The TS technique also has shortcomings, such as the risk of nonpassive polymerization of the light-bodied material, which could cause distortions in the final impression. These factors can be minimized with the use of a spacer when taking the first impression, as done with the TSS technique.

While several studies have been conducted on the accuracy of different impression techniques, clinical data on this matter have seldom been reported. Good in vitro and in vivo results have been observed with the SS method. Some authors comparing SS and TSS have found higher accuracy with latter¹ and others with the former,³ but most identified no difference between the two. The present findings, with similar results for SS and TSS, concurred with the third group of results. In terms of dimensional accuracy, when the materials used are PE and PVS, these two techniques can be regarded to perform equally well. The least accurate results were observed for TS.

The findings on dimensional stability reported in the literature for PVS and PE vary depending on pouring time. At very short pouring times, the results for the two impression materials are similar, and the overall conclusion is that both are suitable for taking impressions. However, this is not the case when pouring is delayed. PVS is found to be more dimensionally stable than PE in such circumstances, with no dimensional change when pouring is delayed for a full week or for longer than 7 days.⁴ In turn, research on PE shows some, albeit very small, dimensional change when the impressions are poured in less than 1 week. When pouring is delayed for more than 7 days, the differences detected between the materials prove to be significant.⁵ In this study, PE- and PVS-based casts were found to be similarly stable after 1 and 24 hours, while the 7- and 14-day findings differed.

Conclusions

While the single-step and two-step with a spacer methods yield similar results for impressions taken with PVS or PE as the impression material, greater dimensional change can be expected with the two-step technique. Pouring can be safely delayed in PVS impressions for up to 14 days, whereas PE impressions must be cast before 7 days to prevent the appearance of dimensional change.

References

- Hoyos A, Soderholm KJ. Influence of tray rigidity and impression technique on accuracy of polyvinyl siloxane impressions. Int J Prosthodont 2011;24:49–54.
- Chee WWL, Donovan TE. Polyvinyl siloxane impression materials: A review of properties and techniques. J Prosthet Dent 1992;68:728–732.
- Luthardt RG, Walter MH, Quaas S, Koch R, Rudolph H. Comparison of the three-dimensional correctness of impression techniques: A randomized controlled trial. Quintessence Int 2010;41:845–853.
- Pant R, Juzsczyk AS, Clark RK, Radford DR. Long-term dimensional stability and reproduction of surface detail of four polyvinyl siloxane duplicating materials. J Dent 2008;36:456–461.
- Rodriguez JM, Bartlett DW. The dimensional stability of impression materials and its effect on in vitro tooth wear studies. Dent Mater 2011;27:253–258.

Literature Abstract

Oral health care in the USA

The United States Institute of Medicine published the report *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*, which discussed solutions to help minimize heatlh care disparities in the US. It focused on age, ethnicity, and rural populations. It was estimated that approximately 10% of the US population has limited access to basic oral care due to limited government funding to the adult population. Approximately two thirds of retirees and 5 million citizens have limited or no dental care. Evidence is clear that poor oral health can lead to other medical ailments. It is recommended that dental screenings should be part of overall health care. The short fall of 9,900 dentists in the US should also be addressed, with emphasis on training underrepresented minorities and community dental care programs.

Editorial. Lancet 2011;378:290-Ansgar C. Cheng, Singapore

The International Journal of Prosthodontics

© 2012 BY QUINTESSENCE PUBLISHING CO, INC. PRINTING OF THIS DOCUMENT IS RESTRICTED TO PERSONAL USE ONLY. NO PART OF MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM WITHOUT WRITTEN PERMISSION FROM THE PUBLISHER.

356

Copyright of International Journal of Prosthodontics is the property of Quintessence Publishing Company Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.