

Neue Möglichkeiten zur Herstellung von Gesichtsprothesen (Epithesen): Ein Stand der Dinge aus der Universität

Dr. Fabian Hüttig et al.

Literatur

- [1] Gebhardt A., Kessler J, Thurn L. 3D-Drucken Grundlagen und Anwendungen des Additive Manufacturing (AM). Carl Hanser Verlag, 2017, ISBN: 9783446452374; 234 Seiten.
- [2] Kluba S, Kraut W, Calgeer B, Reinert S, Krimmel M. Treatment of positional plagiocephaly helmet or no helmet? *J Craniomaxillofac Surg.* 2014 Jul;42(5):683-8. doi: 10.1016/j.jcms.2013.09.015. Epub 2013 Oct 15.
- [3] Spintzyk S, Unkovskiy A, Elteste T, Koos B, ElAyouti A, Huettig F & Geis-Gerstorfer J. Additive Fertigungsverfahren – Anwendung in der Dentaltechnik: heute & morgen. *Zahntechnik Magazin*, 22(4), 261-270. 2018
- [4] Unkovskiy A, Spintzyk S., Axmann D., Engel E., Weber H., Huettig F. Additive Manufacturing: A Comparative Analysis of Dimensional Accuracy and Skin Texture Reproduction of Auricular Protheses Replicas.. *J Prosthodont.* 2017 Nov 10. doi: 10.1111/jopr.12681 [Epub ahead of print].
- [5] Unkovskiy A, Brom J, Spintzyk S, Huettig F, Keutel C. Direct 3D printing of silicone facial protheses: A preliminary experience in digital workflow.. *J Prosthet Dent.* 2018 Feb 8. doi: 10.1016/j.prosdent.2017.11.007.
- [6] Unkovskiy A, Brom J, Huettig F, Keutel C. Auricular Protheses Produced by Means of Conventional and Digital Workflows: A Clinical Report on Esthetic Outcomes. *Int J Prosthodont.* 2018 January/February;31(31):63–66. doi: 10.11607/ijp.5446.
- [7] Unkovskiy A., Bui P.H., Schille C., Geis-Gerstorfer J., Huettig F., Spintzyk S. Objects build orientation, positioning, and curing influence dimensional accuracy and flexural properties of stereolithographically printed resin. *Dent Mater.* 2018, accepted 22.Sep.2018.
- [8] Unkovskiy A, Röhler A, Geis-Gerstorfer J., Brom J, Keutel C, Huettig F., Spintzyk S. Simplifying the digital workflow of facial protheses manufacturing using a 3D database: setup, development, and aspects of virtual data validation for Reproduction – *Journal of Prosthodontic Research*, 2018, under review.
- [9] Jindal SK, Sherriff M, Waters MG, Smay JE, Coward TJ. Development of a 3D printable maxillofacial silicone: Part II. Optimization of moderator and thixotropic agent. *J Prosthet Dent.* 2018 Feb;119(2):299-304. doi: 10.1016/j.prosdent.2017.04.028

- [10] Jindal SK, Sherriff M, Waters MG, Coward TJ Development of a 3D printable maxillofacial silicone: Part I. Optimization of polydimethylsiloxane chains and cross-linker concentration. J Prosthet Dent. 2016 Oct;116(4):617-622. doi: 10.1016/j.prosdent.2016.02.020.
- [11] Coward TJ, Scott BJ, Watson RM, Richards R. A comparison between computerized tomography, magnetic resonance imaging, and laser scanning for capturing 3-dimensional data from a natural ear to aid rehabilitation. Int J Prosthodont. 2006 Jan-Feb;19(1):92-100.
- [12] Eggbeer D, Evans PL, Bibb R. A pilot study in the application of texture relief for digitally designed facial prostheses. Proc Inst Mech Eng H. 2006 Aug;220(6):705-14.
- [13] Kuttig J, Bui PHB, Unkovskiy A, Schille C, Geis-Gerstorfer J, Spintzyk S. Mechanical properties of 3D printed water-soluble polyvinyl alcohol for maxillofacial prostheses prototypes. Journal of Medical Materials and Technologies, Vol 1, No 2: Special Issue Proceedings of 4th Euro BioMAT, 8-10 (2017).
- [14] Rodrigo Salazar-Gamarra, Rosemary Seelaus, Jorge Vicente Lopes da Silva, Airtton Moreira da Silva, Luciano Lauria Dib. Monoscopic photogrammetry to obtain 3D models by a mobile device: a method for making facial prostheses. J Otolaryngol Head Neck Surg. 2016; 45: 33.
- [15] <https://de.3dsystems.com/haptics-devices/touch/features>
- [16] https://www.3dconnexion.de/spacemouse_compact/de/
- [17] <http://www.meshlab.net/>
- [18] <https://kuehlingkuehling.de/lapuna/>
- [19] <https://www.3d-grenzenlos.de/magazin/3d-druckverfahren/3d-druck-mit-silikonkautschuk-27205673/>
- [20] https://www.youtube.com/watch?v=vTKG5ZG_byY