


STANDARD OPERATING PROCEDURE (SOP)	Issue date: 10/08/2021	
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# Implantable Cardiac Device Procedures Pacemaker and ICD including biventricular devices Standard Operating Procedure LocSSIP UHL Cardiology Cath Labs

<b>Change Description</b> <input type="checkbox"/> Change in format	<b>Reason for Change</b> X Trust requirement
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APPROVERS	POSITION	NAME
Person Responsible for Procedure:	Consultant Cardiologist	Dr Pathmanathan
SOP Owner:	ANP	Sue Armstrong
Sub-group Lead:	Deputy Sister Senior Chief Cardiac Physiologist ANP	Kelly Brown Shirley Richardson Sue Armstrong


## Appendices in this document:

- Appendix 1: Team Brief/Debrief**
- Appendix 2: Cath Labs Safe Surgery Checklist**
- Appendix 3: Integrated Care Pathway**
- Appendix 4: Sedation Chart**
- Appendix 5: Verbal Order**
- Appendix 6: Pacing Count**

## Introduction and Background:

This Standard Operating Procedure (SOP) outlines in the patient pathway for those patients undergoing implantable cardiac device procedures including:

- Pacemaker and Implantable Cardioverter Defibrillator insertion and box change
- Biventricular Pacemaker
- Biventricular ICD

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**Referral / List management and scheduling:**

The patient’s journey from referral, to transfer back to the referring team, differs for inpatients and elective patients.

**Inpatients**

A referral is made for inpatients following senior review via relevant electronic system and is then added to the inpatient waiting list. The patients are reviewed by the operator prior to transfer to the lab to ensure that the referral is appropriate, the patient is fit for the procedure and informed consent has been obtained. They are prioritised in date order and clinical priority unless clinically indicated through verbal communication from the senior medical team.

Inpatients where possible will be seen by the Nurses within the Cardiac Rhythm Team and be advised regarding the clinical need for the device, how it works, procedure and risks, discharge and lifestyle advice including driving regulations.

**Elective Patients**

Elective patients are referred via a proforma completed in outpatients or pacing clinic and then processed by the cardiology admissions team dependant on clinical priority. For those patients seen within the outpatient clinic, some patients will have bloods and MRSA screening swabs arranged on the day of the clinic appointment when appropriate. Patient information leaflets can be given out in clinic or are sent with the pre-admission / admission documentation. Preadmission appointments may be carried over the telephone or in a face to face preadmission clinic.


Patients are added to the waiting list on HISS and the breach date established by the Cardiac admissions team. The weekly catheter lab schedule is compiled based on availability of appropriately trained staff, procedure room availability and breach dates supplied by the admissions office. Patients are then booked accordingly.

All care for the patient’s journey from preadmission to discharge for a device procedure will be documented in the UHL yellow “Integrated care pathway for cardiac devices procedures” pathway booklet.

**Pre Admission (Elective Process)**

The following information is required to be completed at pre admission

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- Patient name.
- Identification numbers, i.e. NHS number with or without hospital number.
- Date of birth.

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- Gender.
- Planned procedure.
- Procedural Urgency.
- Site and side of procedure if relevant.
- Source of patient, e.g. OPC, ward or radial lounge.
- Significant comorbidities.
- Allergies, e.g. to latex or iodine.
- Infection risk – including MRSA, CRO, Covid 19, chronic wound and any additional swabs identified.
- Type of anaesthesia; ensure procedure has been listed correctly. If Anaesthetic cover is required – contact admissions team.
- Antiarrhythmic medications, start, stop, hold prior to procedure.
- Blood tests – including U+E, FBC, INR, group and save (if appropriate), CRP (if appropriate or indicated)
- Check compliance to anticoagulation if taking
- Follow Anticoagulation requirements as below section
- UHL nursing risk assessments to be completed.
- Body mass index (Bariatric assessment if indicated).
- Documentation of any pre-procedure concerns discussed with the consultant team.
- Suitability for Day care unit, day same day discharge/ overnight stay required.
- Check any non-standard equipment requirements are documented and arranged.
- Patient and family education regarding the clinical need for the device, how it works, procedure and risks, discharge and lifestyle advice including driving regulations.


#### **Anticoagulation requirements pre procedure**

- If on a DOAC, stop 24 hours before and operator responsible for saying when to restart (ideally next dose).
- Metallic valves (including Ball and Cage), History of stroke in last 12 months – INR of ideally 2.5 or below on the day of the procedure (BRUISE), (levels >2.5 need to be discussed with the operator) usual dose of Warfarin post procedure same day. Increased doses can cause INR target to be missed and increase risk of haematomas. Bridging can also cause haematomas.
- Stop warfarin for 2 days for those patients who CAN/ABLE to come off warfarin (please state on waiting list form) – consider DOAC after discussion with patient (non valvular AF patients). DOAC can be started when the INR is <2.5
- Continue Warfarin if patients preference or valvular AF (moderate-severe mitral stenosis and metallic valves).

#### **Antiplatelet requirements pre procedure**

- If ACS or stent within last 12 months continue dual antiplatelet therapy
- History of stroke in last 12 months continue antiplatelet therapy

**Should you require something different for an individual patient based on your clinical judgement please ensure this is documented on the waiting list form for preadmissions' information.**

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Patient preparation / Pre-procedural checklist:

For elective cases the patient will have been given a Patient information leaflet prior to arriving in the department. This will be sent in the post or given in the outpatient clinic or at the pre-admission appointment. They will have also been advised by the cardiac rhythm team about their procedure and preparation.

The following information is required to be completed prior to the patient being collected for their procedure (Inpatients)/prior to admission to the Cardiology Department (day cases) and must be documented in the “Integrated Care Pathway for Cardiac Devices Procedures” pathway which includes:

- Any non-standard equipment requirements documented.
- All aspects of the current WHO compliant pre-procedure checklist in the cardiac devices pathway will be completed.
- Full medical documentation
- Check anticoagulation has been withheld as per protocol.
- EWS score
- Consent / Confirmation of consent as per UHL policy for Consent for medical procedures
- Dentures
- Communication
- The correct wristband has been applied check details with patient where able including allergy and proposed procedure and correct medical notes are available.
- Patients’ body hair will be clipped in accordance with the implant procedure requirements see diagrams for clarification.

For Pacemaker, ICD, CRT P, CRTD, box change under local anaesthetic the following NBM guidelines should be adhered to promote hydration prior to the procedure:


TCI 7.30 am – No Breakfast, clear fluids allowed up to time of procedure.

TCI 1pm – light breakfast permitted until 9am, clear fluids allowed up to time of procedure.

For all GA cases: No food for 6 hours prior to procedure; patients can have water only up until 2 hours prior to procedure.

Procedural Bloods:

Blood results are checked by the clinical team responsible for the care of the patient and escalate any

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abnormalities at the earliest opportunity. The final check should be by the operator prior to transfer to the lab upon patient review as stipulated above.

Workforce – Staffing Requirements:

**Roles and responsibilities of the clinical team**

This procedure requires the following team (minimum) to be present throughout the procedure:

1 Cardiologist, 1 Specialist Registrar/fellow, 1 Scrub Nurse, 1 Radiographer, 1 Catheter Lab circulating nurse, 1 Cardiac Physiologist.

However, for on-call and if deemed essential the minimum team will comprise of:

1 Cardiologist, 1 Radiographer, 1 Catheter Lab circulating nurse, 1 Cardiac Physiologist.

If procedure is required to be undertaken under General Anaesthetic, the addition of a Consultant Anaesthetist and an ODP will need to be available.

The procedure will be scheduled by the Angiocatheter Suite clinical co-ordinator as per the departmental policy. The clinical team have the responsibility to have an on-going assessment of the patients medical care needs in pre, peri and post procedural phases and to act accordingly.


**Cardiologist:**

- Overall responsibility for procedure as the primary operator or whilst supervising Specialist Registrar / Fellow.
- Specialist Registrar / Fellow may act as operator when being supervised by Cardiologist, or act as second operator.

**Primary operator:**

- Acts in the role of IRMER practitioner.
- Lead the team brief at 08:30am, the debrief at the end of procedural list and instigate safer surgery checklist for each procedure to ensure that the team are aware of any non-standard steps.
- Works as part of the MDT to ensure safety of patient.
- Fully documents the procedure indicating any further treatment or discharge plans, ensuring appropriate prescription including all verbal orders administered during the case.
- Completes all database requirements.
- Where no scrub nurse is available, they are responsible for sterility of equipment and the appropriate preparation of the patient procedural site.
- Instigates accountable items counts and ensures safe handling of sharps on the procedural trolley.
- Prepares equipment for the procedure.

**Secondary operator (if available):**

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- Works under guidance and supervision of primary operator to assist with clinical procedure within their competency.
- If no scrub nurse is available, instigates accountable items counts and ensures safe handling of sharps on the procedural trolley.

**Radiographer:**

- Responsible for IRMER compliance ensuring radiation safety of patients and staff, ensuring correct patient imaging with optimum settings.
- Reinforces staff compliance with the local rules providing support and advice in order to comply.
- Completes the imaging process ensuring images are archived, dose information is recorded, reporting and addressing any radiation concerns.
- Works as part of the MDT to ensure safety of patient, ensuring the safer surgery check list is completed.

**Catheter Lab Circulating Nurse:**


- Responsible for caring for the patient in the room, ensuring adequate handover to follow on team.
- Medicines management, through storage of medicines and the safe administration of IV medication during the procedure following cath lab verbal order guidance.
- Monitors vital signs, observation every 5-15 minutes or more frequent if instructed by the operator.
- Checks cannula site, extension lines and ensure all medications are administered appropriately.
- Ensures patient comfort and notifies operator if more sedations/ analgesics are required.
- Ensuring sterility of all equipment.
- Responsible for scanning of stock used to ensure replacements can be ordered by Althea.
- Liaises with the Cath Lab co-ordinator for any changes to the list or escalated care requirements.
- Works as part of the MDT to ensure safety of patient.
- Ensures that the safer surgery check list documents are completed and any issues/concerns are escalated appropriately.

**Catheter Lab Scrub Nurse:**

- Responsible for sterility of equipment and the appropriate preparation of the patient procedural site.
- Instigates accountable items counts and ensures safe handling of sharps on the procedural trolley.
- Prepares equipment for the procedure following company / consultant training.
- Prepares procedural medications according to UHL IV medicines policies.
- Works as part of the MDT to ensure safety of patient, ensuring the safer surgery check list is completed.

**Cardiac Physiologist:**

- Ensures that all equipment and stock is available for the procedure, liaising with Althea stock management company if any stock is missing or in short supply.
- Attach Defibrillator patches when required for ICD procedures and deliver DC shock/ cardioversion if indicated/ instructed by operator.
- Works as part of the MDT to ensure safety of patient, ensuring the safer surgery check list is completed.

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- Attach ECG monitoring to patient as required for procedure to interface with main lab ECG display and pacemaker programmer/PSA (pacing system analyser).
- Select correct device and associated consumables based upon the pacing indications as discussed with the lead operator.
- Advise as appropriate regarding any particular device features/algorithms that may be required.
- Monitor ECG closely throughout the procedure informing the operator of any changes.
- Hand over pacing electrodes and generators at the request of the operator, carefully checking with the operator the model number/name, length of lead, method of securing the lead, polarity of lead, and connector pin size (or header size for devices).
- Perform lead checks during the procedure, informing the operator of the results to establish optimal lead position, advising if any of the results are out of expected/acceptable ranges and if required, advising that the lead should be repositioned if results are suboptimal.
- Hand over device to operator checking as before. Confirm serial numbers of the implanted leads and position of lead before connecting into header. Visually check with the operator that the correct lead has been connected into the correct port and the set screw is sufficiently tightened until the torque wrench clicks.
- During closure of the wound, perform device checks, programme device specifically for the pacing indications and complete all necessary paperwork, confirming with the operator if checks are satisfactory. Any abnormality in the checks should be highlighted immediately so they can be investigated.
- Document that checks have been completed and are satisfactory in the patient pathway. Make follow up appointment for the patient in the pacemaker clinic.
- At the end of the procedure inform the patient that all checks have been completed, give them the appointment and advise on restriction of ipsilateral arm movement. Inform patient of driving restrictions, particularly for those patients who have had an ICD implanted and instruct them of required actions should they suspect a wound infection. If the patient has had sedation and remains drowsy, or has had the procedure under general anaesthetic, make arrangements with the pacemaker clinic for a member of staff to visit the patient later on the ward.

All team staff members will have completed relevant role specific HELM training and any other appropriate training (e.g. revalidation/IRMER compliance). Maintaining relevant and current training is the responsibility of the individual and is regularly checked as per the appraisal process. All new members of staff will have completed full induction training before independently working in their role. Progress and skill development is monitored and managed by the senior staff in the area with regular review. Visitors to the area are closely supervised according to UHL policy.

#### Documentation and pre-procedural checks

- All mandatory pre-procedural patient information will be documented within the yellow cardiac devices pathway.
- Consent will be completed by the cardiology clinician (registrar, consultant or ANP) prior to the procedure and before transfer to the lab, and can only be completed if the patient has had prior access to and read the Patient Information Leaflet (For inpatients, the Patient Information Leaflet



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will be given at the time of being added to waiting list).

- The pre-procedure checklist must be completed on the ward by the nurse responsible for the patient's care on the day of procedure. Pre-procedure issues must be resolved prior to transfer to Cath Lab - The cardiologist must be informed of any abnormalities in blood results or medical concerns.
- The patient will not be admitted to the procedural area unless the pre-procedure checklist is completed (embedded within the Integrated Care Pathway for Cardiac Devices Procedures pathway) and the patient is consented for the procedure. ]
- Prior to the patient being sent for by the lab, the team will call the ward and ask for the ward staff to administer prophylactic antibiotics (as per protocol) to the patient. These medications are prescribed by the operator at the time of clinical review prior to transfer.
- Each patient will get signed in to the department at a formal documented handover from the clinical team.
- The patient will only proceed through each step of the procedure once each safety check is documented as being complete.

Team Safety Briefing:

**Prior to commencement of any elective or In patient procedural lists a 'Safety Briefing', which involves all members of the team, must take place.**

- The purpose of the brief is to discuss the sessions' list schedule of planned interventional procedures.
- The area used should be quiet and free from interruptions.
- The brief may be led by any designated member of the team
- All staff members of the procedural team are named for the session and roles identified and written on the white board.
- Any changes in order, cancellation or addition N.B. The procedural list will be updated on the master board in reception as changes happen, the co-ordinator will inform the room team and operator of any changes as they happen verbally. Wards will be informed of cancellations and additions as soon as possible.
- Any patient who might require a higher level of care i.e. a cardiac monitor post-procedure.
- Any non-standard steps identified and plans put in place if necessary.
- Equipment checks should have already been performed and any issues highlighted, and actions put in place to address if required.
- Procedures involving implantation of devices must be discussed and availability of devices verified.

Sign In:

**Sign in and Time Out are safety processes whereby the prompts on the checklist ensure verification of the correct patient and procedure.**

- Conscious and coherent patients should actively be encouraged to participate in these processes.
- The Sign in verification process must be performed by two team members, one will be the radiographer and the other will also be involved in the procedure.



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- The questions will be undertaken verbally in a clear, precise and audible tone, with the patient.
- The process must have both the two's checkers full attention to confirm sign in. No other task should be undertaken until this is completed.
- For emergency cases where the patient is not able to communicate identification can be taken from transferring team and the wrist band.

Time Out:

**The Time Out must be undertaken with all the team present and everyone must engage and must give their full attention.**

- The steps on the checklist must be led by a trained healthcare professional in a clear and audible manner.
- All team members must 'stop and pause' whilst the checklist questions are asked and responded to, hence this part of the safety process is known as 'time out'.
- If there is an interruption, the 'time out' must be suspended and recommenced.
- Every team member is valuable and should feel comfortable and at ease to raise any questions or concerns they have relating to the case at this time.
- The patient should once again be included where possible in the time out.
- Team members must not enter or leave the procedural room during this time.

Sign Out:

**Sign Out when the procedure is completed. All patients who have undergone an interventional procedure must undergo safety checks at the end of the procedure before leaving the procedural room.**

- Team members who are present at the end of the procedure should not leave the room until this is completed and verified as correct. (Any member of staff leaving the case before it is completed must handover to an equivalent member of staff).
- The nominated Healthcare professional leading time out will request that all the team is present and ask the team to 'stop and pause'.
- The set questions on the designated section of the Checklist are then directed to the appropriate team member/s, who will verbally respond to the questions being asked.
- Implant/device insertion logs and securing of stickers must be confirmed.
- The procedure will be documented in the Procedure booklet and at a later date a formal report will be available on CRIS/ relevant electronic system and in the notes.
- Finally, prior to transfer to the recovery/discharge area the team will review any key plans or concerns for the handover.
- The procedure nurse must complete adequate patient handover to the recovery/discharge area.
- The 'Sign Out' sheet is then signed by a registered healthcare professional and retained in the patient's notes as evidence.

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## Restricted Use of Open Systems

The Glenfield Specification Pacing procedure pack has been designed to restrict the use of open systems and mitigate against the risk of these and will form the basis of the equipment used. Any other equipment should be assessed by the operator and must comply with these restrictions and mitigations as below:

- All drugs will be drawn into syringes and labelled with syringe labels that are supplied in the Glenfield Specification pacing procedure pack.
- Wire bowl is pre- labelled 'not for injection'.
- For operators who dilute the local anaesthetic, the local anaesthetic is added to a closed 50ml Normal Saline 0.9% bag.

## Patient Monitoring:

The patient will be monitored as below throughout the procedure:


Type of monitoring	Frequency of monitoring
BP	At beginning and end of procedure – then more frequently only if required.
Respiratory Rate	At beginning and end of procedure – then more frequently only if required. N.B- patients who have complex respiratory conditions may require closer monitoring especially following/during sedation.
The cath lab nursing team may choose to use sedation chart and scoring alongside capnography if they deem it appropriate.	
O2 saturations	Continuously throughout procedure.
ECG	Continuously throughout procedure.
Sedation score	Not routinely – only if required. See above.

## Stock management / expiry dates:

Stock levels within the Cath lab should be maintained such that all standard equipment for undertaking coronary angiography and percutaneous coronary intervention is available on request from the operator. Stock control is undertaken via the stock management system within the lab. Any shortages will be identified and alternatives provided.

## Equipment handover to operator during procedures (not including initial trolley set-up):

- Operator asks for the relevant equipment and the lab staff will repeat the request verbally.
- The lab staff locates the equipment and offers it, packaged, for the operator to check.
- Primary operator confirms verbally that the packaged item is the intended item for use.

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- Packaging opened and equipment placed on the operator trolley.
- Immediately before using any equipment the operator checks visually that it is the intended equipment.

#### Prevention of retained Foreign Objects:

Procedures will be adhered to within the Management of Surgical Swabs, Instruments, Needles and Accountable Items policy (June 2020).

A count of all sharps, instruments and swabs used during the procedure must be documented on the countable items specific procedure record sheet. This must be completed at the start of the case and maintained throughout, adding any further items to the count. This count must be completed by a scrubbed practitioner and another member of the circulating cath lab team. At the end of the case the count must be repeated and checked against the countable items record. No waste must leave the room during the case until the final count has been made and all items are accounted for. If there are any discrepancies, the waste bags will be searched and the missing item must be found before the patient leaves the room.


The operator must check guidewires, cardiac catheters, sheaths/introducers, and any balloons/ invasive equipment on removal to ensure integrity and confirm nothing left, fractured off or embolised. They should sign to verify all catheters and guidewires are intact at the end of the procedure. If there is any doubt as to the integrity of a guidewire or any piece of equipment this should be raised immediately, and X Ray screening implemented as appropriate.

#### Radiography:

All procedures are undertaken with compliance with IRR 17, IR(ME)R 17 and Local Rules. Cardiology IRMER procedures are in place as per IRMER legislation. IRMER training relevant to each role is undertaken at induction and audited.

#### Handover:

- Specific details for handover to the recovery and subsequently ward staff required are as follows:
- If an increased level of post procedure monitoring and / or higher dependency area other than standard ward bed is required this will be clearly documented.
- Any Antibiotic regimes that are required or Anticoagulant therapy that requires implementing is communicated verbally to the ward team as well as documented within the relevant electronic system discharge letter or patient pathway.

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- Any changes to current medication will be documented and prescribed by the operator.
- All medication administered or commenced during the procedure will be handed over to the receiving nurse with an infusion chart as required.

#### Team Debrief:

A team debrief should occur at the end of all procedure sessions as per WHO checklist which should include:

- The debrief is to discuss the session's list and identify what went well and what did not.
- The area used should be quiet and free from interruptions.
- The brief may be led by any designated member of the team.
- Any problems with equipment identified and the plan for rectification confirmed. Any long term problem will be identified to the co-ordinator and the appropriate team
- Identify areas for improvement and escalate to senior team with plan for any change required.

#### Post-procedural aftercare:

##### Post-procedural care


- Aftercare of the patient is formally documented with any additional specific aftercare instructions documented in the 'specific aftercare instructions' section in the procedure booklet.
- All procedures requiring new pacing leads will require a chest x-ray to rule out pneumothorax. Post procedure device checks will be carried out either immediately after the procedure or back on the ward after a period of time by the Cardiac Physiologists.
- The patient will be formally handed back to the clinical team verbally, alongside a documented management plan in the relevant pathway for inpatients/patients to be recovered on the ward.
- The ward staff are required to monitor the patient closely for any signs of bleeding/haematoma and or pneumothorax. Any concerns need to be highlighted to the ward medical team immediately.

#### Discharge:

- The patient will be discharged when they are clinically safe to do so and all post procedure checks have been completed as per cardiac devices pathway.
- A discharge letter should be completed using the Electronic system and sent home with the patient for patients recovered in the department and subsequently discharged as day case.

#### Governance and Audit:

Safety incidents in this area include;

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- Wrong site surgery
- Retained foreign object post-procedure
- Wrong prosthesis or implant

All incidents and near misses will be reported on Datix and appropriate actions taken.

This document will be audited periodically and will be reviewed alongside any changes to the service and practice. The service is under regular review at the Mortality and Morbidity audit meetings.

Regular IRMER compliance audits are undertaken.

#### Training:


- Angiocatheter Suite Nursing competencies.
- Cardiac Physiologist competencies.
- Access and knowledge of massive haemorrhage protocol.
- Scrub training protocol / procedures and competencies.
- IRMER relevant training.
- HELM mandatory training.
- Equipment competency training.
- Consent/Delegated consent training.

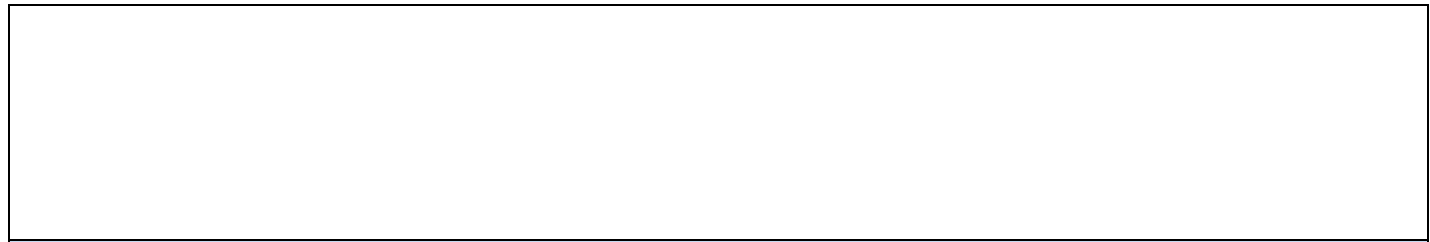
#### Documentation:

All documentation from admission to discharge should be recorded on the standard UHL related admission documents including:

- Integrated Care Pathway for Cardiac Devices Procedures yellow care pathway
- Angiocatheter Suite specific UHL Safer Surgery checklist
- Patient property disclaimer
- NHS consent form
- UHL Bed rail risk assessment (if required)
- UHL Falls risk assessment (if required)
- UHL Adult in patient medication record / EPMA available

In addition to this, patient procedure details will be recorded onto the DCS Intellect data management system by the Clinical Audit team with information provided by the Cardiac Physiology team. Patients will also be attended onto CRIS system by the Radiography team.

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References to other standards, alerts and procedures:

- National Safety Standards for Invasive Procedures, NHS England 2015:*  
<https://www.england.nhs.uk/patientsafety/wp-content/uploads/sites/32/2015/09/natssips-safety-standards.pdf>
- UHL Safer Surgery Policy: B40/2010*  
*UHL Consent to Treatment or Examination Policy A16/2002*  
*UHL Delegated Consent Policy B10/2013*  
*Surgical Swabs, Instruments, Needles and Accountable Items UHL Policy B35/2007*  
*Sedation UHL Policy B10/2005*  
*UHL Cardiology Guideline C268/2016*  
*UHL Policy on Surgical Safety Standards for Invasive Procedures B31/2016*  
*Ionising Radiation Safety UHL Policy B26/2019*  
*The Ionising Radiation (Medical Exposure) Regulations 2017*  
*The Ionising Radiation Regulations 2017*

**Further References**

- Cath Lab Local Rules
- Cardiology IRMER procedures

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**Appendix 1: Team Brief/Debrief**

**Catheter Lab Team Brief Checklist**  
 This checklist must be filed in the Cath lab Brief / Debrief folder



Cath Lab: .....  
 Consultant: .....  
 Date: .....  
 Time Started: .....



**1. Team brief:**

At the beginning of the list to discuss all cases, led by the theatre team leader.  
 In emergency theatre –full handover to be given by transferring registrar on patient arrival.

- All team members have introduced themselves by name & role.
- Issues resolved from last debrief.
- Anaesthetic machine & drugs checked and ready.
- Any latex allergies or infection risk.
- Confirm list order.
- Dosimetry for all staff.


Patient name, Number and Procedure	Team Input									Anaesthetic Input
	Correct Ward	Equipment Available	Essential Imaging checked & available	Outstanding tests /VTE	Procedure concerns / requirements	Implants / prostheses checked & available	Antibiotics required	Blood Products required	Post procedure care	Anaesthetic plan: Patient specific concerns
1.										
2.										
3.										
4.										
5.										

**Staff present:**

- Nurse
- HCA / CLA
- Scrub Practitioner
- ODP
- Student
- Trainee Cardiologist
- Con Cardiologist
- Con Anaesthetist
- Trainee Anaesthetist
- Rep
- Radiographer
- Cardiac Physiologist

Team Signature:	Print Name:	Designation:
	Date: / /	Time:



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**Catheter Lab Team De-Brief Checklist**  
 This checklist must be filed in the Cath Lab Brief / Debrief folder




Cath Lab: .....  
 Consultant: .....  
 Date: .....  
 Time Started: .....

- Post op debrief performed Yes  No
- Any issues arising that need to be addressed Yes  No
- If 'Yes', is Debrief Action Log complete (below)
- All 'Stop the Line' issues recorded and Datixed

Issue	Action Required	Responsible Person	Due Date	Completed?

Achievements and what went well?	Could we have made this list more productive?


<b>Staff present:</b> <input type="checkbox"/> Nurse <input type="checkbox"/> Con Cardiologist <input type="checkbox"/> HCA / CLA <input type="checkbox"/> Con Anaesthetist <input type="checkbox"/> Scrub Practitioner <input type="checkbox"/> Trainee Anaesthetist <input type="checkbox"/> ODP <input type="checkbox"/> Rep <input type="checkbox"/> Student <input type="checkbox"/> Radiographer <input type="checkbox"/> Trainee Cardiologist <input type="checkbox"/> Cardiac Physiologist	Team Signature:	Print Name:	Designation:
	Date:                            /   /		Time:

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**Appendix 2: Cath Labs Safe Surgery Checklist**

PATIENT  
STICKER

**UHL Cardiac Catheter Department.  
Safer Procedure Checklist**



University Hospitals  
of Leicester  
NHS Trust


Caring at its best

Date: ..... Procedure: .....


SIGN IN	TIME OUT	SIGN OUT														
<p style="font-size: 10px; margin: 0;">Prior to any cardiac intervention the patient should verbally confirm their identity and planned procedure against wristband and consent form.</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Confirm patient's name, date of birth and Hospital number</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Confirm procedure and site with patient</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Confirm valid consent form matches identity and expected procedure</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Required implants / instruments available <span style="float: right;"><input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> X-ray equipment working <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> N/A</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Blood results available <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p>	<p style="font-size: 10px; margin: 0;">After positioning and before skin incision the Cardiologist, Anaesthetist and Cath Lab team members should verbally confirm with reference to the consent form, and wristband:</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Confirm patient name, Hospital number, date of birth</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Procedure, site and position</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Access planned</p> <p style="font-size: 10px; margin: 0;">DOACs / Anticoagulation <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p style="font-size: 10px; margin: 0;">Dual Antiplatelets <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p style="font-size: 10px; margin: 0;">Known allergy <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p style="font-size: 10px; margin: 0;">Is patient for CPR? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p style="font-size: 10px; margin: 0;"><b>Operator</b></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Special equipment requirements <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Expected duration .....</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Concerns or potential critical events</p> <p style="font-size: 10px; margin: 0;"><b>Nurse</b></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Sterility of instruments confirmed <span style="float: right;"><input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><b>Surgical site care bundle</b></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Antibiotic prophylaxis given <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Patient Warming <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Glycaemic control <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Hair removal with clippers <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Essential imaging displayed or reviewed <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Heparin / VTE discussed</p> <p style="font-size: 10px; margin: 0;"><b>Anaesthetist</b> <span style="float: right;"><input type="checkbox"/> N/A</span></p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Patient's ASA status</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Patient specific concerns or serious comorbidity</p>	<p style="font-size: 10px; margin: 0;">Before any member of the team leaves the operating theatre, and not before completion of the first surgical dosing count, the team should verbally confirm:</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> What procedure have you performed and is it correctly recorded</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> The count is correct for all instruments, swabs, throat packs, sharps and accountable items</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Any equipment issues identified</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> All cannulae and extensions have been flushed / removed and / Clamped</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Key concerns for recovery and postoperative management, including if higher level of care required</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Issues for de-brief noted</p> <p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Implant device / stent recorded</p>														
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<p>Read out by: (PRINT) .....</p> <p>Signed: .....</p>																
INTRA-PROCEDURAL PAUSES <span style="float: right;">N/A</span>																
<p style="font-size: 10px; margin: 0;"><input type="checkbox"/> Prosthetic check</p> <p style="font-size: 10px; margin: 0; padding-left: 20px;"><input type="checkbox"/> Cardiologist and team member confirm correct implant and expiry date and details entered in the patient record</p>																
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PCI Catheter Lab. Safer Surgery 6/21



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Section 1 Pre-Admission Clinic and Admission details Preparation and orientation											
Patient contact number: Mobile Number:				Disclaimer form signed				Yes	No		
Next of kin: Contact number:				Relationship:							
Next of kin): Contact number:				Relationship:							
Language spoken:				Interpreter required				Yes	No		
Age:				Ethnic Group:							
Social Circumstances											
Lives alone			Lives with spouse/partner				Lives with dependants				
Other relevant information:											
Anticipated discharge destination:				Home		Other:					
Ambulance transport			Other transport:								
Meets Day case Criteria		Yes	No	Overnight Stay Required				Yes	No		
Advised not to drive for:		NA	1 week		1 month		6 months				
Employment / Social Status											
Working		Not working due to illness		Unemployed		Retired		Housewife / Husband		Student	
Specify employment:											
Advice given:											
Procedure information											
Patient is:			Right Handed				Left Handed				
Pacemaker		ICD		Bi- / Tri- Ventricular		Reveal Device		Unit Change			
VVI	DDD	VVI	DDD	CRT-P	CRT-D	Implant	Explant	PPM	ICD	CRT	
Lead Reposition / Replacement	System Upgrade	System Extraction	Wound Revision / Haematoma Evacuation	DSM check	Leadless PPM	S - ICD	External System	Other:			
Pacing dependant		Yes			No			N/A			
Diagnosis/Reason for implant:											
QRS duration:											
Symptoms:											
Chest pain					PND						
Dizzy/light-headedness					Shortness of Breath at rest						
Lethargy					Shortness of Breath during palpitation						
Syncope					Ankle swelling						
Palpitations					Orthopnoea			Pillows			
Other					Shortness of Breath on exertion						

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Please affix Patient Label

Name:

Date of Birth:

Hospital / NHS Number:

Observations and Investigations						
	Results	Date	Bloods taken			
BP			FBC	U&E		
Pulse			LFT	TFT		
RR			Glucose	Group & Save		
SpO2			Investigations			
Temp			ECG	CXR		
EWS:			MRSA	Nose		
Height				Perineum		
Weight				Other		
Past Medical History						
Condition	(Please Circle)		Details			
MI / Angina	Yes	No				
PCI/Stent	Yes	No				
CABG	Yes	No				
Valve Surgery	Yes	No	Tissue	Mechanical		
ACS / NSTEMI	Yes	No				
CVA / TIA	Yes	No				
Hyperthyroidism	Yes	No				
Hypothyroidism	Yes	No				
Hypertension	Yes	No				
Hypotension	Yes	No				
Respiratory disease	Yes	No	Asthma	COPD		
Diabetic	Yes	No	Type 1	Type 2	Diet	
Dialysis How long on dialysis:	Yes	No	Peritoneal / Haemodialysis			
Previous Hepatitis	Yes	No				
Recent infection / CRO	Yes	No				
Other illness / operations Please specify:						

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Other					
Communication issues	(Please specify)				
Urinary / Bowel problems	(Please specify)				
Dietary needs	(Please specify)				
Alcohol intake	Yes / No	Units per week:			
Smoke	Never smoked	Ex Smoker	Still smoking		
If still smoking, record below date and type of smoking cessation service referral:		Ex for (yrs):	How long (yrs):	Quantity per day	
Allergies (please specify)					
Metal: <small>(if yes referral for allergy testing)</small>		Latex <small>(Lab informed)</small>		Contrast <small>(Lab informed)</small>	
Antibiotics:		Other:			
Medications:					
Anticoagulation Details					
Aspirin	Yes	No	75 mgs	150 mgs	300 mgs
Advised to stop until after procedure (Last dose): If no, reason:					
Clopidogrel	Dipyridamole		Prasugrel	Ticagrelor	
Advised to stop until after procedure (Last dose): If no, reason:					
Warfarin / other coumarins	Yes	No	Current Dose:	Date advised to stop administration:	
Monitoring	Venous		Near test		Stable Yes / No
INR readings	Date	Date	Date	Date	
Site of monitoring	Hospital		GP	Other	
Rivaroxiban	Apixaban	Epiximab		Dabigatran	
Advised to stop until after procedure (Last dose): If no, reason:					











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Please affix Patient Label		<b>Section 2</b> <b>Pre-Procedure Cardiac Cath Lab Check List (2 of 2)</b> <b>As per WHO Guidelines</b>																																																																			
Name:																																																																					
Date of Birth:																																																																					
Hospital / NHS Number:																																																																					
Please tick as appropriate		Y / N																																																																			
Has the patient been Nil By Mouth of fluid as per current policy?																																																																					
Infection risk factors: <ul style="list-style-type: none"> <li>MRSA screening done</li> <li>Decolonisation done</li> <li>Current MRSA status: Positive / Negative</li> </ul> Other infection risk:			(If positive result inform the lab team)																																																																		
Is implant site shaved and clean? (Left armpit and whole chest for Subcut ICDs)																																																																					
Communication barriers: (Language barrier, hearing, sight impairment)			Please specify:																																																																		
Hearing Aid in place? (if applicable)																																																																					
Any dentures, loose teeth, caps, crowns, bridges, inlays, veneers?																																																																					
Could the patient be pregnant? Date of last menstrual period:			<b>"I confirm that I am not pregnant"</b> Patient signature:																																																																		
Jewellery / piercing are removed / taped?																																																																					
Make-up, nail varnish, gel/false nails are removed																																																																					
Any prosthesis?			Please specify:																																																																		
Waterlow Score:																																																																					
Pressure Areas Intact?																																																																					
Any continence issues?			Please specify:																																																																		
BESTSHOT pre completed																																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">B</td> <td colspan="2" style="text-align: center;">E</td> <td colspan="2" style="text-align: center;">S</td> <td colspan="2" style="text-align: center;">T</td> <td colspan="2" style="text-align: center;">S</td> <td colspan="2" style="text-align: center;">H</td> <td colspan="2" style="text-align: center;">O</td> <td colspan="2" style="text-align: center;">T</td> </tr> <tr> <td colspan="2" style="text-align: center;">Buttocks</td> <td colspan="2" style="text-align: center;">Elbow</td> <td colspan="2" style="text-align: center;">Ears</td> <td colspan="2" style="text-align: center;">Sacrum</td> <td colspan="2" style="text-align: center;">Hips</td> <td colspan="2" style="text-align: center;">Shoulders</td> <td colspan="2" style="text-align: center;">Heels</td> <td colspan="2" style="text-align: center;">Occip</td> <td colspan="2" style="text-align: center;">Toes</td> </tr> <tr> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> <td colspan="2"></td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> <td colspan="2"></td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="2"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td colspan="2"></td> <td></td> <td></td> </tr> </table>		B		E		S		T		S		H		O		T		Buttocks		Elbow		Ears		Sacrum		Hips		Shoulders		Heels		Occip		Toes		L	R	L	R			L	R	L	R	L	R			L	R																		
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L	R	L	R			L	R	L	R	L	R			L	R																																																						
(For skin grading please refer to SSKIN bundle assessment sheet SND010a from pre-admission)																																																																					
GA patient Seen by anaesthetist (if applicable)																																																																					
If YES: WHO Surgical Checklist completed																																																																					
IV antibiotics given pre procedure on the ward as per protocol																																																																					
Ward Nurse Name	Signature	Date & time																																																																			
Cath Lab Nurse Name	Signature	Date & time																																																																			

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## PATIENT STICKER

### UHL Cardiac Catheter Department. Safer Procedure Checklist




University Hospitals of Leicester  
NHS Trust

*Caring at its best*

Date: ..... Procedure: .....

SIGN IN	TIME OUT	SIGN OUT														
<p><small>Prior to any cardiac intervention the patient should verbally confirm their identity and planned procedure against wristband and consent form.</small></p> <p><input type="checkbox"/> Confirm patient's name, date of birth and Hospital number</p> <p><input type="checkbox"/> Confirm procedure and site with patient</p> <p><input type="checkbox"/> Confirm valid consent form matches identity and expected procedure</p> <p><input type="checkbox"/> Required implants / instruments available <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p><input type="checkbox"/> X-ray equipment working <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> N/A</span></p> <p><input type="checkbox"/> Blood results available <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <hr/> <p style="text-align: center;"><b>GENERAL ANAESTHETIC CHECKS</b> <span style="float: right;">N/A</span></p> <p><input type="checkbox"/> Anticipated difficulty airway or aspiration risk</p> <p><input type="checkbox"/> Equipment / assistance available</p> <p><input type="checkbox"/> Anticipated blood loss &gt;500ml (&gt;7ml/kg in a child)</p> <p><input type="checkbox"/> Blood products available if needed</p> <p><input type="checkbox"/> Use of cell salvage considered</p> <p>Read out by: (PRINT) .....</p> <p>Signed: .....</p> <hr/> <p><b>Staff present:</b></p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> HCA / CLA</td> <td><input type="checkbox"/> Trainee Anaesthetist</td> </tr> <tr> <td><input type="checkbox"/> Scrub Practitioner</td> <td><input type="checkbox"/> Radiographer</td> </tr> <tr> <td><input type="checkbox"/> Scrub Practitioner 2</td> <td><input type="checkbox"/> Cardiac Physiologist</td> </tr> <tr> <td><input type="checkbox"/> ODP</td> <td><input type="checkbox"/> Nurse</td> </tr> <tr> <td><input type="checkbox"/> Trainee Cardiologist</td> <td><input type="checkbox"/> Company Support</td> </tr> <tr> <td><input type="checkbox"/> Con Cardiologist</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Con Anaesthetist</td> <td></td> </tr> </table>	<input type="checkbox"/> HCA / CLA	<input type="checkbox"/> Trainee Anaesthetist	<input type="checkbox"/> Scrub Practitioner	<input type="checkbox"/> Radiographer	<input type="checkbox"/> Scrub Practitioner 2	<input type="checkbox"/> Cardiac Physiologist	<input type="checkbox"/> ODP	<input type="checkbox"/> Nurse	<input type="checkbox"/> Trainee Cardiologist	<input type="checkbox"/> Company Support	<input type="checkbox"/> Con Cardiologist	<input type="checkbox"/> Other	<input type="checkbox"/> Con Anaesthetist		<p><small>After positioning and before skin incision the Cardiologist, Anaesthetist and Cath Lab team members should verbally confirm with reference to the consent form, and wristband:</small></p> <p><input type="checkbox"/> Confirm patient name, Hospital number, date of birth</p> <p><input type="checkbox"/> Procedure, site and position</p> <p><input type="checkbox"/> Access planned</p> <p><input type="checkbox"/> DOACs / Anticoagulation <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p><input type="checkbox"/> Dual Antiplatelets <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p><input type="checkbox"/> Known allergy <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p><b>Operator</b></p> <p><input type="checkbox"/> Special equipment requirements <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Expected duration : .....</p> <p><input type="checkbox"/> Concerns or potential critical events</p> <p><b>Nurse</b></p> <p><input type="checkbox"/> Sterility of instruments confirmed <span style="float: right;"><input type="checkbox"/> Yes</span></p> <p><b>Surgical site care bundle</b></p> <p><input type="checkbox"/> Antibiotic prophylaxis given <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Patient Warming <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Glycaemic control <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Hair removal with clippers <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Essential imaging displayed or reviewed <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><input type="checkbox"/> Heparin / VTE discussed <span style="float: right;"><input type="checkbox"/> N/A <input type="checkbox"/> Yes</span></p> <p><b>Anaesthetist</b> <span style="float: right;"><input type="checkbox"/> N/A</span></p> <p><input type="checkbox"/> Patient's ASA status</p> <p><input type="checkbox"/> Patient specific concerns or serious comorbidity</p> <hr/> <p style="text-align: center;"><b>INTRA-PROCEDURAL PAUSES</b> <span style="float: right;">N/A</span></p> <p style="text-align: center;"><small>Not for Intervention</small></p> <p><input type="checkbox"/> Prosthetic check <small>*Cardiologist and team member confirm correct implant and expiry date and details entered in the patient record</small></p> <p>Read out by: (PRINT) .....</p> <p>Signed: .....</p>	<p><small>Before any member of the team leaves the operating theatre, and not before completion of the first surgical closing count, the team should verbally confirm:</small></p> <p><input type="checkbox"/> What procedure have you performed and is it correctly recorded</p> <p><input type="checkbox"/> The count is correct for all instruments, swabs, throat packs, sharps and accountable items</p> <p><input type="checkbox"/> Any equipment issues identified</p> <p><input type="checkbox"/> All cannulae and extensions have been flushed / removed and / Clamped</p> <p><input type="checkbox"/> Key concerns for recovery and postoperative management, including if higher level of care required</p> <p><input type="checkbox"/> Issues for de-brief noted</p> <p><input type="checkbox"/> Implant device / stent recorded</p> <p>Read out by: (PRINT) .....</p> <p>Signed: .....</p>
<input type="checkbox"/> HCA / CLA	<input type="checkbox"/> Trainee Anaesthetist															
<input type="checkbox"/> Scrub Practitioner	<input type="checkbox"/> Radiographer															
<input type="checkbox"/> Scrub Practitioner 2	<input type="checkbox"/> Cardiac Physiologist															
<input type="checkbox"/> ODP	<input type="checkbox"/> Nurse															
<input type="checkbox"/> Trainee Cardiologist	<input type="checkbox"/> Company Support															
<input type="checkbox"/> Con Cardiologist	<input type="checkbox"/> Other															
<input type="checkbox"/> Con Anaesthetist																


Page 1 Catheter Lab. Safer Surgery 01/19

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Pacing pack			
Quantity	Pre Op Check	Description	Post Op Check
<b>Contents (Total components 30)</b>			
3		Forceps Artery Mosquito Curved	
2		Forceps Artery Mosquito Straight	
1		Forceps Dissecting Plain 14cm	
1		Forceps Dissecting Toothed 14cm	
1		Scissors Metzenbaum Op. 13.5cm	
1		Scissors Sharp / Blunt 13cm	
1		Scissors Delicate Iris 11cm	
1		Retractor Weislander Self Retaining	
1		Needle Aneurysm	
1		Holder Needle Mayo 20cm	
1		Tray Full Deep 28 x 25cm	
2		Bowl Denture Cup 250ml	
1		Bowl Kidney Emesis 700ml	
1		Solution Guidewire Bowl	
1		Needle Containment Device	
1		Scalpel No. 20	
1		Needle 21G x 3.8cm Hypo Green	
1		Syringe 20ml L/S	
4		Clamp Towel 70mm	
5 + 5		Swab Gauze 10 x 10cm	
1 + 1		Red Tags	
Additional items			
		Introducer needle(s)	
		Suture(s)	
		Swabs	
		Red tag(s)	
		Screwdriver(s)	
		Diathermy blade / Plasma blade	
Date	Pre Op	Scrub Practitioner	Circulating Practitioner
Ward	Post Op	Scrub Practitioner	Circulating Practitioner
Please affix pack label here			






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Device Details			
Right Atrial Lead: (RA Lead ID label)	N / R	Left / Right	Subclavian / Cephalic / Axillary Vein
Right Ventricular Lead: (RV Lead ID label)	N / R	Left / Right	Subclavian / Cephalic / Axillary Vein
Left Ventricular Lead: (LV Lead ID label)	N / R	Left / Right	Subclavian / Cephalic / Axillary Vein
Device: (Device Label)			
Technician's comment			
.....			
.....			
.....			
Signature:			
See yellow sheet at back of pathway for details of pacing procedure			
Pacing checks required on the ward: Yes / No			
Defibrillators			
Programmed mode(s) of action: Shock <input type="checkbox"/> ATP <input type="checkbox"/> Brady pace <input type="checkbox"/>			
Bradycardia pacing rate: .....bpm		Pacing mode:.....	
Monitor zone rate	VT zone rate	FVT zone rate	VF zone rate
Defibrillator Safety Margin (DSM) Testing? No / Yes .....J			
If yes please specify: .....			
.....			
.....			
.....			
Recovery information			
.....			
.....			
.....			
Signature:			

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Please affix Patient Label Name: Date of Birth: Hospital / NHS Number:	<b>Doctor's comment / Instructions</b>
<div style="border: 1px dashed black; height: 250px; width: 100%;"></div>	
Doctor's signature	Date:
<b>Comments</b>	
<div style="border: 1px dashed black; height: 250px; width: 100%;"></div>	
Signature:	Date:




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Section 4 Post-Procedure information & Discharge Plan			
Return to bed space:		Get up time:	
<b>Immediate Post Procedure</b>			Tick as appropriate
Observations within normal limit			
Wound assessment performed, no evidence of haematoma or bleeding			
Patient aware of need for 2 hours bed rest			
Patient aware of post-procedural information			
Patient eating and drinking			
Patient states pain control is effective			
Patient safely self-medication if appropriate:			
Pressure areas assessed and appropriate action taken			
Signature	Date	Time	
<b>Within 2 – 4 hours Post Procedure</b>			Tick as appropriate
Bed rest completed			
Wound assessment performed, no evidence of haematoma or bleeding			
Discharge/transfer planning continued			
Patient safely self-medication if appropriate			
Patient is comfortable			
Chest X-ray ordered and completed			
Pacing Checks completed if required			
Signature	Date	Time	
<b>CSSO – Pacing Checks</b>			Tick as appropriate
Pacing checks reviewed and satisfactory			
Pacing follow-up appointment given			
Comments on pacing checks: .....			
.....			
.....			
Signature	Date	Time	
<b>Cardiac Rhythm Management Team</b>			Tick as appropriate
Discharge advice completed – Immediate Do's and Don'ts			
Contact details reiterated in case of any problems or concerns on discharge			
Arrangements made for phase 2 follow-up / Referral to local rehabilitation centre			
Comments:.....			
.....			
.....			
Signature	Date	Time	





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**Appendix 5: Verbal Order**

University Hospitals of Leicester 

Patients Weight .....

Known Allergies.....

Drugs and Fluids that can be given via Verbal Order Policy during Pacemaker/ICD Implant

For use in The AC Dept on..... (Date of procedure)  
Cross through and file in medical notes post procedure

Drug	Route	Dose Range
Atropine	IV	300micrograms – 1mg
Chlorphenamine Maleate (Piriton)	IV	10mg
Cyclizine	IV	50mg
Diazepam	IV	1 – 10mgs
Flucloxacillin	IV	1gm
Flumazenil	IV	200 – 500micrograms
Furosemide	IV	20 – 100mg
Hydrocortisone	IV	100 – 200mg
Gentamicin	IV	1.5mg/kg (max 150mg)
Metoclopramide	IV	10mg
Midazolam	IV	1 – 10mg
Morphine	IV	1 – 10mg
Naloxone Hydrochloride (Narcan)	IV	100 – 200micrograms
Niopam 340	IV	10 – 50mls
Oxygen	Via Mask	2 – 10L
Teicoplanin	IV	400mg
0.9% Sodium Chloride	IV	10 – 500mls
4% Glucose with 0.18% Sodium Chloride	IV	50 – 500mls
5% Glucose	IV	50 – 500mls
Gelatin (Volplex)	IV	500mls


All drugs given to be documented on drug chart as per Verbal Order Policy

Fluids and Drugs prescribed by    Name.....Date.....

Signature.....

Cannula checked by                    Name ..... Date.....

Signature.....

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Permanent Pacemaker Core Pathway

**Room Nurse**

Signature.....  
 Name.....  
 Initials.....




**Team brief completed on:**

**Date:** ..... **Time:** .....

**Check list conformation**

- Planned procedure: .....
- Confirmed identity [ ] Confirmed wrist band [ ]
- Consent form including Blood transfusion [ ]
- Has check list information been confirmed [ ]
- Sign.....
- Have the team introduced themselves [ ]
- Consultant .....
- Specialist Registrar .....
- Scrub Nurse .....
- Non-scrub Nurse .....
- Cardiac Physiologist .....
- Radiographer .....
- Other .....
- Other .....
- Other .....

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**PPM Procedure**

**Patient is:** Left handed / Right handed  
No **Temp Wire:** Yes /

**Right Atrial Lead:** N / R Left / Right Subclavian / Cephalic /  
Axillary Vein  
(RA Lead ID label)

**Right Ventricular Lead:** N / R Left / Right Subclavian / Cephalic /  
Axillary Vein  
(RV Lead ID label)

**Left Ventricular Lead:** N / R Left / Right Subclavian / Cephalic /  
Axillary Vein  
(LV Lead ID label)

**Implant Site:** Left / Right Pectoral Region Axilla  
Abdominal Region

**Type of pacemaker (PPM ID label):**  
.....

**NURSES' COMMENTS / INSTRUCTIONS FOR WARD:** (NB See Warfarin Bridging  
Therapy sheet for mechanical heart valve patients)  
.....  
.....  
.....  
.....

**Signature:** ..... **Date:**  
.....


SEE YELLOW SHEET AT BACK OF PATHWAY FOR DETAILS OF PACING  
PROCEDURE.

**TECHNICIAN'S COMMENTS:**.....  
.....  
.....







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Return to bed space .....Get up time .....

**Post procedure (immediately) Observations**


Time	BP	Pulse	SaO2 / Resps	Conscious level
See EWS Chart				

**NURSING:**

Immediate Post Procedure completed:	Tick	as
Observations within patient's normal limits:	[.....]	
Wound assessment performed, no evidence of haematoma or bleeding	[.....]	
Patient aware of need for 2 hours bed rest	[.....]	
Patient aware of post-procedural information	[.....]	
Patient eating and drinking	[.....]	
Patient states pain control is effective	[.....]	
Patient safely self-medicating if appropriate:	[.....]	
Pressure areas assessed and appropriate action taken	[.....]	

**On Completion:**

**SIGNATURE:** ..... **DATE:** ..... **TIME:** .....

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**Appendix 6: Pacing Count**

Please Affix Patient Label Here	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="background-color: #e0e0e0;">Pacing</th> </tr> <tr> <td style="width: 50%;">Date:</td> <td style="width: 50%;"></td> </tr> <tr> <td>Time:</td> <td></td> </tr> <tr> <td>Lab:</td> <td></td> </tr> </table>	Pacing		Date:		Time:		Lab:		Please Affix Pack Label Here
Pacing										
Date:										
Time:										
Lab:										
Angio Pack										
Description	Pre Op	Additional								
Forceps Artery Mosquito Curved (3)										
Forceps Artery Mosquito Straight (2)										
Forceps Dissecting Plain 14cm										
Forceps Dissecting Toothed 14cm										
Scissors Metzenbaum Op 13.5cm										
Scissors Sharp / Blunt 13cm										
Scissors Delicate Iris 11cm										
Retractor Weislander Self Retaining										
Needle Aneurysm										
Holder Needle Mayo 20cm										
Scalpel No.20										
Green Needle										
Towel Clips 70mm										
Swab Gauze 10 x 10cm (5+5)										
Red Tags (1+1)										
Spike										
Additional Items										
Description	Additional									
Introducer Needle(s)										
Suture(s)										
Extra Swabs										
Extra Red Tag(s)										
Torque Wrench										
Diathermy Blade / Plasma Blade										
Slitter										
Pre Op	Post Op									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Checker 1</td><td style="width: 50%;"></td></tr> <tr><td>Checker 2</td><td></td></tr> </table>	Checker 1		Checker 2		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table>					
Checker 1										
Checker 2										