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

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| JOB IDENTIFICATION |
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| Job Title: | **Specialist Biomedical Scientist** |
| Responsible to (insert job title): | **Head of Technical Services** |
| Department(s): | **Pathology** |
| Directorate: | **Diagnostics** |
| Operating Division: | **Laboratories** |
| Job Reference: | **TBC** |
| No of Job Holders: | **66** |
| Last Update (insert date): | **26/04/2023** |

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| 2. JOB PURPOSE |
| The post holder will be required to:* + Contribute to providing a professional clinical laboratory service, working effectively as a team member as part of the Department of Pathology. The Pathology Department provides a comprehensive analytical and Consultant led clinical Histopathology, Cytology and Post Mortem service to clinicians working within NHS Greater Glasgow & Clyde and other Health Boards.
	+ Perform all core scientific and interpretive work, which corresponds to the training and qualifications of a Specialist Biomedical Scientist.
	+ Be responsible for own work and use specialist training to operate complex equipment and solve problems.
	+ Acts as a mentor to and participate in training/supervision of Trainee Biomedical Scientists and Healthcare Science Support Workers.
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| **3. DIMENSIONS** |
| The Pathology Department NHSGG&C provides a full and comprehensive Histopathology and Cytopathology service to the population of Glasgow & Clyde and also offers a tertiary and national referral service. Within this scope the post holder is responsible for undertaking specialist biomedical investigations and for coordinating the activities of technical staff within their Specialist Subdivision to ensure that allocated work is performed to a high quality and in a timely manner, to contribute to patient diagnosis.On a day to day basis, the post holder will work within a team, reporting to a Team Leader. As a registered professional, the post holder is expected to work effectively without direct supervision and work collaboratively with the Team Leader and Specialty Manager to ensure effective utilisation of resources. The post holder is expected to work within a range of teams in their designated area of the service, and for assisting the Team Leader in workload allocation, troubleshooting and training of more junior staff. |

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| 4. ORGANISATIONAL POSITION  |
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| 5. ROLE OF DEPARTMENT |
| The Pathology Department NHSGG&C provides a full and comprehensive Histopathology and Cytopathology service, including Paediatric Pathology and Neuropathology and associated services to the population of Glasgow & Clyde, hospital based users e.g. medical, nursing, estates, pharmacy and other department staff, users in Primary Care and General Practice; customers in the private sector, and to colleagues in university and other teaching establishments. The Department is also a tertiary referral centre and National referral centre.* The centralised Pathology Department within NHS Greater Glasgow & Clyde (NHS GGC) is located within a purpose built laboratory at the Queen Elizabeth University Hospital (QEUH).
* The department is the largest of its kind within the UK with a staff of circa 45wte consultants, 25 trainee medical staff and circa 215 non-medical staff.
* The workload comprises in excess of 100,000 histopathology surgical requests p.a., up to 215,000 HPV & 90,000 LBC cervical screening requests p.a. and more that 20,000 non gynaecological cytopathology (including semenology) investigations. The total budget for 2022/23 is circa £23.5 million.
* There is a satellite laboratory located in the New Lister Building at Glasgow Royal Infirmary.
* The main function is located on the QEUH site with body stores located across NHS GGC on all acute hospital sites.
* The Department also provides services from within the laboratories located at the Golden Jubilee National Hospital, Clydebank.
* The service is provided by various professional groups including medical staff, biomedical scientists, admin & clerical staff, cytology screeners and Healthcare Support Workers.
* The department is co-located with The University of Glasgow, Pathology Department within the University Division of Cancer Sciences and Molecular Pathology. A number of the senior medical staff have a dual role as consultant / senior lecturer.
* The Department includes specialist and regional and national services including: bone & soft tissue, ophthalmic, paediatric pathology, neuropathology and specialist cytology and electron microscopy. There is a large tertiary referral practice.
* The department collaborates with various other departments and health care professionals in approved clinical trials and audit and R & D projects.
* The department provides mortuary services comprising of adult, paediatric and forensic services including the City Mortuary Service. The mortuary is located within the new laboratory building at the QEUH site and is one of the largest in the UK.
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| 6. KEY RESULT AREAS |
| Responsibilities for a HCPC registered Biomedical Scientist for providing a high standard of patient care;* Required to work independently e.g. at “hot lab”
* Required to work as part of a team

**Policies and procedures**Adherence to policies and procedures relevant to all areas of work in accordance with Departmental, Directorate, Hospital and regulatory requirements. These would include the following:* All Standard Operating Procedures.
* Quality management Policies.
* External Quality Assurance schemes and Internal Quality Control.
* Laboratory and Divisional Health and Safety Policies.
* Risk Management.
* Adherence to current data protection legislation.
* Adherence to tissue and organ retention guidelines.

**Professional and Scientific*** Validates and authorises clinical laboratory results, issuing reports/results to service users. e.g. clinicians. Recommending further test/actions when required with referral to more senior staff/Consultant as appropriate.
* Instigate and recommend appropriate further tests to aid the diagnosis of disease.
* Prioritise own workload and that of any trainee or support staff within section.
* Examples of routine laboratory procedures which are performed daily e.g.
	+ Analysis of semen specimens in the investigation of infertility.
	+ Cutting and staining tissue for microscopic analysis.
	+ Preparation of body fluids for microscopic examination.
* Examples of specialised complex tests, these are tests which require a higher level of technical expertise and knowledge and which can be performed daily e.g.
	+ Preparing specimens at FNA clinics for rapid diagnosis
	+ Staining of tissue using antibody markers to permit the classification of tumours
	+ Microscopic examination of cervical smears to identify pre-cancerous changes.
* Ensure the continuity of the service is maintained by managing the efficient and effective use of expensive consumable materials.
* Rotate through specialist sections of the department.
* Perform near patient testing.
* May train in additional discipline e.g. Cervical Cytology Screening.
* Perform delegated duties as agreed with the line manager

**Supervisory*** Supervision of Trainee Biomedical Scientists and Healthcare Science Support Workers.

**Quality Control and Quality Management*** Daily instrument testing, first line maintenance, repair, technical fault finding and performance of quality control on a daily basis for own use and for other staff to operate.
* Responsible for communicating non-compliance to line manager.

**Research and Development*** Participates in the evaluation and implementation of new equipment and analytical procedures.
* Participates in reports for internal and external audit
* Keeps up to date on the scientific, technical and theoretical developments in the laboratory field.

**Teaching/Training*** Acts as a mentor to less experienced Biomedical Scientists and participates in training/supervision of Trainee Biomedical Scientists and Healthcare Science Support Workers.
* Takes part in a Continuing Professional Development programme
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| 7a. EQUIPMENT AND MACHINERY |
| * The post holder is personally responsible for the safe use and maintenance of a

 range of highly complex equipment costing up to £100,000 for a specialised item of equipment such as a vacuum assisted tissue processor.* Perform first line maintenance and repair on all equipment to ensure the accuracy

 of results and safety of all subsequent users.The main types of equipment used in the department, which the post holder will require to use (dependent on the area of the service in which they are deployed) include:* + Cryostats
	+ Tissue Processors
	+ Dissection Benches
	+ Embedding Centres
	+ Slide Processors
	+ Microtomes
	+ Ultra microtomes
	+ Staining Machines
	+ Microscopes
	+ Ovens
	+ Fume Hoods/Biological Safety Cabinets
	+ Centrifuges
	+ HPV analysers and aliquotters
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| **7b. SYSTEMS** |
| * Ensures the integrity of the patients database within the laboratory computer

 system by accurate registration of patients demographics and request details.* Operates interfaces between laboratory computer system and complex

 analytical equipment. e.g. Cassette writer* Uses the electronic patient management system (Trakcare).
* Proprietary software packages such as Microsoft Office.
* Uses laboratory IT system to access patient information and validate laboratory results and reports
* Uses Cerebro electronic tracking system in Histology or the SCRRS system in Cytology
* Uses Qpulse Quality Management System
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| 8. ASSIGNMENT AND REVIEW OF WORK |
| * The postholder will report into the appropriate Team Leader.
* The postholder will participate in Turas review for recording and monitoring for e-KSF.
* The post holder will be expected to work unsupervised in a section of the laboratory, including satellite laboratory and organise own work, task or activity giving due consideration to time constraints and urgency of sample.
* To carry out routine and more complex techniques within a subsection of the Pathology laboratory service for diagnosis by Consultant Pathologists.
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| **9. DECISIONS AND JUDGEMENTS** |
| * Follows standard operating procedures (SOP’s) and may update standard operating procedures following departmental policy.
* Provides and receives complex information to inform work colleagues or external contacts e.g. other departments, GPs or visitors to the department. This may include providing advice, explanation of results and instruction.
* Is competent in interpreting complex diagnostic test results in a variety of formats and making balanced judgements on the basis of data e.g. microscopic assessment of cervical smears to identify pre-cancerous cells.
* Ensures that appropriate corrective measures are taken to maintain scientific and quality standards within their section.
* To work unsupervised in a section of the laboratory, including satellite laboratory and organise own work, task or activity giving due consideration to time constraints and urgency of sample
* Validates and authorises clinical laboratory results, issuing reports/results to service users when given the delegated responsibility.
* Supervision of untrained staff and deputise for Team Leader when necessary.
* Coding of specimens
* Describe and process small specimens
* Prioritise workload
* Deals with technical enquiries from trainee Biomedical Scientists, newly qualified staff and support staff.
* Involved in the evaluation of new instrumentation and techniques.
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| 10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB |
| * Pressure to ensure clinical specimens are examined correctly and timeously, knowing that inaccurate and delayed results could result in inappropriate treatment of patients.
* Prioritisation of urgent requests including clinical emergencies
* Medical terminology
* Long periods of concentration on a daily basis.
* Working with human tissue remains e.g. limbs, foetal and post mortem tissue.
* Meeting agreed turnaround times
* Extremely high degree of accuracy required.
* Providing a frozen section service for immediate diagnosis due to severe time constraints as patients are under general anaesthesia.
* Dealing with patients for andrology examination requires tact and sensitivity.
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| **11. COMMUNICATIONS AND RELATIONSHIPS** |
| * Providing and receiving routine, complex and sometimes sensitive information where there may be a barrier to understanding.
* Receives information from senior laboratory staff, clinicians and other users varying from routine to highly complex, requiring interpretation, analysis and further action.
* Relays information to patients where empathy, reassurance and accurate communication are essential and where lack of understanding, contention and hostility can be encountered.
* Deals with enquiries from all sources, providing explanations and comments and recommending further actions, when required directs enquiries to senior laboratory staff/Consultants.
* Participates in departmental meetings and contributes to effective communication within the department.
* Assists in the training of trainee Biomedical Scientists, Healthcare Science Support Workers and other trainee grades
* Communicates with other staff groups including Medical, Nursing, Clerical, Porters , Estates staff and drivers
* Communicates with educational establishments and external research staff in relation to their own studies.
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| **12. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB** |
| Physical* Special handling skills required to process very small biopsy specimens, particularly from paediatric cases.
* Manual dexterity and hand to eye coordination required for manipulation and alignment of biopsy specimens, microtomy and section preparation.
* Frequent requirement to stand/sit for prolonged period during bench work.
* Requires high degree of accuracy, hand/eye co-ordination in carrying out complex manual techniques, pipetting, preparation of reagents and standards.
* Maintenance and repair of laboratory equipment often involves standing for long periods of time in confined space or awkward positions.
* Manipulation of fine tools, screwdrivers and instrumentation containing intricate and fragile components on a regular basis.
* Manual handling required to shift bulk reagents or supplies, dispose of waste products.
* Extensive microscope work required for example when checking processed/stained slides, interpreting immunofluorescence results etc.

Mental* Ability to multitask, and prioritise work, often under unpredictable and continually changing and highly stressful conditions.
* Required to carry out manual or highly automated procedures which would require concentration for long periods of time and have a repetitive element, for example microtomy and section preparation.

Working conditions* Daily exposure to unpleasant specimens of body tissue (which may be a risk of infection) following laboratory policies and procedures.
* Required to deal with spills and breakages of hazardous and infectious materials in accordance with the department’s health and Safety Regulations.
* Daily exposure to hazardous chemicals e.g. Formaldehyde (irritant/carcinogen) concentrated Hydrochloric Acid (corrosive) and Xylene (harmful/irritant).
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| 13. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB |
| ESSENTIAL* Accredited honours Degree in Biomedical Science or equivalent knowledge
* Registration as a Biomedical Scientist with HCPC
* Successful attainment of relevant specialist diploma, or equivalent knowledge and experience
* Experience as a Healthcare Science Support Worker (Senior/Higher Level - Laboratory) in relevant laboratory discipline in a NHS Diagnostic laboratory
* Evidence of continuing professional development, for example attendance at specialist courses, training on new instrumentation or learning through reflective practice.
* An understanding of health and safety when working with and handling chemicals
* and hazardous tissue
* Good time management skills with the ability to work under pressure and meet tight guidelines.
* Knowledge of laboratory terminology and competent in the use of laboratory equipment
* Computer skills

DESIRABLE* Experience of using Telepath LIMS
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| **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: |