JOB DESCRIPTION

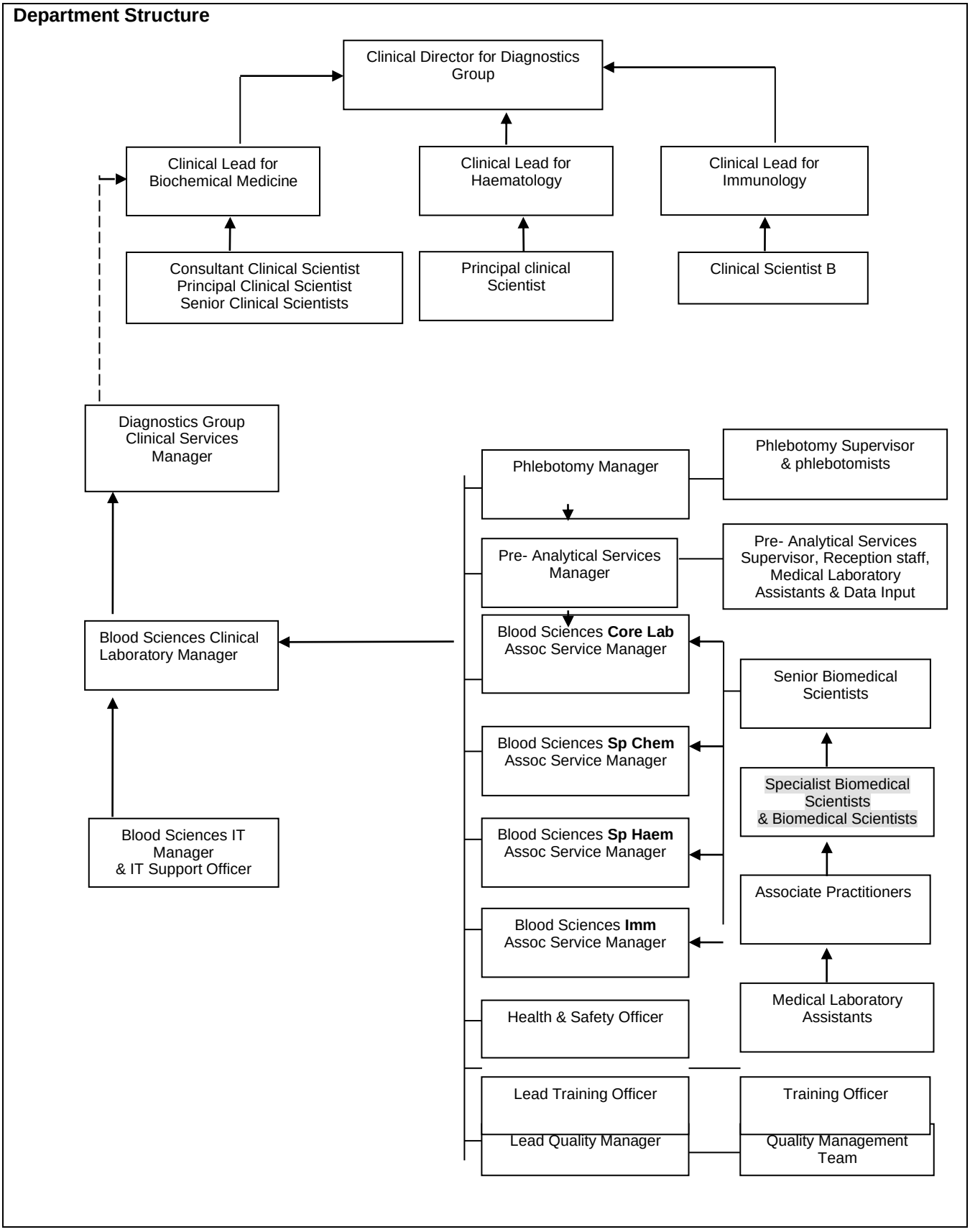
1. JOB IDENTIFICATION	Job Title	Specialist Biomedical Scientist (Band 6)
	Department(s)/Location	Department of Blood Sciences
	Number of Job Holders	30

2. JOB PURPOSE

The post holder works within a multi-professional team and within the Quality Management Systems of the Department of Blood Sciences and is responsible for processing a broad range of complex, specialist laboratory investigations to facilitate and inform clinical decision making in the diagnosis and management of patients. The post holder is required to carry out the scientific and analytical work of the Department in a competent, safe, efficient and effective manner in order to provide quality assured laboratory data to clinical colleagues. You may also be required to provide specialist advice to clinicians to aid the diagnosis, treatment and monitoring of patients. You also participate in training, audit, quality control and risk assessment in the support of the Quality Management Systems in the department.

3. ORGANISATIONAL POSITION

Department Structure



4. SCOPE AND RANGE

The Blood Sciences Department provides a 24/7 high quality, analytical, interpretive and advisory diagnostic service, mainly to NHS Tayside Acute and Primary Care Divisions but also to North Fife and South Grampian. The Department operates on two sites, 20 miles apart, with the main laboratory facility being at Ninewells Hospital in Dundee and a multi-disciplinary laboratory at Perth Royal Infirmary. The Department is accredited to ISO 15189 standards by the United Kingdom Accreditation Service (UKAS).

Approximately 200 professional and support Blood Sciences staff deliver clinical laboratory services for Biochemical Medicine, Haematology and Blood Transfusion (PRI only), Immunology and Phlebotomy services. Some Virology and Bacteriology services are also delivered from Blood Sciences.

The annual workload of the Department is approximately 1,000,000 patient requests comprising 6,500,000 tests per annum at two sites. The workload is rising at approximately 5% per annum and the repertoire is continually expanding. The annual budget is £8.7 million comprising of £6.5 million staffing and £2.2 million reagents, consumables, equipment and services. The Department offers its services 24 hours per day, 365 days per year. The service delivered encompasses requests from sources delivering elderly, adult, paediatric and neonatal healthcare across a very broad range of clinical specialties. The Department is also a specialist referral centre for a range of analytes serving a national catchment area and supports extensive Point of Care Testing services. A significant volume of work associated with service, academic and commercial research and development is undertaken by the Department.

5. MAIN DUTIES/RESPONSIBILITIES

Induction Standards & Code of Conduct
Your performance must comply with the national "Mandatory Induction Standards for Healthcare Support Workers 2009" and with the Code of Conduct for Healthcare Support Workers.

As a Health and Care Professions Council (HCPC) registered Biomedical Scientists the post holder is required to take responsibility for their own work, under the supervision of a Senior Biomedical Scientist and/or the management of an Associate Services Manager.

Professional and Scientific
The postholder will:

1. Comply with NHS Tayside and Blood Sciences operational and management policies and procedures, update and amend Blood Sciences policies as required:

    a. All Standard Operating Procedures.
    b. Quality Management policies
    c. External Quality Assessment and internal Quality Control procedures.
    d. Health & Safety, COSHH and Risk Management procedures
    e. Patient confidentiality policies and current data protection legislation.

2. Perform all the complex, specialised analytical work within a range of laboratory investigations to a consistent and expert standard of competence, in both the routine and urgent context. The range of laboratory investigations transcends the traditional discipline specific boundaries of Biochemical Medicine, Haematology and Immunology and core automated Virology with Blood Transfusion at PRI only.
3. Maintain and apply theoretical knowledge and practical competency in all aspects of:
    - the pre-analytical procedures of the analytical process in Blood Sciences
    - the analytical phase of the analytical process
    - the post analytical phase of the analytical process including the management of specimens and aliquots of specimens in storage the department IT systems and architecture to carry out the analytical work and data handling of the department.
4. Contribute expert knowledge and experience to the service development of all aspects of the processes in which the postholder works, to meet the changing needs of the Service.
5. Assist in the management of stocks of reagents and consumable items by regular monitoring of stock levels, by identifying requirements and reporting deficiencies of stocks to senior staff and by ensuring stock rotation.
6. Keep up to date with changes in laboratory practice, scientific and technical developments.
7. Actively participate in section and department reviews and meetings.
8. Practice in accordance with the HCPC Codes of Conduct, Standards and Ethics.
9. Maintain registration with the HCPC and evidence of continuing professional development in support of this
10. Prioritise and manage workload to achieve the required turnaround times for the relevant category or type of sample.
11. Participate in the delivery of Point of Care services including working single handedly in clinics e.g. One stop diabetes, haematology and anticoagulation clinics.
12. Participate in the evaluation and introduction of new techniques and equipment.
13. Organise the referral of specialist tests to reference centre laboratories
14. Depending on Service requirements, the post holder will be required to participate in all aspects of the service which Blood Sciences requires to deliver. This may require the post holder to work alone for periods of time, particularly when delivering services "out-of-hours".

Technical

1. Perform maintenance on equipment for use by self and others in accordance with schedules.
2. Perform first line diagnostic troubleshooting and report persistent/complex faults through the line management structure to the Clinical Laboratory Manager for Blood Sciences.
3. Perform quality control and quality assurance procedures on instruments in accordance with schedules. Analyse and interpret the data in order to validate the procedures as performing within acceptable limits and take appropriate remedial action, when required
4. Undertake regular LIS housekeeping to identify and resolve unreported results and ensure turnaround times are met.

Clinical

1. Assess and interpret laboratory results, flags and error messages for technical validation.
2. Take appropriate follow up actions in accordance with laboratory policies and procedures, e.g. evaluation of results with regard to reference parameters and take remedial action in the case of results exceeding critical limits, abnormal, spurious or equivocal results. This may require repeat or additional testing.
3. Review and evaluate laboratory data in the light of the patient's condition and add technical or approved pre-defined clinically relevant comments as appropriate. Clinically authorise the release of these results into electronic patient notes, or order relevant follow-up procedures.
4. May perform microscope based interpretive blood film review, authorise reports and make decisions concerning referral for clinical opinion.
5. Refer complex results for clinical interpretation or opinion and inform the requestor of clinically significant and/or urgent results.
6. Provide advice and information to service users within the scope of practice of a Biomedical Scientist

Quality

1. Perform appropriate quality control procedures, first line maintenance, repair and technical fault finding on analysers, for own use and for other staff to operate.
2. Understand and interpret QC data and take corrective action when necessary.
3. Participate in investigation of incidents as required by the Quality Manager and the Associate Service Manager.
4. Log equipment downtime and quality deviations and escalate persistent problems to the senior staff.
5. Participate in the production and review of Standard Operating Procedures and propose changes and amendments within area of specialty.
6. Participate in the annual audit plan and conduct audits in Blood Sciences, record the audit and report to Quality Manager.

Training, Education and Professional Development

1. Maintain competence in all areas of practice and participate in regular competence assessment in accordance with the Department Training policies.
2. Maintain an up to date training log
3. Participate in Personal Development Review and highlight training requirements and personal development objectives for discussion.
4. Undertake and establish evidence of own continuing professional development in order to maintain mandatory HCPC registration
5. Mentor less experienced scientists and participate in the training of trainees, support staff, new staff and student placements as required by the senior staff.
6. May train in all areas of Blood Sciences Core laboratories in accordance with service delivery needs.

Health and Safety and Security

1. Comply with National, Tayside and department Health and Safety policies, procedures and regulations, e.g. health and safety policies, Control of Substances Hazardous to Health, risk assessment, and manual handling.
2. Ensure the safe handling, use and disposal of biological samples such as blood and urine and hazardous chemicals on a daily basis.
3. Participate in mandatory heath, safety and security training.
4. Maintain competence in the safe handling of spillages of biohazardous material and broken sample containers.
5. Maintain a safe working environment for all members of staff and visitors.
6. Maintain awareness of the dangerous pathogens advisory group classifications, the rules and regulations for containment and the safe handling of high risk samples.
7. Participate in the assessment and documentation of risk, including General Risk Assessments, COSHH Assessments, and DSE Assessments and performing regular Health and Safety checks.

Research and Development

1. Participate in the evaluation and implementation of new equipment and analytical procedures.
2. Participate in the processing of clinical trial samples on daily basis.
3. Participate in the production of reports for internal and external audit.
4. Keep up to date on the scientific, technical and theoretical developments in the laboratory field.

6. COMMUNICATIONS AND RELATIONSHIPS

The post holder will:

1. be accountable to the Clinical Laboratory Manager in Blood Sciences through the department line management structure.
2. contribute to decision making and problem solving in the maintenance and development of the Service through communicating and discussing complex scientific, technical and medical related information internally with scientists, support staff, medical staff and admin and clerical staff.
3. facilitate and contribute to effective communication within the Department by participating in meetings and maintaining awareness of relevant information through accessing meeting minutes, NHS Tayside Intranet, e-mail and other forms of electronic and non electronic communication.
4. communicate with the senior staff and Training Officers in relationship to competence, personal development plans and the knowledge and skills framework.
5. co-operate in cross-discipline areas within laboratory services.
6. receive information from senior laboratory staff, clinicians and other users. The content of the information will vary from routine to highly complex requiring interpretation, analysis and further action.
7. notify appropriate staff of clinically significant results or results outwith critical values as laid down in Standard Operating Procedures.
8. deal with enquiries from all sources, providing advice and recommending further actions, as required and within competence. Using professional judgement, when required the post holder will direct enquiries to senior scientists and medical staff.
9. communicate as required with other staff groups external to the Department including all grades of ward and GP based staff, medical staff, nursing staff, clerical staff, porters, estates staff and drivers.
10. communicate non-conformities identified or system malfunctions to senior scientist staff and/or the Departmental Quality Manager, as appropriate.
11. communicate with the professional body the Institute of Biomedical Science and the HCPC for areas of professional issues and CPD.

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

1. Accredited BSc Honours degree in Biomedical Sciences or equivalent
2. Current registration with the Health Professions Council
3. IBMS Post Graduate Specialist Diploma in Biomedical Science or equivalent experience as a HCPC registered Specialist Biomedical Scientist
4. Evidence of Continuing Professional Development (CPD)
5. Completion of the full Knowledge and Skills Framework post outline for Specialist Biomedical Scientists.
6. Specialist theoretical knowledge of a wide range of clinical conditions and their effect on analytical parameters.
7. Knowledge of non-clinical factors and their effect on analytical performance and practical experience in analytical processes and their clinical application in laboratory medicine.
8. Training and proven competence in the use of automated analysers, semi-automated analysers and manual techniques including demonstrated competence in sample handling.
9. Knowledge, skills and experience in the application of quality management procedures including quality control, assessment and assurance techniques, audit, risk management and incident reporting.
10. Knowledge, skills and experience in the application of laboratory IT systems. Knowledge of Health and Safety as relevant to working in a healthcare laboratory environment and proven skills and experience in applying this knowledge.

8. SYSTEMS AND EQUIPMENT

Responsible for the standard operating procedures, quality control, maintenance and troubleshooting of faults and the safe use of a wide range of highly specialised equipment including:

- Fully automated analysers for FBC, coagulation, blood transfusion, biochemistry and immunoassay systems including the pre-analytical track.
- Specialist analysers i.e. plasma viscometer, blood gas, point of care analysers, osmometer.
- Microscopes
- Networked laboratory computer system.
- Network test requesting software, patient administration systems i.e. NPex, CHI 24
- Independent software e.g. LOCATE, Q Pulse,
- E-mail, hospital intranet and various word processing packages
- Maintenance, monitoring, disinfection and operation of balances, analysers, centrifuges, automatic pipettes, fridges and freezers, vacuum tube system
- PCs, printers, photocopiers, fax

Responsibility for Records Management

All records created in the course of the business of NHS Tayside are corporate records and are public records under the terms of the Public Records (Scotland) Act 1937. This includes email messages and other electronic records. It is your responsibility to ensure that you keep appropriate records of your work in NHS Tayside and manage those records in keeping with the NHS Tayside Records Management Policy and with any guidance produced by NHS Tayside specific to your employment.

9. PHYSICAL DEMANDS OF THE JOB

Physical Effort

1. Sitting for extended periods of time at laboratory computers for up to 3 hours per session daily.
2. Sitting for extended periods of time in a confined position for microscopic examination of blood films for up to 2 hours per session daily.
3. Manual handling of analyser reagents, stock items and, safe disposal of old samples.
4. Standing in a stooped position whilst taking finger prick blood samples for up to 2 hours per day
5. Standing for up to 3 hours at a time working at the bench or in the Out Patients clinic
6. May require to move large gas cylinders and to change cylinder regulators

Physical Skills

1. Use of microscopes requiring fine tuned manual dexterity.
2. Accurate hand-eye coordination in a variety of scientific techniques e.g. microscopy, pipetting, finger prick techniques, PC/keyboard skills, manual analysis of samples and ELISA.
3. Fine tuning/adjustment and troubleshooting of laboratory equipment.
4. manual manipulation of very small volumes of sample, particularly from neonates
5. good keyboard skills

Mental Demands

1. Frequent periods of sustained concentration when validating results, reporting films, monitoring work processes and data entry for up to 3 hours per session, daily.
2. Sustained periods of attention to detail in correct patient data entry and specimen analysis for up to 3 hours per session daily
3. Decision making on the basis of results and clinical information for validation or referral.
4. Maintaining a constant service in the presence of possible adverse effects, including equipment failure, short staffing.
5. Required to multi-task on the coordination of some tests, prioritise work load and deal with interruptions such as telephone enquiries.
6. Continuous awareness of the risks involved in the handling of specimens and maintaining safe laboratory practice
7. Work patterns can be unpredictable and subject to interruptions.

Emotional Demands

1. Dealing with patients in a sensitive and professional manner who may occasionally be distressed or in some discomfort on a weekly basis.
2. Working under pressure to ensure all clinical specimens are correctly examined within established turnaround times in the knowledge that incorrect and delayed results directly affect the patient and their management.
3. Working in a very stressful environment when the analytical systems or IT systems fail.

Working Conditions

1. Daily exposure to potentially infectious blood samples
2. Daily exposure to a variety of hazardous chemicals with poison, corrosive and flammable risks.
3. Frequent use of Display Screen Equipment.
4. Some situations demand Lone Working with no immediate support from colleagues (e.g. at clinics and out of core hours).

10. DECISIONS AND JUDGEMENTS

The post holder:

1. Operates within all relevant NHS Tayside and Department procedures and own scope of practice.
2. Works within a managed team, without direct supervision and with a considerable degree of autonomy to take professional responsibility for your own workload. Will refer unusual results or complex situations to senior staff if confronted with a situation outwith own scope of practice
3. Prioritises and organises own workload in coordination with other team members and as allocated by senior staff.
4. Uses own judgement to solve problems in day to day work, such as identifying and dealing appropriately with spurious results, troubleshooting of methodological and analyser problems, lost samples or results and dealing with telephone enquiries.
5. Assesses sample/ patient identification integrity for analysis
6. Selects tests on basis of clinical information and makes decisions on additional tests based on initial results.
7. Assesses the fitness for purpose of reagents and test materials in use.
8. Makes decisions on the acceptance/rejection of the quality of own and other qualified practitioners work.
9. Interprets complex diagnostic test results and features on blood films
10. Validates results, makes clinical comments on reports, and refers results to clinicians according to department criteria.
11. Deals with technical queries from trainees, newly qualified staff and support staff.
12. May be required to deputise and make decisions on behalf of senior staff.
13. Contributes own views to the evaluation of new instrumentation or techniques

11. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

1. Maintaining a high level of accuracy, precision and safety in the process of sample handling and testing.
2. Prioritisation of "Fast Track" (urgent) requests, particularly when lone working out of hours.
3. Dealing with difficult patients.
4. Working autonomously, particularly at offsite one stop clinics and when providing the out-of-hours "on call" service.
5. Maintaining up to date knowledge base through CPD.
6. May be required to deputise for more senior members of staff.
7. Aspects of multitasking in a busy Department, compounded by periods of short staffing pressures

12. JOB DESCRIPTION AGREEMENT

A separate job description will need to be signed off by each postholder to whom the job description applies.

Job Holder's Signature:	**Date:**
Head of Department's Signature:	**Date:**