#### **NHS SCOTLAND JOB DESCRIPTION TEMPLATE**

|  |
| --- |
| JOB IDENTIFICATION |
|

|  |  |
| --- | --- |
| Job Title: | Clinical Engineer – Section Manager - Medical Physics |
| Responsible to (insert job title): | Sector Technical Manager, Medical Equipment Management |
| Department(s): | Department of Clinical Physics and Bioengineering |
| Directorate: | Diagnostics |
| Operating Division: | Acute |
| Job Reference: |  |
| No of Job Holders: | 1 |
| Last Update (insert date): | 15/08/2024 |

 |

|  |
| --- |
| 2. JOB PURPOSE |
| The post holder will contribute to the life cycle management of medical equipment, working in-line with standard operating procedures and to support the service by performing essential duties relating to the Asset Management System. Duties include, managing the life cycle of medical equipment through the repair, maintenance, and performance assurance checks on a wide range of specialist and highly complex medical devices. The post holder is also involved in the training of hospital staff and providing technical support to clinical services.Line management responsibility for a team of staff, ensuring provision of a high-quality technical service. Including responsibility for the development of team, and for training of the technical staff. The post holder will work within the Medical Equipment Management Services Group in the North Sector, based at Gartnavel General Hospital.  |

|  |
| --- |
| **3. DIMENSIONS** |
| The post holder is a member of a team of over 100 Clinical Engineer Technologists working within Medical Equipment Management Services group within NHS Greater Glasgow and Clyde.Full life cycle management is provided for over 50,000 medical device assets. The service are involved in the specification, selection and procurement, planned preventative maintenance and performance assurance of medical equipment. Staff are directly involved in clinical support services and provide training for doctors, nurses and other healthcare professionals.Staff in Medical Equipment Management are expected to have an understanding and knowledge of the clinical use of the equipment so that advice on the use of, and any queries or problems associated with, equipment are dealt with in the manner most effective for the user.Services are provided to all Clinical Directorates in the South and Regional Directorate in both the Acute and HSCP Sectors. This post will be based on the Gartnavel General Hospital but will be required to work across the North, Regional and South Sectors. The post-holder may be required to work at the other acute sites within Greater Glasgow and Clyde, to meet service provision. |

|  |
| --- |
| 4. ORGANISATIONAL POSITION  |
| Head of ServiceMedical Equipment ManagementTechnical ManagerNorth SectorSection ManagerGartnavel General Hospital (this post)2 x Band 6s3 x Band 5s1 x Band 41 x Band 3 |

|  |
| --- |
| 5. ROLE OF DEPARTMENT |
| The Medical Equipment Management Services Group, part of the Department of Clinical Physics and Bioengineering, provide expert advice on medical equipment and provide a full life cycle medical equipment management and maintenance service. Correct and accurate operation of medical devices is essential for safe diagnosis and treatment of patients. Services are provided to NHSGGC and to other healthcare establishments in neighbouring Health Boards. Staff also support research and development aimed at improving medical technologies and making them easier and safer to use.The Medical Equipment Management service works and is accredited to ISO 55001 Asset Management System for the provision of medical equipment repair, maintenance and equipment management services. |
| **6. KEY RESULT AREAS** |
| **Clinical / Technical** The post holder will provide whole lifecycle medical device management and team leadership ensuring that at all times they comply with the Asset Management System.The duties of this post include: –1. Medical device governance and safety: being responsible for the governance and safety of medical equipment on the Medical Equipment Management system for their team, including advising clinical staff on all matters relating to the use of highly complex medical equipment.
2. Procurement: participate in the formal evaluation of new medical equipment and provide leadership on specific medical equipment capital replacement programmes. Give advice to clinical staff and obtain quotes for medical equipment.
3. Safety alerts/field safety notices: for their service area manage the implementation and response to safety action notices, safety alerts, field safety notices, etc.
4. Incident investigation: manage the technical investigation of medical device clinical incidents, or other hazardous events, near misses involving medical equipment managed by the service.
5. Planned maintenance: manage the planned maintenance programme for their service area, highlighting any deviance from the GGC programme.
6. External maintenance contracts: oversee the operation of external maintenance contracts for medical equipment within the service. Liaising, where appropriate, with manufacturers, their agents, or others. Check contract equipment lists for accuracy and correct levels of cover with the MEM contract management team. Approve and sign off contract visits, and service reports.
7. Record keeping: ensure they and their team maintain accurate and contemporaneous records on the Medical Equipment Management System in accordance with the Asset Management System policies and clinical governance requirements.
8. Commissioning / decommissioning: oversee the safe introduction / removal of medical equipment within their remit.
9. Device Configurations: ensuring that medical device configurations are recorded accurately, and maintained correctly on the appropriate medical devices.

**Leadership, Management and Administration**1. Responsible for operational management of the technical and support staff within the team, including disciplinary issues, annual leave, absence management and participation in recruitment and selection processes.
2. Responsible for the clinical / technical leadership of the team, ensuring the team operate at the highest professional standards with patient / staff safety at the centre of all decisions.
3. Lead the development, authoring and final approval of Core Procedures, Standard Operating Procedures, local policies and protocols within the service, ensuring that they meet the requirements of the Asset Management System.
4. Responsibility for the work and the priorities of the section by scheduling planned preventative maintenance, prioritising breakdown requests, and assigning work to technical staff.
5. Suggest, lead and implement service improvements to work processes and medical device management.
6. Participate in regular meetings, reviews and audits (which may include chairing or taking minutes).
7. Ensure that all test equipment is appropriately calibrated, thereby ensuring that the test equipment is maintained in a calibrated, safe and serviceable condition.
8. Approving stock and non-stock orders up to the value of £1000, and give advice to staff on the best repair option for complex / expensive medical equipment repairs.
9. The post-holder is the health and safety lead for their team, ensuring all relevant documentation is complete and up to date.

 **Teaching, training and research**1. Assist with medical device training for technical and clinical users to operate, care for and look after a broad range of medical devices.
2. Lead the training and development of their team, assessing knowledge gaps, completing annual reviews, promoting reflective practice, and organising training.
3. Lead the in-house training programme for Band 4 and 5 staff within their team / sector, providing training and assessing competency. When required taking on the role of training supervisor.
4. Contribute towards the training of colleagues within the service by passing-on information acquired at training courses and through CPD, either through one-to-one / group teaching or by giving presentations.
5. Lead for the Asset Management System (AMS) for their team, taking part in regular internal and external audits, managing non-conformities. Taking an active role in the AMS, attending relevant meetings, and contributing to service improvement.
6. Occasionally become involved in Research and Development, including the testing of medical equipment and the construction of equipment for clinical and non-clinical uses.

**Professional**1. Attend relevant manufacturers’ technical courses to ensure continued detailed and specialist knowledge of current medical devices. Keep up to date with medical and technical developments by participating in continuous professional development (CPD), conferences, meetings and workshops
 |

|  |
| --- |
| 7a. EQUIPMENT AND MACHINERY |
| Staff work with a wide range of specialist and highly complex medical equipment e.g.* intensive therapy and anaesthetic ventilators
* anaesthetic machines and vaporisers
* diathermy and electro-surgical units
* critical care patient monitoring equipment
* neonatal incubators and resuscitation equipment
* defibrillators

Standard test equipment, mechanical and electronic workshop tools and machinery, for example: hand tools, drills, soldering irons, oscilloscopes, multi-meters, etc.Specialist test equipment, for example: pressure meters, ventilator analysers, electrical safety testers, Spo2 monitor testers, timers, etc.Anti-static equipmentComputer, Scanner, PrintersThe post holder requires basic familiarity with the operation of the application software of a number of computer based monitoring systems. This is required to resolve setup and operation problems.New medical devices may be introduced as the organisation and technology develops, training will be provided. |
| **7b. SYSTEMS** |
| Computerised systems are used to maintain records associated with medical devices (such as e-Quip) and for the control of purchasing parts and consumables (such as the PECOS stock ordering system).Staff use Microsoft Office products to produce memos, letters, spreadsheets, etc. and to import and export data for further analysis.The requirements of the Asset Management System operated by the Department. Standards are maintained through the use of standard operating procedures, document control, management of training and competency, parts and supplies control and accurate record keeping. Compliance to standards including*:* The Health and Safety at Work Act 1974, and Electricity at Work Regulations 1989.International Standards e.g. IEC 60601-1 MEDICAL ELECTRICAL EQUIPMENT – General Requirements for Safety.Medical Device Alerts produced by HFS, MHRA, etc. |

|  |
| --- |
| 8. ASSIGNMENT AND REVIEW OF WORK |
| The post holder works independently and is managed rather than supervised. The post holder is able to seek the advice of the Technical Manager, if necessary.The post holder will decide on the priorities of the section and take action by assigning work to staff in response to clinical and performance demands. Re-prioritising work due to absence, or staff shortages.Manage the planned preventative maintenance programme, which operates over a 5-year cycle, for medical equipment in their section. Reports team performance at the sector meetings.The post holder is required to follow standard policies and procedures and to ensure that statutory regulations are followed. The Sector Manager, or Head of Service, will allocate specific managerial duties and operational project work to the post holder, monitors overall progress and provides advice and guidance. |

|  |
| --- |
| **9. DECISIONS AND JUDGEMENTS** |
| Manage the team workload, deciding between competing priorities e.g. asking a team member to stop mid-task to prioritise the assessment and repair of medical equipment that is critical to patient flow within the hospital.Manage a large and complex planned preventative maintenance programme that requires regular additions / removals, changes to testing frequency, planned month, etc. to ensure that the work of the section is sustainable and achievable, and that the medical equipment is maintained in line with legislative requirements. Frequently interrupted, multiple times per day managing urgent requests from clinical staff / senior management, requests from team members, for what could be safety critical decisions related to medical equipment. Diagnoses faults, or works with team members to assist their diagnosis, with highly complex medical devices and makes decisions as to how to go about the repair and what steps to take to get the device back into operation as soon as possible. Lead on decisions related to complex medical equipment repairs, based on technical experience, service requirements and sound financial judgement, and with reference to the standing financial instructions.In consultation with users, to decide if equipment needs to be removed from service due to; clinical or technical obsolescence, safety issues or financial constraints.Ensuring sufficient staffing and skill-mix is available to maintain a safe service, and escalating when necessary. |

|  |
| --- |
| 10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB |
| To respond to a wide variety of demand-led situations and deal with them in an assured but diplomatic way to achieve a positive outcome, particularly when:* patient safety could be compromised
* no technical fault is found i.e. query user error
* clinical pressures are applied by users i.e. prioritise clinical urgencies

To improve continually on the expected performance standards set out in the Asset Management System whilst responding to demand-led situations.As a section manager, to ensure that staff under their responsibility are fully engaged, organised and motivated to meet the challenges and performance criteria of the section and the department. To ensure that day to day issues of staff under their supervision are heard and resolved.As the section manager, to organise schedules to co-ordinate the various component parts of the post: training, work allocation, service calls and hospital commitments. |

|  |
| --- |
| **11. COMMUNICATIONS AND RELATIONSHIPS** |
| **Internal**The post holder will:Work closely with the Technical Manager and all Clinical Technologists in the Department on a daily basis in aiding the provision of medical equipment management services;* May compile reports for the Technical Manager
* Report team performance at sector meetings
* Take part in internal audit of the operational policies as per the Quality Management System-this averages at 2-4 audits (external) per year and 8-12 (internal) audits per year

Generate documentation within the AMS (Asset Management System) and have daily working contact with the Technical and Quality Manager regarding the production and maintenance of quality documents e.g. technical manuals, in-house procedures, incident reports, damage reports, condemned certificates.Work closely with clinical/nursing staff in matters of complex, and highly complex, equipment maintenance and repair; demand-led but is usually a daily occurrence, often requiring tact and persuasive skills. This will be by direct contact or by telephone.May be required to have difficult and emotive conversations with staff regarding attendance management, competence, performance, etc.Convey complex information regarding medical equipment systems to clinical/nursing staff.Convey sensitive technical information regarding medical equipment systems. Negotiate and communicate medical equipment specifications with clinical users under the remit of the section.Have daily contact with other medical technical staff in the Department, regarding the design, modification and customising of various types of equipment.**External** The post holder will:Maintain relationships with external manufacturers, suppliers and agents to facilitate a supply chain for the repair and maintenance of medical equipment.Raise issues and complaints with medical device manufacturers in relation to equipment faults, safety issues or costs which requires negotiation and persuasive skills.Negotiate and communicate medical equipment specifications with suppliers for the benefit of the clinical users under the remit of the section and advise the relevant Supplies/Business Managers as necessary. |

|  |
| --- |
| **12. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB** |
| **Physical**A high level of manual dexterity and accuracy in the manipulation of fine tools / screwdrivers and materials is required.Proficiency in various engineering and electronic practices is required e.g. the safe use of drills and physically inspecting electronic equipment, etc.Some equipment can be heavy or awkward to lift or move, frequently resulting in periods of moderate physical effort. Occasionally heavy medical equipment, in excess of 100Kg, needs to be moved e.g. anaesthetic machines. Occasionally medical equipment must be worked on in cramped and awkward positions.Keyboard skills are also required of the post holder.**Mental**Much of the equipment is highly complex and long periods of concentration are required during fault finding and calibration work.Several times during the day, staff are subject to interruptions and telephone calls from colleagues, clinical staff, etc. that require immediate attention and disrupt other work.The post holder must reprioritise work during unpredictable periods.**Emotional**Staff are exposed to distressed and critically ill patients when checking equipment that is still attached to the patient, e.g. during surgical procedures, intensive care ventilation and monitoring.The work requires diligence since incorrect actions or decisions can have serious consequences on patient care or result in a serious incident.May be required to have difficult and emotive conversations with staff regarding attendance management, competence, performance, etc.**Environmental**Staff may occasionally be exposed to hazards, by following departmental processes the risks are minimised or removed. The following is a list of examples:* Electricity
* Body fluids, e.g. contaminated medical equipment
* Hazardous Chemicals, e.g. anaesthetic agents
* Ionising and non-ionising radiation
 |

|  |
| --- |
| 13. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB |
| **QUALIFICATIONS**Professional engineering knowledge to SCQF level 11 (for example, acquired through MSc in Biomedical Engineering) or equivalent training and experience. SQA Diploma in Healthcare Technology Management (SCQF Level 9) or can demonstrate equivalent competency, e.g. understanding of the clinical, scientific and engineering principles of a broad range of medical devices.KNOWLEDGE AND TRAININGThe post holder should demonstrate the following knowledge and skills:* Expert in the operation, function and clinical application of a broad range of complex, and highly complex, Medical Equipment.
* High level of understanding of patient/staff risks, arising from medical equipment failure, to inform decision making.
* Policies and practices of medical equipment management
* High level knowledge and understanding of relevant legislation, national standards, professional and other guidelines
* A high level of understanding of medical device support, including planned preventive maintenance (PPM), inspection, testing, calibration and repair and the associated costs.
* Ability to work with and manipulate complex spreadsheets
* Ability to present medical equipment data to senior staff in a manner that can be easily understood.
* Highly developed communication skills

EXPERIENCE* Experience acquired by working closely with senior NHS staff including, clinicians, nursing, AHP and procurement staff in areas requiring higher specialist expertise.
* Practical experience on a broad range of complex, and highly complex, medical equipment.
* Workplace practice and techniques including Health and Safety regulations.
* Application of technology to medical equipment in healthcare.
* Experience of using diplomacy, tact and discretion in highly complex situations.
* Ability to work to tight deadlines
* Liaison with agencies external to NHS GG&C e.g. Health Facilities Scotland, medical equipment manufacturers, suppliers and contractors.

The post holder will be expected to attend relevant study days, short courses and presentations for generic and specific competency on a wide range of complex medical equipment and their impact on clinical management, and also for relevant leadership and management. |

|  |
| --- |
| **14. JOB DESCRIPTION AGREEMENT** |

|  |  |
| --- | --- |
| A separate job description will need to be signed off by each jobholder to whom the job description applies. Job Holder’s Signature: Head of Department Signature: | Date:Date: |