

Unit 114: Rehabilitation Engineering in Practice

Level:	4
Unit type:	Optional (Equipment Management and Clinical Engineering)
Credit value:	15
Guided learning hours:	120

Unit summary

In this unit, you will acquire the knowledge and skills to work as a Healthcare Science Associate within a clinical engineering department working in rehabilitation engineering. You will also build on your professional practice as you build your competence in the workplace. You will also be expected to demonstrate patient-centred, safe, high-quality care and use critical reflection to review and improve your performance in the workplace and develop skills to promote continuous professional development. All learners in rehabilitation engineering will be expected to work with patients during their training.

All learners must complete all generic health and safety and mandatory training contextualised to own area of practice.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

All procedures must be undertaken in accordance with Standard Operating Procedures (SOPs) and legislation.

AC1.2 includes:

- regulatory frameworks
- legislation
- policy
- quality management systems and good practice.

AC1.5 includes:

- the incident reporting process
- local and national regulatory incident identification and escalation process

- the process of equipment-related incident reporting to MHRA and equipment manufacturers
- the process of equipment-related warning notice distribution.

Learning outcome 5

In some instances, the patient may be present when a wheelchair is repaired. If a patient is present, learners must greet the patient and introduce themselves and their role, and communicate effectively with the patient.

Wheelchairs may be simple, electric or power assisted.

Learning outcome 6

At this level, learners will be given a clear specification for the equipment from the rehabilitation engineer or other registered healthcare professional. The focus for this learning outcome will be for learners to become familiar with the practical skills of preparing the aid for use by the patient. The aids for daily living are likely to be simpler aids at the level of a Healthcare Science Associate.

In some instances, the patient may be present when an aid for daily living is issued. If a patient is present, learners must greet the patient and introduce themselves and their role, and communicate effectively with the patient.

AC6.7 includes:

- assessment procedures
- range of rehabilitation and aids for daily living equipment
- user's environment prior to the implementation of new aids.

Learning outcome 9 spans the maintenance, calibration and quality-assurance procedures on the equipment used to maintain simple wheelchairs and assess gait, and maintain assistive technology devices.

AC9.4 includes:

- equipment used to:
 - maintain simple wheelchairs
 - assess gait
 - maintain assistive technology devices.

AC9.7 includes:

- procedures to be followed in the event of identifying an issue of quality assurance

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet **in own area of work and in accordance with Standard Operating Procedures (SOPs)** to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand safe working practices in rehabilitation engineering	1.1	Explain the health and safety policies and regulatory framework in rehabilitation engineering			
		1.2	Explain the quality-assurance processes underpinning safety and good practice in rehabilitation engineering			
		1.3	Identify appropriate sources of information and guidance on health and safety issues			
		1.4	Explain personal responsibilities regarding processes and procedures within own area of practice			
		1.5	Explain incident report procedures in rehabilitation engineering			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Be able to communicate effectively in the rehabilitation engineering environment	2.1	Communicate scientific and engineering information at a level appropriate to the audience, including the public			
		2.2	Adapt communication to meet varying needs and overcoming barriers to understanding			
		2.3	Explain the importance of effective communication skills within the healthcare environment			
		2.4	Treat every patient/carer with compassion, dignity and respect, maintaining the highest standards of person-centred care			
3	Understand the work of the rehabilitation engineering department	3.1	Explain the role of rehabilitation engineering in healthcare and healthcare science			
		3.2	Explain the range of procedures undertaken in rehabilitation engineering within own area of practice			
		3.3	Explain the phases in the equipment life cycle and how it is used with rehabilitation engineering			
		3.4	Explain the potential impact of rehabilitation engineering on the patient, patient care, staff healthcare services			
		3.5	Explain how the principles of patient-centred care are embedded in own area of practice			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Be able to prepare the environment, equipment and patient for procedures	4.1	Explain the requirements for the procedure			
		4.2	Prepare the equipment for rehabilitation procedures			
		4.3	Calibrate the equipment used in the procedure			
		4.4	Prepare the environment for rehabilitation procedures			
		4.5	Discuss the potential special needs of patients referred for procedures and the relevant action required			
		4.6	Prepare the patient for rehabilitation procedures			
		4.7	Take remedial action to rectify common faults			
		4.8	Explain the impact of incorrect positioning or non-cooperation on the patient, the procedure and the outcome			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Be able to maintain a wheelchair	5.1	Evaluate the Standard Operating Procedure for maintaining a simple wheelchair			
		5.2	Carry out maintenance of a simple wheelchair			
		5.3	Communicate the progress of repairs to users			
		5.4	Advise on contingency arrangements, reasons for fault, action taken and how to avoid reoccurrence			
		5.5	Discuss the potential impact of equipment repairs on patients			
		5.6	Explain the requirements for record keeping			
		5.7	Complete all records accurately, storing them in the correct location for future use			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Be able to provide appropriate aids for daily living for routine referrals to rehabilitation engineering services	6.1	Explain the range of aids for daily living technology devices used to support patients referred to rehabilitation engineering			
		6.2	Select aid/s for daily living for routine referrals			
		6.3	Seek advice as required, following local procedures			
		6.4	Select appropriate test equipment			
		6.5	Perform electrical safety test procedures, undertaking functional tests or checks as required			
		6.6	Perform risk analysis, accounting for the patient's needs, the aids for daily living available and the environment, and document as appropriate			
		6.7	Explain the process to confirm the: <ul style="list-style-type: none"> • reason for referral • clinical need • objectives of assessment or prescription 			
		6.8	Explain the process to confirm the nature, type and extent of measurements required to complete the assessment or the equipment to meet the prescription			
		6.9	Explain local risk assessment methodology			
		6.10	Discuss the recommended aids for daily living with the patient/carer/staff			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		6.11 Demonstrate appropriate aids for daily living, ensuring the patient is able to use the device appropriately			
		6.12 Evaluate the effective operation of the aid/s within the user environment (actual or simulated)			
		6.13 Document maintenance periods and requirements for equipment management			
		6.14 Establish and agree responsibility for equipment issued			
		6.15 Instruct the user and carers in the safe use, transport and general maintenance of the aid/s, and confirm understanding			
		6.16 Provide a full report of the aid/s issued in order to facilitate traceability			
		6.17 Carry out the process and outcomes of commissioning, including user training, ensuring that arrangements for further action are implemented			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
7	Be able to assist in the routine assessment of gait	7.1	Explain the clinical indications and contraindications for gait analysis			
		7.2	Discuss the importance of informed consent, record keeping, data protection, confidentiality in accordance with trust procedures and governance process			
		7.3	Discuss how good practice with respect to professionalism and patient-centred care has a positive impact on patient care			
		7.4	Greet the patient and introduce yourself and your role			
		7.5	Assist in the routine assessment of gait			
8	Be able to assist in the assessment of a patient requiring assistive technology	8.1	Discuss the potential benefits of assistive technology to the patient			
		8.2	Explain the range of simple assistive technology available to support patients/carers/clinical staff/healthcare organisations			
		8.3	Greet the patient and introduce yourself and your role			
		8.4	Assist in the assessment of a patient requiring assistive technology			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
9	Be able to perform routine procedures in rehabilitation engineering	9.1	Justify current safety standards, including safety testing and routine maintenance			
		9.2	Explain and justify the requirements for accurate completion of equipment maintenance records			
		9.3	Perform routine maintenance on the equipment used in rehabilitation engineering			
		9.4	Complete equipment maintenance records			
		9.5	Perform the calibration of equipment used within rehabilitation engineering in own department			
		9.6	Define the terms quality control, quality assurance and quality management			
		9.7	Perform quality-assurance procedures on equipment used within rehabilitation engineering in own department			
		9.8	Discuss the purpose of quality assurance in rehabilitation engineering			
		9.9	Evaluate the requirements for quality-assured procedures in rehabilitation engineering			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
10	Understand how to complete an incident report in accordance with local procedures in rehabilitation engineering	10.1	Explain the incident reporting process			
		10.2	Explain the local and national regulatory incident identification and escalation process			
		10.3	Explain the process of equipment-related incident reporting to MHRA and equipment manufacturers			
		10.4	Explain the process of equipment-related warning notice distribution			
		10.5	Complete an incident report under supervision in accordance with local procedures			
11	Be able to assist rehabilitation engineers in the provision of specialist medical device modifications and adaptations	11.1	Explain the local processes and procedures associated with device modifications and adaptations			
		11.2	Assist in the production, testing and introduction into service of devices modified for patient care			
		11.3	Complete elements of the documentation that support the records necessary for such modifications or adaptations to medical devices			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)