

## **1639 Detail reproduction and accuracy of pvs-impressions in vivo**

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**Objective:** The dimensional accuracy and detail reproduction of an impression are crucial factors for the marginal fit of fixed restorations. Though in-vitro investigations show that a mean discrepancy of 50µm can be achieved in the marginal fit, it is still questionable, if the in-vitro accuracy is achievable in-vivo. So it was the purpose of this study to assess the in-vivo accuracy in a clinical setup. **Methods:** 26 impressions were taken from 50 abutment-teeth. More than 90% of the finishing lines were placed infragingivally. The materials used were two putty pvs-materials with their corresponding wash materials: Panasil binetics putty soft/contact plus (Kettenbach) and Dimension Penta H Quick/Garant L (3M-Espe), respectively (N=13 impressions/group). The impressions were taken in a two-step putty-wash technique. In a first step the accuracy of the impressions and the casts, respectively, was visually inspected. Then the artificial crowns were fabricated and the accuracy of the completed restoration was assessed by measuring the marginal discrepancies in-vivo using measuring explorers with standardized tip diameters of 100µm, 200µm, 300µm, 400µm and 500µm (Aesculap) at 6 predefined measuring sites per tooth. Data were subjected to parametric statistics (Fishers exact test; p=0.05). **Results:** The impressions taken with Panasil showed the fewest defects by visual inspection. Also a lower number of repetitions was observed. The amount of exactly reproduced finishing lines ranged from 20.0% (Dimension) to 40.0% (Panasil) (p<0.05). However, these results were not reflected by the amount of corresponding marginal discrepancies (p>0.05). In both material groups 92% of the marginal discrepancies were <300µm. **Conclusion:** Within the limits of this study it can be concluded, that the material has a minor influence on the accuracy of the final restoration but a higher on necessary repetitions. Furthermore there is still a significant discrepancy in between the accuracy achievable in lab and in-vivo.

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