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## Overview

This standard focuses on preparations for the design and manufacture of complete and partial removable prostheses. You will need to prepare and maintain environments, materials and equipment for the design and manufacture of the prosthesis; produce working casts and custom-made trays, bleaching trays, stents, baseplates and occlusal registration rims. Such items may be manufactured by analogue or digital techniques.

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. review the prescription and contract and correctly identify the materials and equipment which will be required
3. evaluate the casts or digital information to determine what needs to be incorporated into the design of occlusal registration rims, custom-made trays, stents or bleaching trays
4. apply appropriate spacer materials to the cast or create digital information to:
  - eliminate undercuts
  - provide the correct amount of space for the impression material or method of use in a stent or bleaching tray as selected by the client
5. apply a separating medium to the cast that is appropriate to the cast material and the processing method to be used
6. prepare the specific custom-made device in the correct manner and to the specified design, quantity and quality
7. process materials using the correct method for the material concerned
8. confirm that the specific device conforms to the prescription
9. on receipt of the custom tray impression or digital information, correctly determine the prescription requirements from the information available
10. ensure the received impression has been effectively cleaned, confirm that it is free of voids or defects which render it unacceptable and prepare it appropriately to receive the cast material
11. inform the client in an appropriate manner if the impression is not of sufficient quality and obtain a replacement impression
12. prepare and cast the impression
13. trim the cast to prescription requirements
14. identify the casts with a unique individual reference
15. survey the cast to identify the position and size of undercuts, determine an appropriate path of insertion for the planned prosthesis and block out any unsuitable undercuts
16. ensure the completed specific custom-made device to confirm it is fit for purpose
17. clean and finish the restoration, prepare and package it safely for dispatch

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together with instructions for the individual and client

18. store the custom-made device in an appropriate safe manner and place when they are not in use

19. dispose of waste in accordance with all relevant legislation, guidelines, and workplace procedures

20. 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 skeletal anatomy, physiology of the head and neck and tooth morphology
4. the aetiology and classifications of malocclusions
5. the effect of skeletal form and ridge relationships upon the function, design and manufacture of complete and partial removable prostheses
6. the principles and practice of:
  - retention and stability
  - design of bleaching trays or stents
  - aesthetics and phonetics
  - articulation
7. the classification and sub-classification of materials on the basis of chemical composition and internal structure
8. the range of equipment used in the design and manufacture of dental devices cast and mould manufacture
9. the principles and use of digital design and manufacturing
10. materials used in the manufacture of removable prostheses
11. legal and physical implications of modifying manufacturer products and ensuring quality assurance .
12. how to clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client
13. different methods of waste disposal and how to apply these
14. the importance of updating documentation and storing individuals records safely and securely

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Produce custom-made devices for the design and manufacture of removable prostheses



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