

- ◀ the rim without displacement or create a 1 mm gap. Use location notches if appropriate. A low viscosity material is used to finalise the registration. Tempbond or ZoE work well. Automix bite registration materials need to be used with care to avoid errors as there is a tendency for the material to extrude between opposing teeth. Ensure that the rims do not become displaced during registration and maintain gentle contact on the chin to avoid the patient opening as the registration material sets
- Place the casts into the rims and check the record is the same as seen in the mouth. Automix registration material often needs trimming to ensure the opposing cusps are fully seated.

Try-in

The framework should seat fully with a positive, passive location, not rock or interfere with the patient's occlusion:

- If the framework does not fit, use fit-check silicone or powder occlusal spray to identify where the framework is binding and adjust. Take care when adjusting to avoid opening up space between the framework and teeth which would allow food ingress in function
- A common area to cause binding is on the marginal ridge next to the rest seat
- After adjustment if the framework does not fit acceptably, check any mouth preparations for sharp angles, adjust and retake the master impression
- Once the framework is assessed as satisfactory, rims can be attached if a definitive jaw registration is required or proceed to a wax try-in of the teeth.

Fit and review

- Use light bodied silicone to check for over-extension for potential pressure areas on the fit surfaces of saddles. Carefully adjust the acrylic where it protrudes through the silicone
- Allow time to demonstrate and ensure the patient is able to insert and remove the denture, and not to use the clasps to remove the denture
- Explain to the patient what to expect in terms of being aware of the denture, transitory effect on speech, possible increase in salivation and the time it may take to adapt. A forewarned patient is more likely to take any issues in their stride and less likely to react negatively to the denture
- Give instruction on how to keep the denture clean
- The intricate shape of chrome frameworks can be tricky to clean, particularly around the internal aspect of clasp assemblies. Large size interdental brushes are perfect for this.

Ongoing care

Appointments with the hygienist are invaluable to reinforce oral hygiene measures to maintain gingival health which is essential for long-term prognosis of the remaining dentition.¹²

Disclosing a denture and abutments can be very instructive to show the patient how they are managing and where to clean more effectively.

The denture should be reviewed at regular intervals, to ensure the fit remains good and there are no problems.

In summary:

- Apply a problem-based approach to RPD provision
- Get the mouth RPD ready and gift your patient a state-of-the-art denture combining hygienic design and good biomechanics
- Successful RPD provision is a team effort between patient, clinician, hygienist and technician
- Maintain the mouth and denture – it should not be fit and forget, encourage the patient to return for reviews and appropriate maintenance.

This can be such a rewarding aspect of clinical practice, if you can do no harm, solve the patient's problem and exceed the patient's expectations.

It's extremely satisfying when my patient says, 'I love my denture!'

In part 2 we examine how some of the above principles can be applied to acrylic partial dentures to mitigate effects of such dentures on oral hygiene. ■

References

1. Office for National Statistics. *Adult Dental Health Survey. Oral Health in the United Kingdom 1998*. Palgrave Macmillan, 23 March 2000.
2. Graham R, Mihaylov S, Jepson N, Allen P F, Bond S. Determining 'need' for a Removable Partial Denture: a qualitative study of factors that influence dentist provision and patient use. *Br Dent J* 2006; **200**: 155–158.
3. Allen P F, Jepson N J, Doughty J, Bond S. Attitudes and practice in the provision of removable partial dentures. *Br Dent J* 2008; doi: 10.1038/bdj.2007.568.
4. Öwall B, Käyser A F, Carlsson G. *Prosthodontics. Principles and management strategies*. Mosby-Wolfe, 1996.
5. Armellini D, von Fraunhofer J A. The shortened dental arch: a review of the literature. *J Prosthet Dent* 2004; **92**: 531–535.
6. Addy M, Bates J F. Plaque accumulation following the wearing of different types of removable partial denture. *J Oral Rehabil* 1979; **6**: 111–117.
7. Tuominen K, Ranta, Paunio I. Wearing of removable partial dentures in relation to dental caries. *J Oral Rehabil* 1988; **15**: 515–520.
8. Zlatarić D K, Celebić A, Valentić-Peruzović M. The effect of removable partial dentures on periodontal health of abutment and non-abutment teeth. *J Periodontol* 2002; **73**: 137–144.
9. Petridis H, Hempton T J. Periodontal considerations in removable partial denture treatment: a review of the literature. *Int J Prosthodont* 2001; **14**: 164–172.
10. Öwall B, Budtz-Jørgensen E, Davenport J *et al*. Removable partial denture design: a need to focus on hygienic principles? *Int J Prosthodont* 2002; **15**: 371–377.
11. Jepson N, Thomason J M, Steele J. The influence of denture design on patient acceptance of partial dentures. *Br Dent J* 1995; **178**: 296–300.
12. Davenport J C, Hammond P, de Mattos M G. The acquisition and validation of removable partial denture knowledge. II. Design rules and expert reaction. *J Oral Rehabil* 1996; **23**: 811–824.
13. Davenport J C, Basker R M, Heath J R, Ralph J P, Glantz P O, Hammond P. *A clinical guide to removable partial denture design*. BDJ Books, 2000.
14. Thorén M, Gunne J. *Textbook of removable prosthodontics – the Scandinavian approach*. Munksgaard Danmark, 2012.
15. Yeung A L, Lo E C, Chow T W, Clark R K. Oral health status of patients 5–6 years after placement of cobalt-chromium removable partial dentures. *J Oral Rehabil* 2000; **27**: 183–189.
16. Stilwell C E. Revisiting the principles of partial denture design. *Dent Update* 2010; **37**: 651–712.
17. Janus C E, Unger J W, Crabtree D G, McCasland J P. A retrospective study of resin-bonded cingulum rest seats. *J Prosthodont* 1996; **5**: 91–94. *

BSG Spring Meeting

The British Society of Gerodontology (BSG) Annual Spring Meeting will be held in Belfast on Friday 28 April 2023, hosted by current President Professor Gerry McKenna.

The in-person meeting will be held in the Great Hall in Queen's University Belfast with presentations covering a number of important

topics including nutrition, behaviour change, caries management as well as a series of presentations on ongoing work to improve oral health in care homes.

Full details, including registration information, now live on the BSG website: <https://www.gerodontology.com/courses-and-events/>.

