

Therapy for Temporomandibular Disorders: 3D-Printed Splints from Planning to Evaluation

Előadó: Dr. Somogyi Andrea

Szerzők: Dr. Végh Dániel, Dr. Róth Ivett, Dr. Schmidt Péter, Dr. Hegedűs Tamás, Dr. Schmidt Péter, Dr. Hermann Péter, Dr. Géczi Zoltán

Intézmény: Semmelweis Egyetem Fogpótlástani Klinika Budapest

This article describes the authors' digital workflow-based method for fabricating intraoral occlusal splints, from planning to the evaluation phase. **Materials and Methods:** In our protocol, first, we had a registration phase. This included taking digital impressions, determining the centric relation (CR) position with the deprogrammer Luci Jig, and using the digital facebow for measuring the individual values. The laboratory phase was next, which included planning and manufacturing with a 3D printer. The last phase was delivery, when we checked the stability of the splint and adjusted the occlusal part. **Result:** The average cost is lower for a fully digital splint than for conventional methods. In terms of time, there was also a significant difference between the classic and digital routes. From a dental technical point of view, the execution was much more predictable. The printed material was very rigid and, therefore, fragile. Compared to the analog method, the retention was much weaker. **Conclusion:** The presented method permits time-efficient laboratory production, and may also be performed chairside in a dental office. The technology is perfectly applicable to everyday life. In addition to its many beneficial properties, its negative properties must also be highlighted.

Keywords: temporomandibular disorders; TMD; temporomandibular joint; TMJ; additive manufacturing; occlusal device; oral splint; 3D printing; occlusal device