

Overview

"This standard focuses on the design and manufacture of partial removable prostheses using manual or digital techniques; dental devices which are custom-made to fit the individual's unique mouth shape and which replace one or more missing teeth. The prosthesis incorporates one or more of the following factors:

- * a method of retention
- * aesthetics
- * the established occlusion
- * the requirement for minor obturation
- * immediate tooth replacement.

Partial removable prostheses may be made completely from polymeric materials, from polymeric with some metallic components, such as clasps or precision attachments for retention of the appliance, or from a metallic alloy framework on which the artificial teeth are embedded into acrylic held in place on the framework. A partial prosthesis should restore a natural appearance in colour, shape and size; fit the individual's mouth comfortably, be retained in place in the individual's mouth and should not attract a build-up of food debris.

In order to manufacture a prosthesis which meets these aesthetic and functional requirements, you need to have an accurate cast or digital representation, an accurate record of the relationship between the individual's upper and lower jaw and a record of the individual's tooth shade. 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.

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

Performance criteria

You must be able to:

1. access and accurately interpret all relevant work instructions and information
2. work safely at all times and in accordance with all relevant legislation, guidelines, policies, procedures and protocols
3. deal promptly and effectively with any problems within your control and report those which cannot be solved
4. identify and minimise hazards and risk in the workplace
5. communicate with relevant others at a pace, manner and level appropriate to their understanding, preferences and needs
6. collate all specification information required for the design and manufacture of the partial removable prostheses
7. confirm accuracy of the specification with relevant others
8. select the necessary components, materials and equipment and confirm that they are fit for purpose
9. set up the manufacturing equipment in accordance with the specification
10. manufacture the partial removable prostheses using appropriate methods and techniques
11. monitor the manufacturing process and adjust as required
12. de-vest or retrieve the manufactured product using an appropriate method which releases the item without causing damage
13. check that the manufactured product matches the specification and make any necessary adjustments
14. dispose of waste in accordance with organisational procedures
15. complete and store all relevant documentation in accordance with organisational requirements"

Knowledge and understanding

You need to know and understand:

1. the current legislation, guidelines, policies, procedures and protocols which are relevant to your work practice and to which you must adhere
2. the scope and limitations of your own competence, responsibilities and accountability as it applies to your job role
3. how to access and interpret all relevant work instructions and information
4. specific procedures for reporting issues which are beyond your competence, responsibilities and accountability
5. the duty to report any acts or omissions that could be unsafe/detrimental to you or others
6. how to communicate with relevant others at a pace, manner and level appropriate to their understanding, preferences and needs
7. the hazards and risks which may arise during the execution of your work role and how you can minimise these
8. the correct use of any equipment and PPE to protect the health and safety of you and others
9. the principles and use of digital design and manufacturing
10. relevant digital manufacturing equipment, methods and techniques
11. the skeletal anatomy, physiology of the head and neck and tooth morphology
12. the structure, function, and movement of the oro-facial musculature including the tongue and temporomandibular joint
13. disorders and diseases affecting the oral cavity
14. tooth morphology and the form of the natural anterior and posterior teeth
15. the aetiology and classifications of malocclusions
16. the physiological and pathological changes associated with ageing process and trauma related to the oral environment
17. the importance of retention of the periodontal ligament and the changes in proprioception due to loss of periodontal ligament
18. the broader factors (sociological, behavioural, environmental and economic) that contribute to oral health and illness.
19. the potential emotional response by an individual to tooth loss
20. the role of removable prostheses in the restoration and maintenance of tissue support aesthetics phonetics function of occlusion and the temporomandibular joint
21. the importance of restoring and maintaining the occlusal vertical dimension
22. the benefits and restrictions of immediate tooth replacement in the provision of removable prostheses
23. the benefits and restrictions of retaining root structures in the provision of removable prostheses
24. the use and need for transitional removable prostheses
25. the modern concepts for the use of resilient liners and tissue conditioners
26. the design limitations of large anterior undercuts and pre-existing dental conditions.
27. the principles and practice of retention and stability aesthetics and phonetics

articulation

3. the principles of partial removable prosthesis design
4. the classification and sub-classification of materials on the basis of chemical composition and internal structure
5. the mechanical, physical, thermal, chemical and biological properties of materials
6. products used for cast and mould manufacture or digital representation
7. waxes used in the manufacture of removable prostheses
8. dental polymers
9. structural features of polymer chains
10. denture base polymers
11. dental alloys
12. artificial tooth materials
13. impression, duplicating and cleaning materials
14. methods of developing, maintaining and improving communication and information relating to the provision of custom-made dental devices
15. methods of infection control when handling received impressions and other items which may have been in the mouth, or which are intended to be placed in the mouth
16. the reasons for maintaining records throughout the process and of clearly identifying the products during the manufacturing process
17. principles of quality assurance including effective recording and sampling; processes and procedures for quality assurance in your workplace
18. methods of setting and calibrating equipment and of testing that this is correct
19. the effects of modifying manufacturers' products to meet laboratory requirements on the physical properties of products and on quality assured products, and the legal implications of poor manufacturing
20. the range of equipment used in the design and manufacture of dental devices
21. methods of using equipment and materials safely including the use of chemicals and other hazardous substances
22. methods of storing different equipment and materials safely and securely
23. methods of cleaning and maintaining different types of equipment

SFH0H17



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Developed by	Skills for Health
Version Number	3
Date Approved	30 Mar 2022
Indicative Review Date	30 Mar 2027
Validity	Current
Status	Original
Original URN	SFH0H17
Relevant Occupations	Associate Professionals and Technical Occupations
Suite	Dental Technology
Keywords	Partial, removable, prosthesis
