NHS TAYSIDE – AGENDA FOR CHANGE
JOB DESCRIPTION

Job Reference Number…PA06 1517

JOB IDENTIFICATION	Job Title	Senior Biomedical Scientist / Training Officer
	Department(s)/Location	Pathology, Pathology Department, Ninewells
	Number of job holders	1

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1. JOB PURPOSE

Responsible for the day-to-day management of a section of the Pathology Laboratory.

Responsible for the provision of the full range of highly specialised scientific/technical services for one of the following sections of Pathology: Specimen reception and dissection, Specimen processing and embedding, Cellular Pathology Laboratory, Special stains, Immunocytochemistry, Electron Microscopy, and Diagnostic Cytology.

Processing and analysing patient biopsies/specimens to enable provision of diagnosis for pathological conditions.

Carry out scientific techniques at molecular level within Cellular Pathology with a high degree of individual skill and responsibility.

Responsible for providing lectures, workshops and specialist training for qualified staff and postgraduate students seeking statutory registration ensuring compliance with the professional levels required by the Health Professions Council.

50% of Job responsible for co-ordinating training for all Biomedical Scientists and Medical laboratory Assistants in Cellular Pathology

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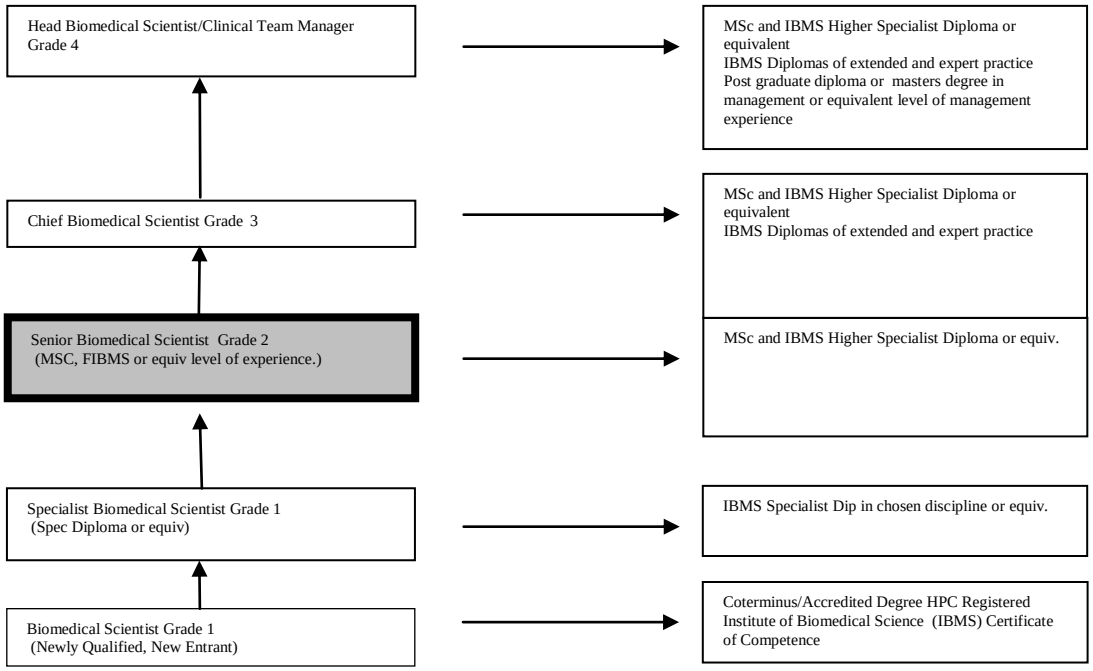
1. ORGANISATIONAL POSITION

PROFESSIONAL STRUCTURE



2. SCOPE AND RANGE

The Pathology department provides a high quality diagnostic service covering the preparation and diagnosis of samples from patients. In Cellular Pathology this ranges from post mortems and whole organ resections to the smallest biopsies taken using endoscopy. For Cytopathology this includes general fluids from across Tayside. Samples originate both within the acute sector and primary care.

The Senior Biomedical Scientist in Cellular Pathology is responsible for the day-to-day organisation and running of the technical services within a section of the Pathology Laboratories. This involves day to day management of Specialist Biomedical Scientists and Biomedical Scientists with varying degrees of experience, trainee Biomedical Scientists, and Medical Laboratory Assistants to ensure provision of the service to ISO standard 15189, involving the scientific evaluation, processing and demonstration of appropriate pathology in the 26000 patient biopsies, 80,000 tissue blocks, 159000 microscopic slides, prioritizing cases according to clinical details provided and ensuring targets set by senior management are met.

3. MAIN DUTIES/RESPONSIBILITIES

Managerial

1. Responsibility for the organization and running of technical services within the eight sections of pathology on a rotational basis providing specialist skills in all sections as required.
2. Responsible for deciding minimum staffing levels of all grades of staff required to ensure efficient delivery of the scientific/ technical services and designing rotas to ensure adequate technical staffing levels of Senior Biomedical Scientists, Specialist Biomedical Scientists, Biomedical Scientist, Trainee Biomedical Scientists, and Medical Laboratory Assistants through all sections of Pathology Laboratories, ensuring flexibility within these rotas to enable movement of staff on site and off site at very short notice to compensate for staff absence to meet the demands of the service.
3. Design and implement rotas in cooperation with senior management and other senior members of staff to ensure all biomedical scientists and medical laboratory assistants rotate through various sections of Pathology Laboratories ensuring maximum possible exposure for staff to different sections of work in line with service requirements and agreed individual staff Personal Development Plans.
4. Responsible for participation in National External Quality Assessment Schemes taking place at three monthly intervals and involving seven modules pertaining to different tissue categories.
5. Quality assure highly complex histological, immunological and cytological techniques to a standard suitable to pass UK External Quality control examination, advise specialist/ biomedical scientists and trainee biomedical scientists on the quality required by the schemes and demonstrate how success in these scientific techniques can be achieved.
6. Responsible for troubleshooting and problem solving issues concerning scientific/technical services and equipment associated with the section managed.
7. To provide highly specialist scientific/technical advice to users of the service on histology, immunocytochemistry, electron microscopy and cytology

Training

8. Responsible for co-ordinating the training and supervision of Trainee Biomedical Scientists and Registered Biomedical Scientists completing the Specialist Diploma.
9. Responsible for the assessment of trainee portfolios leading to Health Care Professions Council registration.
10. Responsible for the production of Personal Development Portfolios for all Biomedical Scientist, Medical Laboratory Assistant and Clerical staff.
11. Responsible for organizing induction for all new staff.
12. Responsible for maintaining complete personal training records for all Biomedical Scientist and Medical Laboratory Assistant staff.
13. Co-ordinator and exam guarantor for registered Biomedical Scientist staff studying MSc by distance learning.
14. Participate and help organize integrated teaching seminars for Trainee Biomedical Scientists across all disciplines of Pathology.
15. Visiting Lecturer at Abertay University for Cellular Pathology under agreement signed between University and NHS Tayside.
16. Chairperson of Cellular Pathology Training Committee.

Scientific

17. Receipt and triage of patient biopsy and fluid specimens received in pathology following standard operating procedures to include entry to dedicated laboratory based computer system. This involves a significant amount of accurate data entry with attention to detail in ensuring correct patient and specimen identification. This also involves allocation of specimen types to workgroups. Requires knowledge of specimen types and the ability to analyze and follow up errors to ensure accurate completion of the minimum dataset.

18. Accurate identification of specimen size, description and type to allow appropriate processing. This may involve patient biopsies that are so small that they require microscope or magnifier to orientate. This will also involve decision making in assessing how the formaldehyde fixed tissue and cytological samples will be processed and whether the nature and size of the tissue requires protection to prevent tissue loss.
19. Where tissue is calcified e.g. cortical bone or teeth to ensure that the tissue is appropriately decalcified using strong mineral acids or chelating agents. To assess the completion of decalcification by x-ray: this involves exposure, processing and interpretation of the x-ray.
20. To prepare patient specimens to allow the demonstration of disease processes. This involves skills and techniques in using alcohols, solvents and wax to allow the biopsy to be presented for cutting in an appropriate manner. This will require the knowledge to program the tissue processor and problem solve processing issues which may arise.
21. Using embedding skills orientate patient biopsies ranging from 0.5mm to 2 cm in the appropriate plane taking into account any special instructions. This involves manipulation of patient tissue while fingers are being exposed to 60-degree molten paraffin wax. Using skill and competence and any visual aids required to ensure that the biopsy is orientated to allow minimal 'trimming in' and to enable any margins of malignancy or epithelial surface to be sectioned accurately to allow diagnosis.
22. Use specialist equipment e.g. microtome. This involves orientation, trimming in to appropriate area of interest e.g. malignancy. Cutting 3/1000th of mm thick sections of patient tissue and subsequent intricate positioning of section by floating from warm water onto glass slides. This requires excellent hand to eye coordination. It also requires excellent manual dexterity as very sharp razor type knives and rotating equipment come into very close proximity to fingers.
23. Carry out frozen section production under pressure of time constraints where the patient is under anesthetic and an urgent diagnosis is required. This will involve working on fresh/unfixed potentially infectious biopsy specimens.
24. Where required to carry out autonomously multiple complex frozen sections by the MOH's (Micrographic surgery for skin cancer) method which requires specific orientation in relation to the patients anatomy. This is to allow the Consultant Dermatologist to ensure eradication of tumour margin while causing minimal disfigurement. This work is carried out in the presence of the patient.
25. Where required to provide a specialist service to the one stop breast clinic. This involves the preparation of Fine Needle Aspirate samples from breast, thyroid or lung and assessment microscopically of adequacy of specimen for urgent diagnosis. This requires periods of lone working.
26. Must have the knowledge and skill to carry out in excess of 200 staining techniques required in pathology to allow identification of tissue pathology elements including tinctorial, immunological and ultrastuctural demonstration.
27. Interpret and assess the quality microscopically, of in excess of 100 specimen types received in the laboratory. This involves observing under the microscope at various magnifications in up to 3 hours in a session. This level of control involves decision making on the quality of staining, cutting and embedding and deciding whether the case should be rejected or accepted. This involves a final check on the patient demographics, numbering and matching to ensure accurate diagnosis.
28. To report in detail the macroscopic description of endoscopy and small biopsies and transfer to processing cassettes.
29. Where required to carry out dissection of large resections of colon and breast and identify and paint tumour margins. This is a rotational requirement and is carried out autonomously without any on site medical staff support. This requires highly specialist skills previously only carried out by medical staff.
30. Carry out specialist immunological techniques to demonstrate the patients' immune status in relation to diagnosis and also to identify specific tumour sub types and infectious diseases to aid prognosis. This involves assessment of the quality of the demonstration and the ability to resolve complex problems in immunocytochemistry and immunofluoresecence techniques.
31. To prepare fresh renal, muscle and rectal biopsies incorporating specialist cryogenic techniques and assess the adequacy of the specimen for subsequent diagnostic procedures e.g. microscopic identification of glomeruli in kidney. Under stereoscopic microscopy (32x magnification), orientate and cut very small biopsies to provide tissue for multiple immunocytological and histochemical techniques.
32. Competence in processing specimens to allow analysis under the electron microscope. It is also expected that individuals will be competent to identify highly complex tissue abnormalities at an ultra structural level (Magnifications to 50,000 times).
33. Responsible for disposal of tissue in accordance with national guidelines by positively identifying specimens where the diagnosis is authorized.
34. Competent in the use of pathology filing systems to allow filing and retrieval of blocks, slides and reports.

Specific Competencies for staff working in Cytopathology

35. In addition to specimen receipt in 8 above, be competent in the receipt, macro description and computer entry of patient fluids and smears received in Cytopathology.
36. To be competent in handling and preparing potentially infectious fluid samples within a containment level 2

37. To produce synthetic clots from fluids, which are then prepared and dealt with as for patient biopsies. The knowledge to programme the specialised cytology processors and trouble shoot when problems arise, is also essential.
38. Staining and coverslipping and quality assessment as in main scientific paragraphs above

Management

39. Lead Specialist/Section Manager in Pathology with day to day responsibility for training, direction and management of Specialist Biomedical Scientists, Biomedical Scientists, Trainee Biomedical Scientists, Medical Laboratory Assistants, in the performance of their duties and in compliance with Pathology Departmental Standard Operating Procedures, Trust policies, Clinical Pathology Accreditation Standards, including Health and Safety Regulations and proficiency levels required by the Health Care Professions Council.
40. Work autonomously taking responsibility for own decisions and decisions made by others, both diagnostic and scientific to meet the requirements of the Health Care Professions Council
41. Participate in recruitment and selection of new staff; from selection of interviewees from their application, to sitting on interview panels and presenting subsequent reasoned argument for the appointment of most suitable candidate.
42. Responsible for providing supervision of Trainee BMS staff during completion of Certificate of Competence for Registration Portfolio and newly registered BMS staff completing Specialist Portfolio. Sign competencies of Specialist BMS, BMS, Trainee BMS and MLA staffs undergoing In House training programme.
43. Identify training needs for Biomedical Scientist and Medical Laboratory Assistants and, within the confines of budgetary control, ensure these needs are met.
44. Overall supervision of training of Biomedical Scientist staff.
45. Support and advise trainee Biomedical scientist supervisors.

Administration, Budget and Stock Control

46. Responsible for stock control for Pathology laboratories
47. Authorize the purchase of materials and consumables via PECOS electronic ordering system up to £250 per order raised amounting to a value of over £5,000 per year. Authorize and sign for stock items via Area Supplies and Pharmacy and raise orders for the purchase of non-stock items.
48. Meet with representatives from supplier companies and contact companies using tact and persuasion to negotiate discounts and prices for consumables and equipment necessary for the running of the Pathology Department
49. Maintain and update the Pathology Department Equipment Database. Advise Head Biomedical Scientist on equipment status and the replacement needs. Prioritize equipment and anticipate future equipment needs. Obtain quotes from companies and make recommendations for the purchase of new equipment.
50. Arrange servicing contracts for equipment and suggest appropriate levels of servicing, liaising with Medical Physics.
51. Carryout equipment audits to ensure that equipment is being maintained, errors logged and repairs carried out.
52. Responsible for the safe use and maintenance of expensive and highly complex equipment to be used by self and other staff.
53. As training officer write and review policies, Sops and manuals relating to training.

Policies

54. As Lead Specialist/Section Manager, propose, formulate and write Standard Operating Procedures that can impact beyond the section to reflect and improve/up date service requirements.
55. Contribute to departmental policies to a standard appropriate for CPA accreditation.
56. Follow NHST policies, particularly those related to Human Resources, work within them and implement them within the laboratory
57. Work within HCPC standards.
58. As training officer write and review policies. SOPs and manuals relating to training.

Research and Development

59. Co-ordinate and control clinical research projects and developments leading to subsequent publication of scientific papers on a regular basis.
60. Evaluates and tests equipment for implementation to clinical service
61. Undertake Horizontal and Vertical Audits to ISO 15189 standards, identifying non-conformances to ensure adherence to departmental policies and standard operating procedures and make and implement quality improvement suggestions.

Health & Safety

62. Ensure that all work practices and environments are kept in accordance with the legislation set out in the

Health & Safety at Work Act (1974) and subsequent amendments and ensure users of the pathology service are given relevant information regarding the substances they are dealing with and be prepared to answer queries regarding products we distribute.

63. Responsible for monitoring and recording levels of substances hazardous to health in order to ensure a safe working environment for all staff: this includes x-ray monitoring.
64. Responsible for Risk Management in section of Pathology.
65. To be fully aware and competent in Health and Safety and to be able to manage utilizing COSHH and Risk Management methods to reduce spillage and exposure to substances hazardous to health.
66. Responsible for handling spillages of solvents, strong acids and alkalis and potential carcinogens in relation to daily workload within the department and other parts of the hospital including out of hours.
67. Responsible for completing Adverse Events via Datix system in the event of a member of staff suffering injury.
68. Responsible for carrying out Risk assessments, COSHH assessments and Manual Handling Training within Pathology.

4. COMMUNICATIONS AND RELATIONSHIPS

1. The post holder will be accountable to the Head Biomedical Scientist/Clinical Laboratory Manager.
2. Through active participation at Pathology Department staff groups, meetings, comprising of staff representatives from Professorial level to support staff, use highly specialist knowledge of Scientific /Technical aspects of pathology, Team Leading and Management to advise on best practice for technical services and workflow, ensuring continuity of workflow through all sections of the Pathology Laboratories. At these meetings put forward reasoned and evidence based suggestions and use tact and persuasion to negotiate with Senior Management and users of the service to affect change.
3. Provide guidance and reassurance to scientific staff while Pathology department expands and reorganizes to meet changes in Pathology Service and staff roles.
4. Communicate and discuss highly complex pathology related information internally with Senior Biomedical Scientists, Specialist Biomedical Scientists, Biomedical Scientists, Cytoscreeners, Medical Laboratory Assistants, Consultant Medical staff, Junior medical staff and Clerical staff.
5. Use persuasive and negotiating skills in communicating with staff/clinicians requesting pathology tests.
6. Communicate with the Clinical Laboratory Manager in relationship to competence of Specialist Biomedical Scientists, Biomedical scientists, Trainee Biomedical Scientists and Medical Laboratory assistants to facilitate Continuing Professional Development and formulate Personal Development Plans.
7. Conduct Appraisals/Performance Development reviews for Specialist Biomedical Scientists, Biomedical Scientists, Trainee Biomedical Scientists and Medical Laboratory Assistants setting out clear goals and objectives for the following year using empathy, reassurance and motivation to encourage staff and promote Continuing Professional Development and Team Working.
8. Carry out back to work interviews with staff after absence. This involves receiving sensitive/personal information and using the appropriate levels of tact, discretion and sympathy where required, in line with trust policies and guidelines, achieve a satisfactory consensus
9. Carry out assessments with Trainee Biomedical Medical Scientists in relationship to Competency Portfolio and registered Biomedical Scientists completing the Specialist Diploma.
10. Professionally communicate with the professional bodies the Institute of Biomedical Science and the Health Care Professions Council for areas of professional conduct and Continuing Professional Development.
11. Professionally communicate with Training Officers from other laboratory disciplines to discuss integrated training and other common issues.
12. Professionally communicate with Abertay University relating to Biomedical Science degree courses.
13. Represent Cellular Pathology on the Ninewells Biomedical Scientist/ Abertay liaison group.

5. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB

1. Accredited Honours degree in biomedical sciences
2. MSc or equivalent
3. Registered with the Health Care Professions Council
4. Highly Specialist knowledge of Cellular Pathology/Cytopathology gained through short courses and in house training programs.
5. Institute of Biomedical Science Certificate of Competence
6. Evidence of Continuing Professional Development to Health Professions Council Requirements
7. A management qualification or willingness to work towards this is desirable
8. Evidence of Training for trainers.

ESSENTIAL ADDITIONAL INFORMATION

6. SYSTEMS AND EQUIPMENT

Equipment	**Value £**
X-Ray Equipment	20k
Liquid Based Cytology processors	120k
Electron microscope	120k
Automated stainers and coverslippers	25k
Microscope	10k
Category 1 Biological safety cabinets	5k
Downdraught ventilation	20k
Tissue cassette writer	10k
Tissue Processor	25k
Tissue embedder	12k
Microtome/Ultratome	6k
Laboratory computer system	250k
Centrifuges	10k
Cryostat	10k

The post holder will be required to use the above specialized, complex equipment and provide instruction and training in the safe use of the above equipment. They will be responsible for ensuring all of the above equipment is adequately maintained to allow others to use safely.

Responsible for recording servicing in Equipment Database, and faults and minor error as required by CPA and as part of the quality management system. They will carry out adjustments to the equipment and minor repairs as required.

7. PHYSICAL DEMANDS OF THE JOB

Physical Skills

1. Requires manual manipulation of very small, less than 3/1000th of a mm, sections of samples in histology and nanometer samples in Electron Microscopy.
2. Fine adjustment of microtomes at micron level and microscopes at nanometer level for Electron Microscopy.
3. Requires repetitive circular motion in hand powering the microtome for up to a 2-hour session whilst sitting in a confined position.
4. Requires manipulation of sections/cytology preparations being viewed whilst seated at a microscope for up to 4hrs in a session and on a daily basis

Physical Effort

5. Requires sitting with back arched to ensure accurate embedding of tissue samples in up to a 2 hour session
6. Requires sitting in a confined position carrying out microscope work e.g. quality control of histology slides
7. Requires keyboard to be used for up to 2 hour session
8. Requires small items of stock to be moved weighing up to 5kg for manual movement and moving larger weights by trolley

Mental

9. There is a continuous requirement on a daily basis to concentrate for periods of up to 4 hours for example: microtomy, quality control of histological slides, or tissue dissection. This is required on most days.
10. There is a constant requirement to maintain the required levels of concentration and accuracy necessary to complete tasks whilst being able to quickly adapt to changing demands throughout the day. This can involve movement between sections, swapping tasks frequently to ensure minimum interruptions to service, solving problems as they arise and answering queries.
11. There is a requirement for prolonged concentration when staining in order to coordinate up to 10 different stains simultaneously over a 3 hour period
12. Intense concentration required for verbal delivery of histological lectures and training workshops for duration of up to one hour using a variety of audiovisual apparatus and answering questions throughout.

Emotional

13. There is daily exposure to patient specimens and reports with obvious advanced malignant disease
14. Occasional exposure to fetal and adult post mortem and its emotional effect
15. Exposure to patients undergoing Mohs' facial surgery and fine needle aspirate procedures at one stop clinic
16. Knowing diagnostic outcome of breast cancer patient at one stop clinic (once per week)
17. Dealing with sensitive issue with staff who may be undergoing problems of a personal nature where the objective is to reach a solution that meets the needs of the department and the individual.
18. On a rotational basis attend Multi Disciplinary Team meeting to participate in discussion on patient management with the care team.

Working Conditions

19. Within the laboratory environment there is frequent use of hazardous chemicals, some of which are classed as carcinogens.
20. Frequent exposure to unfixed/fixed potentially infectious body tissue and fluids on a daily basis, most commonly TB, HIV and HEP C

8. DECISIONS AND JUDGEMENTS

1. Lead Specialist/Section Manager working autonomously, taking responsibility for own workload and also the section workload and scheduling/prioritizing work for consultants as appropriate to enable targets to be met.
2. Be familiar with advances in Histopathological / Immunocytochemical/ Cytopathological techniques/equipment and be able to trial new techniques/equipment, evaluate them and present reasoned arguments for the implementation, or rejection of the techniques/equipment to users of the service.
3. Investigate reports of Critical Incidents to identify the source of error. Complete Critical incident reports, explaining the often complex nature of the error. Use empathy and re-assurance whilst speaking to individuals involved trying to establish the root cause without apportioning blame. Make suggestions where appropriate to minimize the risk of the incident being repeated and ensure that appropriate measures are taken.
4. Make decisions about the running and organization of technical services on a day-to-day basis.
5. Highly Specialist practitioner who will make judgements and takes decisions on orientation, demonstration and differentiation of methods for showing tissue abnormalities providing scientific advice to pathologists as required.
6. Make decisions on the acceptance/rejection of the quality of their own and other qualified practitioners

work.

7. Assessing adequacy and availability of tissue biopsies for quality control.
8. As section manager, will be responsible for ensuring that there is minimal disruption to the Pathology service in the event of mechanical breakdown, computer breakdown or in the event of hazardous chemical spillage by assessing immediate needs, deciding priorities and implementing emergency procedures as required.

Training

11. Co-ordinate training of Biomedical scientists and medical laboratory assistants on a daily basis.

9. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

1. Managing unexpected and critical situations where instant decisions have to be made to minimize disruption to pathology scientific/technical services.
2. Managing staffing levels to cope with changes in work patterns on shift to shift basis to ensure the constant provision of a high quality service
3. Troubleshooting problems in the specimen reception area when specimens arrive with little or no accompanying details.
4. Appropriate differentiation of stained slides to allow demonstration of abnormality.
5. Assessment of grade by microscopy of cervical smears. (300000 cells reviewed in each smear looking for abnormal cells)
6. Being able to maintain the required levels of concentration and accuracy necessary to complete tasks whilst being able to quickly adapt to changing demands throughout the day: this can involve movement between sections, swapping tasks frequently throughout the day to ensure minimum interruptions to service, solving problems as they arise and answering queries.
7. Maintaining up to date knowledge base through CPD.
8. Maintaining up to date knowledge of training and training courses.

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Job Reference Number…PA06 1517

JOB DESCRIPTION AND ESSENTIAL ADDITIONAL INFORMATION FORM – SIGNATURE OF AGREEMENT

Post Title	Senior Biomedical Scientist/Training Manager
Reference Number	PA06

The attached job description and essential additional information will be used as part of the Agenda for Change assimilation exercise and therefore the job matching panel may wish to seek further clarification on any issues contained within the documents. Should this be necessary please identify an appropriate Manager and Staff representative who can be contacted.

Responsible Manager	Derek Bishop
Contact No.	632689
Staff Representative	George Carmichael
Contact No.	633547

I/we the undersigned agree the attached document is an accurate reflection of the requirements of the post. The essential additional information provides accurate information of additional job related factors.

Signed :- (Manager)	

Staff Members:		
NAME (BLOCK CAPITALS PLEASE)	SIGNED	POST NO. (office use only)