dressings will be coloured green and will not contain a radio-opaque marker. These green gauze swabs will not be opened until the skin is closed and the final swab check is correct. These items should be added to the trolley from separate sterile packs as and when required. All swabs used in the anaesthetic room will be coloured green.

5.16.7 Medium and Large Swabs Left In- Situ

Whenever patients leave the operating department with packs or swabs in- situ, this information must be clearly stated at the WHO 'sign out', recorded in the care plan (ORMIS) and the operating register. This information will also be recorded in the patient's medical notes by the operating surgeon and clearly handed over to recovery/ HDU/ ICU.

5.17 The Application of Tourniquets Prior to Surgery

The decision to apply a tourniquet is the responsibility of the operating surgeon and a trained person should carry out the application.

5.17.1 Application of Tourniquet

The correct limb, which will have been marked, is identified when only one tourniquet is required. If bilateral, a check should be made with the surgeon to see if both tourniquets are to be inflated (this is possible when the procedure is minor). If they are to be inflated one at a time, this should be agreed at the WHO team brief and in the anaesthetic room. It should then be written on the white board which is Right and which is Left, and agreed 1st inflation side.

- Apply 2 smooth layers of soft padding around the limb, avoiding creases and ridges
- Apply the broadest cuff the surgical site will allow
- Lock connections and avoid the kinking of tubes
- A tourniquet cover or isolation drape must be used to prevent skin preparation soaking into the padding under the cuff

5.17.2 Exsanguination of Limb

Exsanguinate by either:-

- Simple elevation
- With a Rhys- Davis exanguinator
- By applying a crepe bandage from distal to proximal with the limb elevated

5.17.3 Inflation and deflation of Tourniquet Cuff

Commencement of cuff inflation and subsequent release must be recorded and announced to the surgeon (and anaesthetist, if present). The following details should be recorded on the white board and ORMIS:-

- Left or right limb side/site
- Inflation time
- Deflation time
- Subsequent re- inflations and deflations
- Cuff pressure (which should be the lowest that reliably provides a bloodless field)

During the operation, the person initially applying the tourniquet must inform the surgeon of the time elapsed after 1 hour, then every half hour thereafter. Duration of tourniquet should not exceed 2 hours with an absolute maximum of 2.25 hours if surgery cannot be completed by that time. If surgery is clearly going to exceed the upper limit, the tourniquet should be released for 10 minutes after 1.5 hours.

When the operation is complete or at the request of the surgeon, the tourniquet can be deflated and the time recorded on the whiteboard and ORMIS. Deflation can be staggered in the case of bilateral tourniquets on the instruction of the surgeon and anaesthetist.

It is strongly recommended that automatic tourniquets are used.

Digital tourniquets are commonly used to provide a bloodless field in finger surgery. If digital tourniquets are accidentally left on, they may cause substantial harm to patients ***(NPSA 2009).*** CE marked digital tourniquets which are labelled and/ or brightly coloured should be used in accordance with manufacturers' instructions. Surgical gloves or catheters should not be used as tourniquets.

Where finger surgery is carried out the following is assured:

- The removal of digital tourniquets are verbalised as part of the WHO 'sign out'
- The tourniquet start and finish time is recorded on the whiteboard and ORMIS

5.18 Infection Control and Monitoring of the Operating Department Environment

Reduction in the bacterial contamination of the operating department environment is largely a matter of regular and adequate maintenance of the ventilation system, regular and adequate cleaning schedules and meticulous attention to accepted practice by all theatre staff.

During the day in between cases it is sufficient to use detergent wipes or a neutral detergent with wipe-alls located in all theatres. At the end of the day a neutral detergent should be used for a clean of the theatre, scrub and anaesthetic rooms. Cleaning should start from the highest point down to the lowest point e.g. lights first mopping last.

Cleaning schedules should be in place for all theatre departments.

Detailed infection control procedures relating to theatres are contained in the ***Infection Control Guidance for Theatres (Trust Infection Control Manual, Appendix 1 and Trust Sterilisation and Disinfection Policy, Appendix 2).***

Theatre staff report problems to the Estates Department.

With particular regard to guidance for scrubbing technique please refer to the ***Clinical Guideline for Surgical Scrubbing, Gowning and Gloving 2016.***

5.19 Staff Management during Operating Lists

Every operating list will have an assigned team leader who will be a member of the theatre team. The Theatre Manager is responsible for ensuring there is a system for delegating this individual on a routine basis local to each theatre department. Ensuring that there is a safe number of staff with relevant skills during the list at all times will be amongst the team leader's responsibilities. It is accepted that the number of staff will vary depending on the case, speciality and the individuals involved. It is accepted that this may differ slightly from department to department.

For continuity of care during cases and managing late finishes: Staffing for cases must be reassessed during the operating list. At an appropriate time in the day, staff must escalate the possibility of list overrun to team leaders. For example, scrub practitioners who are due to finish work at 6pm and there is potential for finishing 5 or 10 minutes late, the scrub practitioner should stay to complete the case. This reduces the potential for miscounts when handing over swab, needle & instruments.

It is the responsibility of the team leader to communicate all changes to theatre co-ordinator, wards, receiving and recovery room.

5.20 Guidelines for the Identification, Storage, Security and Administration of Drugs, Blood Products and Lotions

5.20.1 Refer to the Trust Policies and Procedures for Medicines, the Trust Medicines Code

5.20.2 As soon as the patient is prepped ready for surgery, the prep solution must be discarded. If further preparation solution is required, a fresh pot and solution is provided and then discarded.

5.20.3 All syringes, gallipots, and open jugs must be clearly labelled with a sterile medicine label.

5.20.4 Verbal orders training must be provided on induction to theatres for ODPs and anaesthetically trained nurses who are not IV competent ***(Medicines Code)***

5.20.5 Safe Transfusion Practice, Blood and Blood Products in the Operating Theatre

Blood Bank Refrigeration and Blood/ Blood Product Unit Collection

Blood should be kept in a Blood Bank refrigerator until needed. Operating theatres have satellite refrigerators that can store blood closer to the patient who is risk assessed that they may need transfusing due to the nature of their procedure.

There are safety measures in place to assure that blood is transfused to the right patient at the right time. Any deviation away from positive patient identification, patients are at an increased risk of being transfused with ABO- incompatible blood.

Being transfused with ABO- incompatible blood components is a Never Event as established by the Department of Health ***(DH 2015/16).***

Only one patient's blood can be collected at any one time. This it to prevent the risk of giving blood to the wrong patient.

Only one unit at a time is recommended for transfer. If blood loss is so acute that more than one unit at a time is needed, blood must be transported and stored for up to 2 hours is a specially designed storage box supplied by the Blood Bank.

If blood is taken in a box, the register form stays in blood bank.

In acute blood loss requiring massive transfusion, the 'Massive Transfusion Protocol' must be activated and a designated runner allocated whose sole job is to collect blood and blood products.

Care must be taken to either return to blood bank or the satellite refrigerator within the 2 hours if not required. This will maintain cold chain storage and the unit could be allocated to another patient and not wasted.

If blood or blood products are sent in a plastic Blood Bank bag, the units must be used immediately or put in the local satellite blood refrigerator within 30 minutes. This will maintain cold chain storage and the unit could be allocated to another patient and not wasted.

Any units unused should be returned to Blood Bank and replaced immediately in the Blood Bank refrigerator or the satellite blood refrigerator with the time and date of return documented on the Blood Bank return form.

To collect a unit of blood from Blood Bank, the correct documentation is needed. These are the patient's notes or blood transfusion record and prescription chart. The unit of blood will be signed out on the register slip

with name of checker, date and time. The register slip will remain in the blood bank folder next to the blood bank refrigerator.

To collect a unit of blood the collector/ checker must be up to date with mandatory blood theory training and a valid NPSA collection and receipt of blood and blood product competency assessment.

When blood is returned to the local satellite blood refrigerator, the unit will be signed into the refrigerator using the Blood Product Return Form with name of the person returning the blood, unit number, date and time. This is kept on a clip board next to the refrigerator.

5.20.6 Blood Transfusion Checking Procedure for Positive Patient Identification in Theatre *(Trust Transfusion Policy)*

All patients must be wearing a wristband. Before commencing the transfusion, the following data must be triangulated from the patient, patient's notes and the blood unit bag and tag:-

- Patients surname
- Forename
- Date of birth
- Hospital number (if available)
- Blood unit expiry date

First line checking for positive patient identification is to ask the patients their details and check against the wrist band, notes/ blood product prescription chart and blood unit.

If the patient lacks competence, is under sedation or is under a general anaesthetic, the wrist band must be checked against the notes/ blood product prescription chart and blood unit.

Every possible effort will be made to obtain this information in theatre during operative procedures.

However, it is recognised, during surgical procedures, that the wrist band may not be accessible. This is usually due to being covered in surgical drapes and the sterile field may be compromised if searching for the wristband, or, the surgeon is at a critical stage of the operation.

If this is the case, the patients consent form has been authorised for this check to establish positive patient identification (PPI), as this has been checked against the wristband at the WHO stop moment prior to surgery.

Quick reminder:

Positive Patient Identification (PPI) must be assured via the **WRISTBAND**,

patient notes/ blood product prescription chart and the bag and tag of the unit of blood

The **WRISTBAND** must be used at all times. If it is not accessible,

the patient **consent form** is the only other piece of documentation authorised to

be used in the operating theatre, as this has been verified against the wristband at the WHO stop moment prior to surgery

The **pink** sticker, from the unit of blood tag should be signed, dated and timed by the collector/ checker and the practitioner who starts the transfusion. It then is stuck on the Blood Transfusion Record and Prescription Chart in the space provided.

The perforated **blue** tear off card must also be signed & name printed; dated and timed by the doctor/ practitioner transfusing the blood.

This blue tear off card is to be retained by Blood Bank as proof of transfusion by placing in the boxes next to the local satellite blood refrigerators. This is a legal requirement under the ***Blood Safety and Quality Regulations (2005),*** and part of the ***Blood Product Liability*** under European Law and may be legally challenged if discrepancies or absence of documentation occurs.

The patient's wristband details must match those on the bag and tag attached to the unit of blood 100%.

The start and finish time of the blood transfusion to be recorded on the patient's anaesthetic record chart, fluid chart and blood transfusion prescription and record chart.

5.20.7 Emergency O Negative Blood

Two emergency O negative blood units are available from the blood issue refrigerator on level 5, RDH.

5.20.8 Major Haemorrhage Alert

Action cards are located in Theatres.

5.20.9 Blood Warmers

Blood warmers should be used to infuse blood. They must be CE- marked commercial blood warmers and used according to manufacturer guidelines. All staff preparing blood warmers must be trained and competent in their use.

5.20.10 General Blood Bank and Product Advice

The Staff in Blood Bank are available at all times.

- RDH Monday- Friday coverage core hours 09.00am- 17.00 pm ext. 88533/ 88532 or bleep 3090

- For out of hours blood & blood product collection go to blood bank on Level 5. If not accessible ring the bell. If no one comes to the door, go to Pathology hatch and ask for blood bank staff

Refer to:- ***The Trust Transfusion Policy.***

5.20.11 Lotions

All lotions used topically should be dispensed in containers clearly labelled and distinguished from those used for parenteral solutions.

Contents of partly used bottles should not be decanted from one into the other to tidy up the stock. Solutions which have been poured out but remain unused must be discarded.

5.21 Use of Diagnostic X- Rays within the Operating Department

Rationale: To ensure the protection of all staff from the harmful effects of radiation.

Only essential staffs, who are wearing lead aprons, required for the procedure should be present in the operating theatre. The Ionising Radiation Regulations (IRR), (1999) require that when persons, other than classified persons, enter a Controlled Area, then the entry should only be in accordance with a system of work contained in written Local Rules. The following are relevant extracts from the Local Rules.

5.21.1 Procedural Detail

Examination request

A correctly completed request form containing the patient ID, date of birth, address or hospital number, the examination to be performed and the clinical referral criteria must be available *prior* to commencement of the examination. The Radiographer must have this information to authorise the reque st for use of ionising radiation.

It is a requirement for the x-ray department to have adequate notice of procedure and for theatre to recognise that there are more x-ray machines than radiographers funded to use them. There is a responsibility to co-ordinate to ensure radiographers are available when needed.

Authorisation of request and patient protection

Examinations and treatments are only performed after authorisation by an IR(ME)R practitioner or, where this is not practicable, by a suitably trained operator under written guidelines issued by the practitioner- this is normally done by the Radiographer. The approval must be recorded in the patient's record or on the request card. Any requests not conforming to the guidelines or incorrectly completed will not be performed until adequate information is supplied by the referrer that justifies the exposure.

Imaging and Trust policies and protocols give details of staff entitled to justify and authorise medical exposures.

Before any examination involving the pelvis or abdomen of a woman of childbearing age, an enquiry should be made about possible pregnancy.

The current imaging protocol must be followed before any exposure takes place. As the patient will be anaesthetised before the radiographer arrives, Last Monthly Period (LMP) must be established and possible pregnancy identified in female patients of child bearing age.

Use of diagnostic x- rays

X-ray equipment may only be used on patients by trained staff in radiation protection under IR(ME)R 2000. This is deemed to include Radiologists, State Registered Radiographers and other persons who have proof of training under the above regulations.

Trust protocols give details of staff groups authorised to carry out the functions defined in the Regulations. In theatres, the Radiographer will normally be responsible for authorisation of radiation exposures. The clinician carrying out the procedure will be the referrer and medically responsible for the patient.

All staff should ensure the 'x-ray in use' light is on outside of the theatre and therefore other staff should take note of the warning sign before entering theatres and ensure they are appropriately protected if x- rays are in use.

It is the responsibility of the Radiographer in charge to ensure that the local rules set out here are followed and that all persons remain sufficiently protected. It is a requirement to wear appropriate lead aprons (Personal Protective Equipment [PPE]) and an individual responsibility for the wearing of PPE. The Radiographers role is to alert staff to wear PPE and if there is refusal, inform the theatre team leader.

The controlled area extends for 2 metres in all directions from the patient. In operating theatres, the care team must leave the controlled area during exposures unless vital for them to remain near the patient.

For radiography, due consideration must be given to adjacent areas as walls and partitions in theatres often have no protective value. The main source of radiation to other persons will be scatter from the patient. It should be considered that the newer the machines the safer they are made. The beam must always be collimated to within the area of the cassette. All persons remaining in the controlled area with the patient during exposures must wear a lead apron (minimum 0.25mm and preferably 0.35mm lead equivalent). Thyroid collars are advisable for long exposure.

The focus to skin distance should never be less than 30cms and preferably more than 45cms.

Checking and Confirming Laterality

When using the image intensifier or fluoroscan be sure that the image projected (and stored on PACS) represents the correct laterality of the body part being screened/operated on. I.e. When injecting a left sided joint, be sure that the image intensifier reflects that on screen and is saved on PACS as such.

This has obvious patient safety implications but also medico legal ramifications as the image stored is part of the patient record which may be accessed at a later date and needs to be a true reflection of the procedure.

Lead Apron Maintenance

Lead aprons are screened once a year. This consists of a physical examination and a radiation examination. The local Radiation Protection Supervisor (RPS) liaises with x-ray department to arrange radiation examination. There should be enough lead aprons in the system if there is a requirement to decommission any. Cleaning of lead aprons (inside and out) must be done after each use with the cleaning sprays, detergent wipes or a neutral detergent and water. Damage of gowns must be prevented by hanging the gown up when not in use.

Some lead aprons are manufactured using natural rubber latex, therefore it must be checked with the manufacturer for 'latex free' procedures.

5.21.2 Fluoroscan

Only trained surgeons are able to operate the fluoroscan. A file must be created on the CRIS system usually by a trained member of staff. A record book must be completed after each case. Check and confirm laterality of the body part being operated on (and stored on PACS) represents correct laterality of the body part being screened/ operated on. At the end of every case the surgeon should ensure the x-rays have gone to PACS and should then be shut down at the end of the list. Lead aprons must be worn.

5.21.3 Radiation monitoring

Radiation doses to staff from diagnostic x-rays are very low. However, some staff are monitored routinely in the orthopaedic theatres. Other staff

may be monitored periodically as requested by the Radiation Protection Adviser (RPA).

Where dosemeters (TLD) are issued, they must be worn whenever radiation is used and returned at the specific time. Note that TLDs are expensive and indefinitely re- usable; wearers may have to pay the replacement costs of any losses.

Body dosemeters should be worn at waist or chest height, under any lead rubber apron, other dosemeters may be issued periodically and should be worn as instructed.

Any member of staff who is involved in radiation procedures for more than one employer must be monitored separately by each of those organisations. Contact the dosimeter service to discuss.

5.21.4 Use of Radioactive Markers in Surgery- Nuclear Medicine

A radioactive material called Tc99m is used to carry out sentinel node lymphscinigraphy. Tc99m gives out ionising radiation. Ionising radiation is present in the environment and commonly used in medicine to produce images (e.g. x-rays). Ionising radiation can however be a hazard and precautions must be taken to reduce any unnecessary exposure where possible.

Sentinel node lymphscinigraphy involves the intradermal injection of a small amount of Tc99m around the tumour site. The radiation is localised to the tumour site but some does leave the patient and this is described as an **external radiation hazard**.

For routine work with sentinel node patients, the risk associated with the external radiation hazard is not significant. You should however be aware of ways you can reduce your exposure to external radiation.

A risk assessment must be performed in consultation with Nuclear Medicine where patients are required to have radio active markers in situ prior to their operative procedure.

Directly handling lymphnode tissue is to be avoided where possible. Use of tongs etc is recommended.

Use of Personal Protective Equipment (PPE) to avoid skin contamination is advised. Standard theatre PPE is adequate

A system of work information leaflet is provided to theatre staff. See the leaflet - Radiation Work Instructions: Theatre Staff.

Radiation protection training is provided to theatre staff and local training records kept.

There must be a designated storage area for nuclear waste set apart from other waste. Nuclear waste is transported to the Nuclear Medicine Department storage area where it is assessed before disposal.

5.21.5 Use of Laser Equipment

The operation of laser equipment shall comply with the ***Control of Artificial Optical Radiation at Work Regulations 2010*** and Guidance on the safe use of lasers, intense light source systems and LEDs in medical, surgical, dental and aesthetic practices ***(MHRA, 2008).*** On the basis of a risk assessment (carried out with the Trust laser protection adviser, LPA) for each individual laser in its environment, local rules will be written to ensure all employees are working in a safe environment and that all patients are treated safely. A Laser Protection Supervisor (LPS) and nominated deputy will ensure the local rules are adhered to and reviewed to reflect and changes to the working procedures associated with that particular device.

For further advice: Radiation Protection Adviser, Simon Evans ext. 88972

5.22. The Care and Preservation of Specimens Including Foreign Bodies

To facilitate speedy diagnosis and treatment of the patient by ensuring that biopsy specimens, other tissue or fluids reach the laboratory without delay and in optimum condition.

5.22.1 Procedure for All Specimens

Before the specimen is potted, the pot must be clearly labelled with the following information (sterile universal container pots are labelled as soon as passing out of the sterile field):-

- Patient name
- Hospital number

- Date of birth
- Consultant
- Date
- Ward/ department
- Nature of specimen
- And destination laboratory e.g. Microbiology or Histology

Whatever the specimen, it must be accompanied by the appropriate specimen form, correctly filled in with:-

- Full patient details
- Brief clinical history
- Type of examination required
- And be signed by the doctor

Addressograph labels should be affixed to the request form and the specimen container. The specimen must be recorded on ORMIS.

Sterile containers must be available for microbiology specimens and labelled with the above information as soon as it is passed out of the sterile field.

The scrub practitioner must check with the surgeon the nature and site from which the tissue was taken, before the specimen is potted. Upon potting, the scrub practitioner must check that the patient details on the pot are the same as those on the consent form.

Before leaving the theatre, specimens must be checked by two members of staff (one of which must be registered) together. The following criteria must be checked:

- The specimen is in the pot
- The appropriate specimen form and the pot contain the correct information (as previously detailed)
- The doctor has signed the form
- The patient name and hospital number must be checked against the operating list
- The specimen details are on ORMIS
- Ensure specimen is taken to the designated area prior to the next patient entering theatre

5.22.2 Virology and Microbiology

Specimens for culture, except swabs, should be sent to the Microbiology Department in a dry sterile container accompanied by the appropriate form. Swabs should be placed in Amies transport medium.

Specimens for routine virus culture and isolation should be placed in a virus transport media. Specimens for chlamydia isolation are to be sent in a chlamydia transport medium available from the virology department.

Excised lymph nodes for Microbiology are placed without fixative in dry sterile containers and must be taken immediately to the department (see lymph nodes for Histopathology later). In these cases the laboratory should be warned of any potential infective risk, e.g. TB, HIV, etc.

Aspirate from joint replacements are placed in a set of culture bottles as supplied by microbiology and a sterile specimen container; they are to be taken immediately to the laboratory.

Provide appropriate clinical details and antibiotic therapy.

Urgent results:

Before sending any urgent samples or Gram stains to the microbiology laboratory please call the microbiology technician at all times (24/7) to notify them of the sample to avoid delays in specimen processing.

Please contact us as follows:

Monday - Friday 8.45 -5.15 pm, Saturday, Sunday & Bank holidays 8.30am -12.30pm, Extension 88218, option 2 for the laboratory.

Out of hours the microbiology technician is off site on-call and therefore must be contacted via switchboard.

Please give the following information:

- Name in full
- Hospital number
- Ward
- Name and bleep number of Dr to contact regarding the result
- Specimen should be clearly labelled.

- Provide clinical details
- Site of specimen
- Any risk factors for BBV/CJD or TB should be mentioned
- Antibiotic history

Routine results:

Samples can be sent to Pathology and these will be processed routinely.

5.22.3 Histopathology

Specimens should be handled carefully to avoid crushing or distortion of anatomical detail. Specimen containers must be of sufficient size and strength appropriate to the size of the specimen and the carrying medium (usually 10% formal saline, formalin). The containers should be at least four times the volume of the specimen so that it floats freely, giving proper fixation and avoiding damage. Specimens must not be placed into a specimen pot where the formalin will not freely float around the specimen.

The specimen pot lid must fit properly to prevent leakage on transport to the laboratory.

Some consultant surgeons make special arrangements for their patient's histology specimens to go to the laboratory dry, as in without formalin. Theatre staff must familiarise themselves how this process works in their theatre.

Where infected material is collected, great care must be taken to avoid the spread of infection.

Some histology specimens are required to be sutured on mesh, or pinned to cork boards. The doctor is responsible for making sure markers or ink, and the quantity of pins is noted on the specimen form and the lid of the specimen container. Special square containers are needed for this and ordered from the laboratory. The mesh or cork is placed specimen down inside the square container, then formalin added. Care must be taken to prevent leakage.

Frozen sections are by prior arrangement only with the Histopathology Department. The doctor should arrange the frozen section at least 24 hours in advance, to ensure the consultant pathologist is available. This is done through the laboratory on ext. 88243/ 88244. Frozen sections are potted in a 'dry' specimen pot.

The envelope containing the specimen must also have clear instructions written on it, including instructions for the report must be telephoned through as soon as possible.

Do not try to arrange frozen sections after 16.00 hours.

Lymph node excision specimens (excluding breast) should be placed in formalin, but transported to the laboratory immediately. This is to ensure that the specimen can be immediately dealt with, to enhance fixation and ensure that the full range of tests work especially in cases of suspected lymphoma. The request should be clearly labelled "?LYMPHOMA" and notification given to the laboratory on ext. 88243/ 88244. It is essential that any high risk status be clearly identified.

All breast and sentinel node specimens are labelled and sent as 'fresh' dry specimens to Histopathology.

All ?gout specimens must be fixed in 100% alcohol (IMS).

Foreign bodies, if not required for histology/ forensic testing, should be photographed for inclusion in the patients' health records and the foreign body discarded appropriately. All forensic specimens should be saved in accordance with legal requirements.

Where specimens of a similar nature are inadvertently mixed, under NO circumstances should any attempt be made to guess what specimen belongs to which patient. The surgeon should be informed immediately. The specimen will usually be discarded at his discretion.

No tissue or fluid should ever be discarded until it has been ascertained that it is not required.

There must be a departmental strategy in place to ensure a chain of custody for the tracking of histopathological specimens from theatre to the laboratory.

5.22.4 Cytogenetics

Sometimes it may be necessary for Gynaecological specimens to have Cytogenetic investigation. These specimens must be placed in a sterile universal container with normal saline. The specimen must be clearly labelled with all patient details (as above) along with a fully completed Cytogenetic form. The specimen must be placed in a sealed addressed envelope and sent via taxi to the Cytogenetic Department, at the

Nottingham City Hospital. The department must be informed that a specimen is on its way by ringing #6370.

5.22.5 Danger of Infection (High Risk) Specimens Packaging and Labelling

Specimens from patients who have, or are suspected of having, the following diseases constitute a risk of infection to persons handling the specimens (practitioner, porters, laboratory, reception and technical staff):-

- Viral hepatitis
- HIV infection
- IV drug users
- Tuberculosis
- Creutzfeldt-Jacob disease
- Typhoid Fever (Salmonella typhi/paratyphi)
- Plague
- Anthrax
- Melioidosis (Burkholderia pseudomallei)
- Brucellosis
- Faecal samples from patients with E coli 0157 or Haemolytic uraemic syndrome
- Dysentery (caused by Shigella dystenteriae)
- Viral Haemorrhagic Fever (Do not send any specimens)
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Psittacosis

In order to minimise this risk, it is essential that the instructions for packaging and labelling such specimens are followed:-

- Attach ‘danger of infection’ label to the specimen container already labelled with the patient’s name and details
- Place the specimen in a minigrip bag and close the seal
- Attach a ‘danger of infection’ label to the request form
- Specify on the request form the nature of the risk eg. blood borne infection
- Inadequately filled in request forms will cause delay in the examination of the specimen
- Place the request form in the external pocket of the bag
- If in doubt, please contact the laboratory

5.23 Safeguarding Electronically Tagged Patients

AfPP (2011) would recommend contacting the electrosurgical equipment manufacturer and ascertain their advice. At the same time contact the prison or offenders institution to find out the name of the electronic tag supplier so that if necessary both groups can have a dialogue and provide some advice.

This link provides information from two manufacturers which can be accessed: www.afpp.org.uk/careers/Standards-Guidance

Where possible remove the device or bracelet. If the monitoring device or bracelet **cannot** be removed, Covidien EbD recommends applying non-conductive padding around the ankle area or at the location of the monitoring device to isolate it from the patient's skin. This intervention will serve to insulate the patient from any rivets or other metal components that may be on the underside of the bracelet or monitoring device and can also protect the patient from potential positioning concerns ***(Valleylab.clinicalhotline@covidien.com 2010)***.

5.24 Training and Development in the Operating Department

It is a minimum requirement that all levels of theatre staff must attend mandatory training day annually. There is a rolling programme, based on training needs and Trust requirements of appropriate training and updates.

It is a statutory requirement that registered theatre practitioners must engage in and be able to present a professional portfolio providing evidence for revalidation and renewal of Continued Professional Development (CPD) for their registering bodies ***(NMC 2015 and HCPC 2016).***

Each operating department has an education co-ordinator/ professional development facilitator (PDF) who contributes, participates and advises on all aspects of clinical practice and organisational issues.

There are close links with providers of healthcare education including: universities, healthcare QCF and in-house education.

The student nurse and student ODP must have adequate support in the clinical areas where they are placed. Sufficient mentorship support and training is commissioned and it is essential that on-going development for mentorship is maintained.

Line managers are responsible for ensuring that all new recruits, on commencement of employment, attend the Trust Corporate Induction Programme and also have a local ward / department induction ***(Trust Recruitment Policy)***. When new staff is employed follow the most current induction process ***(Trust Induction Policy)***.

Where newly- qualified staff are employed in the perioperative environment, a one year period of preceptorship is used to support and develop competence. Preceptorship can be used to support existing staff if they move from one area to another or one Trust to another ***(Trust Preceptorship Policy)***.

There are various educational packages that have been developed to achieve clinical competence. These can be used as a new starter, moving to a new area of practice, or when a new medical device is introduced.

All staff who use medical devices as part of their role, should be trained in their use and review their competence on a specified basis ***(Trust Medical Device Policy)***.

Professional development courses are agreed and requested for through the annual appraisal system and service planning. This is recorded on a PDP by agreement with a theatre manager and must support the workforce plan ***(Appraisal and Development Review Paperwork)***.

6. Monitoring Compliance and Effectiveness

Monitoring Requirement :	Compliance with theatre policy
Monitoring Method:	Theatre Assurance QuAD audits. A rolling programme of monthly quarterly in all theatre departments
Report Prepared by:	Data warehouse
Monitoring Report	Safer Surgery Group

presented to:	
Frequency of Report	Quarterly

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Appendix 1

Policy for Infection Control Procedures in the Operating Theatre

Introduction

Surgical site infection (SSI) can be a cause of major morbidity and mortality. It has been estimated that they account for approximately 14% of all healthcare associated infections.

For most SSI's the source of pathogen is the endogenous flora from the patient's skin, mucous membranes or hollow viscera. Exogenous sources of SSI pathogens include surgical personnel, the operating room environment and all tools, instruments and materials brought into the sterile field during an operation. Interventions to prevent SSI's therefore are aimed at reducing or preventing microbial contamination of the patient's tissues or of sterile surgical instruments.

Purpose

The aim of this policy is to ensure that patients and staff are not exposed unnecessarily to infection hazards in theatre. It is not always practicable or possible to determine which patients may have a blood borne virus, or any alert organism colonisation / infection, so standard infection control precautions must be applied to all patients, all of the time.

Definitions Used

Theatre Practitioner	Registered nurses and registered operating department practitioners (ODP)
QUAD	A quality audit that is a rolling programme of monthly audits, ensuring consistency of care is offered to patients in different operating departments.
BSC	Trust infection control assurance that all departments apply high quality infection control precautions.
Pathogen	Micro-organism capable of causing disease
Endogenous Infection	Occurs when a micro-organism colonising a site on the host enters another site and establishes infection
Exogenous Infection	Occurs when the micro-organisms capable of causing an infection are acquired from another person or the

	environment

4.0 Key Responsibilities / Duties

4.1 Theatre Managers / Matrons

- Manages the theatre area and is responsible for the distribution of this policy.

4.2 Lead/ Senior Practitioners

- Will ensure this policy is discussed on induction of all new staff that practice is based on this policy and adhered to at all times.
- Will report non-compliance with the policy through the directorate escalation process.

4.3 All Healthcare Staff

- Must be familiar with and adhere to the relevant infection control policies to reduce the risk of cross infection
- Promote good practice and challenge poor practice
- Refer to the infection prevention and control team if unable to follow the policy guidelines

5.0 Managing the Policy for Infection Control in the Operating Theatre

5.1 Staff Health

Any open wounds or weeping eczema must be covered with a waterproof occlusive dressing. Staff with a boil or septic lesion of the skin or eczema colonised with Staphylococcus aureus should not work in the operating theatre. The theatre manager should be informed and the member of staff referred to Occupational Health. Staff members with dermatological conditions must consult with Occupational Health prior to working in the operating theatre. Any other staff health issues that impact on infection control practices must be discussed with Occupational Health.

5.2 Safe Sharps Practice within the Operating Theatre

<u>This Policy should be followed in addition to the Inoculation Incident Policy and the Safe Handling of Sharps Policy, located in the Infection Control Manual.</u>

- If a glove is torn or a sharps injury occurs, the gloves should be removed and hands washed, or alcohol hand sanitiser applied as soon as possible and a dressing applied.

- Whenever possible diathermy and suction should be placed on the opposite side of the operating table to the surgeon, thereby ensuring the first assistant does not reach across the table between the surgeon and nurse.
- As far as reasonably practicable, sharp instruments should not be passed by hand. A specified puncture resistant sharps tray must be used for the transfer of all sharp instruments. Only one sharp must be in the tray at one time. If two surgeons are operating simultaneously, for example, varicose veins operation on both legs, each surgeon needs his/her own sharps tray.
- All theatre staff, including surgeons are responsible for safe handling of sharp instruments.
- Where avoidable needles should not be picked up with the fingers, nor the fingers used to expose and increase access for the passage of a suture in deep tissues.
- When suturing, forceps or a needle holder should be used to pick up the needle and draw it through the tissue.
- The use of self retaining retractors should be considered to retract the wound or viscera during surgery rather than the hands of assisting staff.
- Wire sutures should be avoided where possible because of the high injury rate to the surgeon.
- Where practical, for known blood born virus/ high risk cases, blunt needles should be used to close the abdomen.
- Fingers should not be used to take blades from packets, when mounting or removing from bp handles.
- Discarda pad must be used in line with manufacturer's instructions.

5.3 Environment

5.3.1 Ventilation

The link between post-operative infection and theatre air quality has been well established. The function of operating theatre ventilation is to prevent airborne microbial contaminants from entering surgical wounds. The main source of airborne microbial contaminants is microscopic skin fragments given off by staff and patients in theatre. Dispersion is increased with movement and the number of individuals present. Therefore access of personnel should be restricted to only those required for the normal functioning of theatre, as agreed by the theatre manager / matron / clinical lead.

Operating theatres and prep rooms should have at least 20 air changes per hour

Theatre design ensures that the operating field is kept at positive air pressures compared with surrounding areas i.e. sluice, anaesthetic room and corridor. Thus the air flow is from clean to dirty. To minimise disruption to the air flows doors should only be opened when necessary.

Un-scrubbed personnel should not enter the canopy space.

5.3.2 Microbiological testing / Commissioning

The most appropriate time for microbiological commissioning of an operating theatre should be shortly before it comes into use. Therefore, on opening a new theatre and after any building work or refurbishment is carried out microbiological testing is required to be undertaken. This is in addition to the engineer's particle and flow tests. The infection control doctor must receive the reports before the theatre is commissioned ready for use.

Annual Microbiological testing is also required of ultra clean air canopy systems in addition to engineer's particle and flow tests.

5.4 Theatre interior standards

- The doors must close properly and be intact.
- The flooring should have no cracks or gaps and its coving joins to the wall.
- Walls must be intact with no exposed plaster.
- Painted surfaces and finishes should be smooth, complete and without cracks.
- Windows are sealed.
- There should be minimal fixtures and fittings.
- Theatres and anaesthetic rooms must not be used to store non essential items. Unnecessary clutter of work surfaces and tops of cupboards should be avoided.
- Notices should be kept to a minimum and not cello taped onto walls. It is advised that all notices are laminated and that blu tack is used.

5.5 Equipment

Prior to changes in policy regarding life span of filters and commissioning of new equipment etc, advice must be sought from a Consultant Microbiologist.

Equipment must be cleaned prior to storage.

Any equipment in storage, including table fitments and accessories, must be above floor level.

Torn / ripped equipment must be discarded / replaced and not repaired with sticky tape of any type.

5.6 Patient's beds

If appropriate to the care of the patient ward beds may go into theatre, at the discretion of the theatre manager / matron / clinical lead together with the anaesthetist & surgeon, but the bed must have been made up with fresh linen prior to entering the theatre area.

5.7 Cleaning

Each theatre should have a cleaning schedule drawn up by the Domestic Services Manager in consultation with Facilities Management, Infection Prevention and Control and the Theatre Manager. The Consultant Microbiologist will advise on specific issues as required. It is the responsibility of the Domestic Services Manager and Theatre Manager to ensure these cleaning schedules are drawn up and adhered to.

All cleaning staff must have appropriate training. Checks on cleaning should be made by Housekeeping Services and feedback to the Theatre Manager as per hospital contract.

Separate cleaning equipment must be provided for each theatre.

Routine damp dusting prior to a theatre session is unnecessary.

The walls and ceilings of operating theatres, scrub areas and anaesthetic rooms will be cleaned by Housekeeping Services on a three monthly basis. Clean air canopies must be cleaned daily. The theatre manager must keep records of this activity.

For cleaning instructions on other theatre equipment, see relevant section of the Disinfectant Policy

5.7.1 Cleaning after cases

Equipment and furniture used during surgery (including the operating table, mattress and accessories) must be cleaned between cases with a disposable lint free cloth using neutral detergent.

Any surfaces, including floors that have been in contact with blood or body fluids with blood present must cleaned with Hypochlorite 10,000ppm available chlorine (1% Milton solution). The surfaces should be wiped with detergent afterwards to prevent corrosion.

Actichlor Plus, (1,000ppm av. Chlorine) must be used for known or suspected infection cases.

Mop buckets should be emptied after each use and kept dry until the next occasion when they are required.

Used disposable suction liners must be sealed and placed for disposal at the end of each case.

5.7.2 Daily Cleaning

Cleaning should follow a logical sequence from clean to dirty and from ceiling to floor.

All cleaning solutions must be freshly prepared for each use.

On a daily basis all areas of the theatre must be cleaned. This is normally undertaken at the end of the days operating sessions. This includes the operating room, anaesthetic room, clean/preparation room, sluice, corridors and recovery areas. This cleaning should include all surgical lights, ceiling mounted equipment, all furniture equipment, all horizontal surfaces, scrub sinks and floors.

Mop heads must be changed after each case. Mop heads are not to be left soaking in water.

Buckets must be washed with detergent and water after use and stored inverted and allowed to dry.

5.7.3 Weekly cleaning

All surfaces in the operating theatre plus all fixtures and fittings must be given a thorough clean with a neutral detergent. All equipment should be moved and wiped over.

5.8 Theatre Clothing

Theatre clothing should not be worn outside of theatre areas. If this is unavoidable due to the nature of an emergency situation, personnel must change into fresh clothing before re-entering the theatre.

5.8.1 Footwear

Footwear must be reserved solely for use in the operating theatre. All footwear worn in the clean zone of the theatre must comply with agreed standards.

Visibly soiled footwear must be cleaned with the appropriate cleaning solution at the end of the case.

The external surface of all theatre footwear must be cleaned at least once a week with neutral detergent and water. All staff have a personal responsibility to ensure soiled footwear is cleaned.

5.8.2 Caps/hats/hoods

These should cover the hair completely including fringes, sideburns and beards. Hair covering should be worn at all times in the clean area of the theatre suite.

5.8.3 Masks

Clean theatre masks must be used by the scrub team, (for their own protection). All members of staff in a theatre should wear masks during all trauma & Orthopaedic surgery & all prosthetic surgery. Masks must be discarded and replaced with a fresh mask, between cases and if they become wet. Masks should be removed by touching the ties only, contact with the part of the mask covering the nose and mouth should be avoided.

5.8.4 Eye protection

It is strongly advised that eye protection (either glasses, goggles or visors) must be used by the scrub team. Disposable visors must be discarded between cases and immediately after use. Reusable eye protection must be cleaned between cases.

5.9 Visitors

Visitors who enter the theatre complex need not change whilst those entering the operating theatre itself, should be properly attired. There is no evidence to support the practice of parents or other carers wearing over gowns or overshoes in the anaesthetic rooms or recovery areas. All visitors to Orthopaedic theatres must change into theatre clothing before entering the theatre suite.

5.10 Surgical Scrub – *refer to surgical scrub policy CGT/2011/062*

Hands, nails and forearms should be washed thoroughly and an antimicrobial skin cleanser applied. The nail folds, the nails, and the fingertips should receive the most attention during the scrub, because most bacteria are located around the nail folds and most glove punctures occur at the fingertips. Friction is required to remove resident micro-organisms which are attached by adhesion or absorption, whereas transient bacteria are easily removed by simple hand washing. Nail brushes must be single use.

Hands should be dried carefully using sterile towels. Care should be taken to ensure there is no hand contact with any non-sterile object.

Approved Alcohol hand sanitiser can be used between cases if preferred when scrubbing for back to back cases.

5.11 Preparation of Surgical Site

Shaving should be avoided. If it is deemed necessary then the site of operation should be clipped with, high-level disinfected or single use, clippers on the day of surgery.

5.11.1 General surgery

Skin preparation should be with 4% w/v Chlorhexidine gluconate in aqueous solution or povidone-iodine 10% in aqueous solution. Chlorhexidine gluconate 0.015% with cetrimide 0.15% (Tisept) can be considered where appropriate for sensitive areas.

5.11.2 Trauma and Orthopaedics and Vascular Graft Surgery

Skin preparation should be with 0.5% w/v Chlorhexidine gluconate in 70% alcohol or iodine 1% in 70% alcohol or aqueous povodine iodine solution. Ensure

skin is dry before any drapes are applied. Any run-off that occurs should be contained by absorbent material placed around the patient, which is removed before the drapes are applied.

5.12 Infectious Cases

The alert organism / condition section of the checklist must be completed on admission. If not it must be completed by theatre staff before the procedure takes place.

Patients with, or strongly suspected as having, one or more of the following diseases or infections are to be classed as infectious and the following guidance must be adhered to. Further advice may be gained from the Infection Prevention and Control Team.

- Any Blood borne virus i.e. Hepatitis B, Hepatitis C, HIV or AIDS
- Tuberculosis
- CJD/TSE
- MRSA (colonised or infected)
- Cellulitis
- Abscess
- Gangrene
- Group A Strep
- Influenza
- Necrotising Facitis
- Chronic leg or foot ulcer
- Infectious diarrhoea (viral or bacterial), including Clostridium difficile infection
- Infection or colonisation with any antibiotic resistant organism, e.g. AmpC/ESBL

5.13 General Principles

1. The ward /pre clerking staff must inform theatre of the patient at the earliest opportunity.

2. The Consultant Surgeon in charge of the patient is responsible for ensuring that all members of the theatre team know of the infection hazards and of the measures to be taken.

3. Patients with the above conditions should be placed at the end of the list if at all possible.

4. Remove all unnecessary equipment from theatre.

5. Keep personnel to a minimum.

6. Staff in theatre should not leave before the end of the case. A ‘clean’ runner should be used to fetch any items needed from outside the theatre in use.

7. Disposable waterproof gowns and linen should be used; any reusable must be treated as infected.

8. Protective clothing must be worn until cleaning is completed.

9. Staff must change into fresh theatre clothing after involvement in an infectious case.

10. If the patient has a blood borne virus eye protection and masks must be worn. Any inoculation injury must be reported immediately.

11. After disposal of clinical waste, the operating table and any contaminated surfaces and floor should be cleaned with freshly prepared 1% chlorine releasing agent (1,000ppm available chlorine) and then rinsed with detergent and water. After cleaning surfaces should be dried.

12. The theatre can be used for the next case as soon as it is dry.

13. At the end of the procedure, special attention must be made to the cleaning off of any blood from the patient's skin before applying the dressing, preferably, use a dressing material that will contain any exudate within an impervious outer covering, e.g., Steripad. Sites of vascular access should be covered with a waterproof or other suitable dressing.

14. Those supervising the patient’s recovery and return to the ward must be aware of the precautions required.

15. All the above patients may be recovered in recovery, with the exception of those with open pulmonary tuberculosis, or influenza, who must be recovered in theatre.

16. Wherever possible a single recovery practitioner should be allocated the patient to recover. Good hand hygiene practices and the use of alcohol hand sanitiser should be adhered to.

17. All disposable anaesthetic tubing should be discarded following each case.

18. All trays for Sterile Services Department are treated in the same way whether the case is infectious or not.

19. Refer to Trust Waste Policy for treatment of waste/ linen.

20. Refer to the surgical antimicrobial guidelines for the appropriate surgical prophylaxis for MRSA colonised patients.

5.13.1 Additional Precautions to be taken with a patient with Open Pulmonary TB

1. Patient must be recovered in theatre

2. Scrub, recovery and anaesthetic staff must wear the appropriate mask.

3. Discard of anaesthetic tubing and filters after use.

4. Staff without full immunity status must not be involved.

Also refer Tuberculosis Policy located in the Infection Control Manual.

If it is not known what type of tuberculosis the patient has and whether the patient has completed treatment or not please contact the Respiratory Team at out patient clinic. If it is out of hours please discuss with the Consultant Microbiologist, available via switchboard.

Tuberculosis of the bone, bladder or kidney and a normal chest X-Ray - no special precautions are required.

6.0 Monitoring Compliance

Compliance with this policy will be monitored via the QUAD audit programme and the monthly accreditation audit undertaken in the individual theatre areas and by the annual infection control audit.

Incidents where non-compliance with this policy is noted should be reported via the incident reporting system. Incidents pertaining to Infection Prevention and Control are monitored at the Infection Control Committee.

7.0 References

Microbiological Commissioning and Monitoring of Operating Theatre Suites: A report of a working party of the Hospital Infection Society.

Appendix 2

Trust Sterilisation and Disinfection Policy – Theatre Extract

Decontamination Procedures for Theatre and Anaesthetic Equipment

The following list is not exhaustive and is designed to complement local policies. This guidance should not replace manufacturer's guidance. Blood and body fluid spillage policy must be followed if equipment is contaminated with blood or body fluids.

Item	Procedure	Comments
Airway	Single use	Discard after use
Ambu and laerdal resuscitation bag	Single use Re-usable: use with single use patient end filter.	Discard after use Discard end filter after use.
Anaesthetic machines	Exterior: clean with detergent and water after each session. Interior: internal circuitry must be protected by filters	Visible contamination should be dealt with following the blood and body fluid spillage' policy.
Angle connectors	Single use	Discard after use
Bandages /stockinet	Single patient use	Discard after use
Blood pressure cuffs	Protect with 'softban' if visibly soiled wash with detergent and water	
Bougies	Single use item	
Breathing circuits	Must be protected by patient end filter. Change filter after each patient. Change circuit weekly.	Change disposable scavenger tubing weekly When soda lime is exhausted, empty into clinical waste bag, clean canister with neutral detergent and refill
Brushes (nail)	Sterile, single use. Discard or return to sterile services for autoclave.	Do not leave on sink after use.
Brushes (cleaning)	Single use item	
Curtains	Change if visibly soiled, otherwise every 6 months	
DVT boots	Discard weekly of when	Stockinette must be used as a

	visibly soiled, whichever is soonest	barrier between patients skin and boot, discard after use
Endotracheal tubes	Single patient use	Discard after use
Entonox (mouthpiece / face mask)	Single use Re-usable – wipe with detergent and water after use. Store dry	Discard after use
Face mask (anaesthetic)	Single patient use Reusable - autoclave	Discard after use
Humidifiers	single patient use.	Discard after use
Insufflators (mechanical)	Change in accordance with the manufacturers instructions	Filters must be fitted to protect the machine and the patient
Laryngeal masks	Autoclave between patients Single use	Monitor and record 40 times then discard Discard after use
Laryngoscope handles Larynogoscope blade	Clean with sporacidal wipe after each use Disposable	
Laminar flow canopy	Cleaned daily	
Monitoring Lead	Wipe with detergent wipe after each use.	If splashed with blood or body fluids follow body fluid spillage policy
Nebulisers	Theatre -single patient use	Discard after use If patients own portaneb used ensure mask identified for individual patient
Patient lifting/ transfer aids	Clean between patients with detergent and water. Dry well, follow blood and body fluid spillage policy if visibly soiled	Store above floor level Launder weekly
Pharyngeal sprays	Change nozzle between patients and discard	
Refrigerators in anaesthetic / recovery areas	Defrost and clean weekly	No swabs, specimens or food must be stored in these refrigerators
Sonosite Probe	Wash with detergent and	

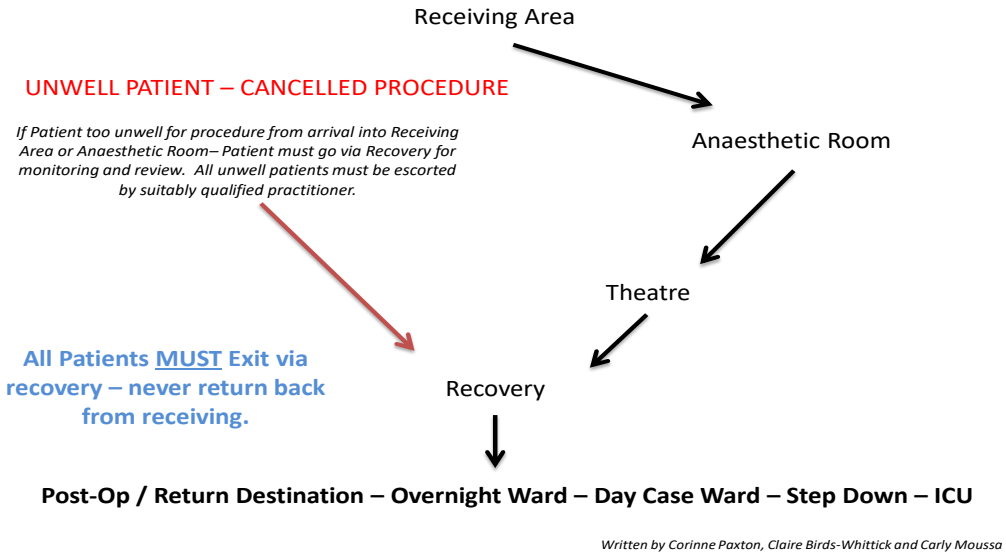
	spray with T Spray after each use	
Space / warm air blankets	Single patient use	Discard after use
Suction jars	Single use: after use seal and dispose in clinical waste	Surgery: change following each patient Anaesthetic: change at end of each session
Suction tubing	Single patient use	Discard after use.
Suction catheters / yankuer	Single use	Discard after use. Catheters should be stored in their wrapping and only attached to tubing immediately prior to use
Theatre operating tables	Clean with detergent and hot water at the end of each session. If visibly contaminated follow body fluid spillage 'policy between patients	Dismantle all tables and thoroughly clean weekly.
Table mattress and accessories	As above	Inspect daily for wear and tear. All table accessories must be stored clean, dry and above floor level.
Tourniquets	Protect with 'softban' if visibly soiled wash with detergent and water	
Trolleys (instrument) / bowl stands etc.	Wipe with detergent and water between patients and dry	
Walls	Within theatre these should be washed every 3 months and external areas 6 monthly	Maintain records of cleaning undertaken

General cleaning can be with detergent and hot water or a detergent wipe.

Appendix 3

Derby Teaching Hospitals NHS Foundation Trust

Patients Journey in Theatres

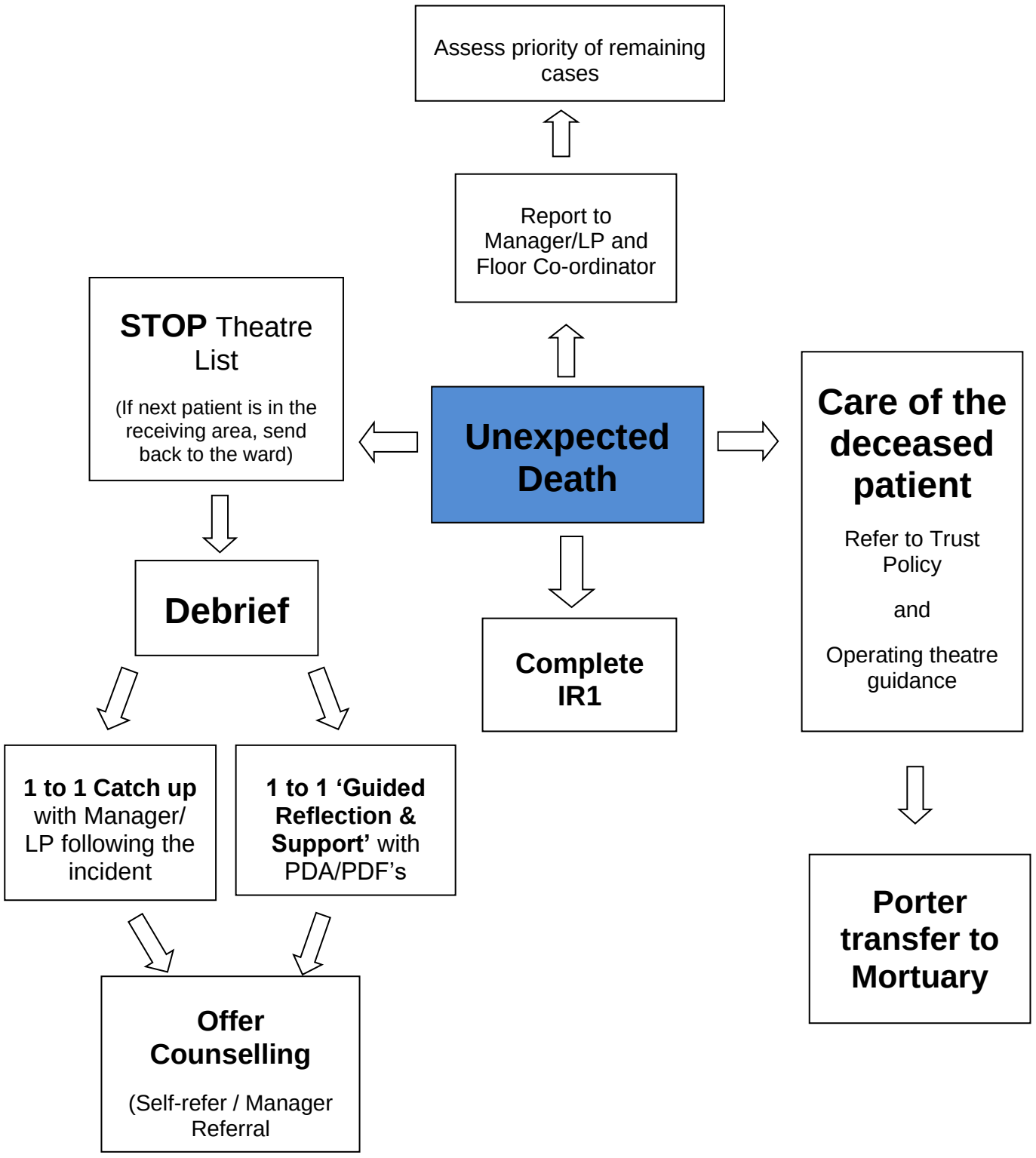


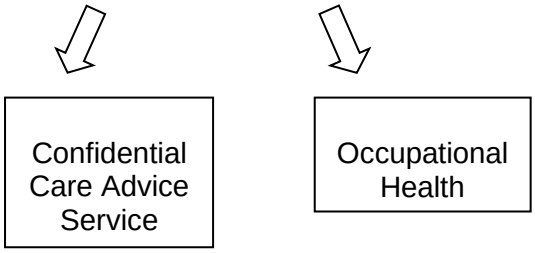
Written by Corinne Paxton, Claire Birds-Whittick and Carly Moussa

Appendix 4

DEATH OF PATIENT IN THE OPERATING THEATRE

STAFF SUPPORT




Confidential Care Advice Service
Occupational Health