

The Newcastle upon Tyne Hospitals NHS Foundation Trust**Job Description****1. Job Details**

| | |
|--------------------|---|
| Job Title | Senior Radiotherapy Engineer |
| Band | 7 |
| Directorate | Cancer Services & Clinical Haematology |
| Department | Radiotherapy |
| Base | Northern Centre for Cancer Care, Freeman Hospital, Newcastle Northern Centre for Cancer Care, North Cumbria – Cumberland Infirmary, Carlisle |

2. Job Purpose

- Assist in the delivery of the technological aspects of radiotherapy service
- Assists in providing professional technological leadership in an area of expertise locally.
- Assists in maintaining and developing high standards of service provision throughout their area of responsibility
- Assists in developing, implementing and monitoring clinical and organisational strategies within areas of expertise
- Contributes to service and staff development
- Responsibilities in specialist project areas
- Participates in roster covering 7-day working week.

3. Dimensions

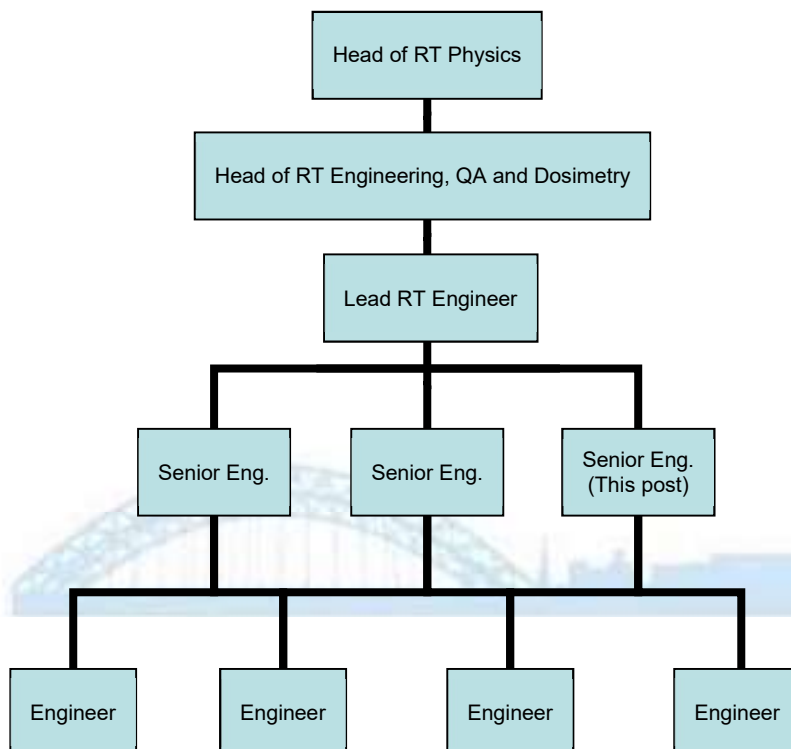
- The Northern Centre for Cancer Care is based at both the Freeman Hospital, Newcastle and Cumberland Infirmary, Carlisle and provides a highly specialised clinical service for the treatment of cancer patients. It is expected that time will be spent primarily at either the Freeman Hospital or Carlisle. It may be required to spend time between the two sites, as needed.
- The post provides the comprehensive expertise and experience necessary for the department to operate clinical linear accelerators to the required legislation and national guidelines. A large degree of versatility, both in working patterns and skills base, is required to provide the immediate emergency coverage required during normal working hours and to effect permanent repairs during non-treatment hours. In addition both planned and corrective maintenance is performed to enhance the availability and reliability of the service.
- To ensure accelerators (patient treatment systems) function correctly and therefore provide consistency and accuracy of treatment to the patient, the department operates in an ISO 9000 environment. Quality assurance is an important factor in work practises, adding an additional time element in the repair and maintenance

schedule. Diligence, consistency and perseverance are typical qualities necessary to perform satisfactory QA.

- The maintenance of clinical accelerators requires core practical and theoretical electronic skills. Additional complexity is presented by associated hydraulic, water-cooling, mechanical, RF systems containing life threatening high voltage systems and sophisticated computerised control. An appreciation of radiation physics and principles of radiotherapy is also a requirement.

4. Organisational Arrangements

Organisational Structure



Reports to: Deputy Head of RT Engineering

Staff responsible for: Engineers

5. Knowledge, Training and Experience

- See Person Specification

6. Skills

Communication and Relationships

- Communicates with senior staff of a variety of disciplines.
- Communicates complex information relating to specialist procedures to colleagues.
- Lead negotiations within their Service on a range of issues including:
 - Changing work practices

- Areas of conflict between individuals or groups
- Required to present at region wide meetings.
- Develop positive working relationships at all levels in connection with their service.
- Responsible for ensuring effective communications within their service and across professional boundaries, overcoming barriers to understanding.
- Communicate sensitive information to appropriate staff.
- Provide accurate oral and written reports.

Analytical and Judgemental

- Interpretation and formulation of complex technical data.
- To have the scientific skills to interpret results and form a judgement on their significance in situations.
- To contribute to the development of cost effective technical solutions to clinical problems.

Planning and Organisational

- Post holder supports the development of service wide strategic plans for their area of responsibility, taking into account the aims and objectives of the Service / Section / Directorate / Trust and stakeholder organisations.
- Plans a complex range of activities in accordance with Trust objectives, standards and priorities, including the formulation and adjustment of plans.
- Responsible for ensuring that the service complies with Health and Safety requirements and Trust risk management policies.
- Implements strategic plans developed by the various professional leads and Heads of Units

Physical Dexterity

- Advanced keyboard skills.

Technical

- Ability to apply and adjust complex, sensitive equipment requiring the skill of hand-eye co-ordination and high degree of precision.
- Use precision tests and measurement equipment safely and effectively
- To perform accurate calibrations of medical equipment.
- To perform minute adjustments to electronic equipment.

Clinical

- Ability to operate medical equipment safely and effectively for prolonged periods of time
- Regularly carry out patient measurement

7. Key Result Areas**Patient/Client Care**

- Provide highly specialist technical service.
- Provide highly specialist advice and information directly to medical, nursing and other NHS users and clients.

Technical

- To provide technical assistance and advice to medical staff or other health care professionals performing clinical investigations or interventions.
- To ensure patient safety with the use of commercially manufactured equipment and

systems ensuring that these are adequately maintained, calibrated and tested.

Clinical

- Provide timely and accurate reports
- To ensure Trust standards and guidelines on infection control are followed

Policy and Service Development

- To be aware of relevant legal and statutory issues, international standards, and guidelines for best practice.
- Implementing local, departmental and Trust policies to meet legal and statutory requirements at all times, for example in relation to the data protection act.
- Contributes to discussions on changes to policies within own area to ensure they reflect best practice, thus maintaining and improving the quality of the services.
- Ensure new or amended protocols and procedures are correctly and uniformly implemented.

Financial and Physical Resources

- To be responsible for the safe use of expensive highly complex equipment.
- To help contribute to the specification and justification of goods and services required by the Section as a whole, particularly in regard to statutory and other requirements for medical devices.

Human Resources

- Trains other Engineers and other healthcare professionals as required

Management

- Responsible for the day to day management of staff within the Service

Education

- The post holder is expected to follow an approved programme of continuing professional development (CPD)

Information Resources

- Play a role in the efficient management of data storage, backup and security.
- Create spreadsheets and databases as required for record keeping and operational statistics.
- The post holder has access to sensitive information and is responsible for its security and confidentiality in accordance with the data protection act.

Research and Development

- Regularly participates assisting in commissioning equipment and software prior to clinical use.
- To audit services to contribute to clinical governance.

8. Freedom to Act

- The post holder is expected to work independently, within professional guidelines, and use their own judgement to determine when it is necessary to refer to their line manager for guidance.
- The post holder's work is managed rather than supervised with results being assessed at agreed intervals.
- To be expected to act in a manner consistent with the best interests of the patient,

and the highest standards of safety to staff, other persons and the environment

- Prioritisation of own work and others.

9. **Effort and Environment**

Physical

- There is a frequent requirement to sit in a restricted position as a substantial proportion of the working time is spent using a computer.
- Occasionally exert moderate physical effort for short periods.

Mental

- There are frequent prolonged periods of concentration while using technical software

Emotional

- Occasional exposure to direct distressing circumstances.
- Frequent exposure to indirect distressing or emotional circumstances

Working Conditions

- Occasional exposure to unpleasant substances
- VDU use

Signed:
(Post holder)

Date:

Signed:
(Manager or equivalent)

Date:

The Newcastle upon Tyne Hospitals NHS Foundation Trust

Person Specification

JOB TITLE: Senior Radiotherapy Engineer

BAND: 7

Department: Radiotherapy

| <u>REQUIREMENT</u> | <u>ESSENTIAL</u> Requirements necessary for safe and effective performance of the job | <u>DESIRABLE</u> Where available, elements that contribute to improved/immediate performance in the job | <u>ASSESSMENT</u> |
|---|--|--|--------------------------|
| Qualifications & Education | <ul style="list-style-type: none"> Recognised Degree in relevant subject or equivalent experience. Appropriate post-graduate degree at master's level, or equivalent level of specialist knowledge. On the RCT or AHCS PTP register. | <ul style="list-style-type: none"> Management training, e.g., ILM Level 3 Recent Radiation Protection Supervisor certificate | |
| Knowledge & Experience | <ul style="list-style-type: none"> Specialist training and practical experience on Linear accelerators, CT scanners and other radiotherapy equipment. Extensive practical experience in radiation equipment servicing, workshop practices and techniques, covering preventative maintenance, servicing, calibration and quality control, inspection, repair and safety. Specialist knowledge of electrical and electronic engineering, electro-mechanical and computer systems Good knowledge of IT software packages (e.g., Word, Excel, PowerPoint, Excel) and experience of applying them. Working knowledge of relevant legislation, national standards, professional and other guidelines, local rules and safety practices, e.g., ISO 9001, BSI standards, COSHH. Broad knowledge of Radiotherapy field. Awareness of Radiation protection considerations of sealed, unsealed and x-ray generator sources | <ul style="list-style-type: none"> Completion of relevant manufacturers certified training. | |
| Skills & Abilities | <ul style="list-style-type: none"> Literacy, numeracy and accuracy of a high order. Ability to work under pressure to meet deadlines and maintain technical services. Able to communicate complex information to other professional groups (including manufacturers). Ability to service, repair and calibrate complex medical and scientific equipment using appropriate test instrumentation. Use precision test and measurement equipment safely and effectively. | | |
| Values / Behavioural / Attitudes | <ul style="list-style-type: none"> Develop positive working relationships at all levels in connection with their service. A professional approach to dealing with other staff and patients. | | |
| Core Behaviours | <ul style="list-style-type: none"> Alignment to Trust Values and Core Behaviours Take personal responsibility to: | | |

| | | | |
|--|--|--|--|
| | <ul style="list-style-type: none">○ engage with the Trust's Climate Emergency Strategy and Sustainable Healthcare in Newcastle (SHINE) initiatives.○ assist in embedding our sustainability values into everyday practice; and○ help ensure such practice is applied consistently by you and your colleagues | | |
|--|--|--|--|

CANDIDATE:**REFERENCE NO:****SIGNED BY:****DATE:****DESIGNATION:**