Overview

This standard focuses on the relining, rebasing, repair and modification of removable prostheses. You need to prepare the working environment, reline and rebase a removable prosthesis when it no longer fits. Relining and rebasing involves adding further polymeric material to the existing prosthesis to achieve the required fit. This means that you need to identify where and how much additional polymeric is required by creating a cast from an impression taken by the clinician using the existing prosthesis as a tray.

Repairing a broken or damaged prosthesis requires you to assemble the remaining parts of the prosthesis and evaluate whether an effective repair is possible. This evaluation may be undertaken directly with the patient or without the patient being present. If an effective repair is possible without the need to refer to the dentist for an impression, you will need to discuss the cost of the repair and obtain the patient’s consent for the repair to proceed.

A cast will be needed, which may be poured from the re-assembled remaining pieces of the prosthesis (if all are available) or if there are parts missing, by the clinician re-assembling the pieces, placing them in the patient’s mouth and taking an impression (in-situ impression). Modifying an existing prosthesis involves replacing or adding components including teeth, clasps or extending the existing base and flanges. Again, casts will be required which may be formed as for relining and rebasing, or by the clinician fitting the existing prosthesis in the patient’s mouth and then taking an impression.

The term ‘client’ is used to mean the member of the oral health care team who has prescribed the relining, rebasing, repair or modification of the prosthesis. Clients may be external to the organisation (such as other laboratories, dental practitioners, training schools) or internal (within a dental hospital). The patient is the individual for whom the custom-made prosthesis has been made. Users of this standard will need to ensure that practice reflects up to date information and policies.
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Performance criteria

You must be able to:

P1 communicate with individuals regarding repairs at a level and pace appropriate to them:
  P1.1 and answer questions clearly, accurately and concisely
  P1.2 in a way which maximises their understanding of the treatment and cost options being proposed

P2 ensure you have received the appropriate consent to proceed with the repair

P3 ensure the received impression has been effectively cleaned and if not, clean the impression

P4 pour the cast material correctly into the impression and produce a cast that is free from voids or other visible defects

P5 to rebase or reline, index to the cast

P6 remove the impression in a manner that maintains the integrity of the cast and minimises disturbance to the teeth

P7 remove an appropriate thickness of material from the fitting surface of the prosthesis and shape the prosthesis suitably to produce sufficient bonding for the new material

P8 evaluate the occlusal vertical dimension of the cast against the index and make any necessary adjustments

P9 apply releasing agent to mating surfaces to facilitate effective separation

P10 to repair the removable prosthesis, form into the correct relationship those fragments of the removable prosthesis which it is possible to reassemble and fix them together

P11 assess the reassembled fragments and make a decision as to whether:
  P11.1 to request an impression with the reassembled prosthesis in place
  P11.2 a new impression is needed to enable the prosthesis to be repaired
  P11.3 the damaged prosthesis is beyond repair

P12 separate the cast from the impression, reassemble fragments or make addition to the prosthesis

P13 release the repaired prosthesis from the moulds without damaging it following processing and trim any excess material

P14 effectively clean the prosthesis fragments and prepare for joining

P15 ensure you accurately join components at the correct points to form secure, strong and viable joints

P16 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

P17 add extra mechanical retention to the prosthesis if this is required and prepare the surfaces appropriately for the modification that is to be made

P18 to modify the prosthesis, select and prepare, or remake components to change the nature and construction of the removable prosthesis to conform with the patient’s natural dentition

P19 place additional or replacement polymeric or metallic components in the correct place on the prosthesis and fix them securely with an appropriate amount of fixing material

P20 mix resin and monomer and process to manufacturers’ guidelines

P21 apply polymeric resin using the correct technique to the required shape and thickness to ensure fit

P22 fit the trimmed and polished prosthesis to the cast and reposition the casts on an appropriate articulator where necessary

P23 assess the articulated prosthesis, confirm that the occlusion is appropriate to the prescription and the patient’s natural dentition, make any necessary adjustments to maintain the original vertical dimension of the occlusion

P24 evaluate the finished prosthesis to ensure it is fit for purpose

P25 effectively clean the finished prosthesis, identify with the patient’s unique reference and package it safely for despatch along with any instructions for the patient and/or client
Knowledge and understanding

You need to know and understand:

K1 the skeletal anatomy, physiology of the head and neck and tooth morphology
K2 the structure, function, and movement of the oro-facial musculature including the tongue and temporomandibular joint
K3 disorders and diseases affecting the oral cavity
K4 the aetiology and classifications of malocclusions
K5 the physiological and pathological changes associated with ageing process and trauma related to the oral environment
K6 the importance of retention of the periodontal ligament and the changes in proprioception due to loss of periodontal ligament
K7 the broader factors (sociological, behavioural, environmental and economic) that contribute to oral health and illness
K8 the emotional response by the patient to tooth loss
K9 the role of removable prostheses in the restoration and maintenance of:
   K9.1 tissue support
   K9.2 aesthetics
   K9.3 phonetics
   K9.4 function of occlusion and the temporomandibular joint
K10 the importance of restoring and maintaining the occlusal vertical dimension
K11 the benefits and restrictions of immediate tooth replacement in the provision of removable prostheses
K12 the benefits and restrictions of retaining root structures in the provision of removable prostheses
K13 the use and need for transitional removable prostheses
K14 the purpose and use of resilient liners and tissue conditioners
K15 the design limitations of large anterior undercuts and pre-existing dental conditions
K16 retention and stability
K17 aesthetics and phonetics
K18 articulation
K19 the principles of partial removable prosthesis design
K20 methods of modifying and maintaining removable prostheses
K21 methods of repairing removable prostheses
K22 relining and rebasing
K23 the classification and sub-classification of materials on the basis of
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chemical composition and internal structure

K24 the mechanical, physical, thermal, chemical and biological properties of materials
K25 products for cast and mould manufacture
K26 waxes used in the manufacture of removable prostheses
K27 dental polymers
K28 structural features of polymer chains
K29 dental base polymers
K30 artificial tooth materials
K31 impression, duplicating and cleaning materials
K32 dental alloys
K33 dental refractory materials
K34 methods of developing, maintaining and improving communication and information relating to relining, rebasing and repairing devices
K35 how to communicate directly with the patient, giving clear information regarding the treatment options and the cost of repairs
K36 recognised forms of valid consent and their application before any treatment is undertaken
K37 the importance of communicating with individuals at a pace, in a manner, and at a level appropriate to their understanding, needs and preferences, whilst maintaining their dignity and choice
K38 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
K39 the purpose of personal protective equipment
K40 the range of equipment used in the design and manufacture of dental devices; methods of using equipment and materials safely including the use of chemicals and other hazardous substances; methods of storing different equipment and materials safely and securely; methods of cleaning and maintaining different types of equipment and your role in this
K41 the reasons for maintaining records throughout the process and of clearly identifying the products during the manufacturing process
K42 organisational procedures and requirements for the recording of information about incoming work, work in progress and work delivered to clients, and the purpose of this
K43 principles of quality assurance including effective recording and sampling; processes and procedures for quality assurance in your workplace
K44 methods of setting and calibrating equipment and of testing that this is correct
K45 the effects of modifying manufacturers’ products to meet laboratory
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requirements on the physical properties of products and on quality assured products, and the legal implications of poor manufacturing

K46 legal requirements of the contract of employment, confidentiality and employers’ regulations

K47 health and safety at work legislation and related procedures and liability; principles of and how to apply, legislation and regulations relating to the manufacturing of devices

K48 the role and obligations of members of the dental team and the regulatory functions of the General Dental Council
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Additional Information

External Links

This standard links with the following dimension within the NHS Knowledge and Skills Framework (October 2004):
Dimension: HWB9 Equipment and devices to meet health and wellbeing needs
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</tr>
<tr>
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<td>September 2017</td>
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