SFHOH33

Design and manufacture prostheses using precision attachments

Overview

This standard focuses on the design and manufacture, using manual or digital techniques, of prostheses using precision attachments; dental devices which are custom-made to fit the individual's unique mouth shape and which replace one or more missing teeth and incorporate the use of a precision connector of two or more parts.

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 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 prostheses using precision attachments 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 prostheses using suitable manual or digital techniques adjusting manufacturing processes as necessary.
7. monitor the manufacturing process and adjust as required
8. devest 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 physiological and pathological changes associated with the ageing process and trauma related to the oral environment
6. the effect of tooth loss on the supportive dental tissue, the processes and effect of ridge resorption
7. the importance of retention of the periodontal ligament and the changes in proprioception due to loss of periodontal ligament
8. the range of factors to consider during manufacture and the range of equipment used in the design and manufacture of dental devices
9. the classification and sub-classification of materials on the basis of chemical composition and internal structure
10. the mechanical, physical, thermal, chemical and biological properties of materials
11. the purpose of different products used for cast and mould manufacture or digital representation
12. the purpose of different types of materials used in the manufacture of prostheses using precision attachments
13. methods of constructing dental bridges and crowns using precision attachments
14. the relationship between chemical bonds and the properties of solid materials
15. legal and physical implications of modifying manufacturer products and ensuring quality assurance .
16. how to effectively clean and finish the restoration, prepare and package it safely for dispatch together with instructions for the individual and client
17. different methods of waste disposal and how to apply these
18. the importance of updating documentation and storing individuals records safely and securely

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