



Australian Government

HLTOTH005 Modify orthopaedic devices

Release: 1

HLTOTH005 Modify orthopaedic devices

Modification History

No equivalent unit.

Application

This unit of competency describes the performance outcomes, skills and knowledge required to modify orthopaedic devices. Orthopaedic devices include braces and splints that are either prefabricated or customised.

The unit applies to orthopaedic technologists who work in healthcare settings, including operating theatres, emergency departments, wards and out of care client departments.

Work is performed at the request of, and in consultation with, medical staff. Simple modifications, which do not alter the intent of the orthopaedic device, may be performed at the technician's discretion. Some discretion and judgement are required, and individuals take responsibility for the quality of their outputs.

All activities are carried out in accordance with organisational policies, procedures and infection control guidelines.

The skills in this unit must be applied in accordance with Commonwealth and State or Territory legislation, Australian standards and industry codes of practice.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Orthopaedic Technology

Unit Sector

Health

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Prepare to modify orthopaedic devices.
 - 1.1. Receive and interpret orthopaedic device modification instructions in referral documentation and seek clarification if required.
 - 1.2. Identify safety hazards and risks, assess risks and implement risk control strategies to minimise risks to client and self.
 - 1.3. Perform hand hygiene and use personal protective equipment (PPE) according to work health and safety and infection control procedures.
 - 1.4. Source information through delegated subjective and clinical assessments to determine client condition, individual needs, to identify precautions and potential complications.
 - 1.5. Provide relevant and timely feedback including liaising with medical practitioner for conditions requiring immediate review.
 - 1.6. Liaise with healthcare team to discuss subjective and objective findings and confirm instructions.
 - 1.7. Explain orthopaedic device modification procedure to client, provide opportunities to ask questions and discuss areas of concern.
 - 1.8. Obtain client consent to proceed with orthopaedic device modification.
2. Apply orthopaedic device modification techniques.
 - 2.1. Assemble equipment and inspect to confirm it is clean and in working order in accordance with manufacturer specifications.
 - 2.2. Communicate with clients in a caring and respectful manner.
 - 2.3. Monitor client to identify and manage client anxiety.
 - 2.4. Position client for correct anatomical positioning of limb and confirm client comfort and safety.
 - 2.5. Refresh and maintain clean skin.
 - 2.6. Select and use equipment and orthopaedic device modification techniques to modify orthopaedic device according to instructions.
 - 2.7. Adjust orthopaedic device to achieve correct moulding and alignment to maintain soft tissue and fracture position according to instructions.
 - 2.8. Check and confirm fit and function of orthopaedic device to meet instructions and individual client needs.

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| 3. Undertake post modification procedures. | <ul style="list-style-type: none">3.1. Check neurovascular status of limb to confirm within normal limits.3.2. Fit prescribed aid as required for client condition and instruct in use, including donning and doffing the brace.3.3. Review client for safe and correct use of the aid.3.4. Provide written and verbal advice for care of orthopaedic devices according to referral from the healthcare team and discuss client concerns.3.5. Identify and report self-management concerns to healthcare team and arrange support within limitations of job role.3.6. Complete clinical records according to documentation procedures. |
| 4. Clean working environment. | <ul style="list-style-type: none">4.1. Remove PPE and perform hand hygiene according to work health and safety and infection control procedures.4.2. Dispose of waste according to waste management procedures.4.3. Clean, sanitise and store equipment according to manufacturer specifications.4.4. Clean work surfaces according to infection control procedures. |

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS	DESCRIPTION
Oral communication skills to:	- ask open and closed questions and actively listen to determine and meet needs of client - communicate with people from diverse backgrounds - manage conflict.
Numeracy skills to:	read, use and discuss spatial and measurement information in referrals, x-rays, CT scans and MRI scans.
Teamwork skills to:	collaborate and cooperate with multidisciplinary teams and healthcare professionals.
Technology skills to:	access and record clinical records and referrals.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTOTH005 Modify orthopaedic devices

Modification History

No equivalent unit.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- modify one of each of the following orthopaedic devices:
 - Ankle Foot Orthosis (AFO)
 - Bed Resting Ankle Foot Orthosis (BRAFO)
 - cam walker
 - collar and cuff
 - gunslinger brace
 - hinged knee and hinged elbow braces
 - humeral brace
 - joint supports for elbow, wrist, knee, ankle
 - pelvic binder
 - shoulder abduction sling
 - shoulder immobilisers
 - zimmer splint
 - soft neck collar
 - cam boots.

The modification of each of the above must include:

- interpreting referrals, sourcing information, liaising with the healthcare team and following instructions within the healthcare setting
- reviewing, treating, advising and referring clients:
 - paediatrics
 - adults
- modification techniques:
 - addition
 - completion
 - converting
 - give more or less range of movement
 - reinforcing and strengthening
 - relining
 - repadding

- tightening
- trimming
- re-aligning
- selecting, using and maintaining equipment:
 - allen key
 - bender
 - bracing and splinting equipment
 - eye protection equipment
 - goniometer
 - heat gun
 - saw with vacuum
 - scissors
 - screwdriver
 - shears
 - spanners
 - spreaders
 - tape measure
 - vice
- selecting and using materials:
 - bandages
 - dry dressings
 - felt, foam and padding
 - hinges
 - off the shelf braces and splints
 - reinforcement bars
 - synthetic materials
 - tape and strapping
- selecting and using aids:
 - ambulation aides
 - gait aides
 - heel
 - overshoes
 - sling
- documenting clinical records.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- procedures relevant to orthopaedic device modification:

- client confidentiality and privacy
- client consent
- duty of care
- infection control
- inventory
- work health and safety
- role and responsibilities and boundaries of responsibilities relevant to orthopaedic device modification
- anatomy and physiology relevant to orthopaedic device modification
- methods for interpreting radiological findings and features of x-rays, CT scans and MRI scans relating to orthopaedic devices and the presenting condition
- conditions for referral of clients for immediate review by a medical practitioner:
 - evidence of infection
 - intense localised pain
 - neurovascular status outside normal limits
 - wound breakdown and deterioration
- individual client needs:
 - developmental stage including paediatrics and adults
 - in clients and out clients
 - functional requirements and restrictions
 - mobilisation difficulties and restrictions
 - level of anxiety
 - physical anomalies
 - religious and cultural beliefs
 - environment and climate
- orthopaedic device type and purpose:
 - collar and cuff
 - hinged knee and hinged elbow braces
 - humeral brace
 - joint supports for elbow, wrist, knee, ankle
 - shoulder abduction sling
 - shoulder immobilisers
 - soft neck collar
 - zimmer splint
- pathology and assessment of client conditions:
 - allergies
 - mechanism of injury
 - interference
 - non-union fracture
 - oedematous extremity

- wires, pins, external fixatures and surgical wounds
- medical history and co-morbidities
- skin condition including oedema, blisters, pressure areas, broken skin, fragile skin and wound breakdown
- precaution types, characteristics and resolution:
 - areas of broken skin
 - fragile skin
- complication types, characteristics and resolution:
 - compromising related injury
 - fracture blisters
 - loss of movement and function
 - malalignment of bone
 - neurovascular complications including altered sensation and poor capillary refill
 - orthopaedic device migration due to loss of tissue bulk
 - pressure areas
 - secondary infection
 - wound breakdown
- orthopaedic device modification techniques:
 - anatomical positioning
 - protective cover for broken skin with aseptic technique
 - addition
 - completion
 - converting
 - give more or less range of movement
 - reinforcing and strengthening
 - relining
 - repadding
 - tightening
 - trimming
 - re-aligning
- orthopaedic device equipment purpose, selection, safe use and maintenance:
 - allen key
 - bender
 - bracing and splinting equipment
 - eye protection equipment
 - goniometer
 - heat gun
 - saw with vacuum
 - scissors
 - screwdriver

- shears
- spanners
- spreaders
- tape measure
- vice
- orthopaedic device material purpose, selection and safe use:
 - bandages
 - dry dressings
 - felt, foam and padding
 - hinges
 - off the shelf braces and splints
 - reinforcement bars
 - synthetic materials
 - tape and strapping
- aid purpose, selection and safe use:
 - ambulation aides
 - gait aides
 - heel
 - overshoes
 - sling
- medications relevant to orthopaedic device modification and future care
- types of client advice:
 - care of orthopaedic devices and warnings
 - limb care and neurovascular warnings
 - mobilisation exercises and routines
 - oedema control
 - fitness to drive
 - weight bearing status
 - safe use of aides
- clinical record requirements
- medical terminology relevant to orthopaedic device modification.

Assessment Conditions

Skills must be demonstrated in a real workplace with real patients in a clinical environment with the addition of simulations and scenarios with real people where the full range of contexts and situations cannot be provided in the workplace.

Where simulation is used, it must reflect real working conditions in a clinical environment by modelling industry operating conditions and contingencies, as well as using suitable facilities, equipment and resources.

Assessment must ensure use of:

- procedures relevant to orthopaedic device modification
- clients listed in the Performance Evidence
- orthopaedic devices listed in the Performance Evidence
- equipment listed in the Performance Evidence
- materials listed in the Performance Evidence
- aids listed in the Performance Evidence
- personal protective equipment (PPE)
- manufacturer's instructions for all equipment and materials.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors; and have current clinical experience working as an Orthopaedic Technologist or Technician providing services to the general public.

Links

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