Cardiac Catheterisation Lab
Clinical Operational Policy

Policy
Register No: 09141
Status: Public

Developed in response to:
National Performance Indicators
Service Needs

Contributes to HCC Core Standard number:
C7a

Consulted With

<table>
<thead>
<tr>
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<th>Date</th>
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<tr>
<td>John Tobin</td>
<td>November 2009</td>
</tr>
<tr>
<td>Phillip Burns</td>
<td>November 2009</td>
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<tr>
<td>Professionally Approved</td>
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<tr>
<td>Gerald Clesham</td>
<td>November 2009</td>
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Version Number
1.0

Issuing Directorate
Medicine

Ratified by:
Margaret Blackett, Chief Operational Officer

Ratified on:
4th January 2010

Trust Executive Board Date
n/a

Implementation Date
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Next Review Date
January 2011

Author/Contact for Information
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Policy to be followed by (target staff)
All Staff

Distribution Method
Intranet

Related Trust Policies (to be read in conjunction with)
Infection Prevention, Mandatory Training, Manual Handling, Fire Safety, IT, Patient Safety, Record Keeping

Document Review History

<table>
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<th>Review Date</th>
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It is the personal responsibility of the individual referred to this document to ensure that they are viewing the latest version which will be the document on the intranet.
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Appendix 1 Weekly Schedule for Cardiac Cath Lab
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1. **Purpose of Document**

1.1 To define the service provided by the Cardiac Catheterisation laboratory (Cardiac Cath Lab) at Broomfield Hospital, this policy includes the general principles of the service and description of the area.

2. **Aims of the Service**

2.1 To provide a high quality diagnostic and interventional service for patients requiring cardiac investigation and intervention.

2.2 This service is compliant with the National Service Framework (NSF) for Coronary Heart Disease (CHD) and will meet all targets as determined by the Department of Health (DOH).

3. **Scope of the Service**

3.1 The Cardiac Cath lab provides facilities for:

- Diagnostic Angiography
- Permanent Pacemaker insertion and revision
- Reveal Device Implantation
- Pericardialocentesis
- Transoesophageal Echocardiography
- Direct current Cardioversion.
- Pre-assessment Clinics
- Cardiology outpatient service.

3.2 Patients enter the diagnostic/interventional service either as an elective day case or as an emergency via the inpatient service. Any patient requiring admission following their procedure is admitted directly to the Cardiac Care Unit or Cardiac Ward.

3.3 Patients requiring transfer for ongoing treatment e.g. PCI will be transferred to the local tertiary centre. This may be planned or under emergency transfer. The procedures are held within the department relating to anaesthetic/sedation of the patient and insertion of aortic balloon pump if required. Support during this intervention is provided via the Intensive Care Technicians.

3.3 Outpatient clinics are booked via the outpatient waiting list office.

3.5 **Cath Lab**

Minimum Staffing levels during operational hours.

- 1 Cardiology Consultant
- 1 Cardiology Registrar
- 5 Registered Nurses
- 1 Radiographer
- 1 Cardiac Physiologist
3.6 **Outpatient Clinic**
2 sessions per week

- 1 Cardiology Consultant or Specialist Registrar
- 1 Registered Nurse
- 1 Health Care Support worker

3.7 **Pre-assessment Clinics**
3 Sessions per week

- 1 Registered Nurse

3.8 **Telephone Pre-assessment Clinic**
2 sessions per week

- 1 Registered Nurse

3.9 **Activity Data**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiography</td>
<td>1076</td>
<td>1086</td>
<td>1408</td>
</tr>
<tr>
<td>PPM and revision</td>
<td>177</td>
<td>202</td>
<td>260</td>
</tr>
<tr>
<td>DC Cardioversion</td>
<td>104</td>
<td>97</td>
<td>136</td>
</tr>
<tr>
<td>Reveal Device Implant</td>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Transoesophageal Echo</td>
<td>12</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td>Outpatient Clinic</td>
<td>Approx 1200</td>
<td>Approx 1300</td>
<td>Approx 2000</td>
</tr>
<tr>
<td>Pre-assessment clinic</td>
<td>1076</td>
<td>1500</td>
<td>2000</td>
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</tbody>
</table>

3.10 **Inclusion Criteria**
All adult population of Mid Essex, this service is also responsive to the Hospital of Choice requests from other Health Care Commissioners.

3.11 **Exclusion Criteria**
No paediatric intervention or investigation is undertaken within this service.

3.12 **Hours of Operation**

3.12.1 The Cath Lab Service is available from 07.30 hours to 19.30 hours Monday to Friday; procedures are undertaken between 09.00 hours and 14.30 hours Monday, Tuesday, Thursday and Friday. The hours of operation on Wednesdays are 09.00 hours to 17.00 hours.

3.12.2 Exceptions to this schedule are response to emergency procedure e.g. patients presenting with ventricular standstill.

3.12.3 Whilst the Cath Lab is in operation a Consultant Cardiologist is available onsite.
3.12.4 All procedures and interventions are undertaken by a Consultant Cardiologist or appropriately trained personal under the guidance of the Cardiology Consultant.

3.12.5. The only exception relating to the Cath Lab is response to the need for temporary pacing wire insertion; this procedure may be undertaken by a Specialist Registrar for Cardiology.

Please see appendix 1 for weekly schedule of activity.

4. Work Flows

4.1 Patients access the services via both emergency and elective pathways; please refer to appendix 2 for detailed work flows.

5. Key Relationships

5.1 Key Operational Requirements

5.1.1 To provide a cardiac interventional and diagnostic service, the service requires a fully equipped and functioning Cath lab and recovery area.

5.1.2 To provide the outpatient aspect to the service, clinic consultation and examination rooms are required and need to be available.

5.2 Key Relationships with External Stakeholders.

- Basildon and Thurrock University Hospitals NHS Foundation Trust
- London Independent Hospital
- General Practitioners and Community Phlebotomy Services.
- Essex Ambulance
- Mid Essex PCT
- Essex Cardiac and Stroke Network

5.3 Key Relationship with other Departments

- Radiology
- Phlebotomy
- Waiting list / Choose and Book
- Outpatients department
- Infection control team
- Audit department
- Bed management
- Patient Transport
- Dialysis unit
- Endoscopy unit
- Private patient office
- ITU technicians
- Resuscitation Department
- Nuclear medicine
- Medical Records
- Portering Services
5.4 **Interdepartmental Relationships**

- Cardiac Care Unit
- Cardiology ward
- Cardiac Department
- Cardiac rehabilitation team
- Waiting list
- Clinical Nurse Specialists for Cardiac Care
- Cardiac secretaries
- Emergency Care Managers
- Clinical Nurse Specialist Haematology
- Heart failure team
- Finance: Budget monitoring, staffing establishment
- ICT

5.5 **Key Requirements for Facilities Management (F.M.)**

5.5.1 Consumables are supplied and delivered by Commercial Services via pre agreed stock levels. All consumables that are not on the standard template are procured via the Trusts non-stock requisition proforma.

5.5.2 The Cath lab has a service level agreement with Domestic Services to maintain adequate cleaning of the department.

5.5.3 Estates and Facilities Department provide services via the Estates and Facilities requisition line, this service supports all hard FM requirements.

5.6 **Environmental Requirements**

5.6.1 The Cath Lab provides a quiet and relaxed environment. Privacy and dignity is maintained at all times.

5.6.2 The recovery area is not a single sex area but the patients’ privacy and dignity is respected.

5.6.3 The area specialises in emergency and elective cardiac procedures, whilst lists are in operation the Cath Lab staff recover male patients at one end of the recovery area and women at the other. The unit provides male and female is toilet facilities.

5.6.4 If patients are required to stay overnight they are transferred to an inpatient ward where same sex accommodation requirements are met.

5.7 **Way finding**

5.7.1 The Cardiac Cath Lab is located within the Cardiac Centre. The Cardiac Centre is signed from all routes of entry to the hospital, and provides ease of access for the disabled user.

5.7.2 Information leaflets are provided to the patient detailing directions to the unit, hospital parking and restaurant facilities.
5.8 **Security Requirements**

5.9 **Data Security**

- The service will be delivered in accordance with and compliance to the Trust’s IT Policies
- Data sharing agreements will be drawn up to cover all data sharing outside the Trust in accordance with the Trust data sharing policy
- Hospital information/patient data will only be downloaded onto devices provided by the Trust which are encrypted
- Databases will be registered on the Trust database of databases
- A data mapping form will be completed for all routine data flows leaving the Trust
- Patient identifiable information will only be sent out of the Trust from an nhs.net account or other secure route (never from an nhs.uk account)

5.10 **Security for Patients**

- The service will be delivered in accordance with and compliance to the Trust’s Patient Safety Policies

5.11 **Security for Staff**

- The service will be delivered in accordance with and compliance to the Trust’s Lone Worker and Security/Risk Management Policies.

5.12 **Medical Records Security**

- All patients medical records will be managed confidentially at all times and stored securely in locked office or outpatient facility whilst not in use
- All movement of patient records will be accurately tracked in accordance with the Trust's Case note Tracking Policy
- All new documentation will be secured into the folder prior to it leaving the department

5.13 **Manual Handling**

5.13.1 The service will be delivered in accordance with and compliance to the Trust’s Manual Handling Policies.

5.14 **Fire Safety**

5.14.1 The service will be compliant with the Trust's Fire Safety Policy, Fire Evacuation Policy and other local fire plans and procedures.”

(The detail of these items will then be developed as part of the separate Fire Safety Work Programme, as led by the Trust’s Fire Officer.)

5.15 **Other Safety**

- All staff will follow the radiation protection policy
- The Cath lab staff will work in line with Trust Theatre Policy and Procedures
- Safe conscious sedation for Adults
• A guide to consent
• Use of protective and monitoring equipment within the cath lab
• Care of a patient during implantation of a permanent Pacemaker
• Universal precautions for the care of patients in the angio suite
• Guidelines to normal and abnormal bloods
• Appointment booking for the cardiac angiography suite
• Patient preparation prior to procedure
• Removal of arterial and venous sheaths
• Guidelines for the uses of TR Bands in radial procedure
• Guidelines for the care of an angioseal
• Defective equipment
• Getting the cath lab ready for a procedure
• Cleaning the catheter lab
• Preparing the cardiac manifold and manometer line
• Flushing sheaths, catheters and guide wires during an angiogram procedure
• Transferring a patient from the angiogram table to a trolley
• Guidelines for Local Anaesthetic procedures
• Overnight admission following day case procedure
• Provision for clients with special needs
• Cardiac-pulmonary resuscitation in the cath lab
• Protocol for using equipment marked single use

5.16 ICT Requirements

• 4x PC’s
• 1 x Multifunction Xerox machine
• 6 x ICT ports and phones
• PAS
• MEHT Review
• Choose and Book

6. Staffing

6.1 Staffing Profile

<table>
<thead>
<tr>
<th>Grade</th>
<th>Funded</th>
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</thead>
<tbody>
<tr>
<td>Band 7</td>
<td>1</td>
</tr>
<tr>
<td>Band 6</td>
<td>2</td>
</tr>
<tr>
<td>Band 5</td>
<td>4</td>
</tr>
<tr>
<td>Band 4</td>
<td>0.67</td>
</tr>
<tr>
<td>Band 3</td>
<td>1</td>
</tr>
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6.2 Training and Education

6.2.1 General Training Requirements

- All staffs within the Cath lab will comply with the Trust Induction and Mandatory Training programmes, and be compliant with NHS LA requirements
- In addition the Clinical Staff will maintain their own requirements for continuous professional development
- Registered Nurses: Will be able to demonstrate continuous professional development in line with NMC requirements
- Medical Staffs: Will be able to demonstrate Continuing Professional Development as required by the GMC

6.2.2 **Specific Training requirements for the Cath Lab staff**

- All staff will attend in house Angiography Suite training and completion of competences.
- Advanced Life Support for trained staff or in house equivalent
- Immediate Life Support for untrained staff
- 2 day visit to PCI unit to update on PCI procedure for emergency treatment
- Emergency study days every 6 months
- MIPPS and MIPPS updates

6.3 **Facilities**

- Mentoring system
- Buddy system
- Occupational health
- Changing room and toilet facilities
- Access to canteen and hospital shops

7. **Equipment Requirements**

- 6 x Cardiac monitors and spares
- 2 x Dina maps
- 2 x Thermometers
- 6 x Curtains for recovery area
- x Dressing trolleys
- 1 x wall mounted Lead Rack
- 1 x free standing lead rack
- 1 x Notes storage
- 2 x portable oxygen cylinders
- 7 x White boards
- 2 x Arm chairs/recliners
- 6 x Gratnell trolleys one per bed space
- 1 x Controlled drug cupboard
- 1 x Anaesthetic machine (stored in theatres)
- 2 x Crash trolleys
- 7 x Bed Trolleys
- 14 x Pillows
- 7 x Bed side chairs
- 7 x Bed side tables
- 1 x Portable suction
- x Wall mounted glove and apron dispensers x 3
- x Wall mounted hand gel dispensers
- 1 x Cath Lab x-ray machine
- 1 x IABP and associated kit x 1
- 1 x Wall mounted drug warmer
- 2 x Drugs fridges
- 1 x Multipurpose monitor free standing
- 1 x Pacing/theatre lamp free standing
- x Drip stands
- 2 x I-stats machine
- 1 x Stereo
- x Cath cupboards
- 1 x Sterile glove rack
- 1 x Toaster
- 1 x Microwave
- 1 x Fridge
- 1 x Dishwasher
- 1 x Ivac pump
- 1 x Syringe dispenser
- Open rack storage

8. **Infection Prevention**

8.1 The service will be delivered in accordance with and compliance to the Trust’s Infection Prevention Policies.

9. **Equality and Diversity**

9.1 The Trust is committed to commit to the provision of a service that is fair, accessible and meets the needs of all individuals. The Cath Lab provides access for disabled users.

10. **Contingency**

- Good communication between the waiting list office and lead nurses reduces the risk of patients breaching the 18 week targets.
- Flexible workforce allows for extra weekend clinics when demand for investigation/intervention is high. All staff within the Cath lab aim to cover shifts that are vacant due to short notice sickness.
- If MEHT review system ‘goes down’ the Cath Lab are able to phone the department for urgent results.
- Radiographers and Cardiac physiologists aim to cover all shifts vacant due to sickness.

11 **Auditing this Policy**

11.1 **General Requirements**

This policy will be audited annually by the General Manager for the Emergency Care. Updating of the policy will be undertaken by the Cath Lab team following audit feedback from the General Manager, this information will be shared at the Emergency Care Bilateral. Revised policy will be submitted to the Document Ratification Accreditation Group and then submitted to the Trust Board on a biannual basis.

11.2 **Specific Audit Requirements**

- Number of patients transferred for emergency intervention at a tertiary referral centre
- Number of femoral/ radial haematomas and/or complications of femoral/radial sites.
- Number of closure devices used
- Reasons for cancellation or postponement of cases.
- Timing of cases and radiation dosages.
- Number of patients transferred for emergency intervention at a tertiary referral centre.
- Number of patients referred for PCI/EPS/Device Implantation/CABG/Pressure Wire Study/Valve Surgery
- Outcomes.

12. Responsibilities

12.1 The General Manager for Emergency Care is operationally and financially accountable for service delivery. The Clinical Cath Lab Team will remain professionally accountable for their actions. They will work in conjunction with the General Manager to ensure that the service is delivered within the confines of the agreed budget and operational requirements.

13. References

13.1 National Service Framework for Coronary Heart Disease
## Appendix 1

### Weekly Schedule for Cardiac Cath Lab

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>Days of the week</th>
<th>NUMBER OF SLOTS/ patients</th>
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<tr>
<td>Basic Angiography outpatient</td>
<td>Monday, Tuesday</td>
<td>5</td>
</tr>
<tr>
<td>Outpatient CARDIAC CATH + GRAFT studies</td>
<td>Tuesday, Wednesday</td>
<td>1</td>
</tr>
<tr>
<td>Outpatient Cardiac cath and valve studies</td>
<td>Tuesday, Wednesday</td>
<td></td>
</tr>
<tr>
<td>Inpatient angiography</td>
<td>Monday, Tuesday, Wednesday</td>
<td>1 -4</td>
</tr>
<tr>
<td>PPM/ box change</td>
<td>Wednesday, Thursday</td>
<td>2</td>
</tr>
<tr>
<td>CARDIOVERSION</td>
<td>2\textsuperscript{nd} and 4\textsuperscript{th} Friday</td>
<td>7 – 10 (This number was based on new list set up)</td>
</tr>
<tr>
<td>TOE</td>
<td>As required</td>
<td>Approx 2 month</td>
</tr>
<tr>
<td>REVEAL</td>
<td>As Required</td>
<td>Approx 1 month</td>
</tr>
<tr>
<td>LEAD REPOSITION / REVISION</td>
<td>As Required</td>
<td>Approx 1 year</td>
</tr>
<tr>
<td>Pericardiocenthesis</td>
<td>As Required</td>
<td>Approx 15-20 per year</td>
</tr>
<tr>
<td>Private patient activity</td>
<td>As Required</td>
<td>1-7 a week</td>
</tr>
<tr>
<td>Emergency work</td>
<td>Friday</td>
<td>1-7</td>
</tr>
</tbody>
</table>
Emergency Pathway

- Referrals received by Cardiology Consultant, these can be generated from all departments within MEHT
- Referrals screened by Cardiology Consultant, procedure required is agreed
- Inpatient area contacted and advised of date and time of procedure, also any preparation required
- Any issue that relate to possible delay of the procedure are identified and resolved.
- Procedure undertaken within 2-5 days of referral. Exception to this response time is with life threatening emergency.

Elective Pathway

- Initial referral received from GP, patient seen in Cardiology Clinic. This is within the 18 week target, or via the rapid access clinics as required
- Patients added to the waiting list via clinic or referred to the waiting list office
- Patient is contacted by the waiting list department or Cath Lab staff, appointment is offered
- Pre assessment is undertaken, either in the pre assessment clinic, or via telephone consultation if appropriate. Any concerns and issues relating to the procedure are addressed and resolved.
- Appointment is offered to the patient for day case procedure. Maximum wait for appointment is 4-6 weeks

Procedure is undertaken. Outcome of the procedure is explained by the Cardiologist

Patient education and discharge advice is given. Referral to Cardiac Rehabilitation is made where appropriate

Patient recovered and transferred to the ward, further treatment initiated as required

Referred for further investigation

Follow up OPD in clinic

Referred for PCI/CABG

Patient recovered and discharged. Letter generated via secretaries detailing outcomes, sent to the patient and GP

Discharged without follow up