

JOB DESCRIPTION

GENERAL INFORMATION

Title: Clinical Engineering Technologist

Grade: Opportunity for Band 5 Trainee

Job base: Harefield- The post holder may be required to visit other sites

Accountable to: Clinical Engineering Manager

Disclosure & Barring Service (DBS) checks: standard

About the Trust

Guy's and St Thomas' NHS Foundation Trust comprises five of the UK's best known hospitals – Guy's, St Thomas', Evelina London Children's Hospital, Royal Brompton and Harefield – as well as community services in Lambeth and Southwark, all with a long history of high quality care, clinical excellence, research and innovation. We are among the UK's busiest, most successful foundation trusts. We provide specialist care for patients including heart and lung, cancer and renal services as well as a full range of local hospital and community services for people in Lambeth and Southwark. We have a long tradition of clinical and scientific achievement and – as part of King's Health Partners – we are one of England's eight academic health sciences centres, bringing together world-class clinical services, teaching and research. We have one of the National Institute for Health Research's biomedical research centres, established with King's College London in 2007, as well as dedicated clinical research facilities. We have around 22,700 staff, making us one of the largest NHS Trusts in the country and one of the biggest employers locally. We aim to reflect the diversity of the communities we serve and continue to develop new and existing partnerships with local people, patients, neighbouring NHS organisations, local authorities and charitable bodies and GPs. We strive to recruit and retain the best staff as the dedication and skills of our employees lie at the heart of our organisation and ensure that our services are of the highest quality, safe and focused on our patients.

Job summary

Royal Brompton & Harefield hospitals (Part of Guys and St Thomas NHS Foundation Trust) is the largest heart and lung centre in the UK and among the largest in Europe and are known throughout the world for their expertise, standard of care and research success.

Harefield Hospital is a world-famous organisation with a proud history in the investigation, treatment and research of heart and lung disease. We have a very busy suite of Operating Theatres, Intensive Care Unit and High Dependency Units that are reliant on advanced medical equipment including a large number of patient monitoring systems, cardiac ultrasound machines and intensive care ventilators. Clinical Engineering supports the Trusts clinical activity by providing a comprehensive medical equipment support service, ensuring there is a sufficient inventory of equipment and that is at all times safe and effective over the entire equipment lifecycle. Increasingly medical equipment is networked, and Clinical Engineering technologists work closely with the Trusts I&T service to support these links.

Clinical Engineering Technologists provide clinical technology support by giving advice and assistance in the use of medical equipment and systems throughout the hospital. Some current technology is complex and a level of technical understanding beyond its basic clinical application is often required. Clinical Engineering Technologists endeavour to ensure that users of such equipment have detailed technical advice and support when needed, operating in the intensive clinical areas and interacting closely with medical, nursing and other technical staff, often assisting directly with patient interventions.

Clinical Engineering Technologists also carry out technical service work to ensure the inventory of equipment remains safe and effective at all times. This includes planned maintenance, acceptance testing and commissioning, service and repair on a wide range of often specialised medical equipment for treatment, life support, diagnostic and monitoring use.

The balancing of the clinical technology support and technical service roles requires a wide range of skills and knowledge and a flexible approach to meet changing clinical demands.

Where it is appropriate Clinical Engineering Technologists provide clinical or technical services on behalf of other clinical staff. Clinical Engineering Technologists are required to respond to novel situations using intuition and initiative and make decisions and take action based on sound knowledge, training and experience.

Main tasks and responsibilities

- **Communication**

Users access Clinical Engineering's services via the department's service pager, by telephone, or face to face. The post holder must respond rapidly and efficiently when paged. Pressure upon limited equipment resources is determined by clinical activity and so is variable; decisions of how to allocate resources will be made on the basis of clinical need. At times communicating this will require tact, diplomacy and resolution.

The post holder will be responsible for

- Giving advice on the best use of equipment to solve specific clinical problems
- Giving ad hoc training to staff to clarify the operation of equipment that is in use in the clinical area
- Responding to calls to users reporting faulty equipment.
- Contacting companies to discuss equipment faults and details of consumables and parts.

- **Patient/customer care**

The post holder is expected to adjust their workload and priorities in response to changing and sometimes urgent clinical demands, balancing their clinical and technical duties accordingly, whilst meeting the long term aims of the department as managed by the Harefield Clinical Engineering Manager.

Clinical Duties and Clinical Services

Responsible for supporting users (Medical, nursing, PAMs, and technical staff members of the multidisciplinary team) in the use of medical equipment in the clinical area

- Give advice on the best use of equipment to solve specific clinical problems
- Give ad hoc training to staff to clarify the operation of equipment that is in use
- Diagnose and resolve the cause of faults or equipment problems whilst it is still in operation or still connected to a patient
- Help clinical staff to distinguish between equipment faults and un-expected equipment function caused by abnormal patient conditions.
- Responsible for providing equipment to clinical areas to ensure a smooth and continuous clinical service.
- When equipment is not available within the trust, equipment must be sourced from outside the trust, either from commercial suppliers or other hospitals
- Maintain a store of equipment ready for use and deliver this equipment directly to the user in the clinical areas. At times this will involve moving heavy or unwieldy equipment (appropriate equipment for lifting and moving heavy equipment must be used wherever possible).

Responsible for supporting complex integrated systems, and interfaces between systems, such as data links between medical devices and clinical information systems. Ensuring the reliable operation of such systems and resolving technical problems for clinical users.

Systems supported include

- Interfaces to blood gas analysers
- Medical Devices interfaced to EPIC charting system
- Interfaces between ultrasound devices and image archive/reporting systems

Responsible for setting up equipment and treatments in the clinical areas, with suitable patient circuits where applicable, and checking the correct operation of the equipment prior to its use on a patient. A flexible and professional approach to supporting treatments will be taken. Additional services may be supported following a period of training and a demonstration of competence. Treatments supported may include: -

- Set-up of hemofiltration systems for ITU as prescribed by medical staff (taking note of any contra-indications) prior to use on patients.
- Set-up of Nitric Oxide (NO) treatments as prescribed.
- Set up or pre-use checking of ventilators and breathing circuits on behalf of Clinical Staff

At times it will be necessary to take patient samples for research or to facilitate the provision of a treatment.

At all times the post holder's primary responsibility is the safety of the patient and user. This must be reflected in the accuracy of information given to users, the timeliness of services given, the prioritisation of work, and the careful adherence to trust policies and procedures.

Technical Duties and Services

Responsible for responding to calls from users reporting faulty equipment.

- Equipment reported faulty by users will be screened to eliminate user errors.
- Equipment errors can be difficult to diagnose, all the pertinent information must be gathered to ensure effective fault-finding and correction can take place.

Responsible for daily maintenance of devices based in the clinical areas such as near patient testing equipment, or other devices as required by the Harefield Clinical Engineering Manager.

- Carry out daily QC, EQA, to ensure and verify the correct operation of equipment
- Perform full maintenance to ensure continued reliable operation
- Diagnose and correct errors in operation or performance

Responsible for carrying out routine planned maintenance following standardised procedures on the Trust's inventory of medical equipment including

Specialist equipment such as

- Ultrasound machines
 - Ventilators
 - Blood gas Machines
 - Hemofiltration systems
- Standard equipment such as
- Defibrillators
 - Medical gas equipment
 - Infusion devices

The post holder is responsible for carrying out repairs, calibration and routine maintenance work on specialised medical equipment applying experience and training and using diagnostic test equipment, and technical documentation to resolve problems. The post holder is responsible for the quality and effectiveness of the work carried out. All equipment repairs must be verified by running standardised functional checks before return to clinical use.

The post holder is responsible for maintaining comprehensive equipment records in accordance with the Department's policies including a complete record of all maintenance work carried out. Records kept must allow for effective service planning, quality control and audit.

The post holder provides a point of contact for users enquiring about equipment under repair and will give timely and accurate reports.

The post holder will participate in major procurement and commissioning projects

- Perform technical evaluations and the development of technical specifications
- Install and commission of new medical equipment and systems
- Facilitate new equipment projects liaising with suppliers and clinical users
- Carry out acceptance testing prior to accepting equipment in the hospital
- Updating the computerised equipment database appropriately
- Installation of equipment and systems in the clinical area

- **Policy & Service development**

The post holder is expected to comment upon or suggest changes when policies are being developed or introduced in Clinical Engineering, and to highlight areas in which procedures are deficient or ineffective.

The post holder is responsible for following all policies and procedures applicable for all Clinical Engineering work including

- Ensuring that equipment has been disinfected according to the Hospital's control of infection policies
- Performing equipment safety checking, to comply with the safety legislation in force (e.g., Electricity at work Act)
- The completion of required documentation of all work done.
- Complying with the departments ISO 9000 quality systems

The post holder is expected to comment upon or suggest changes to the services the department provides to ensure the service continues to meet the needs of its users. The services provided by the team are continually evolving and expanding. The post holder should bring new opportunities to the attention of the Harefield Clinical Engineering Manager.

- **Resource management**

The post holder will assist in the upkeep of the Clinical Engineering consumables and parts stock using and maintaining the stock control system. The post holder will order parts for repair and maintenance as needed via the departmental office manager.

- **People management and training**

The post holder will participate in the development and delivery of Clinical Engineering medical equipment training programmes as directed by the Harefield Clinical Engineering Manager. Training will be given to Trust medical and nursing staff at all levels and to staff from outside the Trust participating in education programmes provided by the Trust.

The responsibilities include: -

- Delivery of formal medical equipment training lectures to nursing and medical staff at all levels of ability and seniority from all areas of the hospital
- Creating training materials to assist the delivery of the training programme including: - trainers guidance notes and competency assessments.
- Delivery of training to assist the introduction of new medical equipment.
- Recording attendance of training sessions to enable the hospital to meet the requirements of NHSLA.
- Identifying and commenting upon equipment types, or user groups, that are in need of further training

- **Information management**

The post holder will assist in the first line support of hospital clinical information systems Currently EPIC as required by the system manager.

The post Holder is responsible for

- Reporting serious system failures to the system manager or support contractor and ensuring these faults are swiftly rectified
- Maintaining interfaces
- Maintaining bedside computer client hardware

- **Research and development**

The post holder will participate in equipment evaluation and trial as part of the capital replacement programme as directed by the Capital Programme Manager in conjunction with the Harefield Clinical Engineering Manager. The post holder will give technical support to clinical staff carrying out research and development as directed

Further sections

Service requirements

Clinical Engineering aims to extend the hours of support coverage for the Harefield site. The post holder is expected to participate in any reasonable out of hours support rota set up under Agenda for Change conditions. When on-call the post holder will be required to work independently and unsupervised out of hours. There will not normally be out of hour's access to more senior members of the Clinical Engineering Department.

There will be unavoidable daily exposure to body fluids (Eg blood, mucous, urine) and other infectious materials. The appropriate safety measures must be taken at all times. All relevant trust policies and procedures must be understood and adhered to.

The post holder will report regularly to the Harefield Clinical Engineering Manager.

Professional, Departmental and training requirements

Registration on the Register of Clinical Technologists (administered by the HPC through the IPPEM) is mandatory. The post holder must either be registered or in the process of registration. For degree holders this will require a minimum of three years training and experience, and successful completion of the in-house training assessment. Non-degree holders will require a minimum of four years training and experience, and successful completion of the in-house training assessment. Proof of successful completion of training must be supplied when applying to join the register.

The post holder is responsible for maintaining their professional registration and must comply with any requirements to achieve this, including CPD or other training.

The post holder must have a thorough understanding and in-depth knowledge of the equipment in use in the trust and a good understanding of the technical and physiological principles underlying the equipment's use and function. It is the post holder's responsibility to keep up to date with new equipment, techniques, and technologies.

Other duties

- To undertake any other duties commensurate with the grade as requested.

This job description is intended as a basic guide to the scope and responsibilities of the post and is not exhaustive. It will be subject to regular review and amendment as necessary in consultation with the post holder.

ADDITIONAL INFORMATION

Trust mission

To be the leading national and international centre for the diagnosis, treatment and care of patients with heart and lung disease, creating and disseminating knowledge through research and education

Confidentiality

During the course of your employment, you may have access to, see or hear information of a confidential nature and you are required not to disclose such information, particularly that relating to patients and staff.

In order to comply with the Data Protection Act 1998, you must not at any time use personal data held by the Trust for any unauthorised purpose or disclose such as data to a third party.

You must not make any disclosure to any unauthorised person or use any confidential information relating to the business affairs of the Trust, unless expressly authorised to do so by the Trust.

Health & Safety

Smoking

It is the policy of Royal Brompton & Harefield Hospitals that all people who work for the Trust or, while on its premises, obtain treatment or visit the Trust in any capacity, do so without exposure to tobacco smoke, and so smoking of cigarettes and E-cigarettes is not allowed anywhere on any Trust premises.

The Trust aims to provide appropriate support, in partnership with local Occupational Health and Community Services, to ensure that Trust staff and patients can access practical help and support in their attempts to stop smoking.

This policy is based on clear evidence that, in addition to the health risks taken by smokers themselves, others who breathe in exhaled tobacco smoke (passive smokers) have increased risk of disease.

NHS Estates have notified all NHS agencies that E-Cigarettes and the charging there of are not permitted within any Trust property (including accommodation).

Diversity

You are at all times required to carry out your responsibilities with due regard to the Trust's Diversity policy and to ensure that colleagues or staff that you manage receive equal treatment throughout their employment with the Trust.

Risk management

All staff have a responsibility to report all clinical and non-clinical accidents or incidents promptly and, when requested, to co-operate with any investigation undertaken.

Conflict of interests

You may not without the consent of the Trust engage in any outside employment. In accordance with the Trust's Conflict of Interest policy, you must declare to your manager all private interests which could potentially result in personal gain as a consequence of your employment in the Trust. Interests that might appear to be in conflict should also be declared to your manager.

In addition, the NHS Code of Conduct and Standards of Business Conduct for NHS Staff (HSG 93/5) requires you to declare all situations where you or a close relative or associate has a controlling interest in a business (such as a private company, public organisation or other NHS voluntary organisation) or in any activity which may compete for any NHS contracts to supply goods or services to the Trust. You must therefore register such interests with the Trust, either on appointment or subsequently whenever such interests are gained. You should not engage in such interests without the written consent of the Trust, which will not be unreasonably withheld. It is your responsibility to ensure that you are not placed in a position that may give rise to a conflict between your private interest and your NHS duties.

Disclosure & Barring Service checks (where relevant)

If the post has been identified as being an 'eligible position' under the *Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975* or, in some cases, the *Police Act 1997*, it meets the eligibility criteria for a disclosure to be requested through the Disclosure and Barring Service (DBS). Where a DBS check is indicated above applicants who receive a conditional offer of employment will need to complete a satisfactory DBS check prior to the appointment being confirmed.

With the exception of Basic disclosure certificates which only contain information about spent convictions, all other DBS level checks will disclose both spent and unspent convictions, cautions (including reprimands and final warnings) which are not 'protected' as defined by the *Rehabilitation of Offenders Act 1974 (Exceptions Order) 1975 (as amended)*. Enhanced disclosures may also include other relevant police information where this is deemed relevant to the position you are applying for.

A criminal record will not necessarily bar you from appointment - that will depend on the nature of the position for which you are applying and the particular circumstances of the incident(s).

You are obliged to inform the Trust if at any time in the course of your employment you are the subject of a police investigation, or are convicted of a criminal offence.

You must also inform the Trust immediately if at any time during your employment you are the subject of an investigation by the Independent Safeguarding Authority or are Barred from either its Children's Barred List or Adults' Barred List. Failure to comply with these requirements may result in disciplinary action. You will be committing a criminal offence if you seek to undertake or undertake any Regulated activity while Barred by the Independent Safeguarding Authority from either its Children's Barred List or Adults' Barred List.

Core behaviours for all Trust staff

All staff will:

- Act with honesty and integrity at all times
- Demonstrate respect for others and value diversity
- Focus on the patient and internal and external customer at all times
- Make an active contribution to developing the service
- Learn from and share experience and knowledge
- Keep others informed of issues of importance and relevance
- Consciously review mistakes and successes to improve performance
- Act as ambassadors for their directorate and the Trust
- Be aware of the impact of their own behaviour on others
- Be discreet and aware of issues requiring confidentiality

In addition, all managers and supervisors will:

- Value and recognise the ideas and contributions of all team members
- Coach individuals and teams to perform to the best of their ability
- Delegate work to develop individuals in their roles and realise their potential
- Give ongoing feedback on performance, and effectively manage poor performance
- Provide support and guidance to all team members
- Encourage their team to achieve work/personal life balance
- Actively listen to comments/challenges and respond constructively
- Lead by example, setting high standards
- Ensure that there are sufficient resources for their team and rebalance priorities accordingly
- Provide a safe working environment

Infection and Prevention Control

All Trust staff will:

- Act as a role model and champion for the highest standards of all aspects of infection prevention and control and implementation of all Infection Prevention and Control Trust policies and guidelines.
- Demonstrate respect for the roles and endeavours of others, in implementing good standards of hand hygiene.
- Value and recognise the ideas and contributions of colleagues in their endeavours to reduce the incidence of healthcare associated infection.

The Royal Brompton & Harefield NHS Foundation Trust is a non-smoking Trust.

Confirmed as accurate by post holder:.....

Date:.....

Confirmed as accurate by manager:.....

Date:.....

PERSON SPECIFICATION

GENERAL INFORMATION

Title: Clinical Engineering Technologist

Grade: Band 5 Trainee

Job base: Harefield

REQUIREMENTS	ESSENTIAL	DESIRABLE
EDUCATION & QUALIFICATIONS	Degree or Equivalent in relevant scientific or engineering discipline.	Registration with the Register of Clinical Technologists Specialist training in complex medical equipment.
EXPERIENCE & KNOWLEDGE	Good numeric and literacy (verbal and written communication), ability to communicate at all levels. Good customer care practice Proven ability to effectively engage, influence and ensure commitment of users at all levels, with credibility and authority Sound understanding of basic physics, and mechanics Basic understanding of physiology and clinical instrumentation theory and practice Ability to handle complex and sensitive information	Some experience in a clinical engineering dept., working with a wide range of medical equipment. Experience of ITU equipment and procedures.
SKILLS & ABILITIES	Ability to work in a team. Good analytical reasoning abilities Excellent organisational skills. Mechanical skills and practical acumen Proven ability to perform routine	Ability to follow policies and work within a quality system, working without supervision to targets and goals set by line manager.

	<p>tasks to a consistent and high level</p> <p>Good record keeping and familiarity with computers and computer systems</p>	<p>Demonstrable skills of fault finding, repair and maintenance, assembly of complex delicate equipment using a range of tools, requiring a high level of dexterity and coordination.</p> <p>IT skills to include use of sophisticated equipment management system</p>
PERSONAL QUALITIES	<p>A high level of Interpersonal, written and verbal skills is required. A positive “can do” attitude and a positive attitude to change is essential for this post.</p> <p>Must have the ability to concentrate for extended periods, despite frequent interruptions from emergency requests for repairs.</p>	
OTHER REQUIREMENTS	<p>Must be capable of work needing frequent moderate physical effort, sometimes in awkward situations, and involving some lifting of heavy equipment. Must be able to work in stressful and demanding environments, such as wards and ITUs, with equipment connected to patients, who may be in pain or distress. Working conditions will involve exposure to dust fumes noise body fluids on equipment compressed gases and electrical hazards</p>	

Date: 2024