

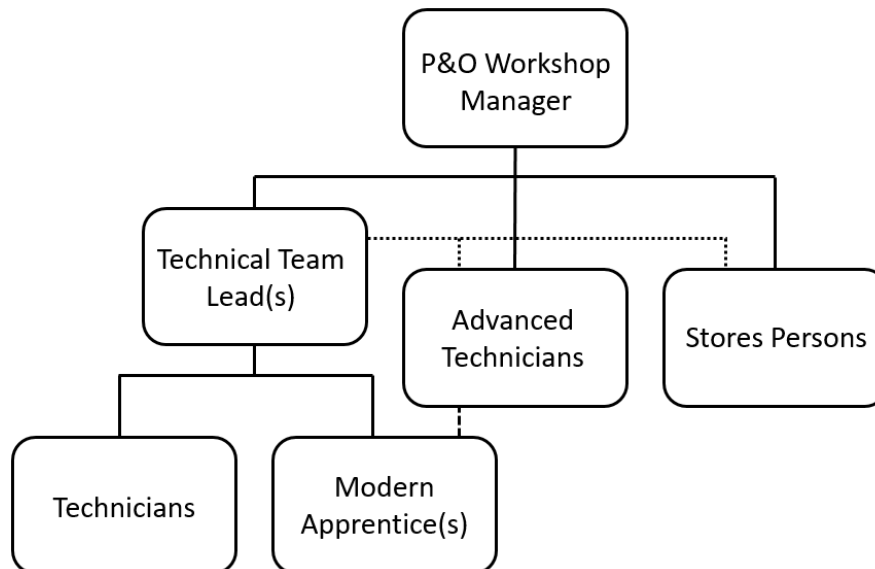
JOB DESCRIPTION

1. JOB IDENTIFICATION	
Job Title:	Prosthetics & Orthotics Advanced Technician
Responsible to:	P&O Workshop Manager
Department(s):	Southeast Mobility And Rehabilitation Technology (SMART) Services
Directorate:	Rehabilitation Services – Hospital & Hosted Services
Operating Division:	Edinburgh Health & Social Care Partnership
Job Reference:	L-EHSCP-SMART-P&OAT
No of Job Holders:	4
Last Update:	19/12/24
2. JOB PURPOSE	
<p>To manufacture, repair and maintain custom-made and modified medical devices to prescription within the SMART quality management system, contributing to the design of custom-made medical devices, attend and participate in appointments with patients (repairs and adjustments), provide technical leadership within one of the specialist areas (Prosthetics or Orthotics) and provide technical advice to clinical staff and other technicians. To train and mentor other technicians including modern apprentices.</p>	
3. DIMENSIONS	
<p>The post holder is one of a team of fully trained and competent technicians; and part of a multi-disciplinary team including clinical and support staff.</p> <p>Due to the advanced knowledge and manufacturing skills required to undertake this role, the post holder would be expected to be a specialist in either Prosthetics or Orthotics.</p> <p><u>Staffing</u> To supervise and provide technical training and mentoring to trainee/apprentice technicians, including setting and signing off technical competences, and support other technical staff with their allocated work, delegating jobs as necessary.</p> <p><u>Financial</u> Works in conjunction with the P&O Workshop Manager and Technical Team Lead to ensure that appropriate components are held in stock and at the appropriate levels.</p>	

To utilise department supplies cost-effectively to ensure maximum value from materials are provided.

The post holder is employed within NHS Lothian and there may be a requirement to work flexibly across Lothian to meet service demands, for example, at the RIE.

4. ORGANISATIONAL POSITION



Dotted line = Work delegation/allocation
Dashed line = Supervision/mentoring

5. ROLE OF DEPARTMENT

The SMART Centre is one of 5 centres in Scotland (Edinburgh, Aberdeen, Dundee, Glasgow and Inverness) providing Rehabilitation Technology Services. The SMART Centre services are mainly based in the Astley Ainslie Hospital and cover Lothian, Fife and the Borders (approx. 25% of Scotland's population) with additional facilities for WDRRS located in the Community Equipment Service at Peffermill Industrial Estate. SMART Services are part of the Rehabilitation Directorate which is hosted within 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, Prosthetics 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 outpatient facility sees in excess of 20,000 service users per year. In addition SMART clinicians and technicians attend satellite clinics throughout Lothian, Fife and Borders and also provide home visits for their service users.

The department has its own specialist workshops and stores on site. The 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

1. Responsible for carrying out more complex repairs and modifications on medical devices such as prostheses and orthoses (e.g. diagnosing if knee joint is correctly aligned).
2. To maintain equipment and diagnose complex faults based on a direct discussion with patient or a description of the problem as provided by the clinician. Diagnosis of faults and rectification will be carried out by the post holder. Occasionally, patients may present without a clinical appointment for repairs which requires the technicians to work flexibly to ensure the device is repaired whilst the patient waits.
3. To provide technical expertise on prostheses and orthoses and work with AHP Clinicians, Clinical Scientists, Rehabilitation Engineers and others to achieve better outcomes for patients which may on occasion require the development and design of non-standard one off devices.
4. Provides specialist prosthetic or orthotic technical advice to clinicians and patients, acting within technical, manufacturers and regulatory guidelines at all times.
5. Following prescription by the clinician, plan and carry out the manufacturing process. This consists of a variety of processes such as the forming of plastics, normal metal working, working with leather and fabric type material.
6. Responsible for updating the prescription with the quality assurance checks and completion signature.
7. To manufacture new bespoke medical devices by assembling components using manufacturer's technical information in combination with custom contoured interfaces (e.g. prosthetic socket).
8. To ensure compliance with, and implementation of SMART Services and NHS Lothian policies and procedures such as Quality Control and Health & Safety (e.g. reading and signing off documents within the Q-Pulse document management database).
9. Responsible for writing, contributing to and leading on the development, implementation and maintenance of technical procedures and protocols for the department (e.g. manufacturing process for laminating prosthetic sockets), and keeping up to date with new developments, to ensure the delivery of the highest level of patient care at all times.
10. Train and mentor other technicians (including trainee/apprentice technicians), staff and placement students including developing and signing off technical competences and ensuring progress against agreed training programme. This may also include being shadowed by visitors to the department.

11. Responsible for managing own workload to ensure clinical targets and milestones are met.
12. Responsible for the manufacture and maintenance of prostheses with precision electronic devices fitted. E.g. Myo-electric prosthesis and the diagnosing and rectifying of faults in the electronic systems.
13. To undertake general workshop duties e.g. check machinery is performing efficiently and safely and maintenance of general workshop order contributing to overall safety and operation of the workshop.
14. Participate in quality improvement, R&D and innovation to investigate and develop solutions for specific projects, or adopting new techniques developed in-house or externally, or to improve the efficiency and effectiveness of the workshop (including processes and capacity planning). This may include gathering data and information from technical sources and reviewing results.
15. Attend and participate in patient appointments to assess and address technical issues including arranging and undertaking repairs, maintenance, servicing, investigation of faults or adverse incidents, and instructing users (patients and carers) how to safely use and maintain supplied equipment. Such contact will be unsupervised, as part of a clinic team, or when supervising other technicians or trainees/apprentices.
16. Write and contribute to the development, implementation and maintenance of training technical competences for trainee technicians, technicians, modern apprentices and clinicians, and instruct, observe and sign-off against these. This includes both manufacture of devices and machinery.
17. Participate in recruitment (e.g. setting and assessing practical tests and being on interview panels) for appointments within the P&O Workshop.
18. To ensure compliance with the department's decontamination procedure for cleaning used medical devices at all times.
19. Assist with adverse incident investigation in line with the NHS Lothian requirements and ensure compliance with the implementation of MHRA and other safety action notices.

7a. EQUIPMENT AND MACHINERY

The post holder must be conversant in the use of equipment within the technical environment that is used to manufacture and adjust orthoses and to document stages of work. These include the following:

Workshop machine equipment (frequent/daily use)

Sanders
 Industrial routers
 Pillar Drill
 Band saw
 Spray booth
 Sewing machines

Workshop machine equipment (infrequent use)

Sand blaster

Lathe
Circular saw
Milling machine
Mig /Tig welding set
Acetylene welding set

Electric Hand Tools (frequent/daily use)

Jigsaw
Electric drills
Electrical cast cutters
Heat gun

Manual Hand tools (frequent/daily use)

Torque Wrenches
Knives for trimming and leatherwork (assorted)
Allen Keys
Spanners
Screwdrivers
Hammers
Hacksaws
Measuring tapes/rules
Pneumatic hammer
Bending irons (Assorted)

Manual Hand tools (infrequent/daily use)

Plough gauge
Blocking Pliers
Planishing roller
Planishing hammers (Assorted)

IT equipment (frequent/daily use)

Telephone
PC

Other (frequent/daily use)

Air extraction equipment
Transfer jig
High temperature ovens
Vacuum equipment
Compressed air
Health & safety equipment

7b. SYSTEMS

Paper Based Systems

Updating written patient technical records by signing & dating in the appropriate sections of the patient recording systems, indicating any further information as initiated by the departments systems.
Update the technical workflow system when work is complete to allow jobs to progress to the next stage.

Electronic Systems

Updating patient electronic records following completion of repair/maintenance clinics, etc., e.g. ReTIS, TRAK.

Quality System

Responsible for implementing and adhering to the SMART quality management system.

The post holder is responsible for updating the workshop systems with the quality assurance checks and completion signature including training records of other staff.

8. ASSIGNMENT AND REVIEW OF WORK

Work is assigned based on the needs of the service and clinical priorities in several ways:

The post holder will self-assign.

The P&O Workshop Manager and/or Technical Team Lead will allocate.

Work will be generated from direct patient contact or via clinicians during appointments.

The post holder, on a day-to-day basis, will decide how to undertake the work allocated based on their technical skills and knowledge of the work required within the relevant timeframe expected.

The post holder is responsible to the P&O Workshop Manager for advanced technical guidance, work review and appraisal of performance. This will take the form of regular meetings at which the meeting notes will be recorded.

9. DECISIONS AND JUDGEMENTS

The post holder has the discretion to make technical decisions regarding manufacturing and repair e.g. how a device is manufactured.

Diagnosis of complex faults in prostheses and orthoses when can often be difficult to determine the cause.

Decisions regarding the effective use of materials and components during repairs and manufacture.

Working unsupervised make decisions to establish the correct manufacture and repair process and to evaluate the device manufactured or repaired to ensure it meets the prescription and is of an appropriate quality. However, will make the P&O Workshop Manager and/or Technical Team Lead and/or Clinical staff aware of any potential difficulties/delays that cannot be resolved.

When necessary, the post holder will determine required remedial actions and/or spare parts required.

The post holder will plan and organise their allocated daily workload to suit the needs of the service, applying skills, judgement, and experience to minimise and control the hazards to patients, staff and visitors which will include delegating work to other members of the team on an ad-hoc basis.

To Implement safe control of hazards, identify and resolve cause of hazardous situations, and during such circumstances will co-ordinate with other staff to ensure impact on patient care is minimised e.g. fault in machinery.

The post holder will anticipate problems, solve them and implement preventive actions to prevent the problem recurring for example implementing recommendations following adverse event investigations either within the service or from similar services.

10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

Keeping up to date with constantly evolving technology and all legislation, policies and procedures and ensuring these are complied with in the execution of the job.

Concentration required during investigation of complex faults problem solving/and prioritising tasks in stressful situations whilst working under pressure from patients, their carers and other staff where the problem impacts on the continuity of the service.

Examining and inspecting faults in complex manufacturing issues out-with those normally encountered in Orthotics and Prosthetics structures e.g. the contouring of structural side members to an abnormal sized or shaped body segment or increasing the strength of a device to resist fatigue or yield failure, establishes and recommends how faults may be repaired and discusses with other staff to establish if this is financially viable.

Ensuring that technical realisation of equipment is correct and compatible with clinical requirements.

Training, supervising and mentoring other members of staff whilst at the same time balancing this with service pressures.

11. COMMUNICATIONS AND RELATIONSHIPS

Required to communicate complex and sensitive information with clinical staff, patients and their families, and highly technical information with own team and a range of staff from other services, manufacturers, suppliers and Facilities, and maintain effective working relationships with all these.

Internal:

P&O Workshop Manager and Technical Team Leads regarding allocation of work and training and discussion of complex technical issues.

SMART stores staff on occasions regarding stock issues.

Clinical staff to discuss work specification and potential manufacturing issues including complex technical issues, and establish best outcomes for patients.

Department's administrative staff on occasion to arrange patient appointments for repairs and adjustments.

Other relevant departments within the services and NHS Lothian e.g. Rehabilitation Engineers, Estates Supplies, Training Department, Fire Officer, Human Resources.

Undergraduate students in training.

Trainee technicians/modern apprentices to provide supervision of training, training, mentoring, technical advice and support.

SMART management staff, peers to support a wider team approach to resolving complex service issues to minimise adverse impact on clinical service provision.

External:

Patients, and their relatives and carers, when arranging and undertaking repairs and adjustments.

Commercial companies regarding consumable items, workshop tools and manufacturing techniques.

Occasional contact with other Prosthetic & Orthotics manufacturing workshops to exchange information regarding manufacturing issues.

External agencies to support a wider team approach to resolving complex service issues to minimise adverse impact on clinical service provision.

12. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB**Physical Skills:**

Highly developed level of manual dexterity, hand and eye coordination (e.g. when operating machinery) and the ability to visualise the finished article (assembling Orthosis and Prosthesis).

Mechanical skills and manual dexterity for assembly and repair of Orthoses & Prosthesis. An understanding of and ability to use the machinery and equipment required to manufacture and repair Orthoses and Prosthesis.

Physical Demands:

Regularly lifting and holding difficult, heavy and awkward shapes during various manufacturing processes.

Manual handling and positioning of solid plaster of paris moulds, prostheses and materials to enable the appropriate procedure to then be carried out, for example laminating a socket over the mould or repairing a prosthesis.

Occasional heavy effort for short periods e.g. plaster cast of patient's torso.

Withdrawing equipment from stores e.g. sheets of plastic up to around 2 m x 1 m.

Lifting and storing of workshop supplies.

Mental:

Retention and communication of knowledge and information.

Concentration required when diagnosing faults and planning and carrying out the manufacturing process Concentration and focus when operating potentially dangerous equipment e.g. high speed cutting and grinding machinery or using hazardous substances.

Emotional:

Daily exposure to patients who may be in an emotional state of mind.

Dealing with the emotional effects of working with people with limb loss/disability.

Environmental:

Potentially hazardous working environment within plaster room and workshop areas. e.g. exposure to chemical and preformed foams, glue, solvents, plaster of Paris dust, resins,

carbon fibre, glass fibre fragments noise pollution from industrial machinery and extraction units.

Daily exposure to body fluids such as urine, faeces or sweat from contaminated prostheses or appliances.

Regular working in unpleasant conditions i.e. noise, and high ambient temperatures.

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

Served a Recognised Craft Apprenticeship/SVQ Level 3 Modern Apprenticeship or Higher National Certificate, National Progression Awards/Professional Development Awards (SCQF7) in an engineering subject. Or a Prosthetics and Orthotics Technician Modern Apprenticeship (4 year) at the same level, or equivalent qualification. Supplemented by significant additional specialist training and experience at SCCQF level 8 e.g. equivalent to HND level.

PLUS:

Experience in manufacturing, repairing and maintaining medical devices underpinned by advanced theoretical knowledge of rehabilitation technology (including prosthetics and/or orthotics).

Experience in mentoring or training of other technicians including trainee/apprentice technicians, staff and placement students.

Completion of in-house practical training and log-book on specific equipment, tools and manufacturing requirements, including assessment by work place assessors to sign off competencies.

Experience working within protocols and to the prescriptions provided by the Prosthetists and Orthotists.

Experience and skill in problem solving techniques to adjust prosthesis and orthoses to meet the needs of individual patients.

Experience of working and communicating within a team, in order to facilitate the input of prosthetic and orthotic technical knowledge to the patient care.

Evidence of continuous personal development relevant to the role.

Knowledge, skill and experience in problem solving.

Communication skills.

Experience of developing and delivering training and making judgements on levels of technical competences of trainees and other members of staff.

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: