SFHRT6
Design and manufacture routine custom made devices to fitting stage to meet the prescription

Overview

This standard covers the design and manufacture of routine custom made devices. The devices are to be manufactured to fitting stage; this is to allow a certain amount of adjustment to be made to the fit of the device for the service user. To manufacture a device that meets the prescription you will have to take into account the materials being used in the construction of the device and the methods used to join and fix the materials to the various components being used in the device. Users of this standard will need to ensure that practice reflects up to date information and policies.

SFHRT6

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Performance criteria

You must be able to:

- P1 accurately position the components of the device in the specified location on the model and confirm:
  - P1.1 their fit
  - P1.2 their security
  - P1.3 their compliance with the functional and aesthetic requirements of the prescription
- P2 mount the model and articulate it correctly and consistently with any available anatomical information and record the necessary information correctly
- P3 modify, position and attach the prescribed components in a manner that:
  - P3.1 produces the required aesthetic appearance
  - P3.2 achieves the function as detailed in the prescription
  - P3.3 meets the manufacturers specification
- P4 shape and contour the appropriate components to the model
- P5 check the manufactured device to confirm that it:
  - P5.1 complies with the prescription and design
  - P5.2 is clean
  - P5.3 is free of defects and make any adjustments which are required
- P6 use working methods and systems throughout the process which:
  - P6.1 promote health and safety
  - P6.2 reduce the risk of infection and contamination
  - P6.3 are consistent with the assessed risks
- P7 clearly and accurately identify devices with the service user's unique reference and date of production
- P8 make complete, accurate and up-to-date records relating to identification, components and manufacture of the device and store records in the correct location consistent with relevant legislation
- P9 effectively clean the device, prepare and package it safely for despatch and return it to the relevant person at the agreed time

SFHRT6

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Knowledge and understanding

You need to know and understand:

K1 the reasons for maintaining records throughout the process and of clearly identifying the products during the manufacturing process

K2 the organisational procedures and requirements for the recording of information about incoming work, work in progress and work delivered, and the purpose of this

K3 quality audit systems, their purpose, nature and procedures, impact of the relevant regulatory body, currently the Medicine and Healthcare Regulatory Authority, on the recording of incoming work, the detailed design and manufacturing specification and the recording of materials and processes

K4 the principles of quality assurance, processes and procedures for quality assurance in your workplace

K5 the methods used for setting and calibrating equipment and of testing that this is correct

K6 the effects of modifying manufacturers' components and products to meet production/usage requirements on the physical properties of the components/products and the legal implications

K7 the relevant regulatory body, currently the Medicine and Healthcare Regulatory Authority, in monitoring the progress of devices through the production process

K8 health and safety at work legislation and related procedures and liability, principles of, and how to apply legislation and regulations

K9 the characteristics, properties and the processing of the following commonly used materials:

- K9.1 metals
- K9.2 plastics: thermoforming, thermosetting, composites
- K9.3 wood
- K9.4 leather
- K9.5 plaster of Paris
- K9.6 adhesives
- K9.7 fabrics
- K9.8 foams
- K9.9 polystyrene
- K9.10 other materials

K10 the following:

- K10.1 hand tools: their selection, use and maintenance
- K10.2 measuring instruments: use and methods of application
- K10.3 machine tools: selection, installation, use and maintenance
- K10.4 welding processes and equipment for metals and plastics
- K10.5 sewing machines: selection, use and maintenance
- K10.6 general equipment: ovens, compressors, vacuum formers, fume

and dust extraction apparatus
K10.7 workshop layout
K10.8 health and safety regulations and practice
K10.9 computers, including CAD/CAM
K11 the roles and responsibilities of the interdisciplinary team
K12 ethical considerations in rehabilitation technical services
K13 prosthetics/orthotics/special seating care systems in the UK
K14 prosthetic/orthotic/special seating measurement techniques
K15 prosthetic/orthotic/special seating components and their application
K16 prostheses/orthoses/special seating for a range of conditions
K17 wheelchair systems and seating alignment
K18 basic awareness of the musculo-skeletal system
K19 anatomical terminology in relation to prosthetics/orthotics/special seating
K20 basic awareness of the anatomical planes and reference points of the body
K21 the pathological conditions giving rise to prosthetic/orthotic/special seating provision and the relevant terminology
K22 the following in order to fabricate prosthetic/orthotic devices:
K22.1 the interaction of anatomical joints and prosthetic/orthotic joints in relation to centre of joint rotation, ground reaction forces, alignment and forces applied to tissue
K23 or
K23.1 the relationship of the pelvis, spine and knee, including basic tissue mechanics, in order to fabricate special seating systems
K24 elementary arithmetic and its application and the use of calculators

SFHRT6

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Additional Information

External links

This National Occupational Standard was developed by Skills for Health.

This standard links with the following dimension within the NHS Knowledge and Skills Framework (October 2004):

Dimension: HWB9 Equipment and devices to meet health and wellbeing needs

SFHRT6

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