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### **Latest Clinical Research on Digital Removable Dentures**

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Digital technologies have taken restorative dentistry by storm. Although digitally fabricated removable dentures are still in the clinical trial phase, recent technology is able to scan even large areas of edentulous mucosa with clinically good precision. However, there is still a need for development in the design of the functional margin and the post-dam to achieve retention that is in no way inferior to conventionally fabricated dentures. Both additive and subtractive techniques can be considered for the fabrication of complete dentures. A first clinical study with 15 edentulous patients, who wore a printed and a milled complete denture each for 6 weeks in a cross-over study design, showed the equivalence of both procedures, both from a clinical and a patient perspective. Still, printed prostheses needed more clinical adjustments. From the denture wearer's perspective, printed dentures are still scored aesthetically inferior to other manufacturing methods. More recent techniques allow the milling of monolithic full dentures from two-coloured shell-geometry pucks (Ivotion<sup>®</sup>, Ivoclar). Here the milling software places the virtual denture design in a way that the transition from white to pink acrylic is located correctly. A clinical pilot study showed a perfect transition from white to pink acrylic in 12 dentures, while 8 dentures showed mostly very minor deviations in the non-visible area. Eight other edentulous patients wearing Ivotion<sup>®</sup> dentures were monitored for occlusal wear. Negative divergences of about 0.05 mm were observed after one year of use, confirming this treatment modality as viable for the edentulous patient. CAD/CAM removable denture techniques are very promising, especially in the context of elderly and geriatric patients, where time, cost and reproducibility of existing denture features are important.

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