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| 1. **JOB IDENTIFICATION** |
| Job Title: Practitioner Clinical Technologist (Medical Physics)  Responsible to: Section Manager, Medical Equipment Management  Department: Department of Clinical Physics and Bioengineering  Directorate: Diagnostics |
| **2. JOB PURPOSE** |
| The post holder is a member of a team of Technologists and Clinical Scientists working within the Medical Equipment Management Services Group based at the NHS Greater Glasgow and Clyde based at the Queen Elizabeth University Hospital. Duties include, for example, the repair, maintenance, and performance assurance checks on a wide range of medical equipment. |
| **3. ROLE OF DEPARTMENT** |
| The Medical Equipment Services Group, part of the Department of Clinical Physics and Bioengineering, provides a medical equipment management and maintenance service across NHS Greater Glasgow and Clyde. |
| **4. ORGANISATIONAL POSITION** |
| See appendix for direct line chart. |
| **5. SCOPE AND RANGE** |
| The Medical Equipment Services Group, part of the Department of Clinical Physics and Bioengineering, provides a medical equipment management and maintenance service. Services are provided to NHSGGC and to other healthcare establishments in neighbouring Health Boards. It is involved in the specification, selection and procurement, 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. Bioengineering staff also support research and development aimed at improving medical technologies and making them easier and safer to use.  The Department acts as the point of contact for all branches of clinical staff that use medical equipment for any form of diagnosis or patient treatment.  Staff in Medical Equipment Management are expected to be expert on the functioning and 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 within NHS Greater Glasgow and Clyde and a range of services are also provided to neighbouring health-boards and Scotland-wide. The post-holder may be required to support other sections / shared areas either on their current site or at the other acute sites within the South Team, to meet service provision demand. |
| **6. MAIN TASKS, DUTIES AND RESPONSIBILITIES** |
| The duties of this post include: –  Perform repairs on defined range of medical equipment  Perform planned maintenance and calibration to defined range of medical equipment Commission and install new equipment Use a range of test equipment and tools  Measure, analyse and record data  Communicate with hospital staff and external suppliers regarding progress of jobs and general equipment advice.  Operate to department quality system including undertaking stock control and document control duties  Record and progress work on the Medical Equipment Database  Mentor work experience students  Write and Review test protocols  Decontaminate Medical equipment  Provide first line cover in absence of other staff  Responsible for prioritising tasks assigned and progressing jobs to completion and to the required standards of service.  Responsible for logging calls for service, recording accurate information, judging urgency of request and responding to emergency urgent calls on equipment they are trained to deal with.  Responsible for providing clinical staff with progress reports on equipment undergoing repair or service to allow for appropriate clinical contingencies to be made |
| **7a. EQUIPMENT AND MACHINERY** |
| Electronic measuring devices ( Oscilloscopes, Digital Meters etc.)  Mechanical and electronic workshop tools and machinery  Anti static equipment  Specialist Test equipment, Typically , Pressure meters, timers, Blood pressure analysers, Pulse oximeter testers, infusion device analysers, electrosurgery testers  Computer, Scanner, Printers, Overhead projectors  Defined medical equipment range including,  Infusion devices, Physiological Monitors, CPAP Units, Electronic Thermometers, Light sources, Microscopes, Defibrillators, Foetal monitors, Resuscitation equipment, Electrosurgery Equipment, hand held diagnostic devices.  Oxygen & Suction therapy equipment. Physiotherapy, ophthalmic and neonatal equipment, video endoscopy systems, central monitoring systems, tourniquets, patient warming systems  Staff use specialised test equipment to carry out their work e.g. Electronic patient simulators, voltmeters, light, pressure and flow measurement devices.  Staffs use specialised tools to carry out their work e.g. soldering irons (often needle point under magnification and surface mount technology), electric drills, precision instruments and cutting devices. |
| **7b. SYSTEMS** |
| Computerised systems are used to maintain records associated with equipment (such as EQUIP, a custom database package) and for the control of purchasing parts and consumables (such as the PECOS stock ordering system).  A number of dedicated software tools are used to interrogate and fault find medical equipment problems  (e.g. Tympanic Thermometers, Infusion pumps and Ventilator / Anaesthetic Systems).  The post holder requires basic familiarity with the operation of the application software of a number of computer based cardiac systems. This is required to resolve setup and operation problems.  Staff use Microsoft Office products to produce memos, letters, spreadsheets, etc. and to import and export data for further analysis.  Staff must comply with and work to a number of standards, e.g.  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.  *The responsibilities placed upon them under 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.  Hazard and Safety Action Notices produced by Health Facilities Scotland, MHRA, etc. |
| **8. DECISIONS AND JUDGEMENTS** |
| Assist in the supervision of Trainees, Assistant and Associate Technologists (ATO’s). Job supervised with work allocated.  Calls for service are taken unsupervised and entered on to equipment management database. Routine decisions at post-holders discretion.  Interpretation of information and Judgements on data is made when extracting data from service /operator literature and comparing with measured results to determine whether equipment is safe to use in the required environment and on patients.  Judgements are made on urgency and need for escalation of call requests for service.  Judgement used to prioritise tasks. |
| **9. COMMUNICATIONS AND RELATIONSHIPS** |
| The post holder will:  Work closely with the Section Manager, and through him/her, the Technical Manager of Medical Equipment Management (MEM) and all Medical Technical Officers in the Department on a daily basis in aiding the provision of medical equipment management services;   * May compile reports for Section Manager or Manager of Medical Equipment Services. * Take part in internal audit of the operational policies as per the Asset 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 Document Control Officer regarding the production and maintenance of these documents e.g. technical manuals, in-house procedures, incident reports, damage reports condemned certificates.  Work closely with clinical/nursing staff in matters of 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.  Maintain relationships with external manufacturers, suppliers and agents to facilitate a supply chain for the repair and maintenance of medical equipment. |
| **10. 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 DEMANDS**  Long periods of concentration are required during fault finding and calibration work.  Several times during the day, staffs 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 DEMANDS**  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.  **WORKING CONDITIONS**  Staff must exercise extreme care whilst live testing medical equipment due to the risk of electric shock.  The working environment and equipment can often be contaminated with body fluids that must be decontaminated before proceeding. Special precautions must be taken in these circumstances.  Staffs regularly work with hazardous chemicals and a full knowledge of COSSH is essential e.g. anaesthetic agents. Potential exposure to X-rays during clinical procedures. |
| **11. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB** |
| Sustaining concentration during repair procedures whilst being frequently interrupted.  Dealing with clinical pressures or anxious medical staff e.g. attending to an emergency breakdown of equipment during a surgical procedure whilst still connected to the patient.  Investigating and correcting intermittent faults on medical equipment.  Working to tight deadlines whilst maintaining high standards of work and assuring patient care.  Advising medical/nursing staff that their use of equipment is incorrect or unsafe. This requires tact and diplomacy in often contentious situations. |
| **12, KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB** |
| **Qualifications**  Essential  A relevant science/technology-based degree or an HNC / HND with a profile of knowledge training and experience equivalent to SCQF Level 9 with experience of a range of healthcare science duties acquired through training.  A relevant science/technology-based degree or SCQF Level 9 equivalent qualification but without experience of a range of healthcare science duties or an HNC/HND in an appropriate subject may also be eligible for appointment under Annexe U provided there is a profile of knowledge, training and experience equivalent to SCQF level 9.  Desirable  Registration with the Register of Clinical Technologists (RCT) held by the Institute of Physics and Engineering in Medicine (training for registration will be provided).  Membership of an appropriate professional body. Knowledge and Training The post holder should demonstrate the following knowledge and skills:  Essential  Working knowledge of electrical & electronic principles  Desirable  IT / software package experience  **Experience**  Essential  Relevant practical experience of service / repair of electronic equipment  Desirable   * Practical experience on a broad range of medical equipment. * Workplace practice and techniques including Health and Safety Regulations. * Working knowledge of relevant legislation, national standards, professional and other guidelines. * Quality Management System / Asset Management System.   Staff at this level will continue to develop and update their skills and knowledge.  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 medical equipment and their impact on clinical management. |

Band 3

**Peripatetic Advanced Specialist W&C**

1 x Band 7

(When on-site)

**Scotstar** **Team**

Band 7 x 1

Band 6 x 1

**RHC Team**

Band 7 x 1

Band 6 x 4

Band 5 x 4

Band 4 x 1

Band 3 x 1

**Neuro/Regional Team**

Band 7 x 1

Band 6 x 2

Band 5 x 2

**Victoria ACH** Team

Band 7 x 1

Band 6 x 1

Band 4 x 1

**Surgical Team**

Band 7 x 1

Band 6 x 3

Band 5 x 2

Band 4 x 1

Band 3 x 1

**Medical Team**

Band 7 x 1

Band 6 x 4

Band 5 x 3 (including this post)

Band 4 x 1

Band 3 x 1

Technical Manager,

South Glasgow

Head of Service, Medical Equipment Management