

## Overview

This standard focuses on the design and manufacture, using manual or digital techniques, of implant-based prostheses; dental devices which are custom-made to fit the individual's unique mouth shape and which replace one or more missing teeth. It is vital that the dental technician works as part of the team in the diagnostic and treatment planning phases as well as in the design and manufacture of the prosthesis itself. Due to the time over which implants may need to integrate with the individual's mouth prior to the final prostheses being fixed, provisional prostheses are often provided.

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 general dental practitioners) 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 the design and manufacture of the implant-based prostheses 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 the necessary components, materials and equipment and confirm that they are fit for purpose
5. set up and operate the manufacturing equipment in accordance with the specification
6. manufacture the implant-based prostheses using suitable manual or digital techniques adjusting manufacturing processes as necessary.
7. monitor the manufacturing process and adjust as required
8. deinvest or retrieve the manufactured product using an appropriate method which releases the item without causing damage
9. ensure that the manufactured product matches the specification and make any necessary adjustments
10. clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client
11. dispose of waste in accordance with all relevant legislation, guidelines, and workplace procedures
12. 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 principles, uses, methods, techniques and equipment involved in digital design and manufacturing.
4. the Skeletal anatomy, tooth morphology, orofacial musculature including the tongue and temporomandibular joint function and movement
5. the classification, aetiology, including oral cavity disorders and diseases and the physiological effects of malocclusions.
6. the physiological and pathological changes associated with the ageing process and trauma related to the oral environment
7. the importance of retention of the periodontal ligament and the changes in proprioception due to loss of periodontal ligament
8. the emotional response by the individual to tooth loss
9. the role of implant-based prostheses in the restoration and maintenance of tissue support, aesthetics, phonetics, function of occlusion and the temporomandibular joint
10. the importance of restoring and maintaining the occlusal vertical dimension
11. the benefits and restrictions of implant-based prostheses including transitional
12. the classification and sub-classification of materials on the basis of chemical composition and internal structure
13. the mechanical, physical, thermal, chemical and biological properties of materials
14. the purpose of different products used for cast and mould manufacture or digital representation
15. the purpose of different types of materials used in the manufacture of implant-based prostheses
16. how to clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client
17. legal and physical implications of modifying manufacturer products and ensuring quality assurance .
18. different methods of waste disposal and how to apply these

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

SFH0H32



Design and manufacture implant-based 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>	SFH0H32
<b>Relevant Occupations</b>	Associate Professionals and Technical Occupations, Dental Technician
<b>Suite</b>	Dental Technology
<b>Keywords</b>	Implant-based, prosthesis, digital

---