JOB DESCRIPTION

1. JOB IDENTIFICATION

Job Title:	**Senior Clinical Scientist**
Responsible to :	Lead Clinical Scientist
Department(s):	SMART (South-East Mobility and Rehabilitation Technology)
Directorate:	Rehabilitation Service
Operating Division:	Edinburgh Health & Social Care Partnership
Job Reference:	*209126*
No of Job Holders:	Two

2. JOB PURPOSE

Undertakes specialist clinical assessments of patients with complex disabilities within area of expertise. Collects and processes kinematic and kinetic data and generates reports for referring clinicians. Designs, risk assesses and prescribes rehabilitation and assistive technology equipment that is procured from external manufacturers and/or adapted or manufactured in the service's workshops.

Provides specialist advice, opinions, training to own and other professions, and undertakes service development and innovation activities in specialist area. Undertakes specification, procurement and commissioning of diagnostic and assessment equipment.

Supervises trainee clinical scientists and healthcare scientist practitioners in area of expertise.

3. DIMENSIONS

Clinical Activity: Regional services covering NHS Lothian, NHS Fife and NHS Borders with approximately 22,000 wheelchair and seating users (adult and children), 2,500 patient appointments and 4,500 wheelchair issues per year. The Clinical Gait Analysis service undertakes between 150 and 180 assessments of mainly children with cerebral palsy and a further 100 to 150 assessments of adults with lower limb amputations from the National Specialist Prosthetics Service. The Custom Design and Environmental Control services each undertake around 30 to 50 first assessments per year.

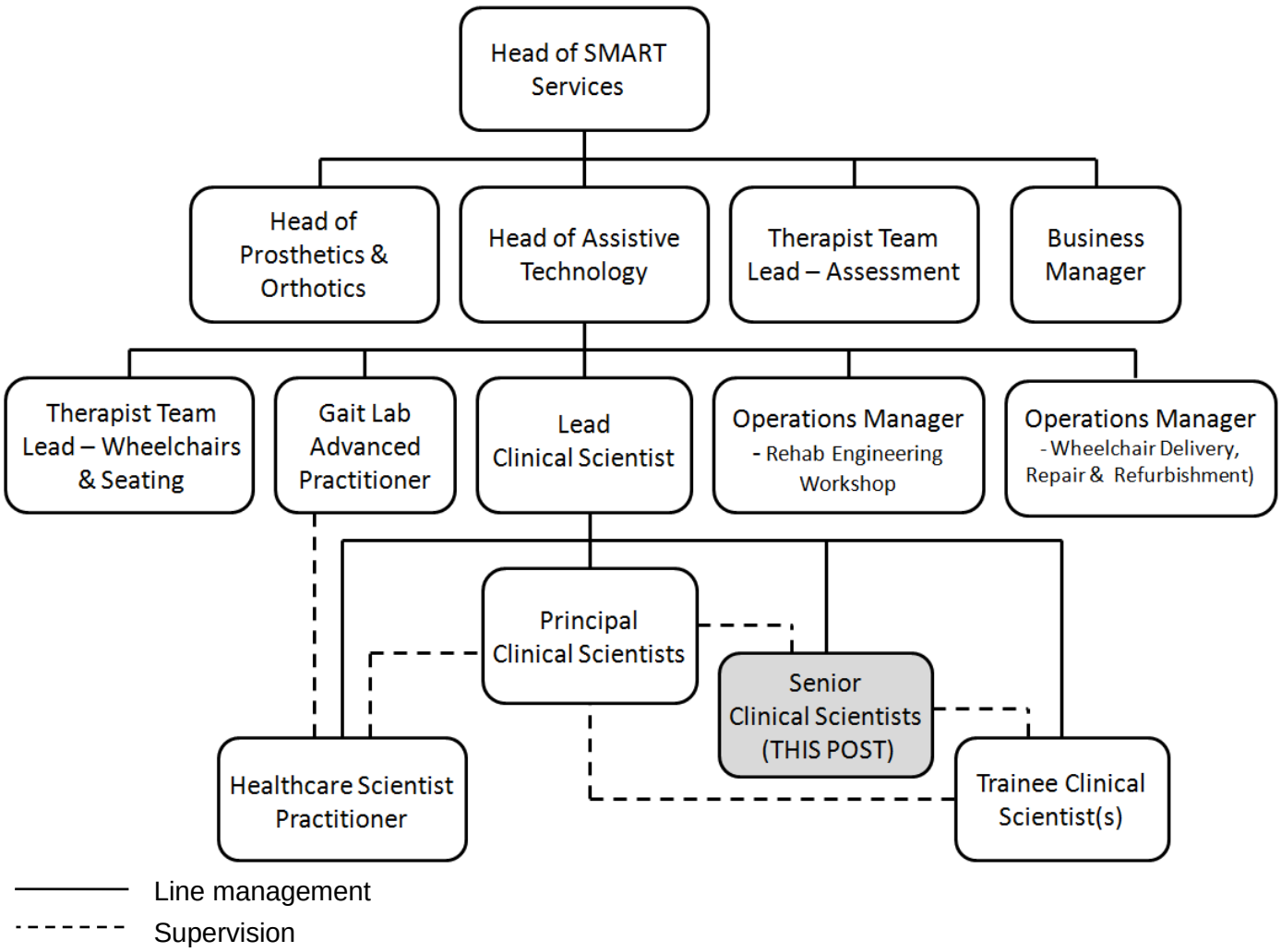
Base: The post holder has a designated base at the SMART Centre, Astley Ainslie Hospital, and will be required to work at a variety of designated community settings including hospitals, care homes, health centres, schools and nurseries, older people centres.

Staffing responsibilities: Supervision of Trainee Clinical Scientists when working in area of expertise.

Financial Responsibilities: Ordering equipment and supplies, stock control.

The post is employed within NHS Lothian and there is a requirement to work flexibly across Lothian to meet service demands.

4. ORGANISATIONAL POSITION



Professional Governance via Head of Assistive Technology to Head of Medical Physics.

5. ROLE OF DEPARTMENT

The Southeast Mobility and Rehabilitation Technology (SMART) Centre is one of 5 centres in Scotland (Edinburgh, Aberdeen, Dundee, Glasgow and Inverness) providing Rehabilitation Technology Services. The SMART Centre services are based in the Astley Ainslie Hospital and cover Lothian, Fife and the Borders (approx. 25% of Scotland's population). It is part of the Rehabilitation Service which is managed in Edinburgh Health and Social Care Partnership.

The SMART Centre provides services for adults and children who have a permanent disability affecting their mobility. These include mobility and postural services (wheelchairs and special seating), prosthetics, orthotics and bioengineering services, electronic assistive technologies, blue badge independent mobility assessment (Edinburgh only), custom design service, a disabled living centre and gait analysis service. The SMART Centre is also one of two centres in Scotland providing a national Specialist Prosthetics Service.

In addition the SMART Centre provides the National Scottish Driving Assessment Service as well as hosting various other clinical services such as, podiatry, spinal injuries clinic, spasticity management clinic and other outpatient clinics.

The SMART Centre operates clinics on a daily basis and as an out patient facility sees approximately 20,000 patients per year. In addition SMART clinicians and technicians attend satellite clinics throughout Lothian, Fife and Borders and also provide home visits for their patients.

The department has its own specialist workshops and stores on site. SMART workshops provide in-house manufacturing and (outsourced) modified medical devices across the range of activities mentioned above.

There are around 100 members of staff across a range of professions within the SMART Centre and in addition there are other specialist consultants/doctors who support clinical activity in the SMART Services.

6. KEY RESULT AREAS

Clinical

1. Lead and participate in clinical assessments independently or as part of a multi-disciplinary team (e.g. with an Occupational Therapist and/or Physiotherapist).
2. Organise clinical events (such as assessments, reviews, fittings and deliveries) either within the department, as domiciliary visits or at peripheral clinics to ensure that the patient and members of their care team are involved in the clinical process.
3. Determine a patient's functional capabilities and needs to provide the most appropriate solution using specialist instrumentation and qualitative measures.
4. Analyse, research and plan options to meet a patient's individual needs that have been identified through the assessment process. This includes designing novel devices or specifying modification and configuration of existing technology.
5. Work collaboratively with medical consultants and multidisciplinary teams to maintain and develop scope of practice/ knowledge and develop pathways to ensure delivery of a co-ordinated multidisciplinary service for individual patients and the service as a whole.
6. Maintain timely and accurate patient records to reflect care provided and to be professionally and legally accountable.
7. Present patient reports at regular meetings with paediatric consultants (orthopaedic and neurological) with other team members.
8. Support NHS Lothian's values of quality, teamwork, care and compassion, dignity and respect, and openness, honesty and responsibility through the application of appropriate behaviours and attitudes.

Technical

9. Prepare the Anderson Gait Laboratory assessment area and other equipment prior to a patient assessment, including all necessary calibration checks.
10. Operate the Anderson Gait Laboratory's motion analysis equipment and other assistive technology assessment equipment (e.g. pressure mapping kit) during patient appointments.
11. Process movement, image and other data (e.g. 3D image scanning data used for producing custom contoured seats) to a high standard using proprietary and commercial software.
12. Ensure that all equipment defects, accidents and complaints are reported and appropriate corrective actions are undertaken.
13. Maintain database of reference clinical gait data and add to the reference data as required.
14. Maintain and contribute to the archive of technical drawings and records, audit and research findings.
15. Participate in the procurement of replacement and new equipment including specifying requirements and commissioning and installing.

Service Development & Quality Management

16. Participate in departmental developments and redesign work within specialist area including influencing clinical change and management to enhance the patient journey.
17. Contribute to the development of local equipment management procedures and protocols ensuring compliance with national legislation and NHS Lothian policies.
18. Undertake adverse incident investigations and reporting (including medical device incidents involving patients) and manage/implement safety action notices.
19. Assist with the promotion of a culture of continuous improvement within the service, identifying opportunities for service development.
20. Participate in the external and internal audits for the Anderson Gait Laboratory's CMAS accreditation.

Practice Development and Facilitated Learning

21. In an advisory and teaching capacity to the multidisciplinary teams in the use of specialist technical equipment, demonstrate advanced technical knowledge and skills and improve understanding, and devise training and revalidation programmes.
22. Supervise and provide training for trainee (pre-registration) clinical scientists when on placement within area of expertise.

Research and Development

23. Lead and Contribute to research and development and clinical audit projects within the service.
24. Keep up to date with new research findings, professional best practice and evaluate new technology and, when necessary participate in their clinical implementation through the application of advanced knowledge and skills.
25. Develop and undertake regular audits which promote and facilitate service improvement.

7a. EQUIPMENT AND MACHINERY

Advanced user of a wide range of specialist equipment including medical devices, diagnostic equipment and IT software and hardware.

Ensure that equipment in use is clean and safe, and regularly monitored for safety as per professional and organisational standards of practice.

Must ensure that all equipment that they are responsible for is safe to use and performs to the required levels of accuracy and reliability.

The following are examples of equipment which may be used when undertaking the role:

IT Equipment: Personal Computer, phones, mobile phone, telehealth units, teleconference, videoconference.

Assessment Equipment: VICON 3D motion analysis equipment, force plates, pressuring mapping kit, 3D image scanners, EMG, specialist control assessment powered wheelchairs.

Patient moving and handling equipment, e.g. hoists and slings used routinely in clinic.

Hand tools to make precise adjustments to equipment and for maintenance and calibration purposes.

Note: New equipment may be introduced as the service and technology develops, however, training will be provided.

7b. SYSTEMS

The following are examples of systems which may be used when undertaking the role:

Department shared network drives/intranet site/equipment management and quality management software.

E-mail, intranet and internet for staff communication and knowledge update (technical and clinical).

Microsoft Office to write reports, presentations and for formatting and populating spreadsheets and databases to produce statistics and reports as required.

Turas for appraisal and PDP recording.

Datix for incident recording and review (including adverse medical device incidents).

ReTIS/TRAK databases and software for maintaining patient records, clinical data recording, analysis, stock management and budgetary monitoring.

Specialist software specific to each assessment and diagnostic equipment used.

Note: New systems may be introduced as the service and technology develops, however, training will be provided.

8. ASSIGNMENT AND REVIEW OF WORK

Work independently on a day-to-day basis, accountable for own case load and professional actions, working within codes of practices and professional guidelines.

Assessment and review of work will take place on a regular basis and the post holder will take part in the NHSL annual Performance Management process.

Work load is generated from clinical referrals and by members of the clinical teams, the Gait Lab Advanced Practitioner, Lead and Principal Clinical Scientists and Head of Assistive Technology, and the scheduled quality audit and equipment maintenance cycles.

Will have a Professional Personal Development Plan, which will be reviewed annually by the responsible line manager.

9. DECISIONS AND JUDGEMENTS

Decisions and judgements relating to specialised and complex diagnoses within specialist field, including application of advanced clinical, scientific and technical reasoning skills guided by broad occupational and departmental guidelines.

Troubleshooting and problem solving in clinical area including scientific and technical related problems.

Contribute to multidisciplinary team case conferences whereby specialist technical and scientific knowledge may impact directly on treatment planning, particularly within the Clinical Gait Analysis service, the provision of assistive technology.

Contribute to wider service decision making processes, e.g. developments and quality control and assurance processes, development of guidelines.

Determine how to effectively integrate best available evidence into scientific and technical decision making to ensure effective clinical practice.

10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

Maintaining up to date scientific and technical knowledge and practical skills across the range of specialist assessment equipment used in a variety of services within assistive technology.

Dealing with technical problems that arise during patient appointments that require immediate resolution to avoid termination or cancellation of appointments.

Participating in MDT meetings/case conferences/training events, communication highly technical information that can be readily understood by those without a technical or scientific background.

Coping with concurrent involvement in more than one clinical service, balancing multiple tasks and projects that require both management and analytical input for decisions, some with short and conflicting deadlines and more than one internal customer.

11. COMMUNICATIONS AND RELATIONSHIPS

Patients

Provide and receive information regarding assessment, diagnosis, prognosis and treatment to encourage acceptance and compliance.

Patients will have a range of medical and psychosocial problems that require motivational and persuasive skills to facilitate rehabilitation both in an individual and group setting.

Relatives/Carers.

Multidisciplinary team within the speciality

Impart information relating to patient assessment findings.

Contribute to the training of clinical staff in the use of equipment.

Participate in weekly operational and monthly planning meetings services as necessary.

Participate in Quality Management meetings.

Other Agencies (Local Authority, voluntary sector, etc)

Identify and establish contact with appropriate external experts and support networks.

Liaise with equipment suppliers and participate in procurement and contract processes.

12. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB

Physical

Skills to perform a wide range of manual scientific and technical tasks.
Use of specialist assessment and diagnostic equipment.
Standard keyboard skills – required for daily use of IT equipment.
Regular requirement for carrying equipment, pushing wheelchairs, arranging seating.

Mental

High level of concentration required in order to make technical decisions prior to, during and post clinical assessment and to undertake quality audits and calibration of equipment.
Constant need to be flexible to the demands of the environment including unpredictable work patterns, deadlines and interruptions.

Meeting the training needs of pre-registration clinical scientists and medical students and others that may not have the same level of technical understanding.

Emotional

Occasionally exposed to distressed/anxious/worried and emotionally demanding patients/relatives.
Assisting with the management of patients with challenging behaviours and a range of complex difficulties. Patients may include vulnerable adults and young people under the age of 18 therefore need a working knowledge of relevant procedures including Child Protection, Protection of Vulnerable Adults and other legal frameworks. This can include receiving and acting upon confidential information relating to issues including physical/emotional/sexual abuse and neglect.
Providing emotional support to peers.

Environmental

Potential exposure to unpleasant conditions related to patient contact as they arise.
Potential exposure to unsuitable and/or unpleasant working conditions including cramped areas not designed for clinical use, unclean homes etc.
Requirement to travel, e.g. to health centres, domiciliary visits and meetings.
Potential exposure to unsafe situations, e.g. aggressive behaviour and verbal abuse from patients and relatives, lone working, etc.

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

Honours degree in a science or engineering subject appropriate to Rehabilitation Engineering.

Masters level or higher postgraduate degree in subject appropriate to Rehabilitation Engineering.

Registered as a Clinical Scientist with the Health and Care Professions Council.

Specialist scientific and technical skills obtained through relevant courses and experience.

Problem solving, decision making and lateral thinking skills.

Excellent team-working and communication skills.

Clinical and technical risk analysis to ensure patient safety.

Knowledge of medical devices used in assistive technology and legislation, standards and safety regulations pertaining to their management and use.

Mechanical and electrical engineering skills including engineering design, Computer Aided Design, manufacturing processes, risk analysis and fault diagnosis.

Competence with hand tools for fine adjustment, modifying and commissioning equipment.

Computer skills (including programming and database construction).

14. JOB DESCRIPTION AGREEMENT

A separate job description will need to be signed off by each job holder to whom the job description applies. Job Holder's Signature:	Date:
Head of Department Signature:	Date: