

## Overview

This standard focuses on the design and manufacture of partial and complete removable prostheses - polymeric dentures using manual or digital techniques. These are dental devices which are custom-made to fit the individual's unique mouth shape and which replace either a partial or complete set of upper and/or lower teeth. The prosthesis may incorporate a range of factors including, but not limited to:

- \* a method of retention
- \* aesthetics including the creation of an overdenture
- \* the degree of occlusion including the use of onlays, deep overbite
- \* the requirement for minor obturation

The removable prostheses may be new, replacement, immediate or duplicate and may contain resilient liners. You need to design and manufacture a trial prosthesis, modify these where necessary following a try-in and then manufacture, and finish final removable prosthesis.

The term 'client' is used to mean the member of the oral health care team who has prescribed the custom-made prosthesis. Clients may be external to the organisation (such as other laboratories, dental practitioners, training schools) or internal (within a dental hospital). The individual is the one for whom the custom-made prosthesis is being made.

The design and manufacturing process of dental prosthesis may be carried out in a regulated dental laboratory within a variety of settings.

Users of this standard will need to ensure that practice reflects up to date information, policies and regulations.

## Performance criteria

### *You must be able to:*

1. communicate with relevant others at a pace, manner and level appropriate to their understanding, preferences and needs
2. collate and confirm accuracy of all specification information required for prostheses design and manufacture with relevant others
3. interpret and analyse information captured of both soft and hard tissues in oral environment using both analogue and digital techniques
4. select components, materials, and equipment, ensuring their suitability .
5. set up and operate the manufacturing equipment in accordance with the specification
6. manufacture removable prostheses using suitable manual or digital techniques adjusting manufacturing processes as necessary.
7. deinvest or retrieve the manufactured product using an appropriate method which releases the item without causing damage
8. ensure that the manufactured product matches the specification and make any necessary adjustments
9. clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client
10. dispose of waste in accordance with all relevant legislation, guidelines, and workplace procedures
11. complete and store all documentation in accordance with relevant legislation, guidelines, and workplace procedures

## Knowledge and understanding

### *You need to know and understand:*

1. how to communicate with relevant others at a pace, manner and level appropriate to their understanding, preferences and needs
2. the importance of applying standard infection control precautions and the potential consequences of poor practice
3. the role of removable prostheses in the restoration and maintenance of:
  - tissue support
  - aesthetics
  - phonetics
  - function of occlusion and the temporomandibular joint
4. the principles, uses, methods, techniques and equipment involved in digital design and manufacturing.
5. how to select the necessary components, materials and equipment and confirm that they are fit for purpose
6. skeletal anatomy, tooth morphology, orofacial musculature and temporomandibular joint function and movement
7. the classification, aetiology, including oral cavity disorders and diseases and the physiological effects of malocclusions.
8. the physiological and pathological changes associated with ageing process and trauma related to the oral environment
9. the importance of retention of the periodontal ligament and the changes in proprioception due to loss of periodontal ligament
10. the emotional response by the individual to tooth loss
11. the importance of restoring and maintaining the occlusal vertical dimension
12. the benefits and restrictions of immediate tooth replacement in the provision of removable prostheses
13. the benefits and restrictions of retaining root structures in the provision of removable prostheses
14. the use and need for transitional removable prostheses
15. the modern concepts for the use of resilient liners and tissue conditioners
16. the design limitations of large anterior undercuts and pre-existing dental conditions
17. the use of digital representations or a dental surveyor and identifying useable and non useable undercuts in the design of the dentures

18. the principles and practice of:

- retention and stability
- aesthetics and phonetics
- articulation

19. the principles of removable prosthesis design

20. the classification and sub-classification of materials on the basis of chemical composition and internal structure

21. the mechanical, physical, thermal, chemical and biological properties of materials

22. the purpose of different products used for cast and mould manufacture or digital representation

23. the purpose of different materials used in the manufacture of removable prostheses

24. legal and physical implications of modifying manufacturer products and ensuring quality assurance .

25. how to clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client

26. different methods of waste disposal and how to apply these

27. the importance of updating documentation and storing individuals records safely and securely

SFHOH16

Design and manufacture removable polymeric prostheses



---

<b>Developed by</b>	Skills for Health
<b>Version Number</b>	4
<b>Date Approved</b>	20 Mar 2025
<b>Indicative Review Date</b>	20 Mar 2030
<b>Validity</b>	Current
<b>Status</b>	Original
<b>Originating Organisation</b>	Skills for Health
<b>Original URN</b>	SFHOH16 ; SFHOH17
<b>Relevant Occupations</b>	Associate Professionals and Technical Occupations, Dental Technician
<b>Suite</b>	Dental Technology
<b>Keywords</b>	Complete, removable, prosthesis; Digital

---